

ES7 Network Price Guide

July 2025



Document and Amendment History

Version	Date	Approved By	Summary of changes
1.0	April 2019	Network Pricing Manager	The document is updated to incorporate all the changes from our Tariff Structure Statement approved by the AER in April 2019.
1.1	July 2019	Network Pricing Manager	Published on the website.
1.2	September 2019	Network Pricing Manager	Clarifying notes added to Section 2.
1.2.1	December 2019	Network Pricing Manager	Clarifying notes added to Section 3.
1.2.2	September 2022	Network Pricing Manager	Updates to controlled load switching times and contact email addresses.
1.2.3	February 2023	Network Pricing Manager	Updates to estimating usage for new business customers, definitions of NUOS and small/large customers, and temporary supply tariff arrangements.
1.3	July 2024	Network Pricing Manager	Amendments for the approved FY2025-29 Tariff Structure Statement
1.4	July 2025	Network Pricing Manager	Amendments for year 2 of the FY2025-29 Tariff Structure Statement.

Disclaimer

This document has been prepared by Ausgrid in good faith to explain the application of our tariffs.

The information 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
- government and industry regulation

Application of this document to particular users depends on 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 Revised Regulatory Proposal for the 2024-29 regulatory period and Ausgrid's Annual Pricing Proposal. These documents are available from www.aer.gov.au or <a href="http://www.aer.gov.au"

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

- 1. Ausgrid's Revised Regulatory Proposal for the 2024-29 period
- 2. The relevant annual Pricing Proposal
- 3. This Network Price Guide

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Feedback

Information on Ausgrid's tariffs and policies is available from: https://www.ausgrid.com.au/Industry/Regulation/Network-prices.

We invite our customers, retailers and other stakeholders to provide feedback on this document by sending comments and suggestions to pricing@ausgrid.com.au

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1 Introduction

1.1 Overview of network pricing documents

This document is Ausgrid's Network Price 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 current Pricing Proposal and Tariff Structure Statement.

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 <u>www.aer.gov.au</u>.

Ausgrid submitted a revised Tariff Structure Statement in November 2023 for the period 2024-2029 as required under the National Electricity Rules (NER). It explains Ausgrid's proposed approach to setting tariffs and indicates how the structure and level of tariffs may change over the regulatory period. On 30 April 2024, the AER approved Ausgrid's Tariff Structure Statement to apply from 1 July 2024.

Every year Ausgrid is required to submit a pricing proposal to the AER. The pricing proposal sets out Ausgrid's proposed tariffs and demonstrates how the proposed tariffs comply with Chapter 6 of the National Electricity Rules.

Ausgrid's Tariff Structure Statement is available at <u>www.ausgrid.com.au/Industry/Regulation/Network-prices</u>. For more information on the distribution pricing arrangements under the National Electricity Rules, refer to <u>www.aemc.gov.au</u>.

Ausgrid's current Pricing Proposal was developed in accordance with the requirement set out in the Tariff Structure Statement approved on 30 April 2024. 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/Industry/Regulation/Network-prices.

2 Assigning and reassigning 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 reassigning 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 <u>www.aer.gov.au</u> or <u>www.ausgrid.com.au</u>. 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 reassigning existing customers to another NUOS tariff involves two aspects:

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

Both aspects of Ausgrid's tariff assignment and reassignment 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 eligibility criteria and procedure are also explained in Table 2.1 and Figure 2.1.

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

Tariff Class	Naturo of Usago	Nature of Co	= 04	
	Nature of Usage	Metering	Voltage	Figure 2.1. Overview of
Low Voltage	Residential or Business		230V/400V	NUOS tariff class
High Voltage	Business		5kV, 11kV, 22kV	assignment
Sub- transmission	Business	Metered	33kV, 66kV, 132kV	procedure
Transmission	Business		Applicable to any site that is connected to the electricity transmission network.	
Unmetered	Business	Unmetered	230V/400V	



2.1.2 Primary NUOS tariff assignment

The eligibility criteria underlying Ausgrid's procedure for assigning new retail customers to default 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
	Residential	All	4	EA116 Residential demand
		< 80 MWh per annum	4	EA256 Small business demand
		60-160 MWh per annum	4	EA302 LV 80-160 MWh
	Business	160-750 MWh per annum and not an embedded network	≤ 3	EA305 LV 160-750 MWh (System)
Low Voltage		160-750 MWh per annum and an embedded network	≤ 3	EA314 LV 160-750 MWh (embedded network)
		> 750 MWh per annum and not an embedded network	≤ 3	EA310 LV >750 MWh (system)
		> 750 MWh per annum and an embedded network	≤ 3	EA315 LV >750 MWh (embedded network)
High Voltage	Business	Not an embedded network	≤ 3	EA370 HV Connection (system)
riigh voltage	Business	Embedded network	≤ 3	EA365 HV Connection (embedded network)
Sub- transmission	Business	All	≤ 3	EA390 ST Connection (system)
Unmetered	Business	All	-	EA401 Public Lighting EA402 Constant Unmetered EA403 EnergyLight

New Low Voltage 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.

New residential customers are assigned to the EA116 Residential demand tariff, with the option to be reassigned to EA025 Residential TOU tariff. This option can be exercised after at least one full calendar month of billing. New non-residential customers with an estimate annual usage of 80 MWh or less will be assigned to the EA256 Small business demand tariff, with the option to be reassigned to the EA225 Small business TOU tariff. This option can be exercised after at least one full calendar month of billing.

New or existing non-residential customers with annual usage between 80 and 160 MWh per annum and more than 100 kW of peak demand will also be assigned to the EA256 Small business demand tariff, with the option to be reassigned to the EA225 Small business TOU tariff. This option can be exercised after at least one full calendar month of billing.

New LV business customers who do not satisfy the above requirements will be placed on the appropriate capacity based tariff (EA302, EA305, EA310, EA314 or EA315) as determined by their estimated annual consumption and status as an embedded network (see section 3.8.2).

If the annual review process identifies that a customer has changed its consumption and is no longer eligible for their existing tariff, they will be transferred to the correct tariff as part of an annual review process.

2.2 Tariff reassignment for customers changing meter

Table 2.3 describes assignment for customers who change their meter to a Type 4 smart meter, depending on whether the customer chooses the meter change or the change is due to meter failure, including a network-driven meter replacement. Since December 2017, under the Australian Energy Market Commission's Power of Choice set of regulations, any installed new or replacement meter must be a Type 4 smart meter.

Table 2.3. Existing	g customers – reassi	gnment to tariffs a	after meter change	after 1 July	y 2024
					-

Meter change	Customer type	Existing tariff	Tariff after meter change	Options [#]
	Residential	EA010	EA116 – Residential demand	EA025 – Residential TOU
Due to customer-		EA025	EA025 – Residential TOU	EA116 – Residential demand
action	Small business	EA050	EA256 – Small business demand	EA225 – Small business TOU
		EA225	EA225 – Small business TOU	EA256 – Small business demand
	Residential	EA010	EA111 – Residential demand (introductory) for 12 months then EA116 – Residential demand	EA116 – Residential demand EA025 – Residential TOU
Due to meter failure or upgrade		EA025	EA025 – Residential TOU	EA116 – Residential demand
	Small business	EA050	EA251 – Small business demand (introductory) for 12 months then EA256 – Small business demand	EA256 – Small business demand EA225 – Small business TOU

	EA225	EA225 – Small business TOU	EA256 – Small business demand

[#] The options can be exercised after at least one full calendar month of billing. Only one reassignment per 12 months is allowed.

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, including when customers:

- 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.
- 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 reassigning 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 12 months.

Ausgrid is required to notify the retail customer or their retailer prior to the proposed network tariff reassignment occurring.

This notice will include:

- NMI
- · Existing network tariff
- New network tariff
- The reason for the decision to re-assign retail customer to a new tariff.

Ausgrid's procedure for reviewing objections or complaints of this type can be found on our website <u>https://www.ausgrid.com.au/Industry/Regulation/Network-prices</u>.

If an objection is not satisfactorily resolved under Ausgrid's internal dispute resolution process within a reasonable timeframe, the customer is entitled to escalate the matter to the NSW Energy and Water Ombudsman (EWON) if they are a small retail customer and resolution of such disputes is within the jurisdiction of EWON. If the objection is not resolved to the satisfaction of the retail customer under Ausgrid's internal dispute resolution process or EWON, the retail customer is entitled to seek a decision of the AER via the dispute resolution process available under Part 10 of the National Electricity Law (NEL).

If an objection to a network use of system tariff assignment or reassignment is upheld by the AER, then any adjustment which needs to be made to tariffs will be done by Ausgrid as part of the normal billing process, inclusive of any compensation relating to the time value of money.

Figure 2.3 summarises assignment for residential customers from 1 July 2025. Figure 2.4 summarises assignment for non-residential customers with up to 80 MWh usage per annum.





Note: The tariff options can be exercised after at least one full calendar month of billing. Only one reassignment per 12 months is allowed.



Figure 2.4. Assignment for small business customers for FY2026

Note: The tariff options can be exercised after at least one full calendar month of billing. Only one reassignment per 12 months is allowed.

2.2.2 Tariff change request application

Retailers may apply on behalf of a customer to be reassigned 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 reassign a customer to another NUOS tariff.

All tariff change request applications should be made via the B2B Supply Service Works Service Order – Tariff Change by the customer's retailer.

Ausgrid reserves the right to not process any B2B Supply Service Works Service Order – Tariff Change for missing or incomplete data. It should be noted that:

- Ausgrid will process a B2B Supply Service Works Service Order Tariff Change from a retailer if the site has at least 12 months of energy consumption history.
- Ausgrid will process a B2B Supply Service Works Service Order Tariff Change from a retailer if the
 application relates to a customer that has not previously applied to be reassigned 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 reassigned to an individually calculated tariff must be submitted prior to 30 September for the new tariff to apply from 1 July, to allow sufficient time for Ausgrid to calculate an appropriate distribution loss factor for the tariff. Ausgrid is required under Chapter 6 of the National Electricity Rules to submit forecast Distribution Loss Factors to the AER each March.
- If approved, Ausgrid will reassign the customer to the new NUOS tariff from the start of the current billing
 period that the Supply Service Works Tariff Change service order is received within or the scheduled
 date provided in the Supply Service Works Tariff Change service order. The guidelines below will be
 used when determining the application of the tariff change effective date:
 - Tariff changes for type 4 (or better) meters where the existing tariff code usage is less than 80MWh and the proposed tariff code usage is less than 80MWh will be processed from the service order scheduled date
 - Tariff changes for type 4 (or better) meters where the existing tariff code usage is less than 80MWh and the proposed tariff code usage is greater than or equal to 80MWh will be processed from the start of the current billing period
 - Tariff changes for type 4 (or better) meters where the existing tariff code usage is greater than or equal to 80MWh will be processed from the start of the current billing period irrespective of the proposed tariff
 - Tariff change for type 5 meters will be processed from the start of the current billing period.
- 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 follow the process set out in this
 price guide.

For rejected service orders or re-classification requests please complete Appendix A and email <u>nemsrpops@ausgrid.com.au</u>

2.2.3 Notice of proposed assignments and reassignments and rights of objection

Ausgrid is required to follow the tariff class assignment and reassignment procedure as part of the AER's Final Decision for the 2025-29 regulatory period. The key elements of the procedure for assigning or reassigning customers to another tariff class are set out below.

Ausgrid is required to notify the retail customer's retailer in writing or through the appropriate B2B processes prior to the reassignment of the site to another tariff class. This notice will advise the retailer of the following:

- The retailer may request further information from Ausgrid.
- The retailer or the retail customer may object to the proposed reassignment to another tariff class.
- A copy of Ausgrid's internal procedure for reviewing objections or complaints, or a link to Ausgrid's website.
- If an objection is not satisfactorily resolved under Ausgrid's internal dispute resolution process within a reasonable timeframe, the customer is entitled to escalate the matter to the NSW Energy and Water Ombudsman (EWON) if they are a small retail customer and resolution of such disputes is within the jurisdiction of EWON.
- If the objection is not resolved to the satisfaction of the retail customer under Ausgrid's internal dispute resolution process or EWON, the retail customer is entitled to seek a decision of the AER via the dispute resolution process available under Part 10 of the National Electricity Law (NEL).

If Ausgrid receives a request for further information from a retail customer in response to the issuance of the notice, then it must provide such information within a reasonable timeframe.

If a retail customer or their retailer makes an objection to Ausgrid about the proposed assignment or reassignment to another tariff class, Ausgrid must reconsider the proposed assignment or reassignment. In doing so, Ausgrid must take into consideration the tariff assignment factors and notify the retail customer's retailer in writing of its decision and the reasons for that decision.

If an objection to a tariff class assignment or reassignment is upheld, then any adjustment which needs to be made to tariffs will be done by Ausgrid as part of the next annual review of tariffs.

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 the period 2019-2024 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

	ge	ce	Energy Charge						-	
Network Tariff	Network Access Charg	Metering Serv Charge*	Single Anytime	Time-of- Use	Export	Critical peak price	Capacity Charge	Capacity Charge	Demand charge high seasor	
	c/day	c/day	c/kWh	c/kWh	c/kWh	c/kWh	c/kW/ day	c/kVA/ day	c/kW/day	
EA010 Residential flat (Closed)	~	✓	✓							
EA025 Residential TOU	~	\checkmark		✓						
EA111 Residential demand (introductory)	~	\checkmark		✓					~	
EA116 Residential demand	~	\checkmark		✓					~	
EA029 Small customer export tariff		\checkmark			~					
EA030 Controlled Load 1	\checkmark	\checkmark	\checkmark							
EA040 Controlled Load 2	~	\checkmark	✓							
EA050 Small business flat (Closed)	~	\checkmark	✓							
EA225 Small business TOU	~	\checkmark		✓						
EA251 Small business demand (introductory)	~	\checkmark		✓					\checkmark	
EA256 Small business demand	~	\checkmark		✓					\checkmark	
EA302 LV 80-160 MWh (System)	~	✓		✓			✓			
EA305 LV 160-750 MWh (System)	~			✓				~		
EA310 LV >750 MWh (System)	\checkmark			✓				~		
EA314 LV 160-750 MWh (embedded network)	\checkmark			~				~		
EA315 LV >750 MWh (embedded network)	\checkmark			✓				✓		
EA334/EA335 LV storage	\checkmark			✓		~				
EA370 HV Connection (System)	\checkmark			✓				✓		
EA374/EA375 HV storage	\checkmark			\checkmark		\checkmark				
EA390 ST Connection	\checkmark			✓				~		
EA394/EA395 ST storage	\checkmark			✓		✓				
EA401 Public Lighting			√							
EA402 Constant Unmetered			✓							
EA403 Energy Light			\checkmark							
EA501 Transmission Connected	\checkmark			\checkmark				~		
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. 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 2024, MSC may apply to the following tariffs:

- EA010 Residential flat (Closed)¹
- EA025 Residential TOU
- EA111 Residential demand (introductory)
- EA116 Residential demand
- EA029 Small customer export tariff*
- EA030 Controlled Load 1
- EA040 Controlled Load 2
- EA050 Small business flat (Closed)
- EA225 Small business TOU
- EA251 Small business demand (introductory)
- EA256 Small business demand
- EA302 LV 80-160 MWh
- EA334 LV Storage

*MSC applies to sites where small 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 on MSC.

3.4 Single Anytime energy charges

3.4.1 Applicable tariffs

Single Anytime energy charges apply to the following tariffs:

- EA010 Residential flat (Closed)
- EA030 Controlled Load 1
- EA040 Controlled Load 2
- EA050 Small business flat (Closed)
- EA401 Public Lighting
- EA402 Constant Unmetered
- EA403 Energy Light

¹ A 'closed' network tariff is closed to new connections. It continues to be available to existing customers or premises that are currently supplied under that tariff.

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 Time of Use (TOU) energy charges

3.5.1 Applicable tariffs

TOU energy charges apply to the following tariffs:

- EA025 Residential TOU
- EA111 Residential demand (introductory)
- EA116 Residential demand
- EA225 Small business TOU
- EA251 Small business demand (introductory)
- EA256 Small business demand
- EA302 LV 80-160 MWh
- EA305 LV 160-750 MWh (system)
- EA310 LV >750 MWh (system)
- EA314 LV 160-750 MWh (embedded network)
- EA315 LV >750 MWh (embedded network)
- EA365 HV connection (embedded network)
- EA370 HV connection (system)
- EA390 ST connection
- EA501 Transmission Connected
- Individually Calculated Tariffs (ICT) excluding storage facilities

3.5.2 TOU energy charge details

A TOU energy charge is a price charged (in cents per kWh) for energy consumed during specific time periods. Time periods take into account daylight saving time. Appendix G has a detailed explanation of daylight saving time.

From 1 July 2024, seasonal TOU pricing applies as approved by the AER. The time period definitions used in the charging parameters for the TOU energy consumption charge for residential customers are summarised in Table 3.2.

Time period	Time period definition
Peak period	 From 3 pm to 9 pm on all days during 1 November to 31 March (inclusive) – the 'summer months' From 3 pm to 9 pm on all days during 1 June to 31 August (inclusive) – the 'winter months'.
Off-peak period	All other times that are not Peak.

Table 3.2. Energy consumption charge: TOU charging windows for residential customers

Note: All times take into account daylight saving during the period gazetted by the NSW Government, generally from 3 am on the first Sunday in October to 2 am on the first Sunday in April.

The time period definitions used in the charging parameters for the TOU energy consumption charge for small business, medium to large low voltage, high voltage and sub-transmission customers are summarised in Table 3.3.

Table 3.3. Energy consumption charge: TOU charging windows for small business, me	dium to
large Low Voltage, High Voltage and Sub-transmission customers	

Time period	Time period definition
Peak period	 From 3 pm to 9 pm on working weekdays during 1 November to 31 March (inclusive) – the 'summer months' From 3 pm to 9 pm on working weekdays during 1 June to 31 August (inclusive) – the 'winter months'.
Off-peak period	 All other times that are not Peak: 9 pm to 3 pm on working weekdays all year, and 24 hours on all weekends and public holidays all year.

Note: All times take into account daylight saving during the period gazetted by the NSW Government, generally from 3 am on the first Sunday in October to 2 am on the first Sunday in April.

3.6 Export tariff charges

From 1 July 2025, Ausgrid will apply its export tariff for new and existing customers subject to the following assignment criteria:

- Customers must have an approved Ausgrid application for connection with an assigned GENR code; and
- Customers must have either a type 4 or 5 meter installed and be assigned to one of the following primary tariffs: EA025, EA111, EA116, EA225, EA251 or EA256.

The export tariff code is EA029 and will apply to applicable customers as a secondary tariff. The tariff includes both a charge and reward/rebate price that will apply to net metered 'B channel' energy, as dependent on the time of day. The charge applies between 10am and 3pm every day and the reward/rebate applies between 4pm and 9pm every day.

The charge component includes a free threshold where part of the total exported energy in a billing period is exempt from receiving a charge. The amount of the free threshold is 6.85 kWh per number of days in the billing period. For monthly billed customers the amount of the energy exempt from the charge is as follows:

- 212.4 kWh for 31 day months (January, March, May, July, August, October, December)
- 205.5 kWh for 30 day months (April, June, September, November)
- 198.7 kWh for 29 day months (February in a leap year)
- 191.8 kWh for 28 day months (February in all other years)

3.7 Demand charges

3.7.1 Applicable tariffs

Demand charges apply to the following tariffs:

- EA111 Residential demand (introductory)
- EA116 Residential demand
- EA251 Small business demand (introductory)
- EA256 Small business demand

3.7.2 Demand charge details

Demand charges are based on the monthly maximum amount of electricity consumed by a customer in any half hour interval in the demand window. The time period definitions used in the charging parameters for the demand charge for residential customers are summarised in Table 3.4.

Table 3.4. Dema	and charge: ch	arging windows	for residential	customers
	and onlarge. On	arging minaons		oustonie s

Demand window	Time period definition
High season (8 months)	 From 3 pm to 9 pm on all days during 1 November to 31 March (inclusive) – the 'summer months' From 3 pm to 9 pm on all days during 1 June to 31 August (inclusive) – the 'winter months'.
Low season (4 months)	No demand charge applies

The time period definitions used in the charging parameters for the demand charge for small business customers are summarised in Table 3.5.

Demand window	Time period definition
High season (8 months)	 From 3 pm to 9 pm on working weekdays during 1 November to 31 March (inclusive) – the 'summer months' From 3 pm to 9 pm on working weekdays during 1 June to 31 August (inclusive) – the 'winter months'.
Low season (4 months)	No demand charge applies

Table 3.5. Demand charge: charging windows for small business customers

*Small business is a non-residential customer with up to 80 MWh usage pa.

3.8 Capacity charges

3.8.1 Applicable tariffs

Capacity charges apply to the following tariffs:

- EA302 LV 80-160 MWh (system)
- EA305 LV 160-750 MWh (system)
- EA310 LV >750 MWh (system)
- EA314 LV 160-750 MWh (embedded network)
- EA315 LV >750 MWh (embedded network)
- EA365 HV connection (embedded network)
- EA370 HV connection (system)
- EA390 ST connection
- EA501 Transmission connected
- Individually Calculated Tariffs (ICT) excluding storage facilities

3.8.2 Capacity charge details

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 period between 3 pm and 9 pm 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

The time period definitions used in the charging parameters for the capacity charge for medium to large low voltage, high voltage and sub-transmission system business customers are summarised in Table 3.6.

Table 3.6. Capacity charge: windows for medium to large Low Voltage, High Voltage, Subtransmission and Transmission business customers

Capacity window	Time period definition
All year round	• From 3 pm to 9 pm on working weekdays.

*Medium to large Low Voltage business customer is a non-residential customer with more than 40 MWh usage pa.

The billable maximum capacity is based on the billing periods that relate to the previous 12 months including the current billing period.

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.

3.8.2.1 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 maximum demand that occurred between 3 pm and 9 pm on a working weekday exceeds the existing billable maximum capacity then a new, higher billable maximum capacity occurs. In the above example this occurs in August 2018 and April 2020.

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 demand that occurred between 3 pm and 9 pm on a working weekday recorded in the preceding 12 month period. In the above example this occurs in August 2019, and in April, June and July 2021.

3.8.2.2 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 Network Pricing

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.

Manager. It is Ausgrid policy to apply arithmetic demand across monthly meter data streams for capacity charging purposes. In the case of two or three phase supply at a connection point, coincident demand is applied across the phases to determine the maximum demand.

3.8.2.3 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 12 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 demand that would occur between 3 pm and 9 pm on a working weekday 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 apply 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: capreset@ausgrid.com.au.

3.8.2.4 Embedded network tariffs

Network tariffs EA314, EA315, and EA365 apply to embedded network 'parent' NMIs as defined in the AEMO Market Settlements and Transfers System (MSATS). The additional assignment criteria for each embedded network tariff are as follows:

- low voltage connections using between 160 and 750 MWh per annum (EA314);
- low voltage connections using above 750 MWh per annum (EA315); and
- high voltage connections (EA365).

3.8.2.5 Retail transfers

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

- a full 12 months of history of maximum demand that occurred between 3 pm and 9 pm on a working weekday (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 by emailing: <u>transfers@ausgrid.com.au</u>.

3.8.2.6 Network tariff advice – shifting demand and power factor correction

Customers can minimise their billable maximum capacity level by shifting demand from the period between 3 pm and 9 pm on a working weekday to other time periods.

Customers on a kVA capacity charge can also minimise their billable maximum capacity level by improving the overall power factor of the installation between 3 pm and 9 pm on a working weekday. For further information on power factor correction customers can contact Ausgrid or consult the power factor information at <u>www.ausgrid.com.au</u>.

3.9 Critical peak energy charges (storage tariffs)

Network tariff EA334/EA335⁴ applies to low voltage connected storage facilities and EA374/EA375 applies to high voltage connections. Customers on these network storage tariffs will receive critical peak energy charges. Critical peak event notifications will be provided to retailers by email at least 24 hours prior to the event period occurring. The duration of each event will be defined by Ausgrid in the event notification. No more than 40 hours of events will be called in any financial year.

Network tariff EA394/EA395 applies to storage facilities connected to the sub-transmission network and does not have event notifications. The critical peak energy charges are triggered if the energy required for charging or discharging exceeds the local network reliability measure.

3.10 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 on 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 available from <u>www.ausgrid.com.au</u>.

3.11 Additional tariff specific information

3.11.1 Individually calculated tariffs (ICT)

Customers currently on a published NUOS tariff that have network usage that is greater than 10 MW or 40 GWh per annum will be assigned to an Individually Calculated Tariff (ICT). This reassignment will be notified to the customer 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 loss factor for this customer, and to calculate site specific TUOS charges.

Ausgrid can reassign customers on ICTs whose network usage permanently fell below 10 MW or 40 GWh per annum to an appropriate listed tariff unless provided otherwise in the connection agreement with this customer. This reassignment will be notified to the customer prior to 30 September in the financial year preceding the financial year from which the ICT will cease to apply.

Individually calculated tariffs can also be offered to customers expected to satisfy the threshold criteria in the near future. A customer application must be submitted to Ausgrid prior to 30 September in the financial year preceding the financial year from which the proposed ICT will apply.

3.11.2 Controlled load tariffs

Controlled load tariffs are secondary tariffs. More detailed criteria and general requirements for Controlled load tariffs are in Appendix B.

3.11.3 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 shown in Table 3.7.

Table 3.7. Meters at temporary supplies

Capacity of service*	Network Price	
Less than 100 A	EA256 Small business demand	
Greater than or equal to 100 A	EA302 LV 80-160 MWh	

⁴ Storage tariffs have two tariff codes, one for imported energy and one for exported energy.

*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) must 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 Connection Policy – Connection Charges.

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, 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.

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.
Business customer	Refer to Non-residential customer
Charging parameter	Pricing component that makes up a tariff.
Cost Reflective Network Price	Refer to 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
Demand charge	A charge applied to the maximum KW demand in any half hour interval in the peak period in an applicable month.
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
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 (NAC).
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	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).
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 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 reliability measure	Available network capacity at a specific connection point in the Ausgrid network and applied in the calculation of sub-transmission storage tariff charges.
Network services	Transmission service or distribution service associated with the conveyance, and controlling the conveyance, of electricity through the network.
New customer	A newly energised connection, i.e., a connection that is energised on or after 1 July 2024. A customer that does not satisfy the definition of an existing customer.
Non-residential customer	A customer that does not satisfy the definition of a residential customer. Strata house lights and common areas are classified as non-residential customers.
NUOS	Network Use of System price, which is composed of DUOS, TUOS, and jurisdicational scheme prices.
Phase	As defined in the Service and Installation Rules of New South Wales August 2012.
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. 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 customer	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	
Small business customer	A non-residential customer with less than 80MWh of usage per year.	
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).	
Tariff	The monetary value assigned to individual charging parameters (i.e. cents per kWh, cents per kVA/kW per day 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.	
Transmission-connected sites	Customers that are connected to the electricity transmission network.	
TUOS	Transmission Use of System	
Type 4 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 remotely read by the metering data provider appointed by the customer's retailer. Also known as smart meters with remote communication capabilities.	
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	



Appendix A – Network Tariff and Threshold Change Application Form

Network Tariff and Threshold	d Change Application Form
Customer / Business Name:	
NMI	
Street Number Street Name	
City/Town	
Postcode	
Additional Site Information:	
Customer Email Address	
Name	
Signed (Customer)	
1. NMI Load/Consumption: Tick I the box of the ap	oplicable load (Mandatory)
□ Below 80MWh p.a. □ Between 80 and 160 MWh p.a. □	Between 160 and 750 MWh p.a.
2. Network Tariff: Tick I the box of the requested tariff	
2A. EA025 Residential TOU	The customer confirms this NMI has annual energy consumption below 160 MWh for residential use and requests the Residential TOU network price
2B. EA116 Residential Demand	The customer confirms this NMI has annual energy consumption below 160 MWh for residential use and requests the Residential Demand network price.
2C. 🗆 EA225 Small Business TOU	The customer confirms this NMI has annual energy consumption below 80 MWh for business use and requests the
2D.	The customer confirms this NMI has annual energy consumption below 80 MWh for business use and requests the Small Business Demand network price.
2E. 🗖 EA302 LV 80-160 MWh	The customer confirms this NMI has annual energy consumption of between 80 MWh and 160 MWh and requests the LV 80-160 MWh
2F. □ EA305 LV 160-750 MWh	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. □ EA310 LV >750 MWh	The customer confirms this NMI has annual energy consumption of more than 750 MWh and requests the LV >750 MWh network price
2H. Cost Reflective Tariff	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.
2I. EA501 Transmission Connected	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 I 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 maximum demand.

Reason for the capacity reset:

.....

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

4. Re-Classification: Tick I the box of the requested re-classification

4A. NMI Re-Classification

□ Small Where consumption over the last 12 months is below 100MWh

Large Where consumption over the last 12 months is 100MWh

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

❑ Low
 ❑ High
 Where consumption over the last 12 months is below 100MWh
 ❑ High
 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:		
Title:	Signed (Retailer)		
Date://	E-mail:		
Postal Address:			
City / Town: Postcode:			
Additional information: (optional)			

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

EMAIL requests to ntc@ausgrid.com.au

The correct email address must be used. If a request is sent to the incorrect email address, Ausgrid cannot guarantee a response.

B.1 Tariff criteria

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

- EA010 Residential flat (closed)
- EA025 Residential TOU
- EA111 Residential demand (introductory)
- EA116 Residential demand
- EA050 Small business flat (closed)
- EA225 Small business TOU
- EA251 Small business demand (introductory)
- EA256 Small business demand
- EA302 Low Voltage 80-160 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 time period definitions for the two controlled load tariffs are summarised in Table B.1.

Controlled load	Time period definition
EA030 Controlled load 1	The EA030 Controlled Load 1 tariff is available for supply that is usually connected for at least six hours duration within any 24 hour period: midnight to midnight. Controlled Load 1 switching times may be varied at the discretion of Ausgrid.
EA040 Controlled load 2	The EA040 Controlled Load 2 tariff is available for supply that is usually connected for at least sixteen hours duration within any 24 hour period: midnight to midnight, including at least four hours between 7 am and 5 pm. Controlled Load 2 switching times may be varied at the discretion of Ausgrid.

Table B.1. Controlled load time	periods for residential and	I small business customers
	perious for residential and	

B.2 General requirements

B.2.1 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 in the ES1 document.

B.2.2 Prohibition of changeover switch, or interconnection between primary and secondary tariffs

Any changeover 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 using a Time of Use primary tariff.

B.2.3 Noise considerations

Relevant noise regulations should be considered 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 Environment Protection Agency.

B.3 Hot water systems (electric water heaters)

B.3.1 Electric element 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 Table B.2.

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 315L to less than 630L**	4.8*	4.8*	
630L or greater	Required to heat in 9 hours	Determined by Ausgrid	

Table B.2. Eligibility criteria for Controlled Load 1 and 2 tariffs

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

**The Controlled Load 1 eligibility criteria for cylinders above 315 litres do not guarantee a full reheat in a single 6 hour minimum recharge period, it is for the customer to check that their overall hot water consumption pattern is compatible with the Controlled Load 1 conditions

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

B.3.2 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 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 deg C) at least 100 litres in 6 hours.

B.3.3 Special conditions for retirement villages and similar accommodation

Table B.3 sets out the reduced minimum rated hot water delivery levels for self-contained and separately metered accommodation.

Table B.3. Eligibility conditions for retirement homes

.4	Maximum Number of	Minimum Rated Hot Water Delivery		
	Occupants in Premises	Controlled Load 1	Controlled Load 2	Minimum Rating
	One	80 litres	80 litres	3.6kW
	Тwo	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.
 - o The combined rating of the heating element must 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.)

B.3.5 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.

B.3.6 Existing water heaters

B.3

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.

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 use the same element rating as the previous unit provided that the volume of the unit remains the same.

B.3.7 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.

B.4 Electric vehicles

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; or alternatively where an electric vehicle special plug/ socket arrangement – example SAE J1772 (non-standard plug/socket outlet) is used on the vehicle end and on the charging equipment, with a special cable to connect the vehicle to the charger.

B.5 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 to alert a service technician or new owner/occupier 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.

B.6 Implementation of controlled load switching in Type 4 meters

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 functionality can be realised with smart time-switch functionality delivered by independent, AEMO accredited Metering Providers.

All sites with load control must comply with the conditions below:

- (a) the obligations of "Safe Operation of Load Control Relay" (set out below) are accepted;
- (b) the Service Levels as described below under "Smart Time Switch requirements" are met; and

(c) the metering installation complies with Ausgrid's Network Documents ES 3 Metering Installation Requirements Part A, and ES 12 Metering Contestability.

Deviation from these requirements is not permitted unless agreed to in writing by Ausgrid. If the conditions are not met, then Ausgrid may withdraw permission for a load control tariff at the site.

B.6.1 Safe operation of load control relay

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

- (Un) of 207V 264V and (fn) of 49-51Hz
- Temperature: -10°C to +55°C and Relative humidity of annual mean of <75 % with individual days up to 95%
- (Uc) Rated Breaking Voltage 276V
- (Ic) 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.

B.6.2 Smart time switch requirements for Type 4 meters

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 load control schedule. The load control schedule shall be re-configurable over-the-air.
- 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 requirement is that the Metering Coordinator / Metering Provider shall make the functionality available when requested by the Network. 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.

B.6.3 Ausgrid specific load control schedules for Type 4 meters

The required load control schedule for Type 4 meters implementing network tariffs EA030 Controlled Load 1 and EA040 Controlled Load 2 are summarised in Table B.4.

- Clock accuracy shall maintain ±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.

B.6.4 Transition period for the Controlled Load 1 solar-soak schedule

A transition period is established to support compliance with the updated load control schedule for Type 4 meters implementing network tariffs EA030 Controlled Load 1 (as shown in Table B.4 below) from 1 July 2024.

The following guidance to comply to the requirements of Controlled Load 1 for existing Type 4 meters and new Type 4 meter installations from 1 July 2024 are outlined below:

- New meter installations to be set to load schedule in Table B.4. for Controlled Load 1 by 3 months from 1 July 2024.
- Existing meter installations set to load schedule in Table B.4. for Controlled Load 1 by 6 months from 1 July 2024.

The default controlled 1 schedule (solar soak) only applies to type 4 smart meters and customers who have Type 6 meters (with ripple receivers or time-switches) will be unaffected these changes, until they have a smart meter installed.

 Table B.4. Load control schedule for Type 4 meters (In this table – unless otherwise noted all times are in EST to match meter programming)

Switching Program	Load Control Schedule Controlled Load 1 (EA030)	Load Control Schedule Controlled Load 2 (EA040)
Winter	1st Sun Apr – 1st Sun Oct ON at 22:00 OFF at 6:45 ON at 10:00 OFF at 16:45 Randomised delay ON 210 min OFF 15 min	1st Sun Apr – 1st Sun Oct ON at 20:00 OFF at 17:00 Randomised Delay ON 180 min
Spring	1st Sun Oct – 1 Nov ON at 21:00 (22:00 DST) OFF at 4:15 (5:15 DST) ON at 9:00 (10:00 DST) OFF at 15:45 (16:45 DST) Randomised delay ON 210 min OFF 15 min	1st Sun Oct – 1 Nov ON at 19:00 (20:00 DST) OFF at 16:00 (17:00 DST) Randomised Delay ON 180 min
Summer	1 Nov - 1st Sun Apr ON at 21:00 (22:00 DST) OFF at 5:45 (6:45 DST) ON at 9:00 OFF at 13:30 Randomised Delay ON 180 min OFF 15 min	1 Nov – 1st Sun Apr ON at 19:00 (20:00 DST) OFF at 14:00 (15:00 DST) Randomised Delay ON 180 min

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:
 - o the small magnitude of the load;
 - o 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 <u>www.ausgrid.com.au</u>.

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 load can be classified as "market" or "non-market". The difference is that "market" loads have had their energy consumption independently assessed and registered with AEMO (meaning that the customer can have choice of retailer). For "non-market" loads, the retailer can only be the local retailer, which in the Ausgrid network is Energy Australia. To convert from "non-market" to "market" load the customer must follow a set process. Detail can be supplied upon request to pums@ausgrid.com.au.

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

D.1 Metering services

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

- 1. Meter provision the capital costs of purchase of metering equipment;
- 2. Meter maintenance activities to inspect, test, maintain, repair and replace meters;
- 3. 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.

In the 2019-24 regulatory period, these costs were recovered via a separate capital and non-capital component. On 30 April 2024, the AER's final decision for the 2024-29 regulatory period specified that MSC would be recovered as a single uniform rate.

To recover the costs of the above services, from 1 July 2024 a single MSC charge will be recovered from customers who have or have had an Ausgrid type 5/6 meter. This charge includes recovery for items 1-4 listed above and does not split the charge into separate capital and non-capital components.

The applicable tariffs and MSC rates for 2024/25 are shown below.

Tariff type	Applicable network tariffs	2024/25
Residential	EA010, EA025, EA111, EA116	\$26.89
Controlled Load	EA030, EA040	\$8.80
Small Business	EA050, EA225, EA251, EA256	\$37.26
Large Business	EA302	\$54.08
Generator Tariff	See below*	\$12.40

Table D.1: MSC applicable tariffs and 2024/25 price caps (per annum, nominal dollars)

The MSC rates are applied in a cents per day rate and are updated annually. The current rates are available in the Ausgrid network price list (located <u>here</u>).

MSC charges will be applied to all low voltage customers with the following exceptions:

- Customers who use more than 160 MWh (and are not assigned to an applicable network tariff for MSC charges); or
- Customers who paid an upfront charge for metering hardware between 1 July 2015 and 30 March 2018 and have subsequently had a type 4 smart meter installed⁵; or
- Brand new connections with a type 4 meter installed after 30 March 2018.

*Ausgrid also applies a small generator metering charge to applicable sites. The charge applies to small customers who have an approved application to connect for a small-scale solar installation.

⁵ From 1 July 2015 to 30 March 2018, Ausgrid charged an up-front fee to cover metering hardware for all new and upgraded metering connections where the customer required an Ausgrid Type 5 or 6 metering installation. These customers still require metering services 2-4 as described above until they have a type 4 meter installed.

Appendix E – Calculation of Power from interval data

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)	В
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.



E.1 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 <u>30-</u> <u>minute</u> interval:

$$kW = 2 \times E$$

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

Appendix F – Methodology for calculating Avoided TUOS payments

F.1 Background

Under the National Electricity Rules, Ausgrid is required to pay Avoided Transmission Use of System (ATUOS) to eligible Embedded Generators (EG) 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.

F.2 Methodology for calculating ATUOS payment

Ausgrid's methodology for calculating ATUOS payments is based on the maximum demand KW charge applied to the maximum 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.

F.3 ATUOS calculation method – "with and without" method

 $ATUOS = TUOS_{withoutEG} - TUOS_{withEG}$

where:

 $TUOS_{withoutEG} = Demand_Tariff \ X \ Transmission_Peak_Demand_{withoutEG}$

 $TUOS_{withEG} = Demand_Tariff \ X \ Transmission_Peak_Demand_{withEG}$

combining the above:

 $ATUOS = Demand_Tariff X (Transmission_Peak_Demand_{withoutEG} - Transmission_Peak_Demand_{withEG})$

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

Calculation example for Avoided TUOS

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



As outlined in section 5.5 (i) of the Rules, the ATUOS payments are calculated on a 'with and without' basis. For 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 Kirhcoff's Current Law, 'automatically' takes into account the generation at Hypothetical Power Station 1.

Therefore we write:

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

Now apply the TransGrid prices to the Lwith load to determine the Bwith TransGrid bill.

Bwith = Billing of Lwith

For 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 Musswellbrook and the actual generation at Hypothetical Power Station 1. This results in Lwithout because:

LActual + L Powerstation1 = (LTransGrid - LPowerstation1)+L Powerstation1 = LTransGrid = LWithout

Now apply the TransGrid prices to the Lwithout load to determine the Bwithout TransGrid bill.

Bwithout = Billing of Lwithout

The figure below shows the 'With' and 'Without' case half hourly load (selected days). For the 'With' case, demand charges for the actual TransGrid bill are based on the maximum demand visible on 22 December (3rd daily cycle shown). For the "Without" case, demand charges for a hypothetical TransGrid bill are based on the peak load visible on 21 December (2rd daily cycle shown).





Determining the amount payable for avoided TUOS

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

ATUOS amount = B_{Without} - B_{With}

F.4 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 register⁶ 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.

F.5 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_{TransGrid} figure by way of Kirchoff's Current Law.

⁶ AEMO National Metering Identifier Procedure August 2009, p.49.

Appendix G – Daylight Saving Time

The time periods defined in Ausgrid's Network 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.

The exception to this rule is Table B.4 which is in Eastern Standard Time to provide clarity to Meter Providers in programming meter schedules.

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. Customers on Time of Use network prices, but without Rules compliant meters installed, have their meters programmed to adjust automatically to Daylight Saving Time.

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 Daylight Saving Time operates the Meter Data Provider converts the customer's energy consumption to local time for the purpose of calculating consumption in each time period. The Meter Data Provider stores all data in Eastern Standard Time.

G.1 Start and end of Daylight Saving Time

The following convention is used in NSW:

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

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

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

Trial tariffs are implemented to support innovation and are applied as per clause 6.18.1C of the NER .

Ausgrid's current trial tariffs are published within the current price list on our website: <u>https://www.ausgrid.com.au/Industry/Regulation/Network-prices</u>

The AER also publishes distributor trial tariff information on its website: <u>https://www.aer.gov.au/networks-pipelines/network-tariff-reform/tariff-trials</u>

Participation in tariff trials requires a Memorandum of Understanding agreement between Ausgrid and the retailer. For further information please contact pricing@ausgrid.com.au