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- 201718 Pricing Proposal FINAL
- AUSGRID NETWORK PRICE LIST FY201718
- ES7 - Network Price Guide

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Pricing Proposal

For the financial year ending June 2018

March 2017



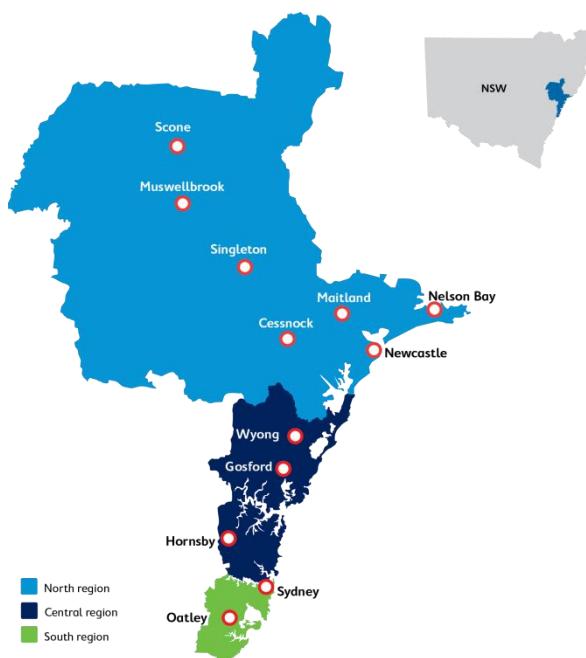
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1 Introduction

Ausgrid's network – often called "the poles and wires" – is a key element of the electricity supply chain that delivers electricity to customers' premises. Once power is generated, it is transported at high-voltage over long distances by TransGrid. Our network then transforms the power into lower voltage electricity at sub-transmission and zone substations. This electricity is again transformed at local distribution substations so it can be safely supplied to our customers.

We build, maintain and operate more than 200 zone substations, 30,000 distribution substations, 48,000 kilometres of power lines and 500,000 power poles. These assets, along with our depots and other properties, are known as our regulated asset base and are worth approximately \$15 billion. Our network transports electricity to more than 1.7 million customers in eastern Sydney, the Central Coast and the Hunter Region regions of New South Wales, as shown in the figure below.



Our objective is to deliver safe, reliable and affordable energy services. Consistent with recent industry reform in NSW, our focus has been on reducing our costs without compromising the safety and reliability of the services our customers require.

Australian Energy Regulator

The Australian Energy Regulator (AER) is responsible for regulating the revenues of all distribution and transmission network service providers in the National Electricity Market, in

accordance with the National Electricity Law (NEL) and the National Electricity Rules (NER).

Proposed network tariffs and customer impacts

This pricing proposal is submitted for review and approval to the AER as required under chapter 6 of the NER. This document has been prepared in accordance with the enforceable undertaking to the AER for the purpose of Section 59A of the National Electricity Law and the AER final decision on our Tariff Structure Statement (TSS)¹ that was submitted for review and approval by the AER in February 2017.

The proposed changes to our network tariffs in on 1 July 2017 (i.e. FY18), as set out in this pricing proposal, are consistent with the AER final TSS decision, and will allow us to comply with new AEMC rules requiring more cost-reflective pricing, while also delivering an outcome that is compliant with the customer impact principle in chapter 6 of the NER.

In line with the AER's final TSS decision, the proposed network tariffs in FY18 are expected to have the following impact on the overall network component of customers' annual electricity bills:

- a typical residential customer² on the default residential block tariff is estimated to receive a nominal network use of system bill decrease of around \$22.50 in FY18.
- a typical small business customer³ on the default small business block tariff is estimated to receive a nominal bill decrease of around \$44 in FY18.

Ausgrid is also proposing to introduce the following changes to tariffs in FY18:

- The block tariff structure for residential and small business customers will be replaced with a flat tariff structure where the same energy charge will apply to each block.

¹ AER 2017, Final decision – Tariff Structure Statement – NSW DNSPs - February

² For an average residential customer on the block tariff who consumes 5,000 kWh per annum, and does not have controlled load hot water. Forecast bill outcome excludes GST. Retail related cost increases not included.

³ For an average small business customer on the block tariff who consumes 9,000 kWh per annum. Forecast bill outcome excludes GST. Retail related cost increases not included.

- Under the AEMC's rule changes requiring prices to reflect the efficient cost of providing services.
- A new network tariff for transmission-connected customers.

Have your say

We have attempted to write this document in a style that can be easily understood by external stakeholders who might not be familiar with network pricing and regulatory requirements, it has been necessary to use some technical terms. To assist our customers and stakeholders, we have prepared a summary document which is available at: <http://www.ausgrid.com.au/networkprices>.

Inquiries about our Network Pricing Proposal can be directed to pricing@ausgrid.com.au.

We also welcome feedback on our regulatory submissions via yoursay@ausgrid.com.au and our Twitter and Facebook pages, at <http://www.twitter.com/Ausgrid> and <http://www.facebook.com/Ausgrid>.

2 Overview

This document is Ausgrid's formal Pricing Proposal for FY18 and is submitted for review and approval by the Australian Energy Regulator (AER) as required by clause 6.18.2(a)(2) of chapter 6 in the National Electricity Rules (NER). It is structured to allow ready assessment of compliance by the AER.

AEMC rule determination

The Australian Energy Market Commission (AEMC) issued their final determination on the new distribution pricing arrangements under chapter 6 of the NER in 2014.⁴ The new pricing rules are significantly different to the previous rules in the sense that distribution businesses must now set network tariffs in a manner that contributes to the achievement of a new network pricing objective, as set out in clause 6.18.5(a) of the NER:

“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.

To contribute to the achievement of the new network pricing objective, electricity network businesses are required to set network tariffs in accordance with the following pricing principles:

- Each network tariff must be based on the long run marginal cost of providing the service, refer to clause 6.18.5(f);
- The revenue to be recovered from each network tariff must recover the network business' total efficient costs of providing services in a way that minimises distortions to price signals that encourage efficient use of the network by consumers, refer to clause 6.18.5(g)(3);
- The revenue to be recovered from each network tariff must reflect the Distribution Network Service Provider's total efficient costs of serving the retail customers that are assigned to that tariff, refer to clause 6.18.5(g)(1);
- 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 tariffs and develop price structures that are able to be understood by consumers, refer to clause 6.18.5(h) and clause 6.18.5(i);

- Network tariffs must comply with any jurisdictional pricing obligations imposed by state or territory governments, refer to clause 6.18.5(j)
- The level of tariffs for a tariff class must be set such that the expected revenue for that tariff class is between the avoidable cost of not providing the service and the stand-alone cost of providing the service to the consumers in that tariff class, refer to clause 6.18.5(e); and
- The level of tariffs for a tariff class must comply with the side constraint limit, refer to clause 6.18.6.

The new distribution pricing arrangements also contain new processes and timeframes for the setting of network tariffs that aim to improve certainty, timeliness and transparency for consumers and retailers. Distribution businesses will be required to:

- Submit a tariff structure statement (TSS) to the AER for approval under chapter 6 of the NER as part of their five-year regulatory reset process.
- Demonstrate to the AER how they have consulted with consumers and retailers in developing their price structures.
- Notify consumers and retailers of final network prices at least six weeks before they commence, allowing them to better prepare for price changes.

The new pricing rules take effect on 1 July 2017.

Tariff Structure Statement

Under the AEMC transitional arrangements, Ausgrid submitted its draft TSS in November 2015 and, in August 2016, the AER published its draft decision, encouraging Ausgrid to reconsider some elements of its approach to tariff reform. Taking into account feedback from our stakeholders and the AER, Ausgrid submitted a revised TSS on 4 October 2016. We addressed the feedback we had received and we set out the justification for our approach. The AER issued its final decision on our TSS. The overall assessment of the AER is to approve our revised

⁴ AEMC, Version 65, National Electricity Rules.

TSS. The key elements of this decision are summarised below:

- The AER accepted that our proposal to replace the declining block structure with a flat tariff structure for residential and small business customers contributes to achieving compliance with the pricing principles in the Rules.
- The AER accepted that our proposal to reform the winter peak charging windows under our seasonal time of use reform contributes to achieving compliance with the pricing principles in the Rules.
- The AER accepted that our proposed transmission-connected tariff contributes to achieving compliance with the pricing principles in the Rules.
- The AER accepted our LRMC approach, but encouraged Ausgrid to review this methodology in the next TSS, particularly in terms of the treatment of forward-looking incremental replacement costs.

Enforceable Undertaking under Section 59 of the NEL for FY18

- The AER's 2015 Determination for Ausgrid was set aside by Australian Competition Tribunal as a consequence of the appeal process instigated by the NSW DNSPs. Ausgrid has entered into an enforceable undertaking with the AER under Section 59A of the NEL for the purpose of establishing a placeholder revenue target for FY18.
- The enforceable undertaking requires that Ausgrid's revenue target for FY18 is calculated on the basis of the approved revenue amount in FY16 excluding the actual closing balance of the overs and unders account in FY15, escalated for CPI in FY17 and FY18.
- The table below shows the revenue targets for DUOS, TUOS, CCF and NUOS derived using this methodology.

Table 2.1: Ausgrid's Target Revenues for FY18

Revenue	Target Revenue for FY18
Distribution use of system (DUOS) ('000s)	1,493,270
Transmission use of system (TUOS) ('000s)	511,409
Climate Change Fund ('000s)	152,279

Source: Ausgrid

Ausgrid has set its proposed network tariffs for FY18 to recover the revenue targets shown in the table above.

It is important to note that the target revenues exclude our regulatory entitlements in respect of the Demand Management Innovation Allowance (DMIA), Service Target Performance Incentive Scheme (STPIS) and the cost of pass-through events (i.e storm damage and Retailer of Last Resort events). These entitlements will be recovered via tariffs as part of the true-up of revenues to occur following the outcome of the AER's appeal process in the Federal Court, and the potential remaking of our 2015 determination.

Outline of compliance with rules

Ausgrid's pricing proposal assesses all of the requirements set out in section 6.18.2 of the Rules. This document also demonstrates compliance against the enforceable undertaking to the AER under Section 59A of the NER and the AER approved TSS.

Specifically, the pricing proposal sets out the tariff classes, network tariffs and charging parameters, and expected revenue for the year commencing 1 July 2017 and ending 30 June 2018.

This pricing proposal is structured as follows:

- Chapter 1 provides an introduction to the pricing proposal document;
- Chapter 2 provides an overview and outline of the pricing proposal document;
- Chapter 3 sets out the proposed tariff classes for standard control services, the basis for the proposed tariff classes, and Ausgrid's procedures for the assignment and re-assignment of customers to tariff classes;

- Chapter 4 sets out the proposed network tariffs and charging parameters;
- Chapter 5 sets out the weighted average revenue by tariff class and compares it to the efficient revenue boundary defined by the standalone cost and avoidable cost;
- Chapter 6 briefly discusses the variations to tariffs;
- Chapter 7 sets out the obligations on Ausgrid to recover our contribution to the Climate Change Fund;
- Chapter 8 sets out the approach to passing through the cost of transmission use of system services;
- Chapter 9 sets out the approach to reporting the overs and unders account for distribution standard control services;
- Chapter 10 sets out the changes since the previous regulatory year, as provided for in the Determination and the NER;
- Chapter 11 provides an understanding of the customer impact of our proposed network tariffs for FY18;
- Chapter 12 provides information that demonstrates that our proposed tariffs are consistent with the approved TSS;
- Chapter 13 provides information that demonstrates that our proposed tariffs are consistent with the National Electricity Rules;
- Chapter 14 sets out the procedure for the annual system of assessment and review of tariffs;
- Chapter 15 sets out the tariffs and tariff class for Ausgrid's public lighting services for FY18;
- Chapter 16 sets out the tariffs and tariff class for Ausgrid's ancillary network services for FY18. These services have been previously known as miscellaneous and monopoly services;
- Chapter 17 sets out the tariff class for type 5 and 6 metering charges.

Ausgrid notes that Attachment D to this proposal demonstrates that our proposed network tariffs and structures for FY18 comply with the AER's Final TSS decision, the enforceable undertaking to the AER under Section 59 of the NEL and our obligations under chapter 6 of the NER.⁵

⁵ This document is available from www.aer.gov.au.

3 Network tariff classes

RULE REQUIREMENT

Clause 6.18.2(b)(2) of the NER requires that a pricing proposal must set out the proposed tariffs for each tariff class that is specified in the Distribution Service Network Provider's tariff structure statement for the relevant regulatory control period.

In addition, when developing procedures for assigning customers to tariff classes the AER is required to 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 favorably than customers without such facilities but with a similar load profile.*

Clause 6.18.3(d) requires that a tariff class be constituted with regard to the need to group customers together on an economically efficient basis, and the need to avoid unnecessary transaction costs.

Definition of a Network Tariff Class

Under chapter 10 of the NER, tariff classes are defined as representing 'a class of customers for one or more direct control services, who are subject to a particular tariff or particular tariffs'.

Proposed Network Tariff classes for Standard Control Services

In accordance with the AER final TSS decision, Ausgrid's proposed tariff classes for direct standard control services for FY18 are shown in the following table.

Table 3.1: Ausgrid's Proposed Tariff Classes - FY18

Tariff Class	Network Tariff	Definition
Low Voltage	EA010 – Residential Non Time of Use EA025– Residential Time of Use EA030 – Controlled Load 1 EA040 – Controlled Load 2 EA050– Small Business Non Time of Use EA225– Small Business Time of Use EA302 – LV 40-160 MWh (System) EA305– LV 160-750 MWh (System) EA310 – LV > 750 MWh (System) EA325 – LV Connection (Standby - Closed)	Applicable to separately metered low voltage (400V or 230V) connections.
High Voltage	EA360 – HV Connection (Standby - Closed) EA370 – HV Connection (System) EA380 – HV Connection (Substation) Customer Specific Prices	Applicable to any connection at high voltage (11kV) that is not otherwise eligible for a CRNP price.
Sub-transmission	EA390 – ST Connection Customer Specific Prices	Applicable to any connection at a sub-transmission voltage (132/66/33kV) that is not otherwise eligible for a CRNP price.
Transmission Connected	Customer Specific Prices	Applicable to a site that is directly connected to Transmission Connection Point (TCP) in Ausgrid's network area ⁶
Unmetered	EA401 – Public Lighting EA402 – Constant Unmetered EA403 – EnergyLight	Applicable to any LV connection that is defined as an unmetered supply by Ausgrid in consultation with AEMO as per clause S7 2.3 (Item 5) of the NER.

⁶ To be eligible for the transmission connected tariff class, the site must not be connected to, or require the use of, Ausgrid's electricity distribution assets.

4 Proposed tariffs and charging parameters

RULE REQUIREMENT

Clause 6.18.2(b)(3) requires that the pricing proposal set out the proposed tariffs for each tariff class that is specified in the Distribution Network Service Provider's TSS for the relevant regulatory control period; and

Clause 6.18.2(b)(3) requires that the pricing proposal set out the charging parameters and the elements of service to which each charging parameter relates.

This chapter sets out the proposed tariffs and charging parameters for direct control services for each tariff class for the period of 1 July 2017 to 30 June 2018, and explains the elements of service to which each charging parameter relates. The proposed tariffs and charging parameters for standard control services are set out for each tariff class in Table 4.1, 4.2, 4.3 and 4.4. This chapter also explains how Ausgrid has applied the pricing principles set out in clause 6.18.5 of the NER.

In developing the charging parameters, Ausgrid has taken account of a range of estimates of long run marginal cost, and has had regard to transactions costs and the scope for customers to respond to price signals. In addition, Ausgrid has ensured that our network tariffs are designed to recover the difference between marginal and average cost with the minimum of distortion to efficient patterns of consumption.

The tariffs and charging parameters for alternative control services are discussed in chapter 15 (Public Lighting), chapter 16 (Ancillary Network Services) and chapter 17 (Type 5 and 6 Metering Charges) of this document.

Table 4.1: Ausgrid's Proposed FY18 Network Tariffs by Charging Parameter (Exclusive of GST) - DUOS

Tariff Class	Tariff Code	Tariff Name	Network Access Charge c/day	Network Energy Prices							Daily Capacity Prices	
				Non-TOU c/kWh	Peak c/kWh	Shoulder c/kWh	Off-peak c/kWh	Block 1 c/kWh	Block 2 c/kWh	Block 3 c/kWh	Peak c/kW/day	Peak c/kVA/day
Low Voltage	EA010	LV Res non-TOU	35.74					5.25	5.25	5.25		
	EA025	LV Res < 40 MWh (System)	44.35		17.00	3.50	1.39					
	EA030	Controlled load 1	0.15									
	EA040	Controlled load 2	10.64									
	EA050	LV Business non-TOU	127.57					4.70	4.70			
	EA225	LV Business TOU	125.77		13.27	4.33	0.45					
	EA302	LV 40-160 MWh (System)	626.78		2.71	1.22	0.55				35.74	
	EA305	LV 160-750 MWh (System)	1905.84		2.39	0.91	0.17					35.74
	EA310	LV > 750 MWh (System)	2403.13		2.09	0.49	0.04					35.74
	EA325	LV Connection (Closed)	2294.43		7.35	5.02	1.16					0.35
	EA316	Transitional 40-160 MWh (Closed)	128.85		11.56	5.21	0.93				0.00	
	EA317	Transitional 160-750 MWh (Closed)	128.85		11.56	5.21	0.93					0.00
High Voltage	EA360	HV Connection (Closed)	1998.44		4.76	0.45	0.35					0.10
	EA370	HV Connection (System)	4750.00		2.21	1.22	0.50					17.82
	EA380	HV Connection (Substation)	4750.00		1.88	1.04	0.42					15.15
Sub-transmission	EA390	STV Connection (System)	5950.00		1.71	0.97	0.41					5.15
	EA391	ST Connection (Substation)	5950.00		1.45	0.72	0.36					4.44
Unmetered	EA401	Public Lighting		5.06								
	EA402	Constant unmetered		6.17								
	EA403	EnergyLight		4.20								

Please note that the prices in the table above have been rounded to two decimal places in the pricing proposal document.

Table 4.2: Ausgrid's Proposed FY18 Network Tariffs by Charging Parameter (Exclusive of GST) - TUOS

Tariff Class	Tariff Code	Tariff Name	Network Access Charge c/day	Network Energy Prices							Daily Capacity Prices	
				Non-TOU c/kWh	Peak c/kWh	Shoulder c/kWh	Off-peak c/kWh	Block 1 c/kWh	Block 2 c/kWh	Block 3 c/kWh	Peak c/kW/day	Peak c/kVA/day
Low Voltage	EA010	LV Res non-TOU						4.55	4.55	4.55		
	EA025	LV Res < 40 MWh (System)		8.20	0.65	0.60						
	EA030	Controlled load 1	1.46									
	EA040	Controlled load 2	4.39									
	EA050	LV Business non-TOU						4.55	4.55			
	EA225	LV Business TOU		7.76	0.90	0.60						
	EA302	LV 40-160 MWh (System)		2.27	0.79	0.50						
	EA305	LV 160-750 MWh (System)		1.98	0.77	0.50						
	EA310	LV > 750 MWh (System)		1.57	0.77	0.51						
	EA325	LV Connection (Closed)		0.63	0.54	0.53						
	EA316	Transitional 40-160 MWh (Closed)		11.00	1.23	0.49						
	EA317	Transitional 160-750 MWh (Closed)		11.00	1.23	0.49						
High Voltage	EA360	HV Connection (Closed)		3.51	4.26	1.77						0.51
	EA370	HV Connection (System)		0.46	0.11	0.25						1.35
	EA380	HV Connection (Substation)		0.41	0.10	0.20						1.29
Sub-transmission	EA390	ST Connection		0.36	0.15	0.15						0.96
	EA391	ST Connection (Substation)		0.34	0.14	0.10						0.91
Unmetered	EA401	Public Lighting	1.93									
	EA402	Constant Unmetered	2.50									
	EA403	EnergyLight	2.19									

Please note that the prices in the table above have been rounded to two decimal places in the pricing proposal document.

Table 4.3: Ausgrid's Proposed FY18 Network Tariffs by Charging Parameter (Exclusive of GST) - CCF

Tariff Class	Tariff Code	Tariff Name	Network Access Charge c/day	Network Energy Prices							Daily Capacity Prices	
				Non-TOU	Peak	Shoulder	Off-peak	Block 1	Block 2	Block 3	Peak	Peak
				c/kWh	c/kWh	c/kWh	c/kWh	c/kWh	c/kWh	c/kWh	c/kWh/day	c/kVA/day
Low Voltage	EA010	LV Res non-TOU						0.47	0.47	0.47		
	EA025	LV Res < 40 MWh (System)			0.47	0.47	0.47					
	EA030	Controlled load 1		0.29								
	EA040	Controlled load 2		0.24								
	EA050	LV Business non-TOU						0.83	0.83			
	EA225	LV Business TOU			0.84	0.86	0.82					
	EA302	LV 40-160 MWh (System)			0.42	0.42	0.42					
	EA305	LV 160-750 MWh (System)			0.58	0.59	0.59					
	EA310	LV > 750 MWh (System)			0.74	0.84	0.84					
	EA325	LV Connection (Closed)			0.84	0.84	0.84					
	EA316	Transitional 40-160 MWh (Closed)			0.84	0.84	0.84					
	EA317	Transitional 160-750 MWh (Closed)			0.84	0.84	0.84					
High Voltage	EA360	HV Connection (Closed)			0.66	0.66	0.66					
	EA370	HV Connection (System)			0.66	0.66	0.66					
	EA380	HV Connection (Substation)			0.66	0.66	0.66					
Sub-transmission	EA390	ST Connection			0.65	0.65	0.65					
	EA391	ST Connection (Substation)			0.65	0.65	0.65					
Unmetered	EA401	Public lighting		0.80								
	EA402	Constant unmetered		0.69								
	EA403	EnergyLight		0.72								

Please note that the prices in the table above have been rounded to two decimal places in the pricing proposal document.

Table 4.4: Ausgrid's Proposed FY18 Network Tariffs by Charging Parameter (Exclusive of GST) - NUOS

Tariff Class	Tariff Code	Tariff Name	Network Access Charge c/day	Network Energy Prices							Daily Capacity Prices	
				Non-TOU c/kWh	Peak c/kWh	Shoulder c/kWh	Off-peak c/kWh	Block 1 c/kWh	Block 2 c/kWh	Block 3 c/kWh	Peak c/kW/day	Peak c/kVA/day
Low Voltage	EA010	LV Res non-TOU	35.74					10.27	10.27	10.27		
	EA025	LV Res < 40 MWh (System)	44.35		25.67	4.62	2.46					
	EA030	Controlled load 1	0.15	1.75								
	EA040	Controlled load 2	10.64	4.63								
	EA050	LV Business non-TOU	127.57					10.08	10.08			
	EA225	LV Business TOU	125.77		21.87	6.09	1.87					
	EA302	LV 40-160 MWh (System)	626.78		5.40	2.43	1.47				35.74	
	EA305	LV 160-750 MWh (System)	1905.84		4.95	2.27	1.26					35.74
	EA310	LV > 750 MWh (System)	2403.13		4.40	2.11	1.39					35.74
	EA325	LV Connection (Closed)	2294.43		8.83	6.40	2.53					0.35
	EA316	Transitional 40-160 MWh (Closed)	128.85		23.40	7.28	2.26				0.00	
	EA317	Transitional 160-750 MWh (Closed)	128.85		23.40	7.28	2.26					0.00
High Voltage	EA360	HV Connection (Closed)	1998.44		8.92	5.37	2.78					0.61
	EA370	HV Connection (System)	4750.00		3.33	1.99	1.40					19.17
	EA380	HV Connection (Substation)	4750.00		2.95	1.79	1.28					16.44
Sub-transmission	EA390	ST Connection	5950.00		2.71	1.77	1.21					6.11
	EA391	ST Connection (Substation)	5950.00		2.44	1.52	1.11					5.36
Unmetered	EA401	Public lighting		7.78								
	EA402	Constant unmetered		9.36								
	EA403	EnergyLight		7.10								

Please note that the prices in the table above have been rounded to two decimal places in the pricing proposal document.

There are three elements of service for which charging parameters are defined, namely:

- Network access charge per day per connection (cents/connection/day) – this is a flat charge per connection, charged on the basis of the number of days of access to the network for that connection. A connection is defined as any connection to the network requiring a unique National Metering Identifier (NMI) as defined by the AEMO National Metering Identifier Procedure;
- Electricity usage charge (c/kWh) – this is a charge per unit of electricity supplied to a connection point, through a primary tariff or also through an additional secondary tariff (usually controlled load hot water as seen from the Non-ToU charging parameter); and
- Capacity charge per kiloWatt or kilovoltAmp, per day (c/kW/day or c/kVA/day) – this is a charge based on a customer's maximum demand recorded on a working weekday, in any half-hour period between 2pm and 8pm over the twelve months preceding the end of the current billing month. Maximum demand is recorded in either kW or kVA according to the customer's metering functionality.

Importantly, the electricity usage charge (c/kWh) can be structured on an anytime or a time of use basis, as explained below:

- An anytime electricity usage charge applied to consumption regardless of the timing of this consumption
- A time of use electricity usage charge vary according to the time of day of consumption and whether it is a weekday, or weekend/public holiday, as summarised in Table 4.5.

For more detailed information on our tariffs, charging parameters and tariff eligibility criteria, refer to our ES7 pricing guide.⁷

Table 4.5: Ausgrid's Proposed Time of Use Period Definition

Customer Type	Annual Consumption	Time of Use Period Definition
Residential and Small Business	< 40 MWh per annum	Peak period: 2.00 pm – 8.00 pm on working weekdays. Shoulder period: 7.00 am – 2.00 pm and 8.00 pm – 10.00 pm on working weekdays and from 7.00 am – 10.00 pm on weekends and public holidays Off-Peak period : All other times
Medium and Large Business	> 40 MWh per annum	Peak period: 2.00 pm – 8.00 pm on working weekdays. Shoulder period: 7.00 am – 2.00 pm and 8.00 pm – 10.00 pm on working weekdays Off-Peak period : All other times

⁷ This document is available from www.ausgrid.com.au/Common/Industry/Regulation/Network-prices/

5 Weighted average revenue

RULE REQUIREMENT

Clause 6.18.2(b)(4) of the NER requires that a pricing proposal 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.

This chapter sets out the expected weighted average revenue from tariffs within each tariff class for standard control services.

This chapter also provides a comparison of the expected revenues with our estimates of the standalone and avoidable costs at the tariff class level to demonstrate that our proposed tariffs comply with the principles set out in the NER.

The weighted average revenue for FY18 and FY17 is set out in the following Table 5.1.

Estimating standalone costs

The standalone costs represent the costs that would be incurred to replicate or bypass the infrastructure used to provide a service. It represents an upper bound of costs that should be recovered from customers in a particular tariff class. If customers were paying above the standalone costs then it follows that it would be economically beneficial for customers to switch to an alternative provider. Similarly if entry was economically feasible it would result in new suppliers entering to provide services. This creates the possibility of inefficient bypass of the infrastructure.

To estimate the standalone costs for a tariff class, Ausgrid has used the construct of a hypothetical new entrant distribution network service provider that is seeking to supply services to each tariff class separately. Ausgrid has then asked what infrastructure and operating costs would be incurred to supply the tariff class alone, without the benefit of any economies of scale and scope arising from the supply of services to all other tariff classes. To assist with estimating the cost of the hypothetical new entrant, Ausgrid has drawn upon information from its own costs as follows:

- Identification of the segments of the network that would be required to provide services to each tariff class. For example, for HV Business customers we identified the cost of replicating the network from the point of connection to the high voltage network to the connection with the TransGrid transmission network.
- Develop an estimate of the annual capital charge for the relevant network by applying the same return to capital and depreciation parameters as set out in the Determination.
- Develop an estimate of the operating costs that would be incurred in order to provide services to the tariff class by identifying those operating costs that are necessarily incurred by Ausgrid for the provision of network services to that tariff class.

The associated summation of the annual estimated capital and operating costs for each tariff class are therefore estimated to represent the standalone costs that would be incurred by a hypothetical new entrant.

Table 5.1: Expected DUOS Revenue by Tariff Class (\$ million excluding GST)

Tariff Class	Expected DUOS Revenue	
	FY17(\$m)	FY18(\$m)
Low Voltage	\$1,437.52	\$1,398.50
High Voltage	\$51.86	\$48.54
Sub-transmission Voltage	\$41.07	\$36.70
Unmetered	\$10.94	\$9.53
Transmission Connected	\$0.00	\$0.00
Total	\$1,541.39	\$1,493.27

In light of the nature of the enforceable undertaking to the AER for FY18⁸, we have adjusted the estimates of standalone costs for the purpose of demonstrating that our proposed tariffs are free of economic subsidy at the tariff class level. We believe that these adjustments are reasonable under the circumstances given that our estimates of standalone and avoidable cost are not materially different from the estimates set out in our approved TSS.

The estimated standalone costs for each tariff class are set out in the following table.

⁸ The setting of tariffs on the basis of a 'placeholder' revenue target for FY18, rather than a building block cost to service (adjusted for overs & unders).

Table 5.2: Comparison of Standalone Costs Vs FY18 DUOS Tariffs

Tariff Class	Total Standalone Cost	Weighted Average Revenue	Weighted Average Revenue as a proportion of Standalone Cost
	FY18 (\$m)	FY18 (\$m)	FY18 (%)
Low Voltage	\$1,448.90	\$1,398.50	96.52%
High Voltage	\$484.92	\$48.54	10.01%
Sub-transmission Voltage	\$469.33	\$36.70	7.82%
Unmetered	\$456.60	\$9.53	2.09%
Transmission Connected	\$0.00	\$0.00	0.00%

Estimating avoidable costs

The avoidable costs represent those costs that could be avoided by a network if it was not supplying goods or services to its customers. It represents the lower bound of costs that should be recovered from customers. If customers were charged below the avoidable costs it would be economically beneficial for the business to stop supplying the customer and thereby avoid the associated costs which would exceed the revenue expected to be obtained from the customer.

To estimate the avoidable costs for each proposed tariff class, Ausgrid has:

- identified those categories of costs that would be avoided if a tariff class was no longer served;
- allocated the cost of each avoidable cost category to each tariff class based on either volume or customer numbers, according to the nature of the cost category, to determine those costs that would be reduced if a particular tariff class was no longer served;
- summed the allocated avoidable cost for all avoidable cost categories for each tariff class to estimate the total avoidable cost for each tariff class.

The cost categories that were identified as being avoidable included:

- repairs and maintenance – this was identified as a partially avoidable cost given that use of the network impacts on its deterioration and the need for repairs and maintenance;
- customer service – these costs relate to managing billing and customer service

enquiries which are related to the number of customers served;

- corporate and divisional support costs – costs relating to media, marketing, HR, finance and legal expenses can be considered to be driven by the number of customers served; and
- customer connections and installation inspections – these costs can be considered to be proportional to customer numbers, the voltage and capacity of the connection.

As with standalone costs, we have adjusted our estimates of avoidable cost for the purpose of the pricing proposal to eliminate any potential mismatch between our economic costs and tariff revenues as a consequence of the enforceable undertaking to the AER for FY18⁹. Ausgrid believes that these adjustments are reasonable under the circumstances given that our estimates of avoidable cost are not materially different from the estimates set out in our approved TSS.

Table 5.3 sets out the avoidable costs for each of the tariff classes.

As required under clause 6.18.5(a)(1) of the NER, Table 5.4 provides a comparison of weighted average distribution revenue in FY16 with the estimates of standalone and avoidable costs for each tariff class. It is clear from this table that Ausgrid's proposed tariffs are free of economic subsidy at the tariff class level, as required under the NER, given that the weighted average distribution revenue lies within the bounds of the upper limit (standalone cost) and the lower limit (avoidable cost).

⁹ The setting of tariffs on the basis of a 'placeholder' revenue target for FY18, rather than a building block cost to service (adjusted for overs & unders).

Table 5.3: Comparison of Avoidable Costs Vs FY18 DUOS Tariffs

Tariff Class	Total Avoidable Costs	Weighted Average Revenue	Avoidable Cost a proportion of expected revenue
	FY18 (\$m)	FY18 (\$m)	FY18 (%)
Low Voltage	\$259.26	\$1,398.50	18.54%
High Voltage	\$6.19	\$48.54	12.74%
Sub-transmission Voltage	\$3.19	\$36.70	8.70%
Unmetered	\$0.29	\$9.53	3.00%
Transmission Connected	\$0.00	\$0.00	0.00%

Table 5.4: Efficient Pricing Bounds Test

Tariff Class	Total Avoidable Costs	Weighted Average Revenue	Total Standalone Cost
	FY18 (\$m)	FY18 (\$m)	FY18 (\$m)
Low Voltage	\$259.26	\$1,398.50	\$1,448.90
High Voltage	\$6.19	\$48.54	\$484.92
Sub-transmission Voltage	\$3.19	\$36.70	\$469.33
Unmetered	\$0.29	\$9.53	\$456.60
Transmission Connected	\$0.00	\$0.00	\$0.00

6 Variations to tariffs

RULE REQUIREMENT

Clause 6.18.2(b)(5) of the NER requires that a pricing proposal 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.

Ausgrid does not propose to vary or adjust our proposed network tariffs during the course of FY18.

7 Climate change fund

RULE REQUIREMENT

Clause 6.18.2(b)(6A) of the NER requires that a pricing proposal must set out the amount paid as jurisdictional scheme amounts which in NSW relate to the NSW Climate Change Fund in or in respect of the relevant regulatory year and any adjustments to tariffs resulting from an over or under recovery of these amounts in any previous regulatory year. The proposal must also show the amount attributed to the recovery of the Climate Change Fund in terms of expected revenue for the relevant regulatory year.

For the year ending June 2018, Ausgrid will pay around \$138.4m into the Climate Change Fund (CCF). This is around \$14m lower than the target CCF revenue amount under the enforceable undertaking in FY18. As consequence Ausgrid expects the forecast closing balance of the CCF overs and unders account in FY18 to increase to around \$35.4m, as shown in the following table.

The correspondence received from the Department of Environment and Climate Change on Ausgrid's contribution to the Climate Change Fund for FY18 is provided in the attachment at the end of this document.

Table 7.1: Overs and Unders Account Forecast Closing Balance – Climate Change Fund

Financial Year Ending	Units	Period t-2	Period t-1	Period t
		Unaudited actual FY16	Expected FY17	Forecast FY18
Interest rate applicable to balance	%	6.68%	6.59%	6.51%
Opening balance overs/(unders)	\$'000	343	2,904	19,735
Interest on opening balance (365 days)	\$'000	23	191	1,284
Forecast over/(under) recover for financial year	\$'000	2,457	16,117	13,898
Interest charged on over/(under) recovery for financial year	\$'000	81	523	445
Closing balance of CCF overs/(unders) account	\$'000	2,904	19,735	35,362

8 Designated pricing proposal charges

RULE REQUIREMENT

Clause 6.18.2(b)(6) of the NER requires that a pricing proposal must set out how charges for designated pricing proposal charges (previously known as transmission use of system services and related charges) 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. In addition, clause 6.18.7 states that recovery of designated pricing proposal charges should not exceed the estimated amount of these charges for the relevant regulatory year, once the overs and unders account has been taken into account.

Ausgrid's Transmission Use of System (TUOS) tariffs¹⁰ are designed to recover the allowed revenue for our electricity transmission (dual-function) network, to pass through the TransGrid transmission cost to customers and to recover (return) an under (over) recovery of transmission revenues in the previous period.

Methodology for setting TUOS tariffs

As explained in our approved TSS, it is only possible to preserve the TransGrid transmission price signal for our large customers on a site-specific Cost Reflective Network Price (CRNP) network tariff. As a consequence, the setting of published TUOS tariffs is highly averaged given the "postage stamp" or network-wide nature of these tariffs. It is for this reason that Ausgrid believes that it is efficient to recover the TUOS costs allocated to the published via the fixed charge, as reflected in our efficient reference published tariffs set out in our approved TSS. As a consequence, the transition to efficient TUOS pricing for our published TUOS tariffs involves transitioning away from inefficient energy charges towards the fixed charge, to the extent that this is possible given the need to comply with the customer impact principle set out in chapter 6 of the NER.

TransGrid have reformed the structure of their transmission charges in FY18 by replacing the energy charging parameter used to recover non-

location costs with a monthly demand charge. While this reform will not materially impact the setting of the highly average published TUOS tariffs for FY18, it will influence the setting of the TUOS tariffs for the site-specific CRNP sites in FY18.

Ausgrid has updated the efficient reference tariff for these sites on the basis of TransGrid's proposed transmission charges for FY18 and our latest volume forecasts for these sites. In general terms, the change in the structure of TransGrid transmission pricing structure has resulted in a reduction in the efficient TUOS reference tariff for these sites compared to the thinking underlying the approved TSS. To comply with the tariff-setting methodology set out in our approved TSS, Ausgrid proposes to reduce the TUOS prices for the CRNP customers in FY18 to ensure that these prices are being transitioned to the efficient outcome.

Unders and overs account

The over and unders account relating to our TUOS tariffs is a mechanism that ensures that if our actual TUOS revenue is too high (or too low) in a given financial year, Ausgrid can recover (or return) the difference between actual transmission revenue and transmission payments by adjusting the level of TUOS tariffs in the subsequent year. Fluctuations in TUOS revenue recovery are most likely to be caused by the impact of unpredictable random events, such as unusually warm or cold conditions, on our electricity consumption.

Due to the nature of the Section 59A undertaking to the AER, Ausgrid has not set TUOS tariffs to achieve a forecast zero balance of the overs and unders account for transmission standard control services by the end of FY18, as shown in the following table:

¹⁰ This document uses the terms Transmission Use of System (TUOS) and Designated pricing proposal charges interchangeably.

Table 8.1: Overs and Unders Account Forecast Closing Balance – Designated Pricing Proposal Charges

Financial Year Ending	Units	Period t-3	Period t-2	Period t-1	Period t
		Actual FY15	Actual FY16	Expected FY17	Forecast FY18
Interest rate applicable to balance	%	6.74%	6.68%	6.59%	6.51%
Opening balance over/(under)	\$'000	-43,577	1,798	45,971	123,090
Interest on opening balance (365 days)	\$'000	-2,939	120	3,032	8,008
Over/(under) recovery for financial year	\$'000	46,763	42,651	71,759	-13,356
Interest charged on over/(under) recovery for financial year	\$'000	1,551	1,401	2,328	-428
Closing balance of transmission overs/(unders) account	\$'000	1,798	45,971	123,090	117,315

9 Distribution use of system unders and overs account

AER FINAL DECISION

To demonstrate compliance with its distribution determination in the 2015–19 regulatory control period, Ausgrid must maintain a DUOS unders and overs account in its annual pricing proposal under clause 6.18.2(b)(7) of the NER.

Ausgrid must provide details of calculations in the format set out in table 14.2 of Attachment 14 of AER's Final Decision.

In proposing variations to the amount and structure of DUOS charges, Ausgrid is to achieve an expected zero balance on their DUOS unders and overs accounts in each forecast year in its annual pricing proposals in the 2015–19 regulatory control period.

As a consequence of the AER's decision to apply a revenue cap form of control mechanism to Ausgrid's standard control distribution services in the 2015-19 regulatory control period, Ausgrid is required under Attachment 14 of AER's Final Decision to maintain a overs and unders account for our Distribution Use of System (DUOS) revenue.

In simple terms, the purpose of the overs and unders account is to ensure that Ausgrid complies with the revenue cap control mechanism setting DUOS tariff in each year to recover the forecast (smoothed) annual revenue requirement, plus an adjustment to recover (return) an under (over) recovery of DUOS revenues in the previous period.

Due to the nature of the Section 59 of the NEL undertaking to the AER, Ausgrid has not set the proposed DUOS tariffs for FY18 to achieve a forecast zero balance of the overs and unders account for distribution standard control services by the end of FY18, as shown in the following table:

Table 9.1: Overs and unders account forecast closing balance – Distribution Use of System

Financial Year Ending	Units	Period t-2	Period t-1	Period t
		Actual FY16	Expected FY17	Forecast FY18
Interest rate applicable to balance	%	6.68%	6.59%	6.51%
Opening balance over/(under)	\$'000	56,018	53,698	181,130
Interest on opening balance (365 days)	\$'000	3,742	3,541	11,784
Over/(under) recovery for financial year	\$'000	-5,869	119,997	0
Interest charged on over/(under) recovery for financial year	\$'000	-193	3,893	0
Closing balance of transmission overs/(unders) account	\$'000	53,698	181,130	192,914

10 Changes from the previous regulatory year

RULE REQUIREMENT

Clause 6.18.2(b)(8) of the NER requires that a pricing proposal must 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.

This chapter sets out the key changes since the previous regulatory year, and demonstrates that these changes comply with our regulatory obligations under the NER and the AER Determination.

Re-balancing to achieve flat tariff

Consistent with the approved TSS, Ausgrid proposes to replace the declining energy charging structure with a flat energy charging structure for the non-TOU tariff for residential and small business customers in FY18. To minimise transaction costs, Ausgrid proposes to achieve this outcome by adjusting the levels of the anytime energy charges under the current block structures, as shown in the tables below.

Table 10.1: Proposed Residential Flat Tariff

Residential non-TOU Tariff (EA010)	Unit	Current NUOS Prices	Proposed NUOS Prices in FY18
Network Access Charge	c/day	33.2439	35.7372
First Block Energy Charge	c/kWh	10.9682	10.2690
Second Block Energy Charge	c/kWh	10.6787	10.2690
Third Block Energy Charge	c/kWh	10.4235	10.2690

Source: Ausgrid

Table 10.2: Proposed Small Business Flat Tariff

Small Business non-TOU Tariff (EA050)	Unit	Current NUOS Prices	Proposed NUOS Prices in FY18
Network Access Charge	c/day	119.7798	127.5655
First Block Energy Charge	c/kWh	10.7949	10.0811
Second Block Energy Charge	c/kWh	10.4756	10.0811

Source: Ausgrid

Mandated tariff re-assignments

In addition, Ausgrid also proposes to re-assign customers to another network tariff in FY18 that have been identified as part of the annual tariff review and assessment process as no longer being eligible to remain assigned to their existing network tariff, as shown in the table below.¹¹

Table 10.3: Proposed Tariff Re-assignment

Current Network Tariff	Correct Network Tariff	No. of Customers
Non-Residential TOU (EA225)	LV TOU Capacity 40-160 MWh pa (EA302)	3,174
	LV TOU Capacity 160-750 MWh pa (EA305)	62
LV TOU Capacity 40-160 MWh pa (EA302)	Non-Residential TOU (EA225)	5,926
	LV TOU Capacity 160-750 MWh pa (EA305)	709
LV TOU Capacity 160-750 MWh pa (EA305)	LV TOU Capacity 40-160 MWh pa (EA302)	884
	LV TOU Capacity >750 MWh pa (EA310)	163
LV TOU Capacity >750 MWh pa (EA310)	LV TOU Capacity 160-750 MWh pa (EA305)	644

Source: Ausgrid

To ensure these customers do not receive unacceptable network bill outcomes these customers will be assigned, to an applicable transitional network tariff arrangements where this is necessary to comply with the customer impact principle in the NER.

This approach will ensure that Ausgrid complies with our pricing policies and tariff assignment and re-assignment procedure set out in our approved TSS and will avoid imposing unacceptable bill impacts on our customers.

¹¹ Note that Ausgrid will perform a final check of the customer list prior to putting into effect the tariff re-assignment. This will avoid imposing unnecessary transaction costs on retailers and customers where circumstances have changed between the time of the pricing proposal and the time of the tariff re-assignment.

11 Customer Impacts

RULE REQUIREMENT

Clause 6.18.2(b)(7) of the customer impact principle from NER Ch6.18.5

This chapter demonstrates that our proposed network tariffs for FY18 comply with the customer impact principle set out in chapter 6 of the NER by providing a detailed assessment of the annual NUOS bill impact of our proposed network tariffs in FY18.

(i) Customer impact under proposed residential tariffs

The following figures provide an understanding of the potential NUOS bill impacts for residential customers under proposed tariffs for FY18.

Figure 11.1a – NUOS % bill impact under proposed tariffs - Residential non-TOU tariff – FY18

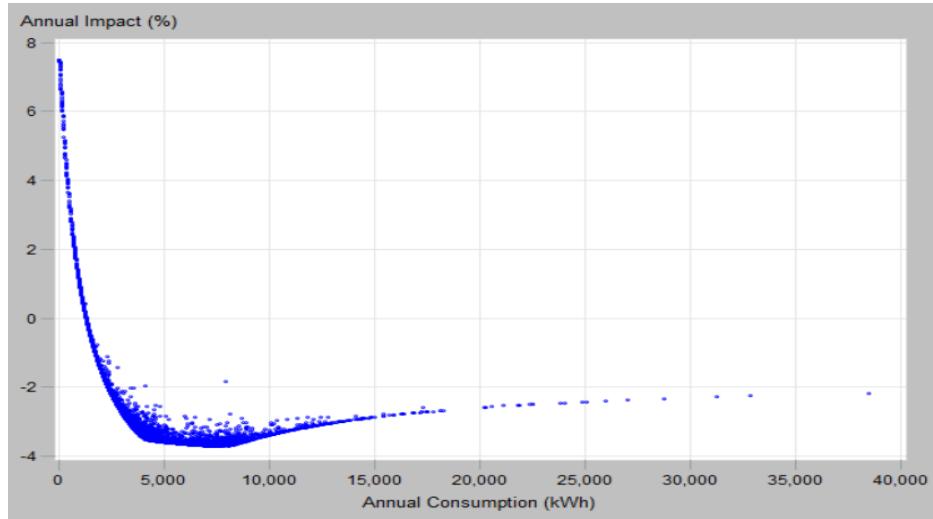
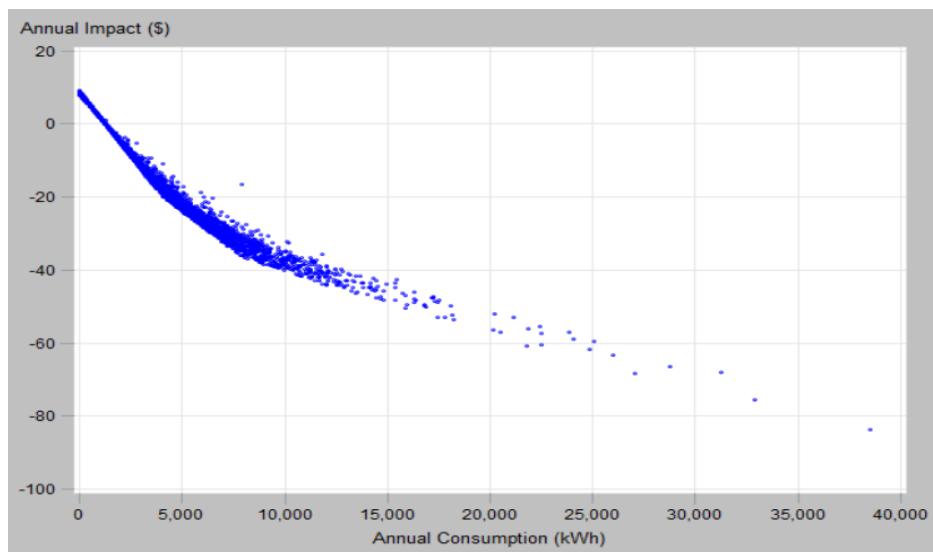


Figure 11.1b – NUOS \$ bill impact under proposed tariffs - Residential non-TOU tariff – FY18



The figures above shows that on the basis of a representative sample of 5000 residential customers in our network area, our proposed residential non-TOU tariff will result in only around 4% of our customers on this tariff receiving an annual NUOS bill impact of greater than CPI in FY18.

Figure 11.2a – NUOS % bill impact under proposed tariffs – Residential TOU tariff – FY18

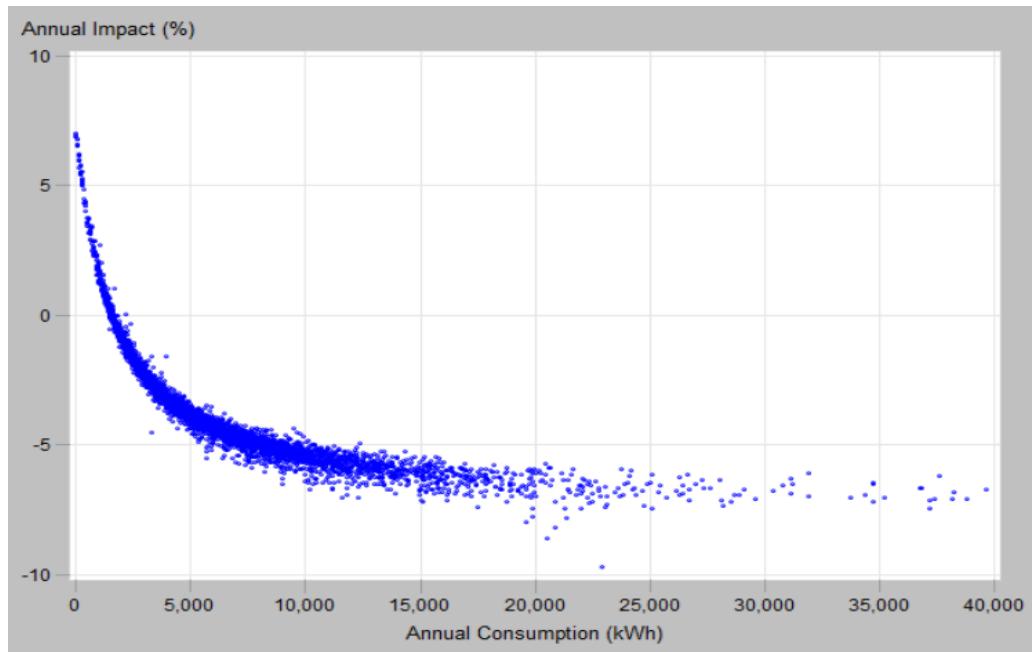
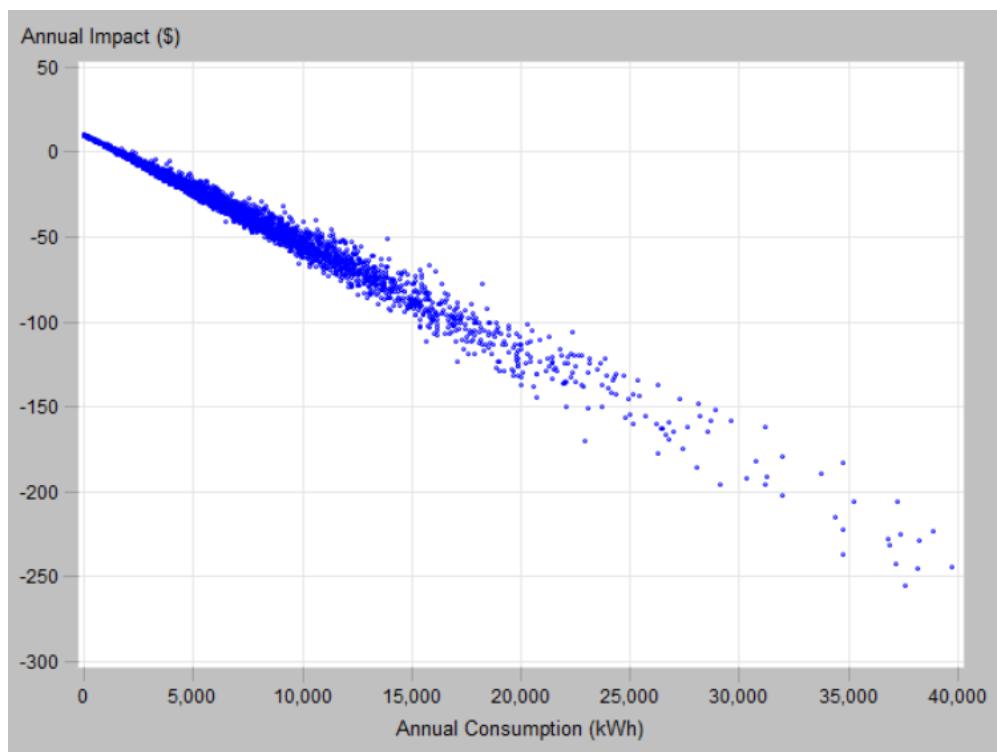


Figure 11.2b – NUOS \$ bill impact under proposed tariffs – Residential TOU tariff – FY18



The figures above shows that on the basis of a representative sample of 5000 residential customers in our network area, our proposed residential TOU tariff will result in only around 3% of our customers on this tariff receiving an annual NUOS bill impact of greater than CPI in FY18.

Figure 11.3a – NUOS % TOU bill saving under proposed tariffs – Residential customers – FY18

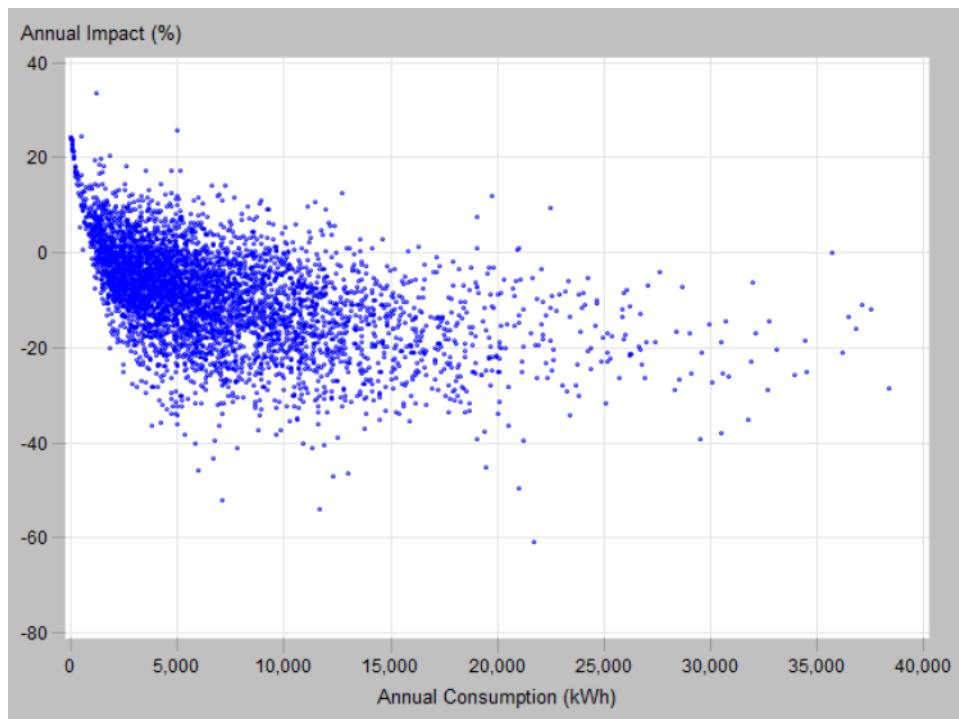
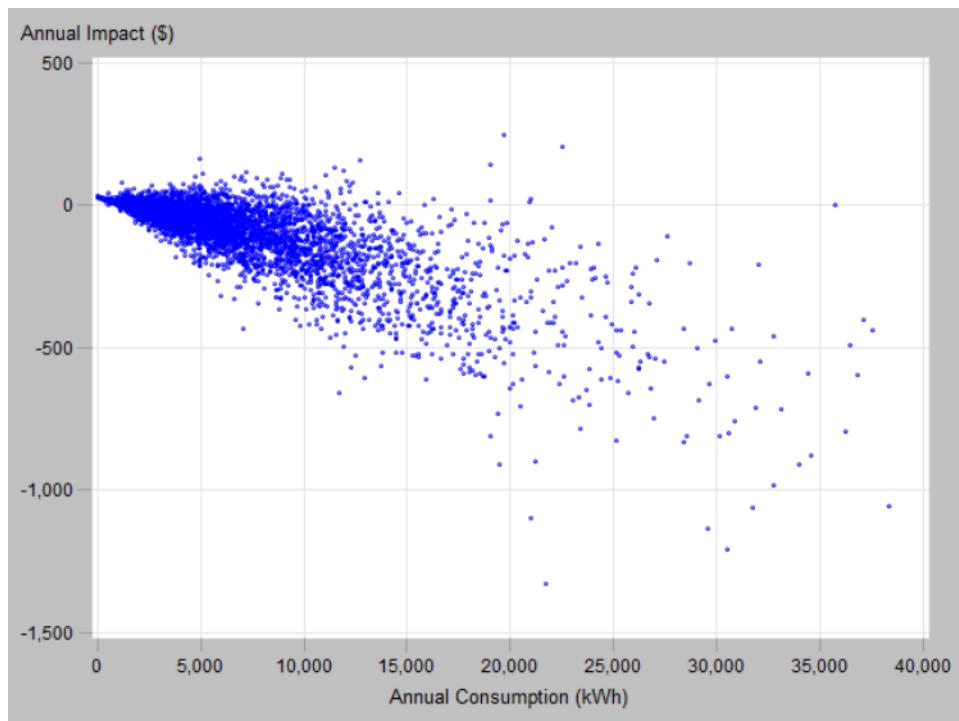


Figure 11.3b – NUOS \$ TOU bill saving under proposed tariffs – Residential customers – FY18



The figures above shows that on the basis of a representative sample of 5000 residential customers in our network area that the majority of residential customers are likely to pay a lower annual NUOS bill under our proposed residential TOU tariff in FY18, particularly if a high proportion of their energy consumption occurs outside the peak period.

(ii) Customer impact under proposed small business tariffs for FY18

The following figures provide an understanding of the potential NUOS bill impacts for small business customers under proposed tariffs for FY18.

Figure 11.4a – NUOS % bill impact under proposed tariffs – Small business non-TOU tariff – FY18

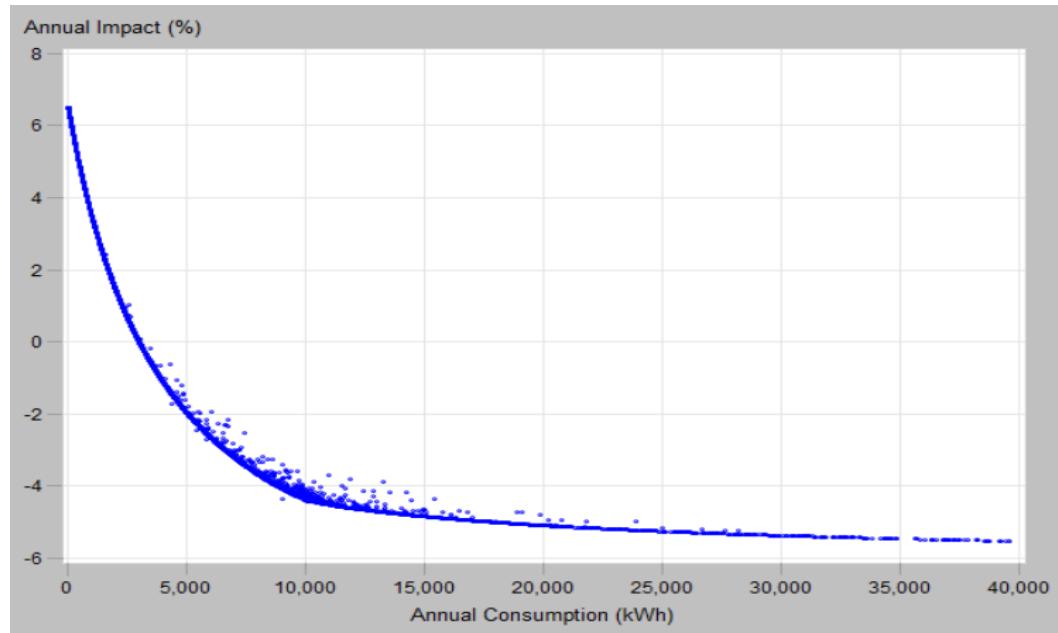
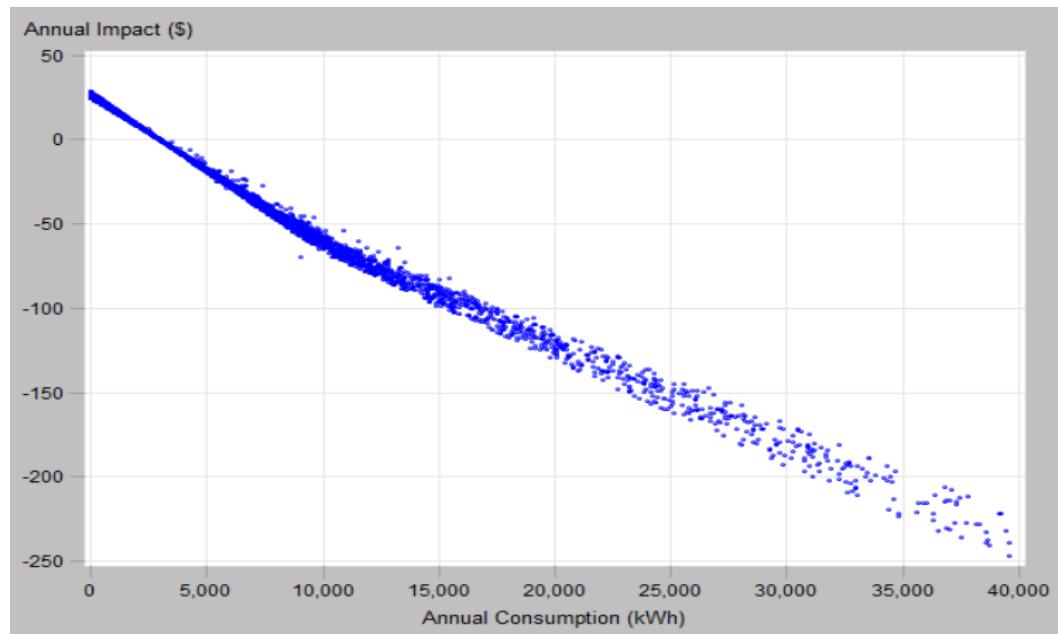


Figure 11.4b – NUOS \$ bill impact under proposed tariffs – Small business non-TOU tariff – FY18



It is clear from the figures above shows that on the basis of a representative sample of 5000 small business customers in our network area that the majority of small business customers are likely to pay a lower annual NUOS bill under our proposed small business non- TOU tariff in FY18

Figure 11.5a – NUOS % bill impact under proposed tariffs – Small business TOU tariff – FY18

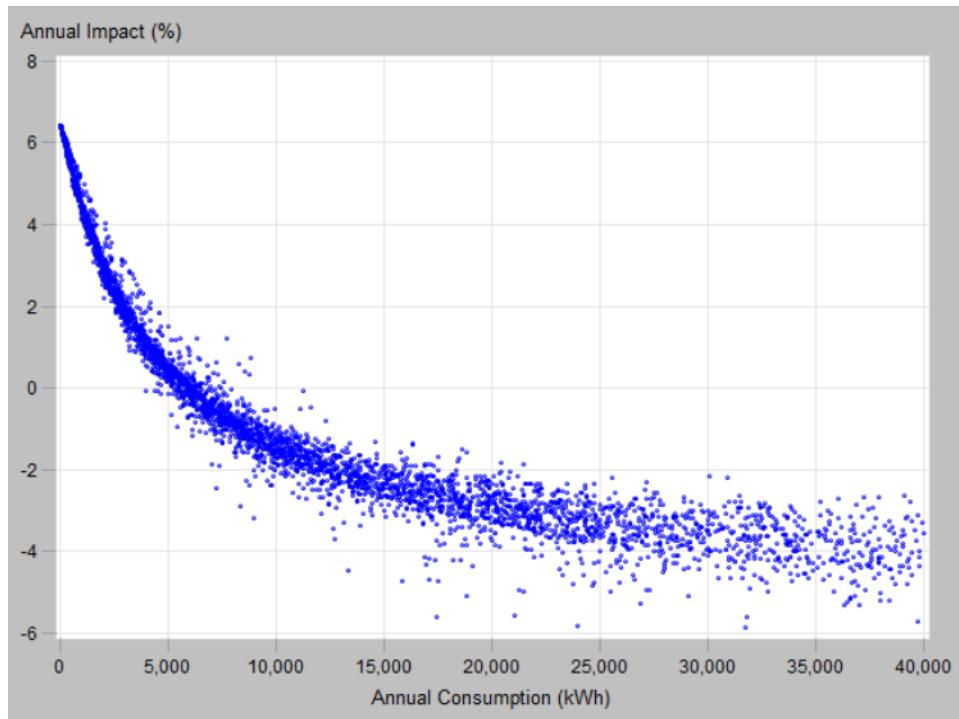
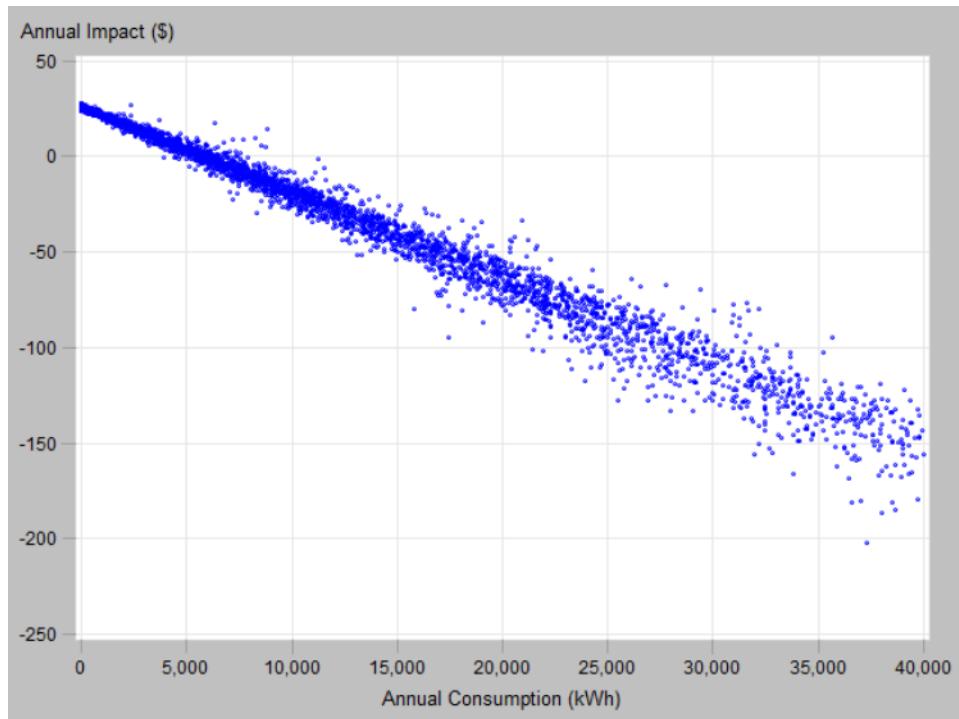
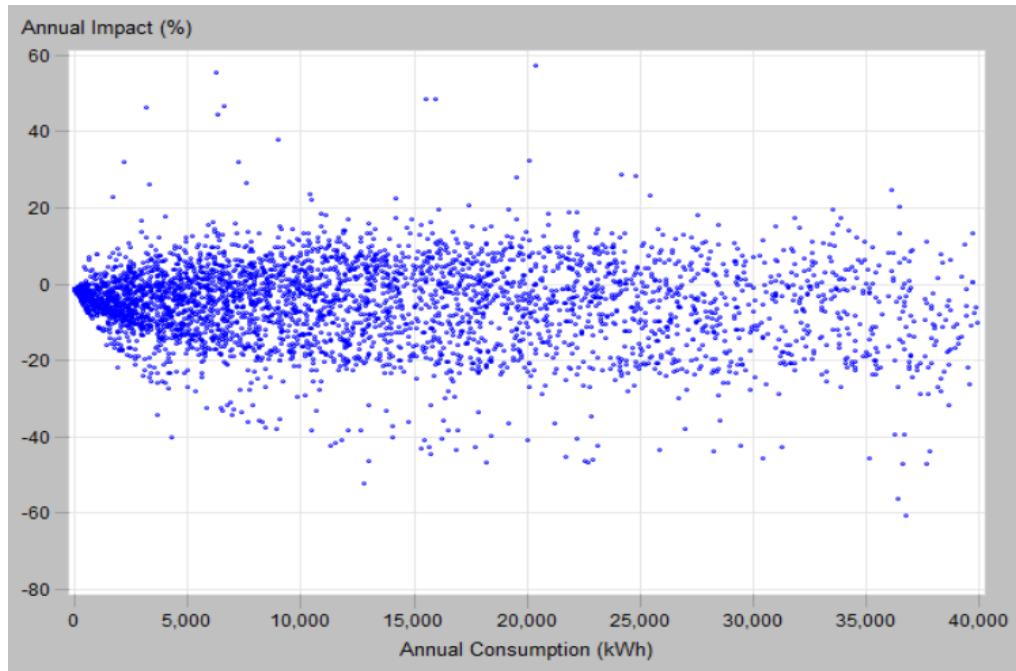


Figure 11.5b – NUOS \$ bill impact under proposed tariffs – Small business TOU tariff – FY18



The figures above shows that on the basis of a representative sample of 5000 small business customers in our network area that the majority of these customers are likely to pay a lower annual NUOS bill under our proposed small business TOU tariff in FY18, particularly if a high proportion of their energy consumption occurs outside the peak period.

Figure 11.6 – NUOS % TOU bill saving under proposed tariffs – Small business customers – FY18



The above figure shows that small business customers with a relatively high share of their annual energy consumption occurring outside the peak period are likely to receive a lower NUOS bill under the TOU tariff in FY18.

(iii) Customer impact under proposed low voltage business tariffs for FY18

The following figures show that annual NUOS bill impacts for low voltage business customers under proposed tariffs for FY18 is likely to be modest with most customers receiving an impact of less than CPI.

Figure 11.7 – NUOS % bill impact under proposed tariffs – LV TOU Capacity tariff (EA302) – FY18

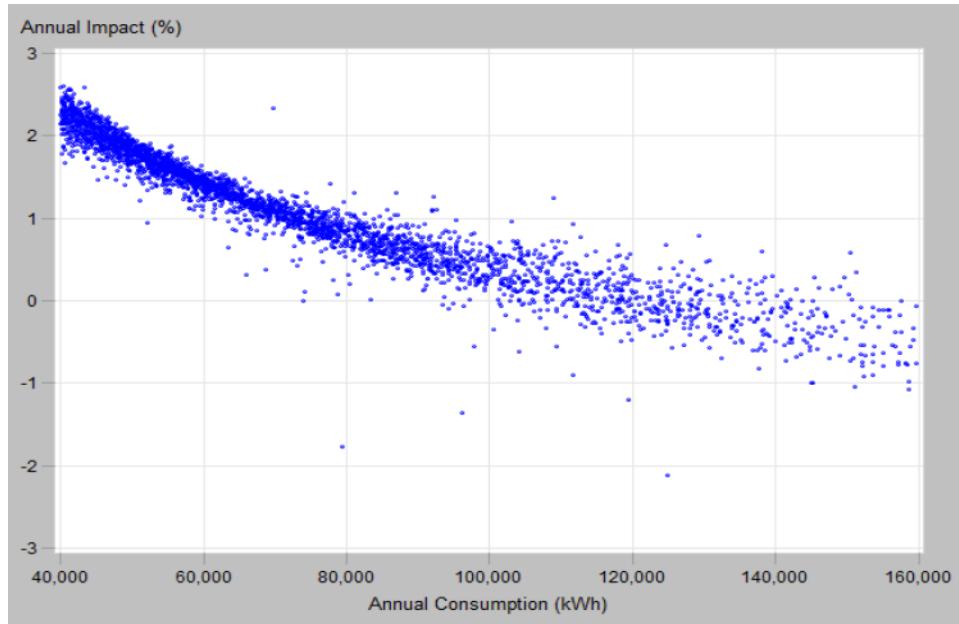


Figure 11.8 – NUOS % bill impact under proposed tariffs – LV TOU Capacity tariff (EA305) – FY18

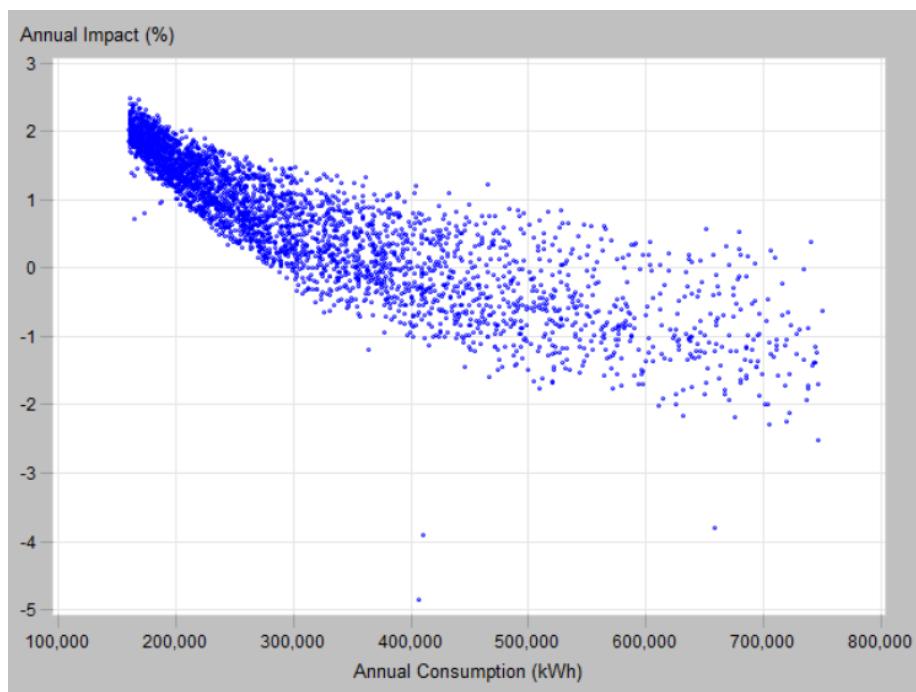
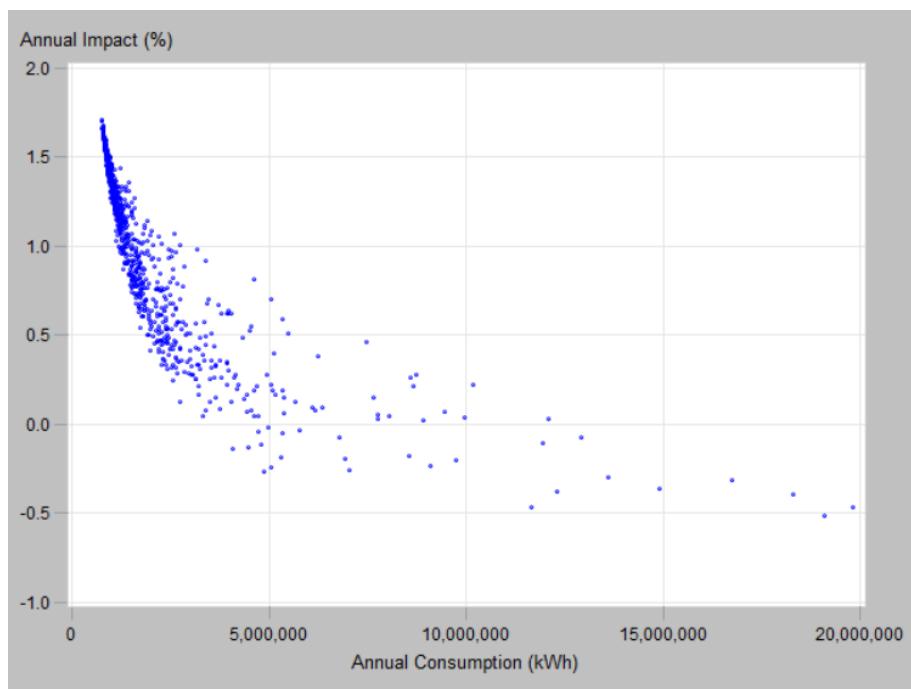


Figure 11.9 – NUOS % bill impact under proposed tariffs – LV TOU Capacity tariff (EA310) – FY18



(iv) Customer impact under proposed low voltage business transitional tariffs for FY18

Figure 11.10 – NUOS % bill impact under proposed tariffs – Transitional LV TOU Capacity tariff (EA316) – FY18

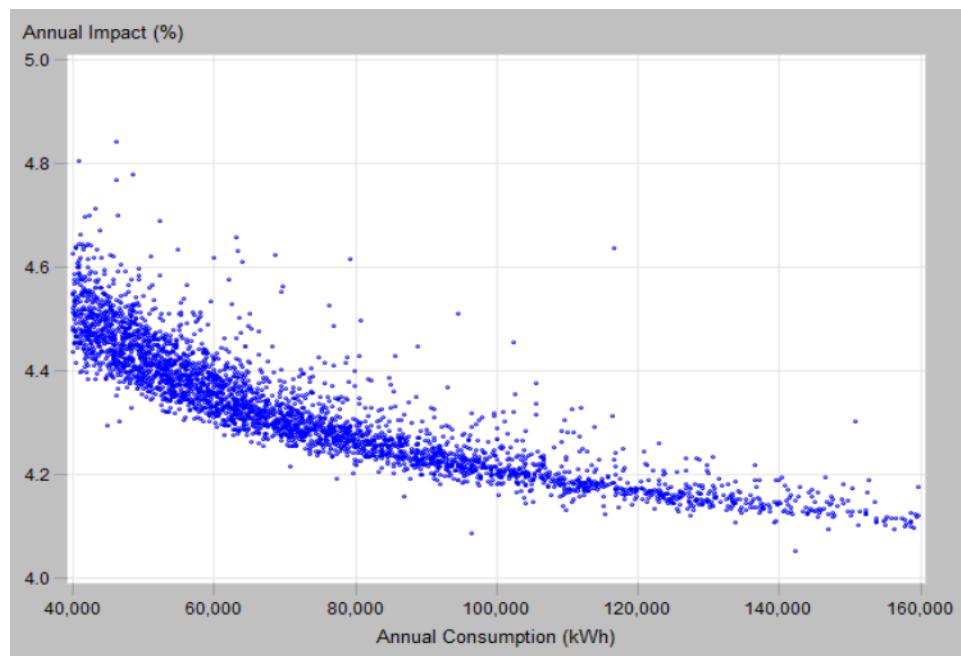
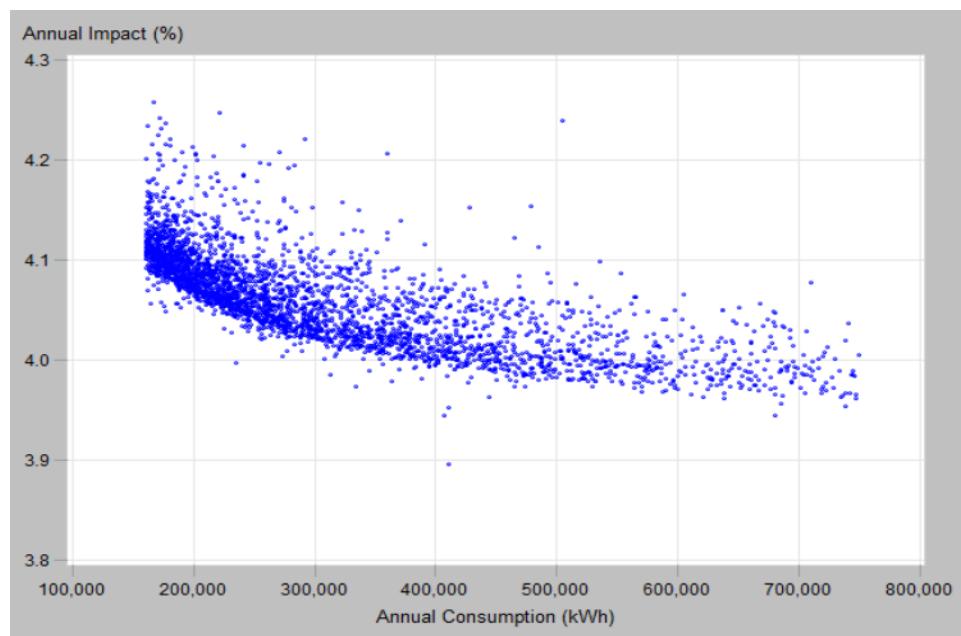


Figure 11.11 – NUOS % bill impact under proposed tariffs – Transitional LV TOU Capacity tariff (EA317) – FY18

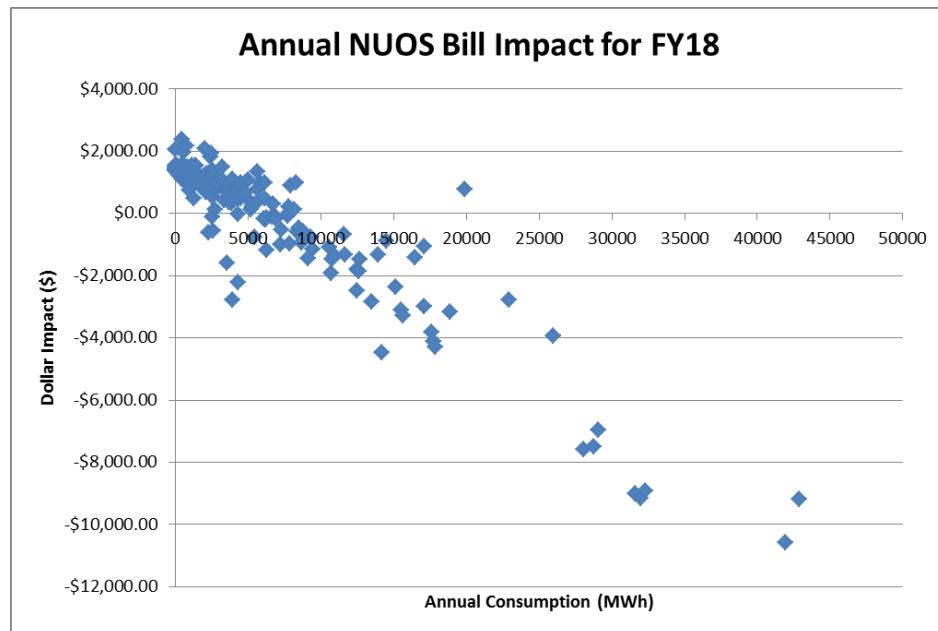


The majority of customers on a transitional LV business tariff will receive an annual NUOS bill impact of around 4% in FY18 on a constant volume basis. Ausgrid believes that this is acceptable outcome given the need to balance the need to improve the efficiency of these tariffs and to address the equity issues associated with these customers paying substantially less for their network service compared to what would be the case if they were assigned to their correct network tariff.

(v) Customer impact under proposed high voltage business tariffs

The following figure provides an understanding of the potential NUOS bill impacts for high voltage business customers under proposed tariffs for FY18.

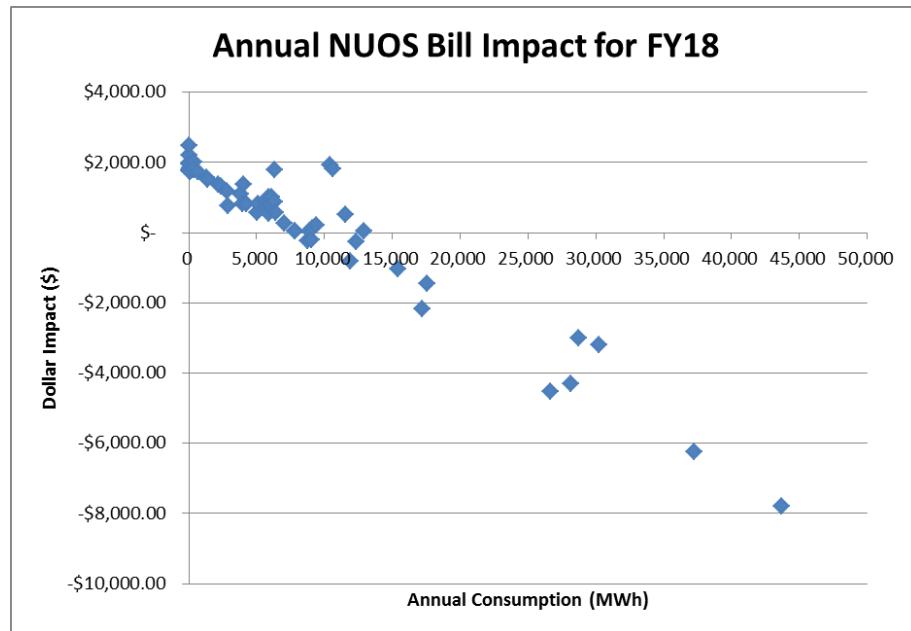
Figure 11.12 – NUOS \$ bill impact under proposed tariffs – HV TOU Capacity tariff (EA370) – FY18



(v) Customer impact under proposed sub-transmission tariffs

The following figure provides an understanding of the potential annual NUOS bill impacts for sub-transmission customers under proposed tariffs for FY18 in \$ terms.

Figure 11.13 – NUOS \$ bill impact under proposed tariffs – Sub-transmission tariff (EA390) – FY18



It is clear from the figures above that customers connected to the high and sub-transmission voltage of our electricity distribution network with above average energy consumption per annum will generally receive a real reduction in their annual NUOS bill in FY18. The impact on smaller energy users, particularly with a high proportion of their energy consumption in the peak period, are expected to receive an annual NUOS bill increase, on a constant volume basis, of no more than around \$2,200 in FY18. Ausgrid believes that this outcome is compliant with the customer impact principle in chapter 6 of the NER.

12 Demonstration of consistency with Tariff Structure Statement

RULE REQUIREMENT

Clause 6.18.2(b)(7A) of the NER requires that a pricing proposal must demonstrate how each proposed tariff is consistent with the corresponding indicative pricing levels for the relevant regulatory year as set out in the relevant indicative pricing schedule, or explain any material differences between them.

This chapter identifies any material differences between our proposed network tariffs for FY18 and the indicative prices for FY 2018 in the indicative pricing schedule that accompanied our AER approved TSS and explains the reason for any material differences between these prices from a NER compliance perspective.

AER Final TSS decision

In February 2017, the AER's final decision approved Ausgrid's revised TSS proposal covering the remaining two financial years of our current regulatory control period to 30 June 2019. In general terms, the AER's final TSS decision requires that Ausgrid set its proposed network tariffs for the next two financial years on the following basis:

- To only change the structure of our proposed network tariffs if approved in the final TSS decision;
- To only introduce proposed new network tariffs or expire existing network tariffs if approved in the final TSS decision;
- To set the level of the proposed network tariffs in accordance with the price-setting methodology set out in the approved TSS.

This chapter explains how our proposed network tariffs for FY18 comply with above-mentioned requirements.

Comparison of proposed and indicative prices

Ausgrid was required under clause 6.18.2(b)(7A) of the National Electricity Rules to submit an indicative pricing schedule to the

AER as part of its TSS proposal for the remaining two years of the current regulatory control period.

A comparison of the indicative prices and proposed prices of our major published network use of system tariffs in FY2018 for the low voltage tariff class is shown in Table 12.1 and for the remaining tariff classes in Table 12.2. A complete listing of the indicative prices for our published tariffs is set out in chapter 5 of our final TSS.¹²

The first point to note is that it is clear from these tables that the level of our proposed network tariffs are, in some cases, materially different to the level of the indicative tariffs for FY18. The key highlights in this regard are summarised below:

- The proposed fixed charges for FY18 are higher than the indicative fixed charges set out in our revised TSS for the same time period. Importantly, the bill impact of the proposed fixed charge increase is largely offset by the proposed reductions in our energy charges, particularly for the shoulder and off-peaking charging windows.
- The proposed capacity charges are generally lower than the indicative capacity charges. Ausgrid believes that the capacity charge differences are not material.

The second point to note from the tables is that the proposed structures of our network tariffs are consistent with the AER's final decision on our TSS.

Although not shown in the below tables, Ausgrid proposes to introduce a confidential new tariff for transmission-connected customers. This proposal is consistent with the AER's final decision on our TSS, noting that the proposed levels of this tariff are materially different to the indicative levels due to the need to reflect the new TransGrid transmission pricing structure from 1 July 2017.

¹² This document is available for download from www.aer.gov.au.

Table 12.1: Comparison of Ausgrid's FY18 Network Tariffs by Charging Parameter (Exclusive of GST) – Proposed Vs Indicative – Low Voltage Tariff Class

Tariff Code	Tariff Name		Network Access Charge c/day	Energy Consumption Prices						Daily Capacity Prices	
				Peak c/kWh	Shoulder c/kWh	Off-peak c/kWh	Block 1 c/kWh	Block 2 c/kWh	Block 3 c/kWh	Peak c/kW/day	Peak c/kVA/day
EA010	LV Res non-TOU	Proposal	35.74				10.27	10.27	10.27		
		Indicative	33.91				10.95	10.95	10.95		
		% difference	5.1%				-6.6%	-6.6%	-6.6%		
EA025	LV Res < 40 MWh (System)	Proposal	44.35	25.67	4.62	2.46					
		Indicative	42.27	26.60	5.48	2.81					
		% difference	4.7%	-3.6%	-18.7%	-14.1%					
EA050	LV Business non-TOU	Proposal	127.57				10.08	10.08			
		Indicative	122.18				10.77	10.77			
		% difference	4.2%				-6.8%	-6.8%			
EA225	LV Business TOU	Proposal	125.77	21.87	6.09	1.87					
		Indicative	120.57	21.91	6.92	2.14					
		% difference	4.1%	-0.2%	-13.7%	-14.2%					
EA302	LV 40-160 MWh (System)	Proposal	626.78	5.40	2.43	1.47				35.74	
		Indicative	591.96	5.47	2.77	1.67				35.89	
		% difference	5.6%	-1.4%	-14.2%	-13.7%				-0.4%	
EA305	LV 160-750 MWh (System)	Proposal	1905.84	4.95	2.27	1.26					35.74
		Indicative	1783.45	4.99	2.45	1.64					35.89
		% difference	6.4%	-0.8%	-7.7%	-29.6%					-0.4%
EA310	LV > 750 MWh (System)	Proposal	2403.13	4.40	2.11	1.39					35.74
		Indicative	2228.36	4.41	2.19	1.48					35.89
		% difference	7.3%	-0.2%	-4.2%	-6.7%					-0.4%

Please note that the prices in the table above have been rounded to two decimal places in the pricing proposal document; Only major published tariffs shown.

Table 12.2: Comparison of Ausgrid's FY18 Network Tariffs by Charging Parameter (Exclusive of GST) – Proposed Vs Indicative – Other Tariffs

Tariff Class	Tariff Code	Tariff Name		Network Access Charge c/day	Non-TOU c/kWh	Energy Consumption Prices			Daily Capacity Prices	
						Peak c/kWh	Shoulder c/kWh	Off-peak c/kWh	Peak c/kW/day	Peak c/kVA/day
High Voltage	EA370	HV Connection (System)	Proposal	4750.00		3.33	1.99	1.40		19.17
			Indicative	4459.99		3.20	2.14	1.47		19.26
			% difference	6.1%		4.0%	-7.6%	-4.9%		-0.5%
	EA380	HV Connection (Substation)	Proposal	4750.00		2.95	1.79	1.28		16.44
			Indicative	4459.99		2.81	1.90	1.31		16.52
			% difference	6.1%		4.6%	-5.9%	-2.8%		-0.5%
Sub transmission	EA390	STV Connection (System)	Proposal	5950.00		2.71	1.77	1.21		6.11
			Indicative	5574.98		2.58	1.87	1.27		6.13
			% difference	6.3%		4.9%	-5.8%	-4.8%		-0.3%
	EA391	STV Connection (Substation)	Proposal	5950.00		2.44	1.52	1.11		5.36
			Indicative	5574.98		2.31	1.68	1.12		5.31
			% difference	6.3%		5.4%	-11.1%	-1.3%		1.0%
Unmetered	EA401	Public Lighting	Proposal	0	7.78					
			Indicative	0	8.27					
			% difference	0%	-6.3%					
	EA402	Constant Unmetered	Proposal	0	9.36					
			Indicative	0	10.15					
			% difference	0%	-8.4%					
	EA403	Energy Light	Proposal	0	7.10					
			Indicative	0	7.64					
			% difference	0%	-7.5%					

Please note that the prices in the table above have been rounded to two decimal places in the pricing proposal document; Only major published tariffs shown.

Explanation of key differences between indicative prices and proposed prices for FY18

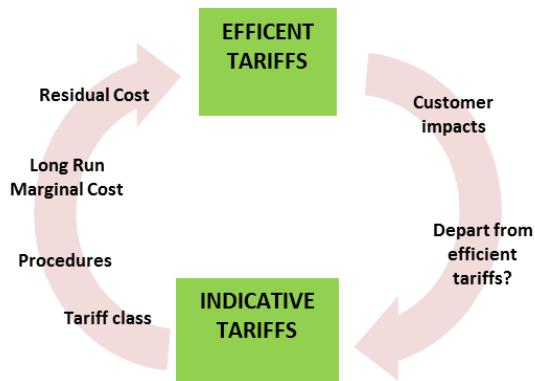
It is important to note that differences between the indicative prices set out in the indicative pricing schedule that accompanied our TSS and the proposed prices set out in our pricing proposal arise for the following reasons:

- The updated efficient reference tariffs in the pricing proposal vary from the efficient reference tariff in the TSS.
- The transition to the efficient reference tariffs adopted for the pricing proposal varies from that adopted in the TSS.¹³

Comparison of the efficient reference tariffs

A key concept underpinning our network tariff-setting approach, as set out in the AER approved TSS, is the concept of an efficient reference tariff, as highlighted in the figure below:

Figure 1: Ausgrid's Tariff-setting Framework



The efficient reference tariff is the starting point of our tariff-setting approach and sets out what an efficient tariff looks like. This idealised notion of an efficient tariff serves as an important reference point to guide our thinking on how best to reform the structure of tariffs and to transition the price level of tariffs over time.

It is important to note that there are two different sets of efficient reference tariffs used in our tariff setting approach.

- **Efficient reference tariff to guide medium term tariff reform process** – This reference tariff is developed without regard for metering constraints

and without regard for their impact on customers

- **Efficient reference tariff to guide annual tariff-setting process** – This reference tariff is developed with regard for metering constraints, proposed tariff structures, but without regard for their impact on customers.

The efficient reference tariffs used to guide the medium term tariff reform process are set out in our approved TSS.¹⁴ It is not necessary to update our medium-term view of the efficient reference tariffs¹⁵ for the pricing proposal given that our TSS has been approved. However, it is important for Ausgrid to update our efficient reference tariff under the approved tariff structures to guide the annual tariff-setting process to ensure that our proposed network tariffs under the approved tariff structures are appropriately transitioned to efficient levels.

We have updated our efficient reference tariff for the purpose of the pricing proposal to account for the following:

- Changes in the annual revenue allowance for our standard control distribution and transmission services
- Changes in our annual contribution to the NSW Government Climate Change Fund;
- Changes to the level and structure of TransGrid's transmission charges that apply to our electricity distribution network;
- Changes to the closing balance of our overs and unders account in year t-1 in relation to distribution, transmission and CCF.
- Changes to historical and forecast volumes at the individual charging parameter level; and
- Changes to the inputs to our methodology for the allocation of residual cost allocation and estimating LRMC.

It is important to note that updating the efficient reference tariffs in this manner will not be fully reflected in the efficient reference tariff outcomes for FY18. This is because the

¹³ Note that any annual variation in the transition to the efficient reference tariff must comply with the customer impact principle in the Rules.

¹⁴ Ausgrid 2016, Revised Tariff Structure Statement, p.43, October

¹⁵ Ausgrid will re-visit this issue as part of the next TSS.

enforceable undertaking requires that our the proposed tariffs for FY18 are set on the basis of an agreed revenue target, rather than a revenue allowance derived from an assessment of the building block costs, adjusted for the prior year overs/unders amount.¹⁶ Nevertheless, Ausgrid believes that in spite of these limitations the updated efficient reference tariffs under the approved tariff structures provide important guidance to Ausgrid in the setting of the level of our proposed tariffs for FY18. It is for this reason that Ausgrid has updated our efficient reference tariffs under the approved tariff structures for FY18.

The updated efficient reference tariffs for FY 2018 under the approved tariff structures updated for our pricing proposal are shown in Table 12.3.

Given that the role played by our efficient reference tariff in the annual tariff-setting process is to guide the direction of price level changes, the demonstration of consistency with the approved TSS relates to whether these updated reference tariffs have resulted in a different transition path towards more economically efficient pricing, compared to what was approved TSS) and whether these differences (if any) are justified under the tariff-setting methodology set out in the approved TSS.

Regardless of these limitations, Ausgrid believes that the setting of our proposed network tariffs for FY18 on the basis of updated efficient reference tariffs has influenced the proposed tariff setting process in a manner that is consistent with our approved TSS given that the direction of our proposed tariffs is consistent with the direction of our indicative tariffs for FY18, as shown in the following tables. The key insights from these tables is that both the indicative tariffs and the proposed tariffs for FY18 have in general terms been set on the basis of the following transitional strategy:

- Increase the share of residual cost recovered through the fixed charge to the extent possible under the customer impact principle in chapter 6 of the NER;
- Transition the peak energy charge towards our estimate of LRMC to the extent possible under the customer

impact principle in chapter 6 of the NER;

- To reduce the shoulder and off-peak energy charge to the extent possible under the customer impact principle in chapter 6 of the NER; and
- To increase the capacity charge (if applicable) to improve the efficiency of residual cost recovery to the extent possible under the customer impact principle in chapter 6 of the NER.

On this basis, it is clearly evident that our proposed tariffs for FY18 are consistent with our approved TSS, both in terms of the levels and structure.¹⁷

¹⁶ Ausgrid is subject to a revenue cap form of control mechanism where proposed tariffs is required to be adjusted to achieve a forecast zero balance of the overs & unders account.

¹⁷ Note that the change in TransGrid transmission pricing structure in FY18 has resulted in a material reduction in the efficient reference tariff for individual site-specific CRNP tariffs. This change has been reflected in the transition strategy adopted for the setting of the proposed network tariffs for these sites and the new transmission-connected tariff.

Table 12.3: Ausgrid's FY18 Network Tariffs by Charging Parameter (Exclusive of GST) – Efficient Reference Tariffs (Approved Structure) – Pricing Proposal

Tariff Class	Tariff Code	Tariff Name	Network Access Charge c/day	Network Energy Prices						
				Non-TOU	Peak	Shoulder	Off-peak	Block 1	Block 2	Block 3
Low Voltage	EA010	LV Res non-TOU	109.28					2.31	2.31	2.31
	EA025	LV Res < 40 MWh (System)	171.78		11.80	0.45	0.45			
	EA050	LV Business non-TOU	232.50					2.56	2.56	
	EA225	LV Business TOU	360.67		12.05	0.69	0.69			
	EA302	LV 40-160 MWh (System)	1946.81		12.05	0.69	0.69			
	EA305	LV 160-750 MWh (System)	5,928.32		12.05	0.69	0.69			
	EA310	LV > 750 MWh (System)	23,478.50		12.05	0.69	0.69			
High Voltage	EA360	HV Connection (Closed)	38,378.20		4.37	0.69	0.69			
Sub-transmission	EA390	ST Connection	143,132.82		1.27	0.69	0.69			

Note: Only major published tariffs shown, prices exclude GST, prices have been rounded.

Source: Ausgrid

Table 12.4: Ausgrid's FY18 Network Tariffs by Charging Parameter (Exclusive of GST) – Direction of Annual Price Change in FY18– Pricing Proposal

Tariff Class	Tariff Code	Tariff Name	Network Access Charge c/day	Network Energy Prices						
				Non-TOU c/kWh	Peak c/kWh	Shoulder c/kWh	Off-peak c/kWh	Block 1 c/kWh	Block 2 c/kWh	Block 3 c/kWh
Low Voltage	EA010	LV Res non-TOU	Real Increase					Real Decrease	Real Decrease	Real Decrease
	EA025	LV Res < 40 MWh (System)	Real Increase		Real Decrease	Real Decrease	Real Decrease			
	EA050	LV Business non-TOU	Real Increase					Real Decrease	Real Decrease	
	EA225	LV Business TOU	Real Increase		Real Decrease	Real Decrease	Real Decrease			
	EA302	LV 40-160 MWh (System)	Real Increase		Real Decrease	Real Decrease	Real Decrease			
	EA305	LV 160-750 MWh (System)	Real Increase		Real Decrease	Real Decrease	Real Decrease			
	EA310	LV > 750 MWh (System)	Real Increase		Real Decrease	Real Decrease	Real Decrease			
High Voltage	EA360	HV Connection (Closed)	Real Increase		Real Increase	Real Decrease	Real Decrease			
Sub-transmission	EA390	ST Connection	Real Increase		Real Increase	Real Decrease	Real Decrease			

Source: Ausgrid

Table 12.5: Ausgrid's FY18 Network Tariffs by Charging Parameter (Exclusive of GST) – Direction of Annual Price Change in FY18– Indicative TSS Prices

Tariff Class	Tariff Code	Tariff Name	Network Access Charge c/day	Network Energy Prices						
				Non-TOU c/kWh	Peak c/kWh	Shoulder c/kWh	Off-peak c/kWh	Block 1 c/kWh	Block 2 c/kWh	Block 3 c/kWh
Low Voltage	EA010	LV Res non-TOU	Real Increase					Real Decrease	Real Increase	Real Increase
	EA025	LV Res < 40 MWh (System)	Real Decrease		Real Decrease	Real Decrease	Real Decrease			
	EA050	LV Business non-TOU	Real Increase					Real Decrease	Real Increase	
	EA225	LV Business TOU	Real Decrease		Real Decrease	Real Decrease	Real Decrease			
	EA302	LV 40-160 MWh (System)	Real Increase		Real Decrease	Real Decrease	Real Decrease			
	EA305	LV 160-750 MWh (System)	Real Increase		Real Decrease	Real Decrease	Real Decrease			
	EA310	LV > 750 MWh (System)	Real Increase		Real Decrease	Real Decrease	Real Decrease			
High Voltage	EA360	HV Connection (Closed)	Real Decrease		Real Decrease	Real Decrease	Real Decrease			
Sub-transmission	EA390	ST Connection	Real Decrease		Real Decrease	Real Decrease	Real Decrease			

Source: Ausgrid

13 Demonstration of compliance with National Electricity Rules

RULE REQUIREMENT

Clause 6.18.2(b)(7) of the NER requires that a pricing proposal must 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

Rule 6.18.5 sets out the pricing principles that are relevant when determining tariffs and charging parameters.

Rule 6.18.5 further provides that:

(b) A tariff, and if it consists of two or more charging parameters, each charging parameter for a tariff class:

(1) must take into account the long run marginal cost for the service or, in the case of a charging parameter, for the element of the service to which the charging parameter relates; and

(2) must be determined having regard to:

(i) transaction costs associated with the tariff or each charging parameter; and

(ii) whether customers of the relevant tariff class are able or likely to respond to price signals.

(c) If, however, as a result of the operation of paragraph (b), the Distribution Network Service Provider may not recover the expected revenue, the provider must adjust its tariffs so as to ensure recovery of expected revenue with minimum distortion to efficient patterns of consumption.

13.1 Overview

This chapter provides a detailed understanding of our obligations under the NER in relation to the annual network tariff setting process and how our proposed network tariffs for FY18 comply with these obligations.

Specifically, Ausgrid is required under the new distribution pricing arrangements, to demonstrate that its proposed network tariffs for

FY18 comply with the following NER obligations:

- The proposed tariffs have been developed using the tariff-setting methodology set out in the AER approved TSS;
- The proposed tariffs, to the extent that they vary from the indicative prices accompanying the AER approved TSS, comply with the customer impact principle set out in chapter 6 of the NER.

While the key focus of this chapter is to demonstrate that our proposed tariffs comply with the customer impact principle in the NER, to assist the AER to assess our pricing proposal against the requirements of the NER Ausgrid has also provided explanatory comments on how our proposed tariffs comply with the economic principles in the NER.

Key network tariff reforms for FY18

The key reforms proposed to our network tariffs for FY18 are summarised below:

- To contribute to the achievement of compliance with the economic principles in chapter 6 of the NER by transitioning towards the efficient level of the peak charge towards the efficient level, as represented by our estimate of LRMC.
- To contribute to the achievement of compliance with economic principles in chapter 6 of the NER by transitioning towards the efficient allocation of residual costs by recovering a greater share of our residual cost from fixed charges (or charging parameters with similar efficiency properties);

Consistent with the AER approved TSS, Ausgrid proposes to introduce a new tariff for transmission-connected customers in FY18.

The explanation of how these proposed reforms contribute to achieving compliance with chapter 6 of the NER is provided below:

13.2 Proposed peak charges for FY18

A key element of our pricing proposal for FY18 is our proposal to transition our peak energy charges towards the efficient level, as required

to comply with the price-setting methodology set out in our AER approved TSS.¹⁸

The following table provides a comparison of the current peak energy charges, the proposed peak energy charges and efficient reference peak charges for FY18 for the major published network tariffs. A detailed explanation of how these proposed peak energy charges comply with the principles set out in chapter 6 of the NER is provided below.

'Peak energy' charges for Non-TOU tariffs

While it is not possible to efficiently signal LRMC under a flat tariff structure. Nevertheless, it is possible to improve the efficiency of the anytime energy charge from an economic "second-best" perspective.

Using the LRMC approach set out in our approved TSS, it is possible to derive an efficient level for the anytime energy charge relating to the flat (non-TOU) tariffs for residential and small business customers. The estimates of LRMC, expressed on a c/kWh basis, applying to these tariffs is shown in the table below.

Table 13.1 – LRMC estimate for non-TOU Tariffs

Code	Non-TOU Tariff	LRMC estimate (c/kWh)
EA010	Residential	1.867
EA050	Small Business	1.867

Source: Ausgrid

Given that our anytime energy charges are currently above LRMC, Ausgrid believes that it is in the long-term interests of electricity users if these energy charges are reduced over time. It is for this reason that Ausgrid proposes to reduce the anytime energy charges for these tariffs in FY18 (see table 13.4) to ensure that these charges are gradually transitioned towards the 'second-best' efficient level (i.e the LRMC estimates in the table above). This proposal is consistent with the price-setting methodology set out in our approved TSS.

To minimise the transition costs of introducing a flat tariff in FY18, Ausgrid proposes to introduce the AER approved flat energy charge under the

current block tariff structure¹⁹, as shown in the table below.

Table 13.2 – Proposed NUOS Energy Charges for non-TOU Tariffs in FY18

Code	Non-TOU Tariff	1 st Block c/kWh	2 nd Block c/kWh	3 rd Block c/kWh
EA010	Residential	10.27	10.27	10.27
EA050	Small Business	10.08	10.08	N/A

Note: prices exclude GST and have been rounded.

Source: Ausgrid

Peak energy charges for Low Voltage TOU tariffs

Given the time dimension to the peak energy charge parameter under our approved TOU energy tariff structures, Ausgrid believes that it is possible to set the level peak energy charge for these tariffs to achieve a first-best outcome from an efficiency perspective. Using the LRMC methodology set out in our approved TSS, Ausgrid has produced the following LRMC estimates to apply to the TOU tariffs in our low voltage tariff class.

Table 13.3 – LRMC-based Peak energy charge for LV TOU Tariffs in FY18

Code	TOU Tariff	LRMC estimate (c/kWh)
EA025	Residential	11.3558
EA225	Small Business	11.3558
EA302	LV TOU Capacity 40-160 MWh pa	11.3558
EA305	LV TOU Capacity 160-750 MWh pa	11.3558
EA310	LV TOU Capacity >750 MWh pa	11.3558

Source: Ausgrid

As with the non-TOU tariffs, there are likely to be economic benefits to be realised by transitioning the level of our peak energy charges for our TOU energy tariffs towards the efficient level (i.e the LRMC estimates in the table above). This approach is consistent with

¹⁸ <http://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/pricing-proposals-tariffs/ausgrid-tariff-structure-statement-2017>

¹⁹ The consumption thresholds under the block structure will remain unchanged in FY18.

the price-setting methodology set out in our approved TSS. It is for this reason that Ausgrid proposes to reduce, in real terms, the level of the peak energy charges for these tariffs in FY18, as shown in the table on the next page.

Table 13.4: Overview of proposed network use of system peak charge increases for FY18 – Low Voltage Tariff Class

Tariff Class	Code	Tariff Name	Efficient Reference	Current FY17	Proposed FY18	% change	\$ change pa
Low Voltage	EA010	Residential Non-TOU	2.33	10.97	10.27 [#]	-6.3%	-2.55
	EA025	Residential TOU	11.81	26.47	25.67	-3.0%	-2.90
	EA030	Controlled Load 1	0.46	1.77	1.75	-1.1%	-0.05
	EA040	Controlled Load 2	0.46	4.69	4.63	-1.3%	-0.24
	EA050	Non-residential Non-TOU	2.55	10.79	10.08 [#]	-7.4%	-2.61
	EA225	Non-residential TOU	12.04	21.78	21.87	0.4%	0.33
	EA302	LV TOU Capacity -40 – 160 MWh pa	12.04	5.42	5.40	-0.4%	-0.08
	EA305	LV TOU Capacity -160 – 750 MWh pa	12.04	4.94	4.95	0.2%	0.04
	EA310	LV TOU Capacity -> 750 MWh pa	12.04	4.37	4.40	0.7%	0.11

Note - Excluding GST, prices are rounded; #: first block energy charge under the declining block structure.

Source: Ausgrid

Peak energy charges for High Voltage and sub-transmission voltage TOU capacity tariffs

In accordance with the tariff-setting methodology set out in our AER approved TSS, Ausgrid proposes to transition the peak energy charge of our high voltage and sub-transmission voltage TOU capacity tariffs towards the efficient level in FY18, as represented by our LRMC estimates shown in the table below.

Table 13.5 – LRMC estimate for HV and above TOU capacity tariffs

Tariff class	Tariff Code	Current NUOS Peak Price (c/kWh)	LRMC estimate (c/kWh)
High voltage	EA370	3.19	3.68
	EA380	2.80	3.68
Sub-transmission Voltage	EA390	2.57	0.58
	EA391	2.3	0.58

Source: Ausgrid

To comply with the tariff setting methodology set out in our approved TSS and realise an improvement in economic welfare it is necessary for the peak energy charges to increase for our high voltage TOU tariffs and decrease for our sub-transmission voltage TOU capacity tariffs.

An important issue for the setting of our proposed network tariffs for FY18 is the extent to which these tariffs should be transitioned to efficient levels under the approved tariff structures in light of the associated customer impacts. Ausgrid believes that our proposed changes to the level of the peak energy charges for FY18 will not result in unacceptable network bill impacts for these customers given that any proposed increase to the peak energy charge will be moderated by proposed reductions to the level of the other charging parameters in the tariff.

As a result Ausgrid believes that this aspect of our pricing proposal is likely to be in the long-term interests of electricity users given that this change represents a gradual transition towards our LRMC estimate.

Table 13.6 – Proposed Peak energy charge for High and Sub-transmission Voltage

Tariff class	Published Tariff Code	Proposed % change in Peak Charge
High voltage	EA370	4.5%
	EA380	5.2%
Sub-transmission Voltage	EA390	5.5%
	EA391	6.1%

Source: Ausgrid

Finally, Ausgrid does not propose to introduce a LRMC-based DUOS peak charging parameter for our transmission-connected customers, which is consistent with our AER-approved TSS, on the grounds that this would be contrary to economic principles given that these customers do not use our electricity distribution network.

13.3 Proposed capacity charges for FY18

A key element of our pricing proposal for FY18 is our proposal to modestly increase the level of our capacity charges for medium to large business customers, as shown in table below:

Table 13.7 – LRMC estimate for HV and above TOU capacity tariffs

Tariff class	Tariff Code	Proposed % change in Capacity Charge
Low Voltage	EA302	1.57%
	EA305	1.57%
	EA310	1.57%
High voltage	EA370	1.53%
	EA380	1.54%
Sub-transmission Voltage	EA390	1.73%
	EA391	1.57%

Source: Ausgrid

Ausgrid believes that this aspect of our pricing proposal is likely to enhance economic welfare given that the historical basis of the capacity charge calculation means that this charging parameter has similar efficiency properties to a fixed charge.

Ausgrid believes that the impacts on our customers will be acceptable given that the modest capacity charge increases form part of a broader tariff re-balancing strategy, where increases to fixed and capacity charges are proposed to be partly off-setting by proposed reductions in inefficient energy charges.

13.4 Proposed fixed charges for FY18

A key element of our pricing proposal for FY18 is our proposal to increase the level of our fixed charges. Ausgrid believes that re-balancing tariffs away from inefficient energy charges towards fixed charges (or charging parameters with similar efficiency properties) will enhance economic welfare by improving the efficiency of the recovery of our residual costs from customers.

At an aggregate level, Ausgrid proposes to gradually reduce the forecast share of NUOS recovered through energy charges from 60.3% in FY17 to 58.6% in FY18, offset by modest increases in the proposed NUOS share of fixed and capacity charges, as shown in the table below.

Table 13.8 – NUOS % share for non-TOU Tariffs

Charging Parameter Type	NUOS % share in FY17	NUOS % share in FY18
Fixed Charges	20.0%	21.3%
Energy Charges	60.3%	58.6%
Capacity Charges	19.7%	20.0%

Source: Ausgrid

At a tariff level, Ausgrid proposes to vary the proposed rate of transition towards more efficient fixed charges in FY18, where necessary to ensure that our proposal does not create unacceptable impacts on our customers.

Fixed charges for Non-TOU tariffs

Ausgrid proposes to apply a real fixed charge increase to the non-TOU tariffs for residential and small business customers in FY18 (refer to Table 13.6). The proposed fixed charge increase is consistent with the tariff-setting methodology set out in our AER approved TSS and represents the first real increase to our fixed charges for these customers since FY13.

Ausgrid believes that our proposed real increase to our fixed charge in FY18 will

enhance economic efficiency by improving the efficiency of our residual cost recovery.

Importantly, the proposed fixed charge increases will not result in unacceptable customer impacts as the network bill impact will be moderated by the proposed reduction in the level of anytime energy charges in FY18, as shown in the following table.²⁰

Table 13.9 – Customer impact for non-TOU Tariffs

Customer Type	Annual consumption	NUOS Bill Impact in FY18	
		\$	%
Residential	Low (2,000 kWh)	\$2.77	0.8%
	Average (5,000 kWh)	\$0.71	0.1%
	High (10,000 kWh)	\$12.04	1.0%
Small Business	Low (5,000 kWh)	\$10.7	1.1%
	Average (10,000 kWh)	\$11.1	0.7%
	High (15,000 kWh)	\$11.5	0.6%

Source: Ausgrid

Fixed charges for TOU energy tariffs

Similarly, Ausgrid proposes to apply a real fixed charge increase to our TOU tariffs for residential and small business customers in line with the tariff-setting methodology set out in our AER approved TSS. In addition to improving the efficiency of our residual cost recovery, there could also be efficiency benefits from our proposal to reduce the fixed charge differential between the TOU and non-TOU tariff. This addresses a concern raised by the AER in relation to our TOU tariff design.²¹

Ausgrid believes that our proposed fixed charge increases for the TOU energy tariffs will not result in unacceptable bill impacts given that

²⁰ A more detailed customer impact analysis is shown in chapter 11.

²¹ AER 2016, Draft Decision, TSS, chapter 8.

moderating influence of our proposed reductions in peak, shoulder and off-peak energy charges in FY18, as shown in Table 13.10.²²

Table 13.10 – Customer impact for TOU Tariffs

Customer Type	Annual consumption	NUOS Bill Impact in FY18	
		\$	%
Residential	Low (2,000 kWh)	\$8.1	2.4%
	Average (5,000 kWh)	\$6.6	1.1%
	High (10,000 KWh)	\$4.0	0.4%
Small Business	Low (5,000 kWh)	\$24.6	2.7%
	Average (10,000 kWh)	\$23.3	1.7%
	High (15,000 KWh)	\$22.0	1.2%

Source: Ausgrid

Fixed charges for TOU capacity tariffs

Ausgrid proposes to apply real increases to the fixed charges in FY18 for the TOU capacity tariffs applying to medium and large business customers assigned to the low voltage, high voltage and sub-transmission voltage tariff classes. Ausgrid believes that real fixed charge increases for medium and large business customers in FY18 are necessary to comply with the tariff-setting methodology set out in our AER approved TSS, which is designed to meet our obligations under the NER to improve the economic efficiency of our network tariffs.

The challenge is ensure that the proposed rebalancing of our tariffs away from inefficient energy charges towards more efficient fixed charges does not result in unacceptable customer impacts. In this respect, Ausgrid believes that our proposed fixed charge increases for the high voltage and sub-transmission voltage tariffs comply with the

customer impact principle given the moderating influence of our proposed reductions in peak, shoulder and off-peak energy charges, as shown in the customer impact analysis for high voltage customers (refer to figure 11.12) and for sub-transmission voltage customers (refer figure 11.13).

It is clear from this information that the majority of our medium to large business customers will receive a real reduction in their annual NUOS bill impact in FY18, reflecting that the off-setting influence of proposed reductions in our energy. Ausgrid believes that this represents an acceptable network bill impact outcome for these customers.²³

²² A more detailed customer impact analysis is shown in chapter 11.

²³ A more detailed customer impact analysis is shown in chapter 11.

Table 13.11: Overview of proposed network use of system fixed charge increases for FY18 – Major Published tariffs

Tariff Class	Code	Tariff Name	Efficient Reference	Current FY17	Proposed FY18	% change	\$ change pa
Low Voltage	EA010	Residential Non-TOU	109.28	33.24	35.74	7.5%	9.10
	EA025	Residential TOU	171.78	41.45	44.35	7.0%	10.59
	EA030	Controlled Load 1	6.99	0.14	0.15	6.0%	0.03
	EA040	Controlled Load 2	29.11	10.04	10.64	6.0%	2.20
	EA050	Non-residential Non-TOU	232.50	119.78	127.57	6.5%	28.42
	EA225	Non-residential TOU	360.67	118.21	125.77	6.4%	27.61
	EA302	LV TOU Capacity - 40 – 160 MWh pa	1,946.81	580.35	626.78	8.0%	169.46
	EA305	LV TOU Capacity - 160 – 750 MWh pa	5,928.32	1,748.48	1,905.84	9.0%	574.38
	EA310	LV TOU Capacity - > 750 MWh pa	23,478.50	2,184.66	2,403.13	10.0%	797.40
High Voltage	EA370	HV Connection (System)	38,378.20	4,372.54	4,750.00	8.6%	1,377.74
Sub-transmission Voltage	EA390	ST Connection (System)	143,132.82	5,465.67	5,950.00	8.9%	1,767.80

Note - Excluding GST, prices are rounded

Source: Ausgrid

Table 13.12: Overview of proposed network use of system non-peak energy charge increases for FY18 – Major Published tariffs

Tariff Class	Code	Tariff Name	Charging Parameter	Units	Current FY17	Proposed FY18	% change
Low Voltage	EA302	LV TOU Capacity - 40 – 160 MWh pa	Shoulder energy charge	c/kWh	2.75	2.43	-11.6%
			Off-peak energy charge	c/kWh	1.66	1.47	-11.6%
	EA305	LV TOU Capacity - 160 – 750 MWh pa	Shoulder energy charge	c/kWh	2.42	2.27	-6.1%
			Off-peak energy charge	c/kWh	1.61	1.26	-21.5%
	EA310	LV TOU Capacity - > 750 MWh pa	Shoulder energy charge	c/kWh	2.17	2.11	-2.8%
			Off-peak energy charge	c/kWh	1.46	1.39	-4.7%
High Voltage	EA370	HV Connection (System)	Shoulder energy charge	c/kWh	2.13	1.99	-6.9%
			Off-peak energy charge	c/kWh	1.46	1.40	-3.9%
Sub-transmission Voltage	EA390	ST Connection (System)	Shoulder energy charge	c/kWh	1.87	1.77	-5.2%
			Off-peak energy charge	c/kWh	1.26	1.21	-3.9%

Note - Excluding GST, prices are rounded

Source: Ausgrid

Comprehensive compliance check list

To assist the AER and stakeholders understand how our proposed tariffs for FY18 comply with the requirements of chapter 6 of the NER, Ausgrid has provided a detailed compliance checklist, refer to the following tables.

Table 13.13: Comprehensive compliance checklist – Key rule provisions

Rule Provision	Requirement	Relevant Section
6.18.2(a)(b)(2)	A pricing proposal must set out the proposed tariffs for each tariff class that is specified in the Distribution Network Service Provider's tariff structure statement for the relevant regulatory control period	Chapter 3
6.18.2(a)(b)(3)	A pricing proposal must set out, for each proposed tariff, the charging parameters and the elements of service to which each charging parameter relates	Chapter 4
6.18.2(a)(b)(4)	A pricing proposal must 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	Chapter 5
6.18.2(a)(b)(5)	A pricing proposal must 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	Chapter 6
6.18.2(a)(b)(6)	A pricing proposal must set out how designated pricing proposal charges 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	Chapter 8

6.18.2(a)(b)(6A)	A pricing proposal must set out how jurisdictional scheme amounts for each approved jurisdictional scheme are to be passed on to customers and any adjustments to tariffs resulting from over or under recovery of those amounts;	Chapter 7
6.18.2(a)(b)(6B)	A pricing proposal must describe how each approved jurisdictional scheme that has been amended since the last jurisdictional scheme approval date meets the jurisdictional scheme eligibility criteria	Chapter 7
6.18.2(a)(b)(7)	A pricing proposal must 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	Chapter 12 Chapter 13 Compliance spreadsheets
6.18.2(a)(b)(7A)	A pricing proposal must demonstrate how each proposed tariff is consistent with the corresponding indicative pricing levels for the relevant regulatory year as set out in the relevant indicative pricing schedule, or explain any material differences between them	Chapter 12 Chapter 13 Compliance spreadsheets
6.18.2(a)(b)(8)	A pricing proposal must 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	Chapter 10

14 Annual system of assessment and review of tariffs

Consistent with our approved TSS, this chapter of the pricing proposal sets out the method by which we will review and assess the basis on which a retail customer is charged for tariffs, where the basis of charge varies according to the retail customer's usage or load profile.

Scope of annual review and assessment

Ausgrid proposes to exclude the unmetered retail customers from the annual review and assessment of the basis for which a retail customer is charged for tariffs. This proposal to limit the scope of the annual review and assessment is based on the network tariff arrangements applying to these sites being similar to a fixed charge in nature due to the absence of metering at these sites. In other words, the network use of system billing outcome for these sites is not influenced by variations in the actual extent of the network usage at these sites.

Proposed method of assessment and review of the basis on which a retail customer is charged

Consistent with the approved TSS, Ausgrid's proposed methodology for assessing and reviewing the tariff arrangements of retail customers in Ausgrid's network area involves the following two aspects:

1. Assessment and review to ensure that the retail customer is currently assigned to the correct network tariff class.
2. Assessment and review to ensure that the retail customer is currently assigned to the correct network use of system tariff.

Both of these aspects to Ausgrid's proposed method of assessment and review of tariff arrangements are discussed in detail below:

AER procedure for re-assigning a retail customer to another tariff class

Ausgrid is required to comply with the tariff class re-assignment procedure set out in our approved TSS. To comply with this procedure, Ausgrid is required to undertake an annual assessment of the nature of each retail customer's connection (i.e. type and voltage of the metering point) and usage of the network over the past 12 months on the basis of volume data as at 31 December.

If Ausgrid discovers that the voltage of the supply to the premise as measured at the metering point changes to the extent that they are no longer eligible to remain in their current tariff class, Ausgrid is required to re-assign these sites to an appropriate tariff class for the purposes of the next annual pricing proposal.

Proposed Tariff Class re-assignments in FY18

Ausgrid has undertaken an annual review of voltage level characteristics of existing sites to assess whether they are eligible to remain assigned to their existing tariff class. No customers were identified during this review as belonging to a different tariff class. As a result, Ausgrid does not propose to re-assign any customers to another tariff class in its annual pricing proposal for FY18.

Proposed tariff re-assignments in FY18

For retail customers that have been assessed as being currently assigned to an appropriate tariff class, Ausgrid then undertakes an annual assessment and review of whether these sites are currently assigned to the correct network use of system tariff.

Ausgrid has undertaken an annual assessment and review of network use of system tariff arrangements on the basis of the relevant historical data on the extent of their network usage for each retail customer.

To avoid unnecessary transaction costs associated with assigning customers to a new network tariff class associated with temporary changes to network usage, Ausgrid proposes to only re-assign an existing retail customer to another network use of system tariff as part of the annual pricing proposal if the retail customer is found to have not satisfied the extent of network usage eligibility criteria associated with their current network use of system tariff in each of the previous two financial years.²⁴

As a result of undertaking the annual review and assessment at the tariff level, Ausgrid has identified a significant number of sites that are

²⁴ The eligibility criteria for Ausgrid's published network use of system tariffs are set out in our network pricing policy (ES7) document, which is available from www.ausgrid.com.au

required to be reassigned to another tariff in FY18 given the historical extent of their network usage, as shown in the following table.

Table 14.1: Proposed Tariff Re-assignments

Current Network Tariff	Correct Network Tariff	No. of Customers
Non-Residential TOU (EA225)	LV TOU Capacity 40-160 MWh pa (EA302)	3,174
	LV TOU Capacity 160-750 MWh pa (EA305)	62
LV TOU Capacity 40-160 MWh pa (EA302)	Non-Residential TOU (EA225)	5,926
	LV TOU Capacity 160-750 MWh pa (EA305)	709
LV TOU Capacity 160-750 MWh pa (EA305)	LV TOU Capacity 40-160 MWh pa (EA302)	884
	LV TOU Capacity >750 MWh pa (EA310)	163
LV TOU Capacity >750 MWh pa (EA310)	LV TOU Capacity 160-750 MWh pa (EA305)	644

Source: Ausgrid

It is important to note that in some cases if Ausgrid were to re-assign these customers to their correct default network tariff in FY18, it could result in some of these customers receiving unacceptable network bill outcomes. To address this concern, Ausgrid proposes to only re-assign the customers identified in the above table to another network tariff in FY18 if we believe that this will result in an outcome compliant with the customer impact principle set out in chapter 6 of the NER, such as where a transitional network tariff is available.

15 Public lighting

Public lighting services are classified as alternative control services and are subject to a different control mechanism to general network services which are classified as standard control services.

Public lighting services encompass the provision, construction and maintenance of public lighting and emerging public lighting technology. Ausgrid provides public lighting services to over 100 customers including councils, community groups and government associations. There are over 240,000 public lights in Ausgrid's network area, which are typically installed on major and minor roadways. A conventional public light comprises of five (5) main components: a lamp, a luminaire, a bracket, a support structure, and a connection to the low voltage electricity network.

Tariffs and tariff classes

All public lighting customers are subject to the tariffs in the AER Final Decision and therefore are defined to be a single tariff class.²⁵

Form of Control Mechanism

As set out in the AER Framework and Approach Paper, the AER's Final Decision is to apply a price cap form of control to public lighting in the 2015-19 regulatory control period.²⁶

The control mechanism formula for public lighting is set out below:

$$\bar{p}_i^t \geq p_i^t \quad i=1,\dots,n \text{ and } t=1, 2, 3, 4$$

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

Where:

\bar{p}_i^t is the cap on the price of service i in year t . However, for 2015–16 this is the price as determined by the AER.

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

$$\Delta CPI_t = \left[\frac{CPI_{Mar,t-2} + CPI_{Jun,t-2} + CPI_{Sep,t-1} + CPI_{Dec,t-1}}{CPI_{Mar,t-3} + CPI_{Jun,t-3} + CPI_{Sep,t-2} + CPI_{Dec,t-2}} \right] - 1$$

²⁵ Tariff class: A class of customers for one or more *direct control services* who are subject to a particular tariff or particular tariffs.

²⁶ AER, Stage 1 Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Transitional regulatory control period 1 July 2014 to 30 June 2015 & Subsequent regulatory control period 1 July 2015 to 30 June 2019.

CPI means the all groups index number for the weighted average of eight capital cities as published by the ABS, or if the ABS does not or ceases to publish the index, then CPI will mean an index which the AER considers is the best estimate of the index.

X_i^t is the value of X for the year t in the regulatory control period. There are no X -factors for public lighting.

A_i^t is an adjustment factor likely to include, but not limited to, adjustments for residual charges when customers choose to replace assets before the end of their economic life. For public lighting we consider the value for A is zero.

Public Lighting Prices for FY18

The AER Final Decision on the public lighting prices for FY18 are shown in the attachment at the end of this document.

16 Ancillary network services

Background

Ancillary network services are non-routine services that are provided by a DNSP to individual customers on an “as needs” basis. These services are classified by the AER as alternative control services and do not form part of the DNSP’s distribution use of system revenue requirement determined by the AER. Rather, the DNSP recovers the costs of providing alternative control services through a range of fees.

Tariff Classes

There are two classes of ancillary network services

Fee-based Service – these are ancillary network services that DNSPs provide to individual customers where the AER determines the fee. These fees are fixed and apply irrespective of the actual time taken to perform the service.

Quoted Services – these are ancillary network services that DNSPs provide to individual customers where the cost of these services will depend on the actual time taken to perform the service.

Form of Control Mechanism

As set out in the AER Framework and Approach Paper, the AER’s Final Decision is to apply a price cap form of control to both fee-based and quoted ancillary network services.²⁷

Figure 16.1: Control mechanism formula for fee-based services

$$\bar{p}_i^t \geq p_i^t$$

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

Where:

\bar{p}_i^t is the cap on the price of fee-based service i in year t. However, for 2015–16 this is the price as determined by the AER Final Decision escalated by ΔCPI and the X-factor.

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

X_i^t

is the value of X for the year t in the regulatory control period, as determined by the AER.

$$\Delta CPI_t = \left[\frac{CPI_{Mar,t-2} + CPI_{Jun,t-2} + CPI_{Sep,t-1} + CPI_{Dec,t-1}}{CPI_{Mar,t-3} + CPI_{Jun,t-3} + CPI_{Sep,t-2} + CPI_{Dec,t-2}} \right] - 1$$

CPI

means the all groups index number for the weighted average of eight capital cities as published by the ABS, or if the ABS does not or ceases to publish the index, then CPI will mean an index which the AER considers is the best estimate of the index.

Figure 16.2: Control mechanism formula for quoted services

$$\bar{p}_i^t = L_t + C_t + M_t$$

Where:

\bar{p}_i^t

is the cap on the price of quoted service i in year t.

L_t

is the maximum hourly charge out rate including on-costs and overhead. Labour is escalated annually using the following formula:

$$L_t = (1 - X_t)(1 + \Delta CPI_t)$$

C_t

is the contractor services (including overheads) in the provision of quoted service i in year t. Contractor services are escalated annually by ΔCPI .

M_t

is the cost of materials directly incurred in the provision of quoted service i in year t.

²⁷ AER, Stage 1 Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Transitional regulatory control period 1 July 2014 to 30 June 2015 & Subsequent regulatory control period 1 July 2015 to 30 June 2019

X-factors

The X-factors set out in the AER Final Decision for fee-based and quoted ancillary services for each year of the 2015-19 regulatory control period are shown in table below.

Table 16.1: X-factors for Ancillary Network Services

Class	FY16	FY17	FY18	FY19
Fee-based	-1.02	-1.07	-1.11	-1.10
Quoted Services	-1.02	-1.07	-1.11	-1.10

AER's Final Decision on Maximum Allowed Total Labour Rates

The maximum allowed total labour rates set out in the AER Final Decision to different types of labour used by Ausgrid to deliver ancillary network services are shown in the table below:

Table 16.2: AER Approved Hourly Labour Rates

Category	Description	Max. Labour Rates
Admin	Admin Support	89.06
Technical	Technical Specialist R2	142.81
Engineer	EO7/engineer	166.44
Field worker	Field worker R4	132.40
Senior Engineer	Senior engineer	210.96

Refer to attachment at this end of this document for the AER Final Decision on the price cap for ancillary network services provided by Ausgrid in FY18.

17 Type 5 and 6 metering charges

Background

The AER classified Type 5 and 6 metering services provided by Ausgrid and the other NSW DNSPs as alternative control services and do not form part of the DNSP's distribution use of system revenue requirement determined by the AER. Rather, the DNSP recovers the costs of providing these alternative control services through a range of metering charges.

Tariff Classes

In light of the alignment between the metering charge and the network tariff, Ausgrid proposes to constitute its tariff classes on the basis of network tariff structure, as summarised below:

- Residential and Small Business Block Tariffs
- Residential and Small Business Time of Use tariffs
- Medium Business Type of Use Capacity Tariff.²⁸

Form of Control Mechanism

As set out in the AER Framework and Approach Paper, the AER's Final Decision is to apply a price cap form of control mechanism to this alternative control service in the 2015-19 Regulatory control period.²⁹

Under a price cap form of control, a schedule of prices is set for the first year. For the following years the previous year's prices are adjusted by CPI and an X-factor. The control mechanism formula is set out below:

$$\bar{p}_i^t \geq p_i^t \quad i=1,\dots,n \text{ and } t=1,2,3,4$$

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

Where:

\bar{p}_i^t is the cap on the price of service i in year t . However, for 2015–16 this is the price as set out in Attachment 16 of the AER Final Decision.

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

$$\Delta CPI_t = \left[\frac{CPI_{Mar,t-2} + CPI_{Jun,t-2} + CPI_{Sep,t-1} + CPI_{Dec,t-1}}{CPI_{Mar,t-3} + CPI_{Jun,t-3} + CPI_{Sep,t-2} + CPI_{Dec,t-2}} \right] - 1$$

CPI

means the all groups index number for the weighted average of eight capital cities as published by the ABS, or if the ABS does not or ceases to publish the index, then CPI will mean an index which the AER considers is the best estimate of the index.

X_i^t

is for the annual metering charges and the upfront capital charges, as set out in Attachment 16 of the AER Final Decision and as summarised in the table below.

X-factors

The X-factors set out in the AER Final Decision for annual metering charges and the up-front capital charges for the relevant years of the 2015-19 regulatory control period are shown in the table below. No X-factor applies for the calculation of prices for 1 July 2016.

Table 17.1: X-factors for the annual metering charges

Class	FY17	FY18	FY19
Annual Metering Charge	1.89	1.89	1.89
Upfront capital charge	0.0	0.0	0.0

Structure of metering charges

The AER Final Decision approves two types of charges for the provision of Type 5 and 6 metering services in the 2015-19 regulatory control period:

- Upfront capital charge (for all new and upgraded meters installed after 1 July 2015).
- Annual Charge comprising two components:
 - Capital – metering asset base recovery
 - Non-capital – operating expenditure and tax.

²⁸ Ausgrid 2014, Attachment 8.21, Ausgrid's Regulatory proposal, Energia's review of Ausgrid's Proposed Metering Arrangements, Energia, April, p.53

²⁹ AER, Stage 1 Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Transitional regulatory control period 1 July 2014 to 30 June 2015 & Subsequent regulatory control period 1 July 2015 to 30 June 2019

AER Final Decision on Type 5 and 6 Metering Charges

The proposed annual metering charge and up-front capital charge for Type 5 and 6 metering services provided by Ausgrid in FY18 are shown in the tables below and the attachment at the end of this document.

Table 17.2: Annual metering charges for FY18 by Tariff

Tariff class	Costs	\$ nominal per annum
Residential inclining block	Non-capital	\$9.65
	Capital	\$19.83
Residential TOU	Non-capital	\$24.94
	Capital	\$22.08
Controlled load	Non-capital	\$0.81
	Capital	\$11.01
Small business inclining block	Non-capital	\$9.95
	Capital	\$30.32
Small business TOU	Non-capital	\$24.71
	Capital	\$21.07
LV 40–160MWh TOU (system)	Non-capital	\$43.98
	Capital	\$27.43
Generator tariff	Non-capital	\$2.56
	Capital	\$11.37

Table 17.3: Up-front Meter charges for FY18

Meter description	Meter code	\$ nominal
Single phase single element two wire direct connected accumulation watt-hour meter	B1	\$49.71
Three phase single element four wire direct connected accumulation watt-hour meter	B3	\$129.21
Single phase single element two wire direct connected interval watt-hour meter	E1	\$121.12
Single phase dual element two wire direct connected interval watt-hour meter	E2	\$184.91
Three phase single element four wire direct connected interval watt-hour meter	E3	\$250.00
Three phase single element CT connected interval watt-hour meter	E4	\$603.71

18 Attachments

Attachments have been included with this pricing proposal as follows:

Attachment	Disclosure	Description
A	CONFIDENTIAL	Customer Bill Information for Public Lighting Customers
B		Price Information for Public Lighting Tariffs
C	CONFIDENTIAL	Completed Compliance Spreadsheet
D		Notification of Climate Change Fund Contribution
E		TransGrid's Transmission Charges for FY18
F		Pricing Compliance Model for Alternative Control Services
G		Pricing Compliance Model for Public Lighting Customers

Attachment A: Customer Bill Information for Public Lighting Customers CONFIDENTIAL

This attachment is a separate file named:

Public Lighting Customer Bills – CONFIDENTIAL.pdf

Attachment B: Price Information for Public Lighting Tariffs

This attachment is a separate file named:

Price Information for Public LightingTariffs.pdf

Attachment C: Compliance Spreadsheet CONFIDENTIAL

This attachment is a Microsoft Excel spreadsheet.

Attachment D: Notification of Climate Change Fund Contribution

This attachment is a separate file named:

Notification of Climate Change Fund contribution.pdf

Attachment E: TransGrid's Transmission Charges for FY18

This attachment is a separate file named:

TransGrid transmission charges for FY18.pdf

Attachment F: Pricing Compliance Model for Alternative Control Services

This attachment is a Microsoft Excel spreadsheet.

Attachment G: Pricing Compliance Model for Alternative Control Services

This attachment is a Microsoft Excel spreadsheet

Network Price List 2017-2018



Effective from 1 July 2017 to 30 June 2018 (Prices **exclude** GST)

Tariff Class	Tariff Code	Tariff Name	DLF	Metering Service Charge		Network Access Charge	Network Energy Prices						Network Capacity Prices		
				Non ToU			ToU								
				Non Capital	Capital		Flat	Block 1	Block 2	Block 3	Peak	Shoulder	Off-peak	Peak	Peak
¢/day	¢/day	¢/day	¢/kWh	¢/kWh	¢/kWh	¢/kWh	¢/kWh	¢/kWh	¢/kWh	¢/kWh	¢/kW/day	¢/kWh	¢/kW/day	¢/kVA/day	¢/kW/day
Low Voltage	EA010*	Residential Non ToU	1.0548	2.6438	5.4328	35.7372		10.2690	10.2690	10.2690					
	EA025*	Residential ToU	1.0484	6.8328	6.0493	44.3470					25.6700	4.6200	2.4586		
	EA030	Controlled load 1	1.0548	0.2219	3.0164	0.1452	1.7522								
	EA040	Controlled load 2	1.0548	0.2219	3.0164	10.6415	4.6267								
	EA050*	Small Business Non ToU	1.0479	2.7260	8.3068	127.5655		10.0811	10.0811						
	EA225*	Small Business ToU	1.0479	6.7698	5.7726	125.7717					21.8698	6.0912	1.8712		
	EA302*	LV 40-160 MWh (System)	1.0479	12.0493	7.5150	626.7770					5.3961	2.4255	1.4661	35.7417	
	EA305	LV 160-750 MWh (System)	1.0479			1905.8449					4.9482	2.2725	1.2625		35.7417
	EA310	LV > 750 MWh (System)	1.0479			2403.1293					4.3990	2.1052	1.3871		35.7417
	EA316*	Transitional 40-160 MWh Closed	1.0479	6.7698	5.7726	128.8450					23.4042	7.2825	2.2595	0.0000	
	EA317*	Transitional 160-750 MWh Closed	1.0479	6.7698	5.7726	128.8450					23.4042	7.2825	2.2595		0.0000
	EA325	LV Connection (Standby) Closed	1.0479			2294.4337					8.8264	6.3987	2.5266		0.3515
High Voltage	EA360	HV Connection (Standby) Closed	1.0155			1998.4419					8.9246	5.3711	2.7781		0.6088
	EA370	HV Connection (System)	1.0155			4750.0000					3.3309	1.9853	1.4041		19.1703
	EA380	HV Connection (Substation)	1.0123			4750.0000					2.9477	1.7924	1.2793		16.4449
Sub-transmission	EA390	ST Connection	1.0059			5950.0000					2.7145	1.7692	1.2081		6.1134
	EA391	ST Connection (Substation)	1.0059			5950.0000					2.4428	1.5168	1.1103		5.3573
Unmetered	EA401	Public Lighting	1.0615			7.7819									
	EA402	Constant Unmetered	1.0517			9.3646									
	EA403	EnergyLight	1.0615			7.1035									

*A metering service charge applies to sites where generation systems (e.g. Solar PV, wind turbines, etc.) are connected to the Ausgrid electricity network. This charge will comprise of two components: Non Capital charge (0.7013 ¢/day) and Capital charge (3.1150 ¢/day).

Network Price List 2017-2018



Effective from 1 July 2017 to 30 June 2018 (Prices **include** GST)

Tariff Class	Tariff Code	Tariff Name	DLF	Metering Service Charge		Network Access Charge	Network Energy Prices						Network Capacity Prices		
				Non ToU			ToU								
				Non Capital	Capital		Flat	Block 1	Block 2	Block 3	Peak	Shoulder	Off-peak	Peak	Peak
¢/day	¢/day	¢/day	¢/kWh	¢/kWh	¢/kWh	¢/kWh	¢/kWh	¢/kWh	¢/kWh	¢/kWh	¢/kWh	¢/kWh	¢/kWh/day	¢/kVA/day	
Low Voltage	EA010*	Residential Non ToU	1.0548	2.9082	5.9761	39.3109		11.2959	11.2959	11.2959					
	EA025*	Residential ToU	1.0484	7.5161	6.6542	48.7817					28.2370	5.0820	2.7045		
	EA030	Controlled load 1	1.0548	0.2441	3.3180	0.1597	1.9274								
	EA040	Controlled load 2	1.0548	0.2441	3.3180	11.7057	5.0894								
	EA050*	Small Business Non ToU	1.0479	2.9986	9.1375	140.3221		11.0892	11.0892						
	EA225*	Small Business ToU	1.0479	7.4468	6.3499	138.3489					24.0568	6.7003	2.0583		
	EA302*	LV 40-160 MWh (System)	1.0479	13.2542	8.2665	689.4547					5.9357	2.6681	1.6127	39.3159	
	EA305	LV 160-750 MWh (System)	1.0479			2096.4294					5.4430	2.4998	1.3888		39.3159
	EA310	LV > 750 MWh (System)	1.0479			2643.4422					4.8389	2.3157	1.5258		39.3159
	EA316*	Transitional 40-160 MWh Closed	1.0479	7.4468	6.3499	141.7295					25.7446	8.0108	2.4855	0.0000	
	EA317*	Transitional 160-750 MWh Closed	1.0479	7.4468	6.3499	141.7295					25.7446	8.0108	2.4855		0.0000
	EA325	LV Connection (Standby) Closed	1.0479			2523.8771					9.7090	7.0386	2.7793		0.3867
High Voltage	EA360	HV Connection (Standby) Closed	1.0155			2198.2861					9.8171	5.9082	3.0559		0.6697
	EA370	HV Connection (System)	1.0155			5225.0000					3.6640	2.1838	1.5445		21.0873
	EA380	HV Connection (Substation)	1.0123			5225.0000					3.2425	1.9716	1.4072		18.0894
Sub-transmission	EA390	ST Connection	1.0059			6545.0000					2.9860	1.9461	1.3289		6.7247
	EA391	ST Connection (Substation)	1.0059			6545.0000					2.6871	1.6685	1.2213		5.8930
Unmetered	EA401	Public Lighting	1.0615			8.5601									
	EA402	Constant Unmetered	1.0517			10.3011									
	EA403	EnergyLight	1.0615			7.8139									

*A metering service charge applies to sites where generation systems (e.g. Solar PV, wind turbines, etc.) are connected to the Ausgrid electricity network. This charge will comprise of two components: Non Capital charge (0.7714 ¢/day) and Capital charge (3.4265 ¢/day).



ES7
Network Price Guide
April 2017



Version 1.8

Scope

This publication explains the terms and conditions of Ausgrid's Network Use of System (NUOS) tariffs. It does not address charges for alternative control services.

Document and Amendment History

Issue No.	Date	Approved By	Summary of changes
1.0	August 2016	A/Manager-Regulation	Document title changed to "Network Price Guide". Scope of document limited to tariff related information. Updated to reflect changes to tariff arrangements.
1.1	October 2016	Manager – Network Pricing	Minor change to the glossary section.
1.2	October 2016	Manager – Network Pricing	Additional explanatory text added to Chapter 2 of document. Minor change to the glossary section.
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Document Approval

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Disclaimer

This document has been prepared by Ausgrid in good faith to provide an explanation of the application of our NUOS tariffs.

The information set out in this document may be subject to revision or replacement due to a range of factors including:

- The evolving electricity market and commercial experience within that market;
- Regulatory decisions by the Australian Energy Regulator;
- Changes to the National Electricity Rules; and

- Government and industry regulation.

Application of this document to particular users will be dependent upon the circumstances of that user and may vary between users.

This document should be read in conjunction with Ausgrid's Tariff Structure Statement, Ausgrid's Undertaking under section 59A of the National Electricity Law and Ausgrid's 2015/16 Annual Pricing Proposal document as we were not required to submit a Pricing Proposal for FY2016/17. These documents are available from www.aer.gov.au or www.ausgrid.com.au.

In the event of inconsistency, the following order of precedence applies:

1. Ausgrid's Undertaking under section 59A of the National Electricity Law;
2. the relevant annual Pricing Proposal; and
3. this Network Price Guide document

Accordingly, to the extent permitted by law, Ausgrid excludes liability for all losses, damages, claims and expenses suffered or incurred by any person arising out of or in connection with any use of this document.

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Feedback

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Information on Ausgrid's NUOS tariffs and policies is available from www.ausgrid.com.au.

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1 Introduction

1.1 Overview of Network pricing documents

This document is Ausgrid's Network Pricing Guide. It provides further information to assist in the application and interpretation of Ausgrid's tariff classes and the tariffs applicable to each class reflected in Ausgrid's 2015/16 Pricing Proposal document.

Every five years, Ausgrid submits a regulatory proposal to the Australian Energy Regulator (AER), which includes proposed capital and operating plans and the funding needed to deliver those plans. The AER reviews the regulatory proposal, considers feedback, and decides how much revenue Ausgrid can recover from its customers to fund its operations. The current AER determination for Ausgrid is available at www.aer.gov.au.

Ausgrid has submitted a proposed Tariff Structure Statement (TSS) for the period 2017-2019 as required under the National Electricity Rules (NER). The TSS provides stakeholders with a comprehensive understanding of Ausgrid's proposed approach to setting tariffs and an indication of how the structure and level of tariffs may change over the regulatory control period. Ausgrid's current proposed TSS is available at www.aer.gov.au and applies from 1 July 2017. On 2 August 2016, the AER issued its draft decision on Ausgrid's TSS. The AER is required to publish its final decision on Ausgrid's TSS on 27 February 2017. Ausgrid is required to develop its pricing proposal for FY2017/18 in accordance with the requirement set out in the final TSS.

Every year, with the exception for 2016/17 regulatory year (see section 1.2 below), Ausgrid is required to submit a pricing proposal to the AER. The pricing proposal document sets out Ausgrid's proposed tariffs and demonstrates how the proposed tariffs comply with Chapter 6 of the NER. Ausgrid's pricing proposal is available at www.aer.gov.au or www.ausgrid.com.au. For more information on the distribution pricing arrangements under the National Electricity Rules, refer to www.aemc.gov.au.

Ausgrid publishes an annual Network Price List which sets out the applicable prices for each published Network Use of System (NUoS) tariff and supersedes the prices published for the previous financial year. The latest price list is available at www.ausgrid.com.au.

1.2 Special arrangements for the 2016-2017 regulatory year

Ausgrid's current AER distribution determination has been set aside by the Australian Competition Tribunal. The setting aside of the current AER distribution determination raised a number of uncertainties regarding Ausgrid's ability to discharge its pricing obligations under the National Electricity Rules. Ausgrid has provided an undertaking in accordance with section 59A of the National Electricity Law (Regulatory Undertaking) to set prices for the 2016/17 regulatory year in accordance with the terms of the Regulatory Undertaking, available at www.ausgrid.com.au. The Regulatory Undertaking sets out Ausgrid's Network Price List for the 2016/17 Regulatory Year which are the tariffs set out in the Ausgrid's 2015/16 Pricing Proposal adjusted to include an amount for changes in the consumer price index. For this reason, the 2015/16 Pricing Proposal should be reviewed for context and explanation for the 2016/17 Network Price List.

Importantly, Attachment 14 of Ausgrid's 2015-2019 distribution determination which sets out the procedures for assigning or reassigning retail customers to tariff classes continues to apply to Ausgrid.

2 Assigning and re-assigning customers to primary tariffs and tariff classes

This Section provides a summary of Ausgrid's procedure for assigning new customers to a default NUOS tariff and for re-assigning existing customers to another NUOS tariff.

This chapter should be read in conjunction with the Tariff Assignment Procedure set out in the applicable AER Determination and the Annual Pricing Proposal, available at www.aer.gov.au or www.ausgrid.com.au. If there is any inconsistency between this Chapter and the Tariff Assignment Procedure, the Tariff Assignment Procedure prevails.

2.1 Assigning new customers to a primary NUOS tariff and tariff class

Ausgrid's procedure for assigning new customers to a default NUOS tariff and re-assigning existing customers to another NUOS tariff involves the following two aspects:

- Assigning new customers or re-assigning existing customers to the applicable tariff class given their connection characteristics.
- Assigning new customers or re-assigning existing customers to the applicable NUOS tariff within their correct tariff class.

Both of these aspects to Ausgrid's tariff assignment and re-assignment procedure are discussed below:

2.1.1 Tariff class assignment

Ausgrid will assign a new customer to a network tariff class by applying the following principles:

- If the supply is unmetered then the customer will be assigned to the Unmetered tariff class. Appendix C provides more detail about unmetered supplies.
- If the customer's supply voltage as measured at the metering point is either 230V (Single Phase) or 400V (Poly Phase) then the customer will be assigned to the Low Voltage tariff class.
- If the customer's supply voltage as measured at the metering point is greater than 1 kV and less than 33 kV (typically 5 kV, 11 kV or 22 kV) then the customer will be assigned to the High Voltage tariff class.
- If the customer's supply voltage as measured at the metering point is greater than or equal to 33 kV (typically 33 kV, 66 kV or 132 kV) then the customer will be assigned to the Sub-transmission tariff class.

Ausgrid's default tariff class assignment procedure is also explained by Table 2.1.

Table 2.1: Overview of eligibility criteria for assigning customers to tariff classes

Tariff Class	Nature of Usage	Nature of Connection to Network	
		Metering	Voltage
Low Voltage	Residential or Business	Metered	230V/400V
High Voltage	Business		5kV, 11kV, 22kV
Sub-transmission	Business		33kV, 66kV, 132kV
Transmission ¹	Business		Applicable to any site that is connected to the electricity transmission network.
Unmetered	Business	Unmetered	230V/400V

¹ Subject to AER Final decision on Ausgrid's revised Tariff Structure Statement, refer to www.aer.gov.au

2.1.2 Primary NUoS Tariff assignment

The eligibility criteria underlying Ausgrid's procedure for assigning new customers to primary NUoS tariffs is summarised in Table 2.2.

Table 2.2: Assignment of new customers to default primary tariffs

Tariff Class	Nature of Usage	Extent of Usage	NER Meter Type	Tariff code and tariff
Low Voltage	Residential	All	4-6	EA010 Residential Non-ToU
	Business	< 40 MWh per annum	4-6	EA050 Small Business Non-ToU
		40-160 MWh per annum	4-5	EA302 LV 40-160 MWh (System)
		160-750 MWh per annum	≤ 3	EA305 LV 160-750 MWh (System)
		> 750 MWh per annum	≤ 3	EA310 LV >750 MWh (System)
High Voltage	Business	All	≤ 3	EA370 HV Connection (System)
Sub-transmission	Business	All	≤ 3	EA390 ST Connection (System)
Unmetered	Business	All	-	EA401 Public Lighting or EA402 Constant Unmetered or EA403 Energy Light

New LV customers must have an appropriate NER compliant metering installation connected to support the tariff requirements outlined in this price guide and also meet the requirements of Ausgrid's metering policy, ES3 Part A Metering Installation Requirements. By default, these new customers where Type 5 (or better) metering is installed and who expect to consume less than 40 MWh per annum will be placed on either the EA025 or the EA225 network tariffs. Business customers with a 3 phase connection must have a Type 5 (or better) metering installation, which will result them in being placed on the EA302 tariff if their estimated expected annual consumption is less than 160 MWh per annum.

Customers who have a Type 5 meter (or better) installed due to a customer initiated action, such as an upgrade of the switch board that requires a new meter and are assessed to consume above 40 MWh per annum, will be placed on the EA302 tariff either from the date that the new meter is installed or through the annual review process. If the upgraded meter is a 3 phase meter and the customer is a business, then they will also be transferred to EA302 either from the date that the new meter is installed or through the annual review process.

2.2 Re-assigning existing customers to a primary NUoS tariff and tariff class

2.2.1 Annual review and assessment

Ausgrid is required under Chapter 6 of the National Electricity Rules to undertake an annual review and assessment of NUoS tariffs and tariff classes.

There are a number of circumstances where Ausgrid's annual review and assessment may identify that an existing customer is no longer eligible to remain assigned to their existing NUoS tariff because:

- They have changed their voltage level of supply as measured at the metering point to the extent that they are no longer eligible to remain assigned to their existing tariff class.
- They are assigned to the correct tariff class, but have changed their usage of Ausgrid's electricity network to the extent that they are no longer eligible to remain assigned to their existing NUoS tariff.

To avoid unnecessary transaction costs associated with re-assigning existing customers to another primary NUoS tariff as part of the annual pricing proposal process where the extent of network usage is a relevant factor, Ausgrid will assess the eligibility of an existing customer to remain on their current NUoS tariff on the basis of the existing customer's energy consumption and maximum demand (if applicable) in the preceding 24 months.

In the event that Ausgrid's annual review and assessment identifies existing customers that are no longer eligible to remain assigned to their current primary NUoS tariff, Ausgrid is required to re-assign these customers to another NUoS tariff for the purpose of the next annual pricing proposal.

2.2.2 Tariff Change Request Application

Retailers may apply on behalf of a customer to be re-assigned to another NUoS tariff within the customer's applicable tariff class.

It is the responsibility of the retailer to understand the potential NUoS tariff options available to a customer and to submit a tariff change request application to Ausgrid if they wish to re-assign a customer to another NUoS tariff.

Ausgrid requires that all tariff change request applications are made by the customer's retailer in writing with supporting documentation on a "Network Tariff and Threshold Change Application Form" (refer to Appendix A). The completed form should be emailed to:

[nemrps@ausgrid.com.au](mailto:nemsrpops@ausgrid.com.au)

Ausgrid reserves the right to not process any application if the "Network Tariff and Threshold Change Application Form" is not sent to the email address specified above and/or based on missing or incomplete data.

It should be noted that:

- Ausgrid will only process a tariff change request application from a retailer if the application relates to a customer that has at least 12 months of energy consumption history;
- Ausgrid will process a tariff change request application from a retailer if the application relates to a customer that has not previously applied to be re-assigned to another NUoS tariff in the 12 months prior to the date of the application;
- A tariff change request application from a retailer that relates to a customer requesting to be re-assigned to an individually calculated tariff must be submitted prior to 30 September for the new tariff to apply from 1 July, in order to allow sufficient time for Ausgrid to calculate an appropriate distribution load factor for the tariff (Ausgrid is required under Chapter 6 of the National Electricity Rules to submit forecast Distribution Loss Factors to the AER in March of each year);
- If approved, Ausgrid will re-assign the customer to the new NUoS tariff from the start of the next billing period following the date of receipt of the tariff change request application. Ausgrid does not permit backdating of any change to the customer's NUoS tariff arrangements where a retailer or a third party acting on behalf of the retailer fails to correctly adhere to the process set out in this price guide.

3 General description of NUoS tariffs

This Section provides a general description of Ausgrid's NUoS tariffs to assist retailers, customers and other stakeholders to understand the application of Ausgrid's Network Price List for 2016/17 (contained in the Regulatory Undertaking) and particularly, Ausgrid's tariff components, tariff structures and billing arrangements.

3.1 Overview of Network tariff components

The components of each primary NUoS tariff are summarised in Table 3.1 below.

Table 3.1: Summary of Ausgrid NUoS tariff components

Network Tariff	Network Access Charge	Metering Service Charge	Energy Charge			Capacity Charge
			Single Anytime	Block Anytime	Time-of-Use	
EA010 Residential Non-ToU	✓	✓		✓		
EA025 Residential ToU	✓	✓			✓	
EA030 Controlled Load 1	✓	✓	✓			
EA040 Controlled Load 2	✓	✓	✓			
EA050 Small Business Non-ToU	✓	✓		✓		
EA225 Small Business ToU	✓	✓			✓	
EA302 LV 40-160 MWh (System)	✓	✓			✓	✓
EA305 LV 160-750 MWh (System)	✓				✓	✓
EA310 LV >750 MWh (System)	✓				✓	✓
EA316 Transitional 40-160 MWh (Closed)	✓	✓			✓	✓
EA317 Transitional 160-750 MWh (Closed)	✓	✓			✓	✓
EA325 LV Connection (Standby) (Closed)	✓				✓	✓
EA360 HV Connection (Standby) (Closed)	✓				✓	✓
EA370 HV Connection (System)	✓				✓	✓
EA380 HV Connection (Substation)	✓				✓	✓
EA390 ST Connection	✓				✓	✓
EA391 ST Connection (Substation)	✓				✓	✓
EA401 Public Lighting			✓			
EA402 Constant Unmetered			✓			
EA403 Energy Light			✓			
Individually Calculated Tariffs (ICT)	✓				✓	✓

3.2 Network Access Charge (NAC)

3.2.1 Applicable tariffs

NAC applies to all NUoS tariffs with the exception of the Unmetered tariff class tariffs.

3.2.2 NAC details

The NAC is a fixed charge (in cents per day) which is applied to each energised connection point at which energy or demand is recorded. A separate NAC may be applied to each connection point and their associated metering points as determined by Ausgrid. Note that NAC also applies to the secondary tariffs EA030 Controlled Load 1 and EA040 Controlled Load 2.

3.3 Meter Service Charge (MSC)

3.3.1 Applicable tariffs

From 1 July 2015, MSC may apply to the following tariffs:

- EA010 Residential Non-ToU
- EA050 Small Business Non-ToU
- EA030 Controlled Load 1
- EA040 Controlled Load 2
- EA025 Residential ToU
- EA225 Small Business ToU
- EA302 LV 40-160 MWh (System)
- EA316 Transitional 40-160 MWh (Closed)
- EA317 Transitional 160-750 MWh (Closed)

MSC also applies to sites where generation systems (such as solar PV and wind turbines) are connected to the Ausgrid network.

3.3.2 MSC details

Appendix D sets out information behind MSC.

3.4 Single Anytime energy charges

3.4.1 Applicable tariffs

Single Anytime energy charges apply to the following tariffs:

- EA030 Controlled Load 1
- EA040 Controlled Load 2
- EA401 Public Lighting
- EA402 Constant Unmetered
- EA403 Energy Light

3.4.2 Single Anytime energy charge details

The Single Anytime energy charge is a price charged (in cents per kWh) for energy consumed regardless of when the energy is consumed.

3.5 Block Anytime energy charges

3.5.1 Applicable tariffs

Block Anytime energy charges apply to the following tariffs:

- EA010 Residential Non-ToU
- EA050 Small Business Non-ToU

3.5.2 Block Anytime energy charge details

The Block Anytime energy charge is a price charged (in cents per kWh) for energy consumed regardless of when the energy is consumed, but where the energy charge varies according to the level of energy consumption in a quarterly billing period.

A three block tariff structure applies to tariff EA010 Residential Non-ToU. The first block charge applies to the first 1,000 kWh of consumption per 91 day billing cycle. The second block charge applies to consumption greater than 1,000 kWh and up to 2,000 kWh per 91 day billing cycle. The third block charge applies to any remaining consumption.

A two block tariff structure applies to tariff EA050 Small Business Non-ToU. The first block charge applies to the first 2,500 kWh of consumption per 91 day billing cycle. The second block charge applies to any remaining consumption.

A quarter is defined as being 91 days. Where actual meter read cycles are not equal to 91 days, the first block consumption for both tariffs, and the second block consumption for tariff EA010 Residential Non-ToU, will be pro-rated back to a 91 day basis.

3.6 Time-of-Use (ToU) energy charges

3.6.1 Applicable tariffs

ToU energy charges apply to the following tariffs:

- EA025 Residential ToU
- EA225 Small Business ToU
- EA302 LV 40-160 MWh (System)
- EA305 LV 160-750 MWh (System)
- EA310 LV >750 MWh (System)
- EA316 Transitional 40-160 MWh (Closed)*
- EA317 Transitional 160-750 MWh (Closed)*
- EA325 LV Connection (Standby) (Closed)*
- EA360 HV Connection (Standby) (Closed)*
- EA370 HV Connection (System)
- EA380 HV Connection (Substation)
- EA390 ST Connection
- Individually Calculated Tariffs (ICT)

*Not available to new customers and subject to Ausgrid's approval.

3.6.2 ToU energy charge details

A ToU energy charge is a price charged (in cents per kWh) for energy consumed during specific time periods, as set out in Table 3.2. Please refer to Appendix G for a detailed explanation on daylight saving time.

Table 3.2: Ausgrid NUoS ToU time periods

ToU Period	Tariff codes	Clock time* and day-type**
Peak	All ToU tariffs	2pm – 8pm on working weekdays
Shoulder	EA025 Residential ToU and EA225 Small Business ToU	7am – 2pm and 8pm – 10pm on working weekdays, and 7am – 10pm on weekends and public holidays
	All other ToU tariffs	7am – 2pm and 8pm – 10pm on working weekdays
Off-Peak	All ToU tariffs	All other times

*All times take into account Daylight Saving Time during the period gazette by the NSW Government, which is generally from 3am on the first Sunday in October through to 2am on the first Sunday in April.

** Any public holidays that do not apply to the whole of the state of NSW are not considered to be public holidays for the purpose of defining time of use time periods.

3.7 Capacity charges

3.7.1 Applicable tariffs

Capacity charges apply to the following tariffs:

- EA302 LV 40-160 MWh (System)
- EA305 LV 160-750 MWh (System)
- EA310 LV >750 MWh (System)
- EA316 Transitional 40-160 MWh (Closed)*
- EA317 Transitional 160-750 MWh (Closed)*
- EA325 LV Connection (Standby) (Closed)*
- EA360 HV Connection (Standby) (Closed)*
- EA370 HV Connection (System)
- EA380 HV Connection (Substation)
- EA390 ST Connection
- (most) Individually Calculated Tariffs (ICT)

*Not available to new customers and subject to Ausgrid's approval.

3.7.2 Capacity charge

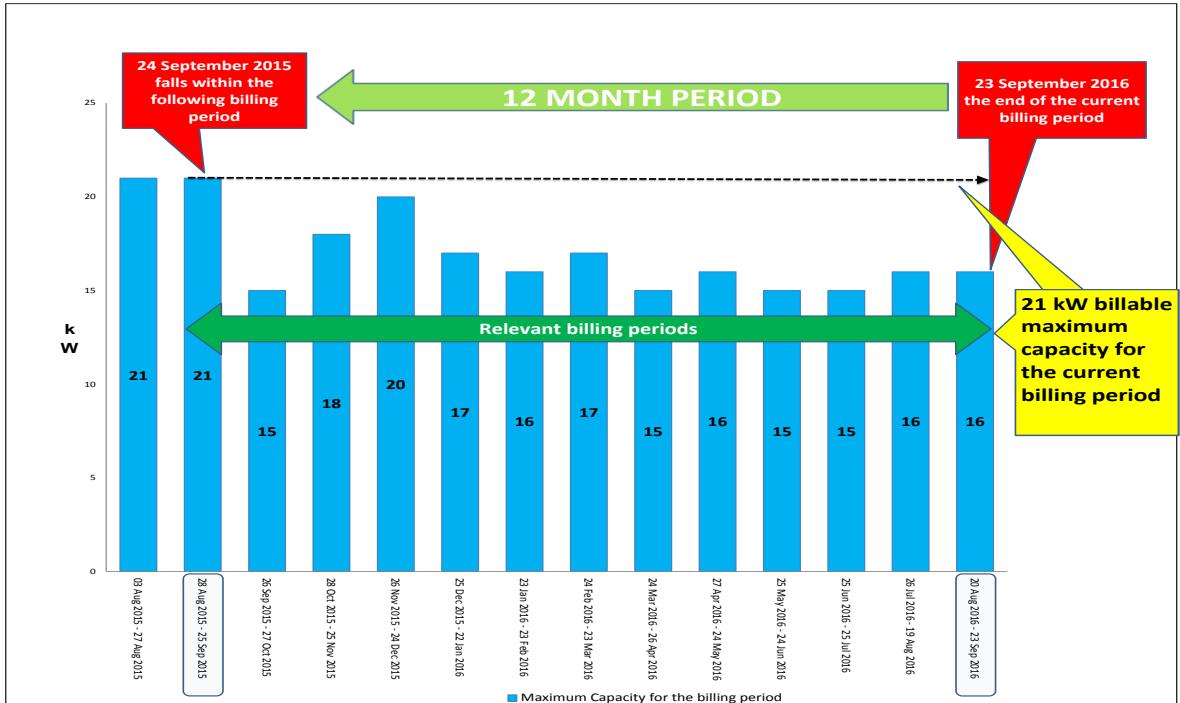
A capacity charge is a price applied (in cents per kW or kVA per day) to the maximum half hourly kW or kVA demand reading² that occurred in the peak period (that is, between 2pm and 8pm on a working weekday) at a customer's connection point over the billing periods that relate to the previous 12 months including the current billing period. The volume to which the capacity charge is applied is known as the "billable maximum capacity".³

3.7.2.1 Illustrative example of the capacity charge calculation

Below is a numerical example to illustrate the calculation of the billable maximum capacity value for a hypothetical customer.

² Refer to Appendix E – Calculation of Power from Interval Data (Ausgrid) for the calculation of kW and kVA.

³ Note – Ausgrid reserves the right to apply a nominated maximum capacity value for billing purposes to new large load connections to our electricity network to ensure that these sites contribute equitably to the costs of providing network services to these sites.



The billable maximum capacity is based on the billing periods that relate to the previous 12 months including the current billing period. The example above is based on a manually read interval meter.

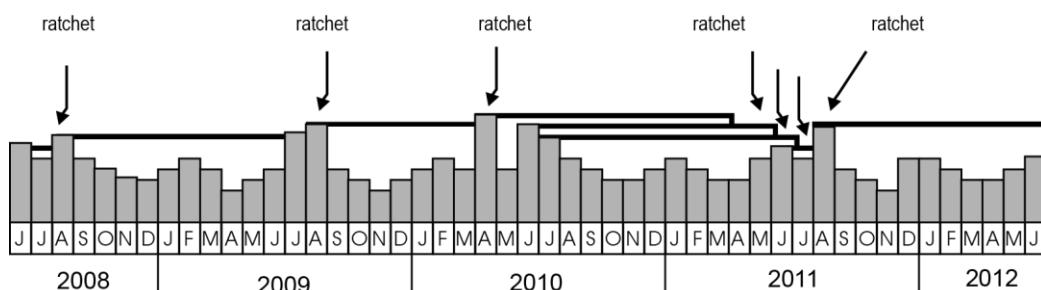
The billable maximum capacity value of 21 kW is assumed to have been recorded on 04/09/2015 from the billing period 28/08/2015 - 25/09/2015.

The billable maximum capacity value of 21 kW for the current billing period is derived from the billing period starting from 28/08/2015 to billing period ending on 23/09/2016.

For type 1 to 4 metered sites, it will be based on strict calendar months. For type 5, which are manually read meters as depicted above, it will be based on the billing periods that cover the 12 month period which are dictated by the meter reading schedule/occurrence.

For all meter types, 1 through to 5, where the site transfers or is permanently disconnected mid-month/read cycle, the oldest relevant billing period that will be included in the calculation will be one that includes the current billing period end date minus 12 months plus one day.

3.7.2.2 Illustrative example of the ratcheting of the capacity charge calculation



The historical monthly maximum capacity and billable maximum capacity (represented by the bold lines) of a hypothetical customer are shown above.

During each rolling 12 month period, when a peak period maximum demand exceeds the existing billable maximum capacity then a new, higher billable maximum capacity occurs. In the above example this occurs in August 2008, August 2009, April 2010 and August 2011.

Conversely, if at the end of each rolling 12 month period the prior month's billable maximum capacity has not been exceeded, then a new, lower billable maximum capacity occurs. The lower billable maximum capacity is the maximum peak demand recorded in the preceding 12 month period. In the above example this occurs in April 2011, June 2011 and July 2011.

3.7.2.3 Arithmetic calculation of demand for multiple connection sites

One capacity charge is applied at each connection point. Coincident or summated capacity charges from multiple connection points are not permitted without the written consent of Ausgrid's Manager – Regulation. It is Ausgrid policy to apply arithmetic demand across monthly meter data streams for capacity charging purposes. Coincident or summated demand is not permitted without the written consent of Ausgrid's Manager – Regulation. The one exception to this rule is in the case of two or three phase supply at a connection point, where coincident demand is applied across the phases to determine the maximum demand.

3.7.2.4 Reset of capacity charge volume

In some instances the capacity charge may be reset, either by Ausgrid or at the request of a retailer on behalf of a customer. Retailers are responsible for advising Ausgrid of the customer's capacity reset requirements.

Where a customer plans to permanently reduce their network capacity the customer should provide Ausgrid written notice through their retailer before the planned reduction is to occur. Permanent decreases are a result of the movement in demand due to either planned work to decrease the demand, such as decommissioning the plant or changing plant operations, or when load management equipment is installed. The decrease in capacity will need to be expected to last for at least twelve months before a reset of the Capacity charge will be approved by Ausgrid. A temporary reduction in capacity requirements will not result in a reset of the Capacity charge. The customer will be required to provide relevant documentation that justifies the expected reduction in the level of billable maximum capacity. As an example, in the case of a factory being converted to a warehouse, a Certificate of Compliance Electrical Works (CCEW) will be required as evidence of the decrease in capacity.

The customer will be advised by Ausgrid of the Billable Maximum Capacity level (reset) that will apply.

Ausgrid will also consider resetting the Billable Maximum Capacity in the following circumstances:

- Where a customer has implemented a demand management initiative which will permanently reduce the peak demand at the installation, such as power factor correction; or
- Where an increase in the Billable Maximum Capacity has been caused by a change to the network configuration initiated by Ausgrid;

Customers that exceed their new Billable Maximum Capacity will see an increase in the capacity charge as usual. Customers may only request one reset per year.

A customer wishing to apply for a reset of the Billable Maximum Capacity may make an application to Ausgrid's National Electricity Market Support group, by completing the Network Tariff and Threshold Change Application Form (see Appendix A) and emailing it to:

nemsrpops@ausgrid.com.au.

3.7.2.5 Retail Transfers

When a customer transfers, the following historical information will be required by the new retailer to replicate the capacity calculations:

- A full 12 months of history of Peak Capacity values
- A list of NMIs which have multiple connection points (where relevant)

This information can be sourced from the National Electricity Market Support group of Ausgrid contactable by email: nmi@ausgrid.com.au.

3.7.2.6 Network tariff advice – power factor correction

Customers can minimize their billable maximum capacity level by improving the overall power factor of the installation and/or by shifting demand from peak to non-peak periods.

Customers who are considering power factor correction can contact Ausgrid on phone number 131535, or consult the demand management information at www.ausgrid.com.au

3.7.3 Application of Distribution Loss Factors (DLF)

Ausgrid is required under the National Electricity Rules to calculate a Distribution Loss Factor (DLF) for each NUOS tariff. Network charges are calculated on the metered quantities and are not subject to DLF. However, it is the responsibility of Ausgrid to determine and publish DLF.

The DLF are used by retailers in the energy trading and market settlement process to account for electrical losses in the distribution network. The DLF varies depending upon the location and voltage of a customer's connection point.

Similarly, Transmission Loss Factors are also used in the market settlement of energy to take account of electrical losses in the transmission network.

The latest DLF are shown on Ausgrid's Network Price List, which is available from www.ausgrid.com.au.

For more information on Ausgrid's methodology for calculating DLF, refer to our DLF methodology document. This document is available from www.ausgrid.com.au.

3.7.4 Additional tariff specific information

3.7.4.1 Individually Calculated Tariffs (ICT)

Customers currently on a published NUoS tariff that have network usage that is greater than 10MW or 40GWh per annum over a period of a full financial year can apply to be re-assigned to an ICT.

The customer application must be submitted to Ausgrid prior to 30 September in the financial year preceding the financial year from which the ICT will apply. This gives Ausgrid sufficient time to calculate an appropriate distribution load factor for the tariff (distribution load factors are required to be submitted by Ausgrid by early March).

3.7.4.2 Controlled Load tariffs

Controlled Load tariffs are secondary tariffs. More detailed criteria and general requirements pertaining to Controlled Load tariffs are set out in Appendix B.

3.7.4.3 Temporary supply tariffs

Temporary supply tariffs apply to installations that are not permanently installed or do not provide a permanent supply to the areas in which they are required. The temporary supply tariff is effectively the appropriate existing tariff allocated to a customer as per the details in Table 3.3.

Table 3.3: Meters at temporary supplies

Service Type	Capacity *	Meter	Network Price
One Phase (only)	< 100 A	Type 5	EA025 Residential ToU
2 – 3 Phase	<100 A	Type 5	EA302 LV 40-160 MWh (System)
		Type 4	EA305 LV 160-750 MWh (System)
	> 100 A	Type 3	EA310 LV >750 MWh (System)

*The capacity of the service is the maximum rating of the cable or busbar service as determined by Ausgrid.

A Network Tariff and Threshold Change Application Form (Appendix A) will have to be submitted for the supply to be considered at a substation price.

The customer is responsible for the costs of installing and dismantling mains, meters and fittings and for the inspection, connection and disconnection of the customer's installation as set out in Ausgrid's publication ES5 *Charges for Network Miscellaneous & Monopoly Services* and ES8 *Capital Contribution Guidelines*.

Temporary supply must be separately metered with Rules compliant meters and will have its own NMI, separate to any permanent supply and will not affect the permanent supply arrangement and its associated NMI.

Coincident demand is not permitted between permanent and temporary connection points.

Where application for temporary supply for the purposes of carrying out experiments in lighting or industrial processes is made in writing and is approved by Ausgrid, supply will be made available at the EA310 LV >750 MWh tariff.

When determining the applicable network charges to be applied, the temporary increase in the maximum power reading (as assessed by Ausgrid) caused by the connection and use of experimental apparatus will be waived, provided that:

- (a) Supply will be made available under these conditions only if no alterations to Ausgrid's service or system are involved.
- (b) The customer will pay the cost of Ausgrid making only such modifications or additions to its metering equipment as may be necessary for its purposes. However, the customer may arrange for additional metering instruments to be installed by an accredited service provider, the cost of installing and removing these additional instruments to be paid by the customer.
- (c) The connection of apparatus under these conditions will be limited to a period of one month unless application for the extension of this period is made in writing and is approved by Ausgrid.

The reconnection of a permanent installation, even for a short period, does not qualify as a temporary supply.

3.7.4.4 Standby Tariffs (Closed)

Tariffs EA325 LV Connection (Standby) and EA360 HV Connection (Standby) are now closed. This means that no existing or new customers may be assigned or re-assigned to these tariffs except in limited circumstances and at Ausgrid's discretion. Standby supplies are loads not normally connected to the electrical supply system but increase the capacity requirements on the upstream system which must be capable of supplying the standby load in addition to normally supplied loads. In accordance with the current AEMO National Metering Identifier Procedure document, the standby connection point must be assigned a separate NMI to the normal supply point.

The standby supply prices have four charging components. These consist of a fixed charge, and peak, shoulder and off-peak energy charges. The fixed charge is designed to recover the cost of the feeder, even while no capacity is being used. Whether or not the customer uses the supply, the customer will be charged a fixed daily charge for the provision of the supply.

The terms and conditions set out in the connection agreement of a standby supply may vary according to the circumstances and such customers may be required to enter into a connection agreement. Ausgrid reserves the right to reassess existing standby supplies at any time for their impact on the electricity system and apply revised or new standby prices according to current metering and pricing methodologies. In general standby supplies should not be used as the standard supply for a customer.

A Capital Contribution usually applies to any connection as set out in Ausgrid's publication ES8 Capital Contributions and Recoverable Work Guidelines.

Electricity supplied under this tariff may be used by the customer for all agreed purposes for which electricity may be required to be used during outages of the normal means of supply at the customer's premises.

For customers requiring standby supply from Ausgrid where agreements have already been entered into which do not comply with these requirements, the existing services are retained unless a change is specifically requested by the customer.

3.7.4.5 Transitional tariffs

Ausgrid is required to undertake an annual review to ensure that retail customers are correctly assigned to the appropriate NUoS tariff. If, as a result of undertaking this review, Ausgrid identifies that customers would receive unacceptable network bill outcomes as a result of being transferred to their appropriate tariff, Ausgrid reassigns such customers to an appropriate transitional NUoS tariff.

Glossary

Ancillary network services	Non-routine services provided to individual customers on an “as needs” basis. Examples of these services include providing design related information for connections to be made to our network, special meter reads and site establishment fees.
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Basic accumulation metering	Accumulation meters keep track only of the total accumulated electricity usage. Customers are charged the same amount regardless of when the electricity is used.
Billable Maximum Capacity	Has the meaning given to the term in section 3.7.2.
Billing period	The time span covered by a network bill.
Block Tariff	A tariff with a structure that applies a different price for energy consumption beyond specified energy consumption threshold or thresholds.
Business customer	All customers that do not satisfy the definition of a residential customer.
CCF	Climate Change Fund
Charging parameter	Pricing component that makes up a tariff.
Cost Reflective Network Price	See Individually Calculated Tariff
Current Transformer (CT) connection	A connection where the transformer for use with meters and/or protection devices in which the current in the secondary winding is, within prescribed error limits, proportional to and in phase with the current in the primary winding.
Customer class	Refer to Tariff class
Determination	A decision by the AER that determines the revenue allowance for network service providers under the National Electricity Rules.
Distribution Loss Factor	Refer to the definition set out in Ausgrid’s methodology for forecasting distribution loss factors. This document is available from www.ausgrid.com.au
Distribution Network Service Providers	A person who engages in the activity of owning, controlling or operating a transmission or distribution system and who is registered by AEMO as a Network Service Provider.
Distribution-connected sites	Customers that are connected to the electricity distribution network.
DUOS	Distribution Use of System
Dynamic peak prices	This is a charging parameter that applies a price, expressed on a cents per kWh basis to energy consumption during a dynamic peak event.
Dynamic peak event	The dynamic peak energy charge is applied to consumption during the specific peak period (e.g. 1pm to 8pm) during the dynamic peak event. There are typically only around 12 dynamic peak events called in a financial year.

Efficiency	Signifies a level of performance that describes a process that uses the lowest amount of inputs to create the greatest amount of outputs.
Existing customer	A customer that exists at the time that Ausgrid undertakes the annual review and assessment in relation to the relevant pricing proposal.
Fixed charge	A charging parameter expressed in cents per day. Also known as Network Access Charge.
High voltage tariff	A tariff that applies to connections that are connected at high voltages 5kV, 11kV or 22kV (as measured at the metering point) that is neither a Sub-transmission nor an individually calculated tariff.
Interval meter	A meter that records how much electricity is used every 30 minutes.
Individually calculated tariff	This is a tariff that is calculated on a site-specific basis.
Low voltage tariff	A tariff that applies to connections that are connected at low voltages 230V or 400V (as measured at the metering point).
LRMC	Long Run Marginal Cost
Metering point	The physical point of connection between the Consumers Mains and the electrical network. Each separate overhead or underground service is a separate connection point. Each separate busbar or direct cable supply from a single substation is a separate connection point, e.g. two busbar supplies equal two connection points.
Metering services	Services that measure the customers' energy consumption and can assist customers to better understand and manage their energy usage.
National Electricity Law	The National Electricity Law set out in the schedule to the National Electricity (South Australia) Act 1996 (SA) and applied in each of the participating jurisdictions.
National Electricity Rules	Refers to the National Electricity Rules (NER) which governs the operation of the National Electricity Market. The Rules have the force of law, and are made under the National Electricity Law.
Network services	Transmission service or distribution service associated with the conveyance, and controlling the conveyance, of electricity through the network.
New customer	A customer that does not satisfy the definition of an existing customer.
NUOS	Network Use of System price, which is composed of DUOS, TUOS and CCF prices.
Phase	As defined in the <i>Service and Installation Rules of New South Wales August 2012</i> .
Price cap	A price control mechanism
Primary tariff and secondary tariff	A primary tariff applies to the principal load of the customer, whereas a secondary tariff applies to separately metered loads on a controlled load circuit which is a controlled supply service, such as off-peak hot water or small scale generation systems. A secondary tariff is only available to a customer where a primary tariff is also in place.
Public lighting services	Services that involve maintaining and improving the standards of streetlights on behalf of local councils, community associations and statutory authorities across Ausgrid's network.

Regulatory Undertaking	Undertaking given to the Australian Energy Regulator by Ausgrid for the purposes of s.59A of the National Electricity (NSW) Law dated 13 May 2016.
Residential Customers	A customer that is assigned to the low voltage tariff class that uses their connection to Ausgrid's electricity network for domestic purposes (e.g. watching television, personal computer usage) except where the use of the network is predominantly for the purpose of obtaining a commercial financial gain.
Single phase connection	Refer to Phase
Sub-transmission voltage tariff	A tariff that applies to connections that are connected at sub-transmission voltages 33kV or greater (as measured at the metering point).
Substation tariff	This tariff is available to customers who are connected to a Transmission Connection Point Substation with distribution assets dedicated to service only their site.
Tariff	The monetary value assigned to individual charging parameters (i.e. cents per kVA or cents per day).
Tariff class	A class of retail customers for one or more direct control services who are subject to a particular network tariff or particular network tariffs as defined in the National Electricity Rules.
Tariff code	A unique code that identifies each different network tariff.
TSS	Tariff Structure Statement referred to in clause 6.18.1A in the National Electricity Rules that has been approved by the AER for that Distribution Network Service Provider.
Three phase connection	Refer to Phase
Time of Use (TOU) tariff	A tariff with a structure that applies a different price for energy consumed at times of the day.
Transitional tariff	A tariff that may be available for a defined period following changes in the network pricing structures.
Transmission-connected sites	Customers that are connected to the electricity transmission network.
TUOS	Transmission Use of System
Type 5 meter	A metering installation containing an electronic meter, or meters, capable of recording electrical energy consumption in 30 minute market intervals in accordance with the NER. Such meters are read manually by meter readers. Data is down-loaded via probes into a hand-held data collection device carried by Ausgrid meter readers. Also known as an MRIM, ToU or interval meters.
Type 6 meter	A metering installation containing a meter, or meters, (electronic or electromechanical) capable of recording cumulative electrical energy consumption only. Such meters are read manually by Ausgrid meter readers who record the total cumulative consumption readings displayed on the Type 6 meter register. All meters can support a Type 6 Installation, but they are predominantly installed with mechanical meters or simple electronic meters. Also known as BASIC, Flat Rate or accumulation meters.
Unmetered tariff	A tariff for unmetered supply
2015/2016 Pricing Proposal	Ausgrid's Pricing Proposal for the 2015/16 which forms the basis of the network prices for 2016/17 regulatory year in accordance with the Regulatory Undertaking.

Appendix A – Network Tariff and Threshold Change Application Form

Network Tariff and Threshold Change Application Form

Customer / Business Name: NMI

Street Number Street Name

City/Town Postcode

Additional Site Information:

Customers e-mail address

Name Signed (Customer).....

1. NMI Load/Consumption: Tick the box of the applicable load (Mandatory)

Below 40MWh p.a. Between 40 and 160 MWh p.a. Between 160 and 750 MWh p.a. Over 750MWh p.a.

2. Network Tariff: Tick the box of the requested tariff

- | | |
|--|--|
| 2A. <input type="checkbox"/> Residential ToU Price | The customer confirms this NMI has annual energy consumption below 160 MWh for residential use and requests the Residential ToU network price. |
| 2B. <input type="checkbox"/> Residential Non ToU Price | The customer confirms this NMI has annual energy consumption below 160 MWh for residential use and requests the Residential Non ToU network price. |
| 2C. <input type="checkbox"/> Small Business ToU Price | The customer confirms this NMI has annual energy consumption below 40 MWh for business use and requests the Small Business ToU network price. |
| 2D. <input type="checkbox"/> Small Business Non ToU Price | The customer confirms this NMI has annual energy consumption below 40 MWh for business use and requests the Small Business Non ToU network price. |
| 2E. <input type="checkbox"/> LV 40-160 MWh Price | The Customer confirms this NMI has annual energy consumption of between 40 MWh and 160 MWh and requests the LV 40-160 MWh network price. |
| 2F. <input type="checkbox"/> LV 160-750 MWh Price | The Customer confirms this NMI has annual energy consumption of between 160 MWh and 750 MWh and requests the LV 160-750 MWh network price. |
| 2G. <input type="checkbox"/> LV >750 MWh Network Price | The Customer confirms this NMI has annual energy consumption of more than 750 MWh and requests the LV >750 MWh Network Price |
| 2H. <input type="checkbox"/> HV Connection (Substation) Price | The Customer requests this site receive the HV Connection (Substation) Network Price. Fed from the Transmission Connection Point Substation No. Please supply with this application supporting documentation detailing eligibility for application of the substation price. |
| 2I. <input type="checkbox"/> ST Connection (Substation) Price | The Customer requests this site receive the ST Connection (Substation) Network Price. Fed from the Transmission Connection Point Substation No. Please supply with this application supporting documentation detailing eligibility for application of the substation price. |
| 2J. <input type="checkbox"/> Cost Reflective Tariff Price | The customer requests a Cost Reflective Tariff price. The connection point must have exceeded 10 MW on more than three occasions or 40 GWh consumption over a 12 month period. |
| 2K. <input type="checkbox"/> Transmission Connected Price | The customer requests a Transmission Connected Network price (CRNP). Directly connected to the Transmission Connection Point Substation No. without the use of any distribution assets. Please supply with this application supporting documentation detailing eligibility for application of the Transmission Connected price. |

3. Co-incident Demand and Capacity Reset: Tick the box of the applicable request

3A. Co-incident Demand across multiple meters at a single connection point (NMI)

The Customer request this connection point be examined to receive Co-incident Demand and to be configured to meet the Code NMI Procedure requirements. If the request is not approved by Ausgrid, the connection point will receive Arithmetic Demand for the meter data streams

3B. Capacity Reset

The customer requests that the Billable Maximum Capacity value be reset to a level other than the prior 12 month peak.

Reason for the capacity reset:

.....
When submitting a capacity reset request, please provide supporting evidence for the reason mentioned.

4. Re-Classification: Tick the box of the requested Re-Classification

4A. NMI Re-Classification

- Small
 Large

Where consumption over the last 12 months is below 160MWH
Where consumption over the last 12 months is 160MWH

4B. Customer Threshold Code – Business Customer Re-Classification

- Low
 High

Where consumption over the last 12 months is below 100MWh
Where consumption over the last 12 months is above 100MWh

The request is endorsed by the customer's *Retailer of Choice* (Not required for business customers directly requesting a change to the customer threshold code)

Retailer Name Name (please print):

Title: Signed (Retailer).....

Date: / / Telephone (Direct line): E-mail:

Postal Address:

City / Town Post Code

NOTE: The above request, if approved, will not be backdated and will apply from the start of the next billing period.

E-mail address to send requests

The correct e-mail address must be used at all times, if a request is received in the incorrect e-mail address, Ausgrid cannot guarantee a response.

EMAIL to - [nemrps@ausgrid.com.au](mailto:nemsrpops@ausgrid.com.au)

Fax number (Only if unable to submit the request via e-mail):

FAX – (02) 9277 3560

Appendix B – Controlled load tariffs

Tariff Criteria

Controlled Load tariffs are secondary tariffs and can only be applied at installations with one of the following primary tariffs:

- EA010 Residential Non ToU
- EA050 Small Business Non ToU
- EA025 Residential ToU
- EA225 Small Business ToU
- EA302 Low Voltage 40-160 MWh
- EA316 Transitional 40-160 MWh

Secondary tariffs apply to those separately metered loads that are controlled or interrupted in accordance with this document. A secondary controlled load tariff is not permitted at Type 1-3 metering installations.

These secondary tariffs apply to electricity used for operating appliances covered by this document, provided that they comply with the requirements specified. The periods of use of these appliances will be determined by Ausgrid and the load will be controlled at times which may vary from day to day to meet network requirements.

The EA030 Controlled Load 1 tariff is available for supply that is usually connected for at least six hour duration between 10pm and 7am. Controlled Load 1 switching times may be varied at the discretion of Ausgrid.

The EA040 Controlled Load 2 tariff is available for supply that is usually connected for at least sixteen hours per day, including at least six hours between 8pm and 7am and at least four hours between 7am and 5pm. Controlled Load 2 switching times may be varied at the discretion of Ausgrid.

General Requirements

Appliance Suitability and Contactor Installation

Unless otherwise approved by Ausgrid, the following requirements shall be complied with.

- The hours of availability of supply must suit the intended use of the appliance.
- Load control equipment shall comply with the requirements of the NSW Service and Installation Rules of NSW, Section 4.11.3 ‘Load Control Equipment’.
- The load control device may be contained within the electricity meter so long as the controlled load is resistive, single phase and does not exceed 25 Amp and the total load on the meter does not exceed the current rating of the meter.
- For appliances greater than 10 kW load, please refer to Ausgrid for approval. Contact details are as per ES1 document.

Prohibition of Changeover Switch, or Interconnection between primary and secondary tariffs

Any change-over switch, interconnection arrangement or device which would enable appliances, generation or energy storage systems to be interconnected or switched between controlled load and non-controlled load tariffs is not allowed. This includes traditional changeover switches as well as any changeover or interconnection functionality in other equipment (for example, Uninterruptible Power Supply (UPS) units, inverter equipment, or home energy storage units).

Where a consumer desires to charge energy storage batteries using lower cost energy, and to discharge them to displace higher cost energy, the recommended solution is to do so by utilising a Time of Use principal tariff.

Noise Considerations

Consideration should be given to relevant noise regulations before making a commitment to connect an appliance to a controlled load tariff. The NSW Protection of the Environment (Noise Control) Regulation 2008 specifies restrictions on the hours of operation of appliances that can be heard within a habitable room in any other residential premises. Appliances include heat pump water heaters, air conditioners and swimming pool pumps. Further inquiries about the noise control regulation can be made to the NSW Government (Office of Environment and Heritage) or the NSW Environmental Protection Agency.

Hot Water Systems (Electric Water Heaters)

Electric Storage Water Heaters

Supply at the Controlled Load 1 or 2 tariffs is available for use with electric storage water heaters with rated hot water delivery and heating element combinations that comply with the following table.

Table B.1: Eligibility Criteria for Controlled Load 1 and 2 Tariffs

Total Rated Hot Water Delivery	Main Element Rating (kW)	
Litres	Controlled Load 1 (EA030)	Controlled Load 2 (EA040)
From 100L to less than 250L	Not eligible	4.8*
From 250L to less than 315L	3.6	4.8*
From 315 to less than 630L	4.8*	4.8*
630L or greater	Required to heat in 9 hours	Determined by Ausgrid

*Special Condition for Newcastle and Hunter Regions, existing installations may use 3.6 kW elements

The main element(s) will be controlled so that supply is available only during hours determined by Ausgrid.

Special Conditions for Retirement Villages and Similar Accommodation

Table B.2 sets out the reduced minimum rated hot water delivery levels for self-contained and separately metered accommodation.

Table B.2: Eligibility Conditions for Retirement Homes

Maximum Number of Occupants in Premises	Minimum Rated Hot Water Delivery		
	Controlled Load 1	Controlled Load 2	Minimum Rating
One	80 litres	80 litres	3.6kW
Two	125 litres	80 litres	3.6kW

Combinations of Storage Water Heaters

Controlled Load tariffs are available for combinations of storage water heaters dependent on the following conditions being met:

- The combined rated hot water delivery must meet the minimum requirements for the particular tariff.
 - The rated hot water delivery of any heater must be 100 litres or greater.
 - The combined total of the heating elements must be 4.8 kW or greater.
 - The combined rating of the heating element is to comply with the conditions of the tariff.
 - Where an additional water heater is being installed and the above three conditions are fulfilled, the usual number of heating hours available for the first heating element should be taken into account in selecting the rating of the additional heating element.
- If the tanks are paralleled to a common hot water line, they will be considered as one. (For example, tank volume and element ratings are the sum of the individual ratings.)

Electrically-boosted Solar Water Heaters

Electrically boosted solar storage water heaters will be supplied at the Controlled Load tariff under similar conditions to other types of electric storage water heaters. The rated hot water delivery will include the electrically heated and solar sections of the unit.

Heat Pump Water Heaters

Heat pump storage water heaters may be supplied by Controlled Load tariffs provided that:

- For connection to Controlled Load 1, a heat pump storage water heater shall be capable of recharging ($\Delta t = 50 \text{ deg C}$) at least 250 litres in 6 hours.
- For connection to Controlled Load 2, a heat pump storage water heater shall be capable of recharging ($\Delta t = 50 \text{ deg C}$) at least 100 litres in 6 hours.

Other Heating Sources for Water Heaters

Controlled Load tariffs are not available to electrically boosted water heaters where gas, kerosene or other types of fuel are used as the primary source of heating.

Electric Vehicles

Electric Vehicle Charging

Controlled load tariffs are available for the charging of electric vehicles where an electric vehicle special plug/ socket arrangement – example SAE J1772 (non-standard plug/socket outlet) is used on the vehicle end and the charging equipment or cable is hard-wired on the supply end.

Other Equipment

The following equipment may be operated on either Controlled Load 1 or 2, provided that the appliances are permanently connected, (connection by means of standard plug/socket outlets is not acceptable). There is no minimum rating requirement for the appliance. For equipment in this category a label shall be installed at the point of hard wired connection of the appliance. The intention of the label is to alert a service technician or new owner/occupier to the fact that the appliance is supplied via a controlled load circuit. The label shall read “Supplied from Controlled Load Circuit” or similar.

- Space heaters (e.g. underfloor heating, thermal storage) and ice thermal storage
- Swimming pool equipment, i.e. pool pumps, water heaters for pools, spas and turbo tubs
- Dishwashers, clothes dryers, washing machines and air conditioners
- Other appliances approved by Ausgrid

Special Conditions for Existing Installations

Storage water heaters and thermal storage space heaters, in premises previously supplied at any previous obsolete Controlled Load tariff, are eligible for supply at one of the current Controlled Load tariffs, subject to the approval of the installation by Ausgrid and the following requirements.

Existing Water Heaters

Provided the heating elements comply with the requirements, the following are permitted:

- Existing water heaters formerly supplied at an obsolete tariff may be replaced by heaters of similar or increased capacity and supplied at the current appropriate Controlled Load tariff.
- Existing water heaters that were eligible for supply at, but not necessarily connected at one of the obsolete controlled load tariffs at the time of installation may be supplied at the current appropriate Controlled Load tariff.

Existing units with 3.6kW elements are satisfactory. It is recommended that replacement water heaters utilise the same element rating as the previous unit provided that the volume of the unit remains the same.

Big Blue Continuous Tariff (Obsolete - Closed)

The Big Blue Continuous tariff is a product that is no longer offered by Ausgrid. For any existing hot water systems with boosting elements, customers will be charged at the controlled load rate for

both the top and bottom heating elements. The bottom element will be available during controlled load times and the top element will be available at any time.

Implementation of Controlled Load Switching

Historically Ausgrid, and its predecessors, have owned and operated the load control units that have implemented the Controlled Load switching at the customers' premises. With the advent of multiple metering providers for the residential market (under the Power of Choice Rules change) Controlled Load tariffs can be realised with smart time-switch functionality delivered by independent, AEMO accredited Metering Providers with the condition that (a) the obligations of "Safe Operation of Load Control Relay" (set out below) are accepted and (b) the Service Levels as described below under "Smart Time Switch requirements" are met. Deviation from these requirements is not permitted unless agreed to in writing by Ausgrid.

Safe Operation of Load Control Relay

The Metering Provider shall ensure the safe operation of the Load Control Device by utilising only relays that comply with AS62052.21, with respect to the following minimum performance:

- (U_n) of 207V – 264V and (f_n) of 49-51Hz
- Temperature: -10°C to +55°C and Relative humidity of annual mean of <75 % with individual days up to 95%
- (U_c) Rated Breaking Voltage 276V
- (I_c) Rated Breaking Current minimum of 25A single phase resistive
- Short Circuit performance (at 7kA and 3kA) as per the Standard
- Number of operations (30,000) as per the Standard

Smart Time Switch Requirements

Metering Providers delivering smart time switch functionality shall comply with the following requirements:

- The hardware shall achieve clock accuracy at the same level as the associated advanced meter.
- The hardware shall support a current load control schedule and support a future load control schedule applicable on a future schedule activation date (after deployment). The load control schedule shall be re-configurable.
- Each load control schedule shall support four switching programs that are defined in terms of day type, and season. The day type means applicable days of the week. The seasons means periods of the year. The seasons are defined such that transitions can be achieved either (a) at a fixed date or (b) on a day of month (e.g. first Sunday in October). Each switching program is described by up to two start-times, and matching finish-times. All start times share a common randomised delay start. The start time and finish time is described in 24 hour time - hours and minutes – (hh:mm) – and in Australian Eastern Standard (AEMO) time. The Randomised Delay Start is described as a randomised period of maximum between 0 and 300 minutes (configurable at one minute intervals).
- The hardware's randomisation method shall be selectable between being set (1) once at time of initial configuration and maintained until next configured; or (2) at every switching event. In each case, the randomisation shall apply such that the deployed population, to which the randomisation applies, demonstrates a rectangular statistical distribution of delay across the period.
- At Loss of Supply, the Switch Position is set to OFF, prior to meter shut-down. After supply restoration, the Return to Schedule shall be configurable to apply either (a) immediately or (b) after a randomised delay configurable between 1 and 300 minutes.
- The hardware shall have the capability of responding to a remote override command that can temporarily suspend the load control schedule in the off or on position and when commanded, return to schedule in a progressive fashion. The expectation is that the Metering Coordinator / Metering Provider shall make available the functionality such that when requested by the Network, that the override can apply to all devices in a defined area.
- The hardware may support a Local Boost (load control schedule manual override with load control switch immediately forced to ON position) for the specific purpose of commissioning and fault-finding only. If activated the local boost shall time out at or before the next scheduled switching event. Such local boost facility is for technician use only and shall NOT be accessible to the customer.

Ausgrid Specific Load Control Schedules

- The Load Control Schedule for: Network Tariffs EA030 Controlled Load 1 and EA040 Controlled Load 2:

Table B.3: Load Control Schedule for Ausgrid's Controlled Load Network Tariffs

Switching Program	Load Control Schedule Controlled Load 1 (EA030)	Load Control Schedule Controlled Load 2 (EA040)
Winter	1st Sun Apr – 1st Sun Oct Start Time 22:00 Finish Time 07:00 Randomised Delay Start 180min	1st Sun Apr – 1st Sun Oct Start Time 20:00 Finish Time 17:00 Randomised Delay Start 180 min
Spring		1st Sun Oct – 1 Nov Start Time 19:00 Finish Time 16:00 Randomised Delay Start 180 min
Summer	1st Sun Oct – 1st Sun Apr Start Time 21:00 Finish Time 06:00 Randomised Delay Start 180min	
Peak Summer		1 Nov – 1st Sun Apr Start Time 19:00 Finish Time 14:00 Randomised Delay Start 180 min

- Clock accuracy shall maintain $\pm 20s$.
- Randomisation Method shall achieve statistically rectangular distribution.
- Loss of Supply Switch Position shall revert to OFF position prior to shut-down of meter and Return to Schedule after a randomised delay of 180 minutes after supply restoration.

The Suspend Load Control Schedule function, when requested, is expected to reach 80% of devices within 5 minutes.

Appendix C – Unmetered supply tariffs

Unmetered tariffs apply to network customers that are not required to install a meter to measure the flow of electricity in a power conductor and accordingly there is a requirement to determine by other means the energy data that is deemed to flow in the power conductor.

Ausgrid in consultation with AEMO will determine whether a network customer is not required to install a meter in their premise by considering a broad range of factors, such as:

- the load pattern is predictable;
- for the purposes of settlements, the load pattern can be reasonably calculated by a relevant method set out in the metrology procedure;
- it would not be cost effective to meter the connection point taking into account:
 - the small magnitude of the load;
 - the connection arrangements; and
 - the geographical and physical location.

The network tariff applicable to different types of unmetered supplies are set out in the Network Price List. This document is available from www.ausgrid.com.au.

A decision to assign a network customer to an unmetered tariff does not limit Ausgrid's ability to require that this site is metered in the future.

Unmetered sites can be classified as “market” or “non-market”. The difference is that market sites have had their loads independently assessed and registered by AEMO meaning that the customer can have choice of retailer. For “non-market” loads, the retailer can only be the local retailer, Energy Australia. To convert from “non-market” to market the customer must follow a set process. Detail can be supplied upon request to nbilling@ausgrid.com.au.

For further Type 7 connection information, see ES1 - Customer Connection Information which is available on the Ausgrid website at www.ausgrid.com.au.

Appendix D – Metering Services Charge (MSC)

Metering Services

Metering services relate to the provision, operation and maintenance of Type 5 and 6 metering equipment, and include:

- Meter provision – the capital costs of purchase of metering equipment;
- Meter maintenance – activities to inspect, test, maintain, repair and replace meters;
- Meter reading – the quarterly or other regular reading of type 5 & 6 meters; and
- Meter data services – services for the collection, processing, storage and delivery of metering data and the management of National Metering Identifier (NMI) standing data in accordance with the rules.

To recover the costs of the above services, the MSC has been divided into two components:

- A capital component – metering asset base (MAB) recovery, item 1
- A Non Capital Component - maintenance charge including operating expenditure and tax, items 2 through 4.

Capital cost recovery

The application of the capital component of MSC will be determined by who originally funded the meters (i.e. the customer directly or smeared across all Ausgrid Network customers with metering installed prior to 1 July 2015). From 1 July 2015, Ausgrid will charge an up-front fee to cover metering hardware for all new and upgraded metering connections where the customer requires an Ausgrid Type 5 or 6 metering installation.

Where it is a new connection the capital component of the MSC will not apply. Where it is an upgrade and the customer did not pay for the meters originally (i.e. meters installed prior to 1 July 2015) the capital component will continue to apply. For all other connections the capital component will apply.

The rate of the capital component to be applied will be determined by the network tariff/s that is/are assigned to the NMI.

Where both capital and non- capital charges are applicable they will be charged at a combined rate.

Non-capital cost recovery

Ausgrid will charge a maintenance metering service charge for all NMI's where Ausgrid provides type 5 & 6 metering services. Ausgrid will be nominated as Responsible Person, Meter Provider and Meter Data Provider for the NMI in the National Electricity Market. The rate of the non-capital component will be determined by the network tariff/s that is/are assigned to the NMI.

Where both capital and non-capital charges are applicable they will be charged at a combined rate.

Table D.1: MSC Summary Table

Charge	Description	When charged
Existing Connections Capital Charge Non-Capital Charge	<p>Charge will be applied to all existing sites where Ausgrid funded the metering equipment and is the market metering service provider.</p> <ul style="list-style-type: none"> ➤ Responsible Person (RP) = ENERGYAP ➤ Meter Data Provider (MDP) = TCAUSTM ➤ Meter Provider B (MPB) = TCAMP ➤ Meter Provider C (MPC) = TCAUSTM <p>Charge includes ACS metering related operating costs and tax</p>	<p>Will not apply where Ausgrid ceases to be the Metering Service Provider.</p> <p>Ausgrid will apply the MSC as a daily charge.</p>
Existing Connections Capital Charge Only	Charge will be applied to all existing sites connected prior to 1 July 2015, where existing Ausgrid funded Type 5 or 6 metering equipment has been replaced by a Type 4 metering installation, to recover the costs of the regulated Metering Asset Base (MAB).	Ausgrid will apply the MSC as a daily charge.
New Connections Non-Capital Charge Only	<p>Charge will be applied to all new or customer instigated upgraded sites where the customer has funded the metering equipment and Ausgrid is the market metering service provider.</p> <ul style="list-style-type: none"> ➤ Responsible Person (RP) = ENERGYAP ➤ Meter Data Provider (MDP) = TCAUSTM ➤ Meter Provider B (MPB) = TCAMP ➤ Meter Provider C (MPC) = TCAUSTM <p>Charge includes ACS metering related operating costs and tax for new connections</p>	<p>Will not apply where Ausgrid ceases to be the Metering Service Provider.</p> <p>Ausgrid will apply the MSC as a daily charge.</p>

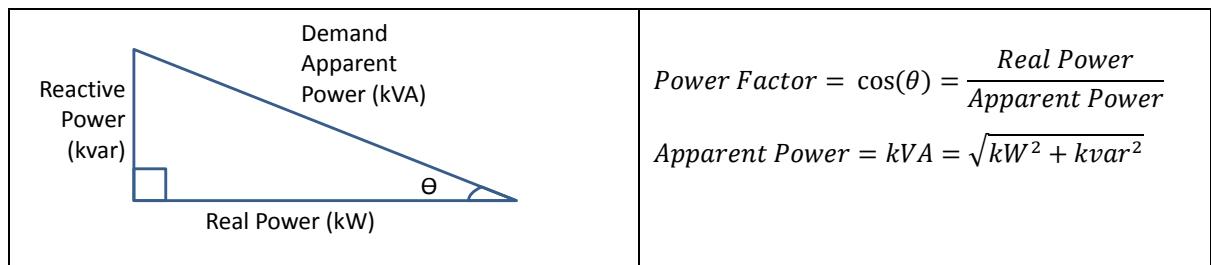
Appendix E – Calculation of Power from Interval Data (Ausgrid)

Interval meters that comply with the National Electricity Rules record kWh and kvarh consumption in 30-minute blocks aligned with the hour and half hour – and in Australian Eastern Standard Time (AEST). These are also called Trading Intervals. For example, kWh consumption between 11:00 and 11:30 is a trading interval. Similarly, 11:30-12:00 is a trading interval.

The NEM also allocates Data Stream Identifiers to correctly tag the data from the meters:

Import kWh (real energy generation by customer)	B
Export kWh (real energy consumption by customer)	E
Import kvarh (leading reactive energy)	K
Export kvarh (lagging reactive energy)	Q

Network Capacity Charges are based on the Real Power (kW) or Apparent Power (kVA). kW can be derived directly from kWh. However Apparent Power requires an intermediate calculation, explained by the Power Triangle diagram, which describes the relationship between all three types of power. It also describes the term of Power Factor.



Power Principle

A customer's maximum power is a measure of the capacity that must be provided by the network. Power has two components, termed real and reactive.

- The Real Power is that which performs useful work, such as providing heating and motion.
- The Reactive Power component is necessary for the flow of real power, and is part of the total demand upon the supply system. The distribution network must be built to carry the Apparent Power.

Reactive power typically results from the inductive loads such as coils in industrial AC inductive motors and transformers. It is the inductance of the coils that causes the difference between the real power and the apparent power.

To determine the average apparent power for a given 30-minute interval, the following calculations are made:

$$kW = \frac{kWh_{30\ min}}{0.5} = 2 \times kWh_{30\ min}$$

$$kvar = \frac{|kvarh(lag)_{30\ min} - kvarh(lead)_{30\ min}|}{0.5} = 2 \times |kvarh(lag)_{30\ min} - kvarh(lead)_{30\ min}|$$

$$kVA = \sqrt{kW^2 + kvar^2}$$

In terms of NMI data stream suffixes, this can be simplified to the following calculation for each **30-minute** interval:

$kW = 2 \times E$
$kVA = 2 \times \sqrt{E^2 + (Q - K)^2}$

Appendix F – Methodology for calculating Avoided TUOS payments

Background

Under the National Electricity Rules, Ausgrid is required to pay Avoided TUOS (ATUOS) to eligible embedded generators in Ausgrid's electricity distribution network.

ATUOS payments recognise that energy supplied to the DNSP by the embedded generator would have otherwise been supplied from the electricity transmission network. The National Electricity Rules require that the ATUOS payable to an eligible embedded generator is calculated using a 'with and without' approach involving:

- Calculation of the actual TUOS charges payable by the DNSP;
- Calculation of the hypothetical TUOS charges payable by the DNSP if the Embedded Generator had not existed; and
- Payment of the full difference in the above to the embedded generator as ATUOS.

Methodology for calculating ATUOS payment

Ausgrid's methodology for calculating ATUOS payments is based on the maximum demand KW charge applied to the peak demand of the embedded generator (kWh) using the "with and without" methodology. Importantly, this methodology does not take into account the economic benefit provided to the rest of the electricity transmission network. For example, the peak demand of the generator may not necessarily occur at a time that causes a reduction in the overall transmission network peak demand.

ATUOS calculation method – “with and without” method

$$\text{ATUOS} = \text{TUOS}_{\text{withoutEG}} - \text{TUOS}_{\text{withEG}}$$

where:

$$\text{TUOS}_{\text{withoutEG}} = \text{Demand_Tariff} \times \text{Transmission_Peak_Demand}_{\text{withoutEG}}$$

$$\text{TUOS}_{\text{withEG}} = \text{Demand_Tariff} \times \text{Transmission_Peak_Demand}_{\text{withEG}}$$

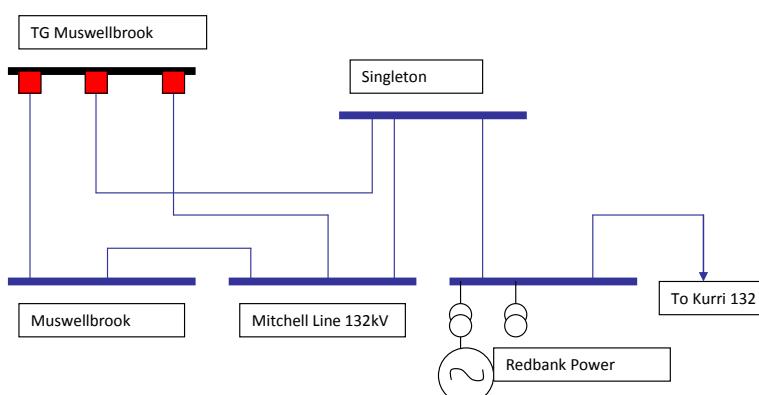
combining the above:

$$\text{ATUOS} = \text{Demand_Tariff} \times (\text{Transmission_Peak_Demand}_{\text{withoutEG}} - \text{Transmission_Peak_Demand}_{\text{withEG}})$$

This document details the ATUOS calculation method by way of illustrative example.

Calculation example for Avoided TUOS

Figure 1 - the 132kV network near Muswellbrook, with Hypothetical Power Station 1 receiving an ATUOS payment from Ausgrid.



As outlined in section (i) of the Rules, the ATUOS payments are calculated on a ‘with and without’ basis. **The ‘With case’** (ie. including actual generation at Power Station 1):

Determine the load for the TransGrid metering points at Muswellbrook. The result is labelled L_{With} , which, through Kirhoff's Current Law, ‘automatically’ takes into account the generation at Hypothetical Power Station 1.

Therefore we write:

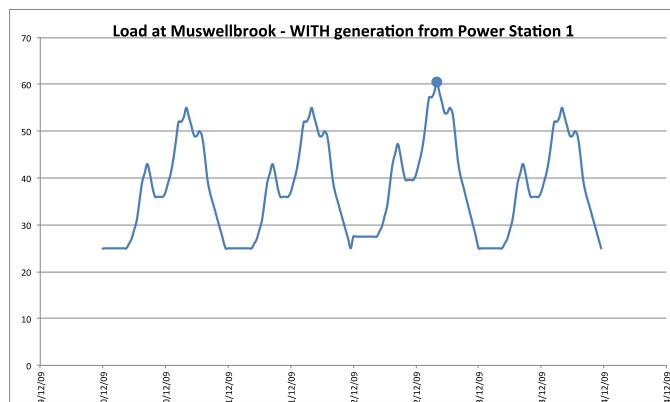
$$L_{\text{Actual}} = L_{\text{With}} = L_{\text{TransGrid}} - L_{\text{PowerStation1}}$$

Now apply the TransGrid prices to the L_{With} load to determine the B_{With} TransGrid bill.

$$B_{\text{With}} = \text{Billing of } L_{\text{With}}$$

The figure below shows the ‘With’ case half hourly load (selected days). Demand charges for the actual TransGrid bill are based on the peak load visible on the 22nd of December (3rd daily cycle shown).

Figure 2 – Load at Muswellbrook with generation from Power Station 1



The ‘Without case’ (ie. No generation at Hypothetical Power Station 1):

Determine the load for the TransGrid metering points at Muswellbrook, had Power Station 1 not been generating. This is the sum of the metering points at TransGrid Muswellbrook and the actual generation at Hypothetical Power Station 1. This results in L_{Without} because:

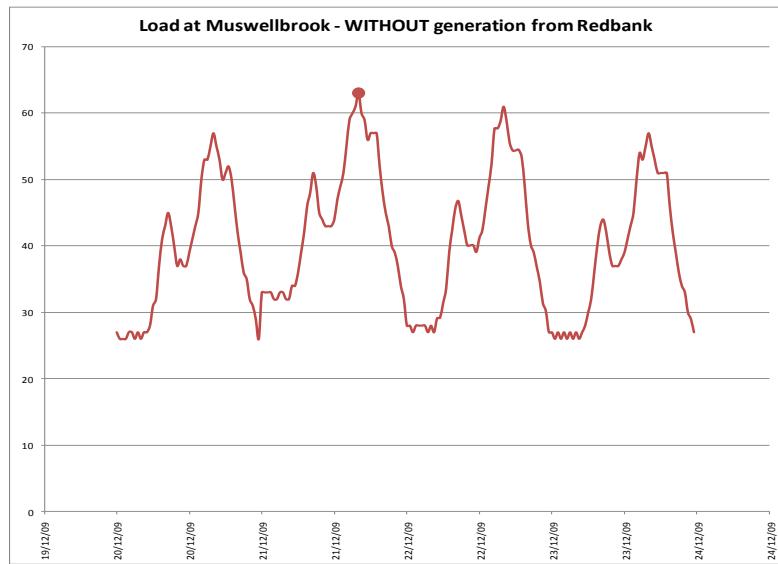
$$L_{\text{Actual}} + L_{\text{Powerstation1}} = (L_{\text{TransGrid}} - L_{\text{Powerstation1}}) + L_{\text{Powerstation1}} = L_{\text{TransGrid}} = L_{\text{Without}}$$

Now apply the TransGrid prices to the L_{Without} load to determine the B_{Without} TransGrid bill.

$$B_{\text{Without}} = \text{Billing of } L_{\text{Without}}$$

The figure below shows the ‘Without’ case half hourly load (selected days). Demand charges for a hypothetical TransGrid bill are based on the peak load visible on the 21st of December (2nd daily cycle shown).

Figure 3 – Load at Muswellbrook with generation from Power Station 1



Determining the amount payable for avoided TUOS

The amount payable by the DNSP to the embedded generator is therefore:

$$\text{ATUOS amount} = \mathbf{B}_{\text{Without}} - \mathbf{B}_{\text{With}}$$

Metering Considerations

The load figures used in the above calculations are not necessarily net at each point. For instance:

- The TransGrid charges at Muswellbrook are based on the E register only, so the above calculations should use E only, not the (E-B) figures.
- The National Electricity Rules state describe the ‘Without’ case as if the Embedded Generator had ‘not injected any energy’ [5.5(i)(1)(i)]. Thus it is appropriate to use the pure injection volume rather than the net injection volume (B register rather than (B-E) figure. This corresponds with the viewpoint that since Power Station 1 pays network charges for its auxiliary supply (the E register), it has the right to use load when it sees fit, and must be considered separately to ATUOS considerations.

Selection of relevant Transmission price for calculation of ATUOS payment

There are two types of locations of embedded generators within the Ausgrid’s electricity network:

- Embedded generators near transmission connection points owned by TransGrid – Ausgrid in its capacity as a DNSP is directly invoiced by TransGrid for the use of these assets, so it is clearly appropriate to use the transmission charges at TransGrid owned transmission connection points for the purpose of calculating ATUOS payments for a specific embedded generator.
- Embedded generators near dual-function connection points owned by Ausgrid – Ausgrid in its capacity as a DNSP is not invoiced by TransGrid for the provision of these services. Ausgrid earns its annual revenue allowance for its dual-function assets via the setting of designated pricing proposal charges in its capacity as a DNSP. It is for this reason that Ausgrid’s methodology for the calculation of ATUOS is based on the transmission charges at the TransGrid-owned transmission connection point (as opposed to the Ausgrid-owned transmission connection point) nearest to the embedded generator.

Interaction with other Embedded Generators

In some instances, there are multiple embedded generators feeding into a transmission node. . The ATUOS calculations for each site assume that all other embedded generators operate independently of the embedded generator of interest. The other embedded generators are implicitly included in the $L_{\text{TransGrid}}$ figure by way of Kirchoff's Current Law.

Appendix G – Daylight Saving Time

The time periods defined in Ausgrid's Price list and ES7 apply to local time in New South Wales. Local time is the same as Daylight Saving Time while it is in operation, and for the rest of the year, local time is the same as Eastern Standard Time.

Ausgrid's prices are structured to follow the local time, whether that is Australian Eastern Standard or Daylight Savings time.

Customers on non-Time of Use network prices are not affected by Daylight Saving Time (DST). Customers on Time of Use network prices, but without Rules compliant meters installed, have their meters programmed to adjust automatically to DST.

Where customers have joined the contestable market and have National Electricity Rules compliant metering, half hourly energy consumption data is forwarded to Ausgrid's Meter Data Provider (MDP). For the period that DST operates MDP converts the customer's energy consumption to local time for the purpose of calculating consumption in each time period. The MDP stores all data in Eastern Standard Time (EST).

Start and End of Daylight Saving Time

The following convention is used in NSW:

Start: Daylight Saving Time (DST) normally begins at 2am Eastern Standard Time (EST) on the first Sunday in October. Therefore at 2am EST the clocks are put forward by one hour. The time then becomes 3am DST.

During Daylight Saving, local time in New South Wales is one hour in advance of Eastern Standard Time.

Finish: Daylight Saving Time normally ends at 3am DST on the first Sunday in April. Therefore at 3am DST the clocks are put back by one hour. The local time then goes in line with 2am EST.