



DRAFT DECISION
TasNetworks distribution
determination
2017–18 to 2018–19

Attachment 19 – Tariff structure
statement

September 2016

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Note

This attachment forms part of the AER's draft decision on TasNetworks' distribution determination for 2017–19. It should be read with all other parts of the draft decision.

The draft decision includes the following documents:

Overview

Attachment 1 – Annual revenue requirement

Attachment 2 – Regulatory asset base

Attachment 3 – Rate of return

Attachment 4 – Value of imputation credits

Attachment 5 – Regulatory depreciation

Attachment 6 – Capital expenditure

Attachment 7 – Operating expenditure

Attachment 8 – Corporate income tax

Attachment 9 – Efficiency benefit sharing scheme

Attachment 10 – Capital expenditure sharing scheme

Attachment 11 – Service target performance incentive scheme

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Shortened forms

Shortened form	Extended form
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
augex	augmentation expenditure
capex	capital expenditure
CCP	Consumer Challenge Panel
CESS	capital expenditure sharing scheme
CPI	consumer price index
DRP	debt risk premium
DMIA	demand management innovation allowance
DMIS	demand management incentive scheme
distributor	distribution network service provider
DUoS	distribution use of system
EBSS	efficiency benefit sharing scheme
ERP	equity risk premium
Expenditure Assessment Guideline	Expenditure Forecast Assessment Guideline for Electricity Distribution
F&A	framework and approach
MRP	market risk premium
NEL	national electricity law
NEM	national electricity market
NEO	national electricity objective
NER	national electricity rules
NSP	network service provider
opex	operating expenditure
PPI	partial performance indicators
PTRM	post-tax revenue model
RAB	regulatory asset base
RBA	Reserve Bank of Australia
repex	replacement expenditure

Shortened form	Extended form
RFM	roll forward model
RIN	regulatory information notice
RPP	revenue and pricing principles
SAIDI	system average interruption duration index
SAIFI	system average interruption frequency index
SLCAPM	Sharpe-Lintner capital asset pricing model
STPIS	service target performance incentive scheme
WACC	weighted average cost of capital

Glossary of terms

Term	Interpretation
CoAG Energy Council	The Council of Australian Governments Energy Council, the policy making council for the electricity industry, comprised of Commonwealth, state and territory governments.
Consumption tariff (usage tariff)	A tariff based on energy consumed (measured in kWh) during a billing cycle.
Declining block tariff	A tariff structure in which the per unit price of energy decreases in steps as energy consumption increases past set thresholds.
Demand charge	A tariff component based on the maximum amount of electricity used (measured in kW or kVA), usually falling within a defined charging window or at any given time, and usually reset either at the end of a month or a billing cycle.
Demand tariff	A form of tariff that incorporates a demand charge component.
Fixed charge	A tariff component usually based on a per day fixed price amount for connection to the network.
Flat tariff	A tariff incorporating a per unit consumption charge that does not vary regardless of how much electricity is consumed or when consumption occurs.
Flat usage charge	A per unit consumption charge that does not vary regardless of how much electricity is consumed or when consumption occurs.
Inclining block tariff	A tariff structure in which the per unit price of energy increases in steps as energy consumption increases past set thresholds.
Interval meter	A meter capable of measuring electricity usage in specific time intervals, such as 30 minute blocks.
LRMC	Long Run Marginal Cost. Defined in the National Electricity Rules as follows: <i>"the cost of an incremental change in demand for direct control services provided by a Distribution Network Service Provider over a period of time in which all factors of production required to provide those direct control services can be varied".</i>
Minimum demand charge	Where a customer is charged for a minimum level of demand during the month or billing period, irrespective of whether their actual demand reaches that level.
NEO	The National Electricity Objective, defined in the National Electricity Law as follows: <i>"to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to—</i> <i>(a) price, quality, safety, reliability and security of supply of electricity; and</i> <i>(b) the reliability, safety and security of the national electricity system".</i>
Network pricing objective	The network pricing objective is that the tariffs that a distributor charges in respect of its provision of direct control services to a retail customer should reflect the distributor's efficient costs of providing those services to the retail customer.
NER, the Rules	National Electricity Rules.
Smart meter	A digital meter which records consumption in short intervals such as 30 minute blocks and is capable of being read remotely. May facilitate other services (e.g. in-home information display; load control).
Tariff	A tariff is levied on a customer in return for use of an electricity network. A single tariff may comprise one or more separate charges, or components.

Tariff assignment policy	Policies and procedures a distributor will apply in assigning retail customers to tariffs or reassigning retail customers from one tariff to another.
Tariff class assignment policy	Policies and procedures a distributor will apply in assigning retail customers to tariff classes or reassigning retail customers from one tariff class to another.
Tariff structure	Tariff structure is the shape, form or design of a tariff, including its different components (charges) and how they may interact.
Tariff charging parameter	The manner in which a tariff component, or charge, is determined (e.g. a fixed charge is a fixed dollar amount per day).
Tariff class	A class of retail customers for one or more direct control services who are subject to a particular tariff or particular tariffs.
Time of use tariff	A tariff incorporating usage charges with varying levels applicable at different times of the day, days of the week, or seasons. A time-of-use tariff will have defined charging windows in which these different usage charges apply. These charging windows might be labelled the 'peak' window, 'shoulder' window, and 'off-peak' window.
Usage charge	A tariff component based on energy consumed (measured in kWh). Usage charges may be flat, inclining with consumption, declining with consumption, variable depending on the time at which consumption occurs, or some combination of these.

19 Tariff structure statement

This attachment sets out our draft decision review on TasNetworks' initial tariff structure statement for the 2017–19 regulatory control period.

Tariff structure statements are a new element of distribution determinations. A tariff structure statement must include a number of specific elements such as a description of a distributor's proposed tariff structures, the tariff classes to which customers will be assigned, the procedures for how customers will be assigned to a tariff, the tariff design and an indicative pricing schedule.¹ The approved tariff structure statement will apply to a distributor's tariffs for the duration of the regulatory control period.

Tariff structures must comply with the National Electricity Rules' (NER) distribution pricing principles.² These principles require distributors to set cost reflective tariffs but also take account of customer impacts and the need for transition periods.

The distribution pricing principles are not prescriptive. They do not specify particular tariff structures or transitional arrangements. As a range of approaches can comply with the distribution pricing principles, we do not seek to enforce a single approach.

Nonetheless, tariff structure statements are not open to distributors to adopt any approach. We do wish to see movement towards more cost reflective tariffs, taking into account customer impacts. This is what the distribution pricing principles require.

The requirement for a distributor to develop a tariff structure statement follows a process of reform to the NER governing distribution network pricing. The purpose of the reform was to establish network tariffs which better reflect the costs incurred by electricity networks² in providing regulated network services. Those costs are driven by customer decisions to use electricity at specific times or locations. Setting tariffs at cost reflective levels will help consumers make better decisions about their usage.

Historically network tariffs have not varied according to the time when electricity is used. As such, they do not accurately reflect (marginal) network costs which are primarily driven by peak demand on the network at key points in time, not by total usage over a period of time. Most existing tariffs send price signals that do not inform customers about the costs imposed on distribution networks in peak demand periods.

The introduction of more cost reflective tariffs will allow customers the ability to reduce their bills by shifting their electricity usage away from peak periods. Reducing peak demand means less network capacity will be required to meet future demand. Customers will therefore need to pay for less network infrastructure. This means lower bills over the longer term, all else being equal.

¹ NER, 6.18.1A(a).

² NER, cl. 6.18.5.

Using the new distribution tariffs, electricity retailers will be able to design offers for customers that best meets their needs and support how they want to use electricity—their solar panels, air conditioners, charge their batteries, or electric vehicles. This is likely to result in customers having a choice on the type of tariff available.

Communication to customers will also be important (so that they can understand tariffs and respond), and this is likely to be an ongoing process with retailers playing an important role.

Because tariff structure statements are new, this draft decision incorporates concepts which may be unfamiliar to some readers. We suggest for readers that are either unfamiliar with electricity network regulation and its terminology; or those becoming familiar with tariff structure statements to first read appendix A to this attachment. Appendix A sets out the background to tariff structure statements and provides descriptions of the more commonly used concepts.

19.1 Draft decision

Our draft decision is to not approve the tariff structure statement submitted by TasNetworks in January 2016 because of one element.³ Specifically, we do not consider TasNetworks has demonstrated reasonable consideration of the impact of the proposed increases in fixed charges on high voltage business customers. Therefore we are not satisfied TasNetworks proposed tariff structure statement complies with the distribution pricing principles. We note the proposed increases in the fixed charges for these customers are significant.

Before we approve this element, we require TasNetworks to demonstrate how it has taken into consideration the impact on these customers.

However, we approve all other elements of TasNetworks tariff structure statement. We are satisfied that TasNetworks' tariff structure statement incorporates each of the required elements.⁴ These are:

- tariff classes
- policies and procedures for assigning customers to tariffs
- tariff structures
- tariff charging parameters
- the approach taken in setting tariffs, and
- indicative pricing schedules.

Apart from the proposed increases in fixed charges on high-voltage business customers, we are satisfied all other elements of TasNetworks tariff structure

³ NER, cl. 6.12.1(14A).

⁴ NER, cl. 6.18.1A(a).

statement contributes to the achievement of compliance with the distribution pricing principles.

We approve of the introduction of time of use demand tariffs for residential and low voltage business customers.

We are satisfied that the time of use demand tariffs are more cost reflective than existing consumption based tariffs and therefore contribute to the achievement of compliance with distribution pricing principles.

We approve the proposal to introduce the demand tariffs, initially, as an opt-in tariff for customers. We also approve the continuation of existing tariffs in their current structure for at least the 2017–19 regulatory control period. We note both TasNetworks and stakeholders considered this to be a prudent approach, to avoid any sudden price impacts (price shocks) for customers. While we consider this approach to lead to slower progress toward cost reflective pricing compared to other possible approaches, it would still contribute to compliance with the distribution pricing principles. We expect the TasNetworks will move towards more cost reflective approaches in its subsequent tariff statements. This would be enabled by more information from customers with smart meter data.

We approve of TasNetworks proposed realignment of specific tariffs to remove long standing cross subsidies between different customer groups. We are satisfied that there is no apparent differentiation in customer type or load characteristics for these tariffs and therefore removing these cross subsidies is an appropriate movement along the cost reflectivity spectrum and contributes to the achievement of compliance with the distribution pricing principles. We would expect the long run marginal costs to be consistent across these customer groups. There were no economic reasons presented for why one customer group should bear more residual costs than another.

Generally we approve TasNetworks proposal to rebalance its tariffs, such that there is more emphasis on the fixed service charge component and less on consumption based (kilowatt hour or kWh) charging. The increase in fixed charges can signal the fixed nature of network costs and therefore contributes to the achievement of compliance with the distribution pricing principles. However, we observe rebalancing towards fixed charges does need to be cognisant of the impact this can have on customers. Specifically, customers need to have the ability to respond to the proposed tariffs. By incorporating a demand based charge into the tariff structure, we consider TasNetworks is giving customers the ability to respond to the proposed tariff and manage their electricity charges.

However, we do not consider TasNetworks tariff structure statement has demonstrated reasonable consideration of the impact of the proposed increases in fixed charges for high voltage business customers, where the fixed charge is increasing significantly.⁵ We consider this proposed tariff does not contribute to compliance with the distribution

⁵ NER, cl. 6.18.5(h).

pricing principles, in particular clause 6.18.5(h) of the NER. On this basis, we do not approve TasNetworks tariff structure statement.

Although not required for compliance, we consider TasNetworks revised tariff structure statement would also benefit from including the following for the benefit of stakeholders:

- outlining its approach to informing customers of the pre-requisite that an appropriate meter would be required to opt-in to the demand tariff, and how to obtain an appropriate meter
- other information provided in its submission on the AER's issues paper and other information from their response to the AER's information requests, so that all relevant information is in the one document. For example, information provided to the AER on long run marginal cost and recovery of residual costs.

Future direction

This is the first tariff structure statement submitted by TasNetworks. The move to cost reflective pricing will take time to implement. The distribution pricing principles require movement towards more cost reflective tariffs with every tariff statement proposal over upcoming regulatory control periods.

There are some elements of TasNetworks proposal which comply with the distribution pricing principles but which, in our view, would benefit from further consideration in developing future tariff structure statements. We identify these matters to provide guidance to TasNetworks, and the industry more generally, on our views on the direction the industry should be heading, to maintain compliance with the distribution pricing principles in the future. Accordingly, in each round of tariff structure statements, we expect distributors to propose additional reforms in order to be compliant with the rules.

We encourage TasNetworks to make further improvements in the following areas in the future rounds of tariff structure statements:

- timeframe for all residential and business customers transition to demand based tariffs (discussed in section 19.4.3.1)
- further consideration of the use of a 30 minute window to measure demand (discussed in section 19.4.3.1)
- transition to more frequent billing cycles for customers on demand tariffs (discussed in section 19.4.3.1)
- updated timeframe for tariff realignment for subsidised tariffs (discussed in section 19.4.3.1)
- update on review of additional options for irrigation customer tariffs and the consultation process with its Tariff Reform Working Group (discussed in section 19.4.3.1)
- timeframe for alignment of charging windows of the low voltage time of use consumption tariff with the demand tariff (discussed in section 19.4.3.2)

- when updating its long run marginal cost forecast, to consider incorporating asset replacement costs into the long run marginal cost calculation (discussed in section 19.4.4.1).

19.2 TasNetworks' proposal

TasNetworks' tariff structure statement proposed to make the following changes compared to the tariffs and tariff structures that are in place prior to 2017:⁶

- realigning prices of existing tariffs to remove cross subsidies between tariff classes
- rebalance tariff levels towards fixed charges and reduce the extent variable consumption based charges are used to recover network costs
- implement new time of use demand tariffs for residential and low voltage business customers on an optional (i.e. opt-in) basis.

The proposed realignment of specific tariffs is to remove long standing cross subsidies between different customer groups. TasNetworks stated that since there is no apparent differentiation in customer type or load these cross subsidies should be removed.⁷

These subsidised tariffs are a result of historical policy decisions which are no longer relevant to TasNetworks or compliant with the current regulatory requirements. The proposed realignment is to be undertaken over a 15 year period, which commenced in 2014–15. The gradual progression will allow predictability in pricing to customers. The subsidised tariffs to be realigned are:

- Business low voltage nursing home tariff
- General network – business curtilage tariff
- Uncontrolled low voltage tariff.

TasNetworks also proposed to rebalance the service and variable charges for most existing tariffs by increasing the fixed service charge and reducing the extent variable charges are used to recover the cost of providing network services.⁸ It proposed that since most of TasNetworks' costs are fixed, it is appropriate that more costs should be apportioned to the fixed component of the tariff (the service charge). It considered that this change improves cost reflective price signals to customers.

The most significant change proposed for the 2017–19 regulatory control period is that residential and low voltage business customers will have the option to choose a new time of use demand tariff. Customers who choose to opt-in to the new demand tariffs

⁶ TasNetworks, *Improving the way we price our services: Tariff structure statement—Regulatory control period 1 July 2017 to 30 June 2019*, January 2016, p. 6. (TasNetworks, *Tariff structure statement*, January 2016).

⁷ TasNetworks, *Response to the AER's Issues Paper: Tariff structure statement proposals — TasNetworks*, April 2016, p. 9.

⁸ TasNetworks, *Response to the AER's Issues Paper: Tariff structure statement proposals — TasNetworks*, April 2016, pp. 5, 11–16.

will also have the ability to opt-out during the regulatory control period. The new time of use demand tariffs are set out in table 19.1.

Table 19.1 New time of use demand based network tariffs

Network tariff	Description
Residential time of use demand tariff	<p>This network tariff is for low voltage installations at premises used wholly or principally as private residential dwellings.</p> <p>There are no restrictions on the use of the supply (for example, supply may be used for general power, heating or water heating).</p> <p>This network tariff may not be used in conjunction with any other tariffs.</p> <p>An electronic meter capable of recording interval data is the minimum required for installations on this network tariff.</p>
Low voltage commercial time of use demand tariff	<p>This network tariff is for low voltage installations at premises that are not used wholly or principally as private residential dwellings.</p> <p>There are no restrictions on the use of the supply (for example, supply may be used for general power, heating or water heating).</p> <p>This network tariff may not be used in conjunction with any other tariffs.</p> <p>An electronic meter capable of recording interval data is the minimum required for installations on this network tariff.</p>
Large low voltage commercial time of use demand tariff	<p>This network tariff is for installations taking low voltage multi-phase supply at premises that are not used wholly or principally as private residential dwellings.</p> <p>There are no restrictions on the use of the supply (for example, supply may be used for general power, heating or water heating).</p> <p>This network tariff may not be used in conjunction with any other tariffs.</p> <p>An electronic meter capable of recording interval data is the minimum required for installations on this network tariff.</p>

Source: TasNetworks, *Tariff structure statement*, January 2016, p. 39.

TasNetworks' proposed residential and low voltage business tariffs are summarised in table 19.2 and table 19.3 below. These tariffs comprise three main elements:

- Tariff structure, for example whether charges vary according to usage, maximum demand over a period, or when usage occurs.
- Value of tariff parameters, including time periods (charging windows) of charges that vary by time of day, value of fixed charges, usage charges and thresholds.
- Policies and procedures determining the tariffs customers are assigned to. These may vary according to the meter type (whether accumulation meter, interval meter or smart meter) and type of connection. In addition to default tariffs customers are assigned to, they may choose assignment to other tariffs in certain circumstances.

At present, TasNetworks residential and small low voltage customers are largely subject to consumption based tariffs, which have a fixed supply charge and variable consumption charges, measured in kWh. The tariff structure of these consumption based tariffs is proposed to remain unchanged over the 2017–19 regulatory control period.

From 1st July 2017, customers who choose the opt-in residential or low voltage business time of use demand tariffs will face a fixed supply charge, a peak demand charge (measured in kW) and an off peak demand charge (measured in kW).

The demand charges will be based on the customer's highest 30 minute peak demand over a billing period for each charging window. Customers wishing to be assigned to a time of use demand tariff will require an electronic meter capable of recording interval data.

The peak and off peak charging windows have been aligned across the three new demand tariffs. Peak charges will occur from 7am to 10am and 4pm to 9pm, weekdays. All other times, including weekends, will be off peak. The peak and off peak charging windows will also align the residential demand tariff windows with the legacy (continuing) residential time of use consumption tariff charging windows.

Tariff classes will remain consistent with the recent past, based on voltage and network connection characteristics. Customers will be assigned to tariffs within each tariff class.

As required by the NER, TasNetworks also submitted an indicative pricing schedule for its proposed tariffs over the 2017–19 regulatory control period.⁹

⁹ TasNetworks, *Indicative pricing schedule: Regulatory control period 1 July 2017 to 30 June 2019*, January 2016.

Table 19.2 TasNetworks proposed residential tariffs

Tariff type	Customer type	Assignment	Meter type	Tariffs structure	Notes	
Current residential tariffs	Residential low voltage general	New/Existing	Default for new/existing customers	Type 6 is the minimum requirement	Fixed charge + flat usage charge	
	Residential low voltage PAYG	Existing	Closed to new customers	Prepayment meter	Fixed charge + flat usage charge	Customers must have a prepayment metering product installed prior to 1 July 2013.
	Residential low voltage time of use	New/Existing	Optional for new/existing customers	Type 6 capable of recording time of use data is the minimum requirement	Fixed charge + time of use charges	Peak = 7–10AM, 4–9PM weekdays Off peak = All other times
	Residential low voltage PAYG time of use	New/Existing	Optional	Type 6 capable of recording time of use data is the minimum requirement	Fixed charge + time of use charges	Peak = 7–10AM, 4–9PM weekdays Off peak = All other times
New residential tariff	Residential time of use demand	New/Existing	Optional	Type 6 capable of recording time of use demand data in half-hourly blocks is the minimum requirement	Fixed charge + peak and off peak demand charges	Demand charges are based on the highest 30 minute demand incurred for each charging window over a billing period (typically quarterly) Peak = 7–10AM, 4–9PM weekdays Off peak = All other times

Source: AER analysis; TasNetworks, *Tariff structure statement*, January 2016; TasNetworks, *Network tariff application guide 2016–17*, June 2016.

Table 19.3 TasNetworks proposed low voltage customer tariffs

Tariff type	Customer type	Assignment	Meter type	Tariffs structure	Notes
Business low voltage general	New/Existing	Default for new/existing customers	Type 6 is the minimum requirement	Fixed charge + flat usage charge	
Business low voltage nursing homes	Existing (must be registered as a nursing home)	Closed to new customers	Type 6 is the minimum requirement	Fixed charge + declining block usage charges	First charging block = first 500kWh per quarter Second charging block = remaining consumption
General network–Business curtilage	Existing	Closed to new customers	Type 6 is the minimum requirement	Fixed charge + flat usage charge	Must also be taking supply under the Business low voltage general tariff
Business low voltage time of use	New/Existing	Optional. Default for new nursing home customers	Type 6 capable of recording time of use data is the minimum requirement	Fixed charge + time of use charges	Peak = 7AM–10PM weekdays Shoulder = 7AM–10PM weekends Off peak = All other times
Business low voltage kVA Demand	New/Existing	Default for new/existing customers	Type 6 is the minimum requirement	Fixed charge + flat usage charge + all demand charge	Maximum demand measured in kilovolt–Amperes (kVA)
Irrigation low voltage time of use	New/Existing	Existing irrigation customers	Type 6 capable of recording time of use data is the minimum requirement	Fixed charge + seasonal time of use charges	Winter: Peak = 7AM–10PM weekdays, Shoulder = 7AM–10PM weekends, Off peak = All other times Summer: Shoulder = 7AM–10PM weekdays, Off peak = All other times
Uncontrolled low voltage heating	New/Existing	Optional	Type 6 is the minimum requirement	Fixed charge + flat usage charge	Tariff is cross subsidised by other customers.

Current small low voltage tariffs

						Tariff only available with Residential low voltage general, Business low voltage or Business low voltage nursing homes
	Controlled low voltage energy – Off peak with afternoon boost	New/Existing	Optional	Type 6 is the minimum requirement	Fixed charge + flat usage charge	Available for nine hours between 10PM–7AM with a further two hours between 1PM–4:30PM Tariff only available with Residential low voltage general, Business low voltage or Business low voltage nursing homes
	Controlled low voltage energy–with night period	New/Existing	Optional	Type 6 capable of recording time of use data and ability to control energy flows is the minimum requirement	Fixed charge + flat usage charge	Available between 10PM–7AM Tariff only available with Residential low voltage general, Residential low voltage time of use, Business low voltage or Business low voltage time of use
New low voltage business tariffs	Low voltage time of use demand	New/Existing (small low voltage customers)	Optional	Type 6 capable of recording time of use demand data in half-hourly blocks is the minimum requirement	Fixed charge + peak and off peak demand charges	Demand charges based on the highest 30 minute demand incurred for each charging window over a billing period (typically quarterly) Peak window = 7–10AM, 4–9PM weekdays, Off peak window = All other times
	Large low voltage time of use demand	New/Existing (large low voltage customers)	Optional	Type 6 capable of recording time of use demand data in half-hourly blocks is the minimum requirement	Fixed charge + peak and off peak demand charges	Demand charges based on the highest 30 minute demand incurred for each charging window over a billing period (typically quarterly) Peak window = 7–10AM, 4–9PM weekdays, Off peak window = All other times

Source: AER analysis; TasNetworks, *Tariff structure statement*, January 2016; TasNetworks, *Network tariff application guide 2016–17*, June 2016.

19.3 Assessment approach

This section outlines our approach to tariff structure statement assessments.

There are two sets of requirements for tariff structure statements. First, the NER sets out a number of elements that an approved tariff structure statement must contain.¹⁰ Second, a tariff structure statement must also comply with the distribution pricing principles.¹¹

What must a tariff structure statement contain?

The NER requires a tariff structure statement to include:¹²

- the tariff classes into which retail customers for direct control services will be divided
- the policies and procedures the distributor will apply for assigning retail customers to tariffs or reassigning retail customers from one tariff to another
- structures for each proposed tariff
- charging parameters for each proposed tariff
- a description of the approach that the distributor will take in setting each tariff in each pricing proposal.

A tariff structure statement must be accompanied by an indicative pricing schedule.¹³

What must a tariff structure statement comply with?

A tariff structure statement must comply with the distribution pricing principles¹⁴, which may be summarised as:

- for each tariff class, expected revenue to be recovered from customers must be between the stand alone cost of serving those customers and the avoidable cost of not serving those customers¹⁵
- each tariff must be based on the long run marginal cost of serving those customers, with the method of calculation and its application determined with regard to the costs and benefits and customer location¹⁶

¹⁰ NER, cl. 6.18.1A(a).

¹¹ NER, cl. 6.18.1A(b).

¹² NER, cl. 6.18.1A(a).

¹³ NER, cl. 6.8.2(d1).

¹⁴ NER, cl. 6.18.1A(b).

¹⁵ NER, cl. 6.18.5(e).

¹⁶ NER, cl. 6.18.5(f).

- expected revenue from each tariff must reflect the distributor's efficient costs, permit the distributor to recover revenue consistent with the applicable distribution determination and minimise distortions to efficient price signals¹⁷
- distributors must consider the impact on customers of tariff changes and may vary from efficient tariffs, having regard to:¹⁸
 - the desirability for efficient tariffs and the need for a reasonable transition period (that may extend over one or more regulatory periods)
 - the extent of customer choice of tariffs
 - the extent to which customers can mitigate tariff impacts by their consumption
- tariff structures must be understandable by retail customers¹⁹
- tariffs must otherwise comply with the NER and all applicable regulatory requirements.²⁰

The tariff structure statement must comply with the distribution pricing principles in a manner that will contribute to the achievement of the *network pricing objective*:

The network pricing objective is that the tariffs that a DNSP charges in respect of its provision of direct control services should reflect the DNSP's efficient costs of providing those services to the retail customer.

Our role in approving a distributor's tariff structure statement

We must approve a distributor's tariff structure statement unless we are satisfied that the proposed tariff structure statement does not comply with the distribution pricing principles or other applicable requirements of the NER.²¹ In Tasmania, the distributor's tariff structure statement must also comply with the uniform tariff policy.²² The uniform tariff policy requires TasNetworks' distribution tariffs to be uniform across Tasmania for all customers that consume less than 150 megawatt hours (MWh) of electricity per annum. That is, TasNetworks cannot set locational prices where the price per unit of electricity varies depending upon specific areas of the distribution network.

We make one holistic determination to approve or refuse to approve the distributor's tariff statement. Our analysis on each element of the distributor's tariff structure statement contributes to our overall determination.

What happens when a distributor submits a proposed tariff structure statement?

¹⁷ NER, cl. 6.18.5(g).

¹⁸ NER, cl.6.18.5(h).

¹⁹ NER, cl. 6.18.5(i).

²⁰ NER, cl. 6.18.5(j); this requirement includes jurisdictional requirements.

²¹ NER, cl. 6.12.3(k).

²² NER, cl. 9.48.4B.

The NER requires us to publish a proposed tariff structure statement and invite submissions.²³ We then assess a proposed tariff structure statement for its compliance with the distribution pricing principles. Taking into account submissions and any supporting information submitted by the distributor, we will publish a draft determination on the proposed tariff structure statement.²⁴ This will set out our reasons for making the determination.²⁵

Our role is largely one of assessing compliance. We must approve a proposed tariff structure statement unless we are reasonably satisfied that it will not comply with the distribution pricing principles or other relevant requirements of the NER.²⁶

What happens if a proposed tariff structure is not approved?

A distributor may submit a revised tariff structure statement no later than 45 business days after we publish our draft determination.²⁷ Under the NER, a distributor may only make revisions to its tariff structure statement to address matters raised by our draft determination.²⁸ We will publish the revised tariff structure statement and again call for submissions before making a final determination.²⁹

What happens after a tariff structure is approved?

Once approved, a tariff structure statement will remain in effect for the relevant regulatory control period. The distributor must comply with the approved tariff structure statement when setting prices annually for direct control services.³⁰

We will separately assess the distributor's annual tariff proposals for the coming 12 months. Our assessment of annual tariff proposals will be consistent with the requirements of the relevant approved tariff structure statement.

An approved tariff structure statement may only be amended within a regulatory period with our approval.³¹ We will approve an amendment if the distributor demonstrates that an event has occurred that was beyond its control and which it could not have foreseen so that the amended tariff structure statement materially better complies with the distribution pricing principles.³²

Our process

²³ NER, cl. 6.9.3(a).

²⁴ NER, cl. 6.10.2.

²⁵ NER, cl. 6.10.2(a)(3).

²⁶ NER, cl. 6.12.3(k).

²⁷ NER, cl. 6.10.3(a).

²⁸ NER, cl. 6.10.3(b).

²⁹ NER, cl. 6.10.3(d)(e).

³⁰ NER, cl. 6.18.1A(c).

³¹ NER, cl. 6.18.1B.

³² NER, cl. 6.18.1B(d).

The following table sets out how our draft decision flows on from the Power of Choice reform program and will flow into the first annual pricing approval process.

In appendix B, we list the stakeholders who have made written submissions on our issues paper from March. We outline and consider the stakeholder views throughout this decision under each topic the particular stakeholder views relate.

We request written submissions on our draft decision by 1 December 2016.

Table 19.4 Tariff reform—key timeframes

Reform milestones	Date
Rule change process	
Power of Choice review: AEMC recommends reforms to distribution pricing rules	November 2012
COAG Energy Council proposes distribution pricing rule change to AEMC	September 2013
AEMC makes final rule determination on distribution pricing rule change proposal	November 2014
Tariff structure statement process	
TasNetworks submits tariff structure statement proposal to AER	29 January 2016
AER publishes issues paper	11 March 2016
Stakeholders' submissions on TasNetworks' proposal and AER's issues paper closed	28 April 2016
AER hosts public forum on TasNetworks' proposal	17 March 2016
AER publishes draft decision	29 September 2016
TasNetworks revised proposal and stakeholders' submissions on AER's draft decision due	1 December 2016
Stakeholders' submissions on TasNetworks revised proposal and other stakeholders' submissions due	23 December 2016
AER publishes final decision	No later than 30 April 2017
First annual pricing proposal process to apply tariff structure statement	
TasNetworks submits annual pricing proposal	Within 15 business days after publication of final decision
New tariffs take effect	1 July 2017

Source: AEMC, National Electricity Rules, AER analysis.

19.4 Reasons for draft decision

The following discusses our reasons for this draft decision.

19.4.1 Completeness of tariff structure statement

We are satisfied TasNetworks' tariff structure statement incorporates all the elements required by the NER.³³ The statement sets out TasNetworks tariff classes for different types of customers. It sets out the policies and procedures TasNetworks will use to assign different types of customers to tariffs and re-assign customers from one tariff to another. TasNetworks tariff structure statement also sets out the tariff structures and charging parameters applicable to different types of customers. And the tariff structure statement describes TasNetworks approach to developing its tariffs. Our assessment of these elements of TasNetworks tariff structure statement is set out below.

It also sets out indicative levels for those tariffs over the two year regulatory control period (2017–18 to 2018–19).³⁴

Combined these elements assist customers to predict how they will be charged for use of TasNetworks network.

19.4.2 Compliance with the distribution pricing principles

A distributor's tariff structure statement proposal must comply with the distribution pricing principles and other applicable requirements in the NER.³⁵

We briefly explain our reasons for our assessment of TasNetworks tariff structure statement with these principles here. Further details are provided in our discussion on tariff structures (section 19.4.3), tariff levels (section 19.4.4) and tariff assignment policies (section 19.4.5), respectively.

Introduction of demand tariffs to residential and low voltage business customers as an optional tariff

We approve the introduction of demand tariffs for residential and low voltage business customers in TasNetworks tariff structure statement. We are satisfied that demand tariffs contribute to the achievement of compliance with the distribution pricing principles.

Demand tariffs have been commonly adopted by distributors in Victoria, Queensland, South Australia and the Australian Capital Territory as the type of tariff they will use to signal efficient network costs to residential and small business customers.

We are satisfied that demand based tariffs are more cost reflective compared to existing consumption based tariffs. Under a consumption tariff, a customer is primarily charged based on the total amount of electricity they consume, rather than when they consume that electricity. Whereas demand tariffs, which differ in certain ways for each distributor, all include a charge based on a customer's highest measured demand during a particular month or billing period. Demand tariffs are therefore more cost

³³ NER, cl 6.18.1A(a).

³⁴ TasNetworks, *Indicative pricing schedule: Regulatory control period 1 July 2017 to 30 June 2019*, January 2016.

³⁵ NER cl. 6.12.3(k).

reflective because a distributor's forward looking costs are primarily driven by building network capacity to alleviate network congestion and provide a safe and reliable network during periods of peak demand.

We are also satisfied that, initially, the demand tariffs will be available to customers on an optional (opt-in) basis and that the legacy tariffs will continue in their current structure for at least the 2017–19 regulatory control period. We note that both TasNetworks and stakeholders considered this to be prudent approach, to avoid any sudden price impacts (price shocks) for customers.³⁶ We consider this approach to be less progressive of the possible approaches to tariff reform but still contribute to compliance with the distribution pricing principles. We anticipate the TasNetworks will move towards more prescriptive approaches in its future tariff statements.

Demand tariff charging windows

We approve TasNetworks proposed demand charging windows. We are satisfied TasNetworks' proposed demand charging windows for residential and low voltage business customers contributes towards the achievement of compliance with the distribution pricing principles.

We are satisfied the peak demand charging windows reflect times of overall network stress and incorporate times either side of the peak which aid in avoiding issues surrounding customers shifting load and creating new peaks.

Tariff realignment

We approve TasNetworks proposed realignment of the following tariffs to remove long standing cross subsidies between different customer groups:³⁷

- Business low voltage nursing home tariff
- General network – business curtilage tariff
- Uncontrolled low voltage tariff.

We are satisfied that there is no apparent differentiation in customer type or load for these tariffs and removing these cross subsidies is a movement along the cost reflectivity spectrum and contributes to the achievement of compliance with the distribution pricing principles. We acknowledge these cross subsidised tariffs are a result of historical policy decisions which are no longer relevant to TasNetworks or compliant with the current regulatory requirements.

³⁶ TasNetworks, *Tariff structure statement*, January 2016, p. 7; ENA, *Australian Energy Regulatory Issues papers on draft tariff structure statements for TasNetworks*, 28 April 2016, pp. 2–3; TasCOSS, *Submission on AER Issues Paper: Tariff Structure Statement proposals (TasNetworks)*, 29 April 2016, pp. 2–3; Tasmanian Renewable Energy Alliance, *TREA response to AER March 2016 issues paper: TasNetworks tariff structure statement proposals*, 5 May 2016, pp. 1–2.

³⁷ TasNetworks, *Response to the AER's Issues Paper: Tariff structure statement proposals — TasNetworks*, April 2016, p. 9.

We approve the proposed realignment to be undertaken over a 15 year period which began in 2014–15. The gradual progression will allow predictability in pricing to customers. However, we encourage TasNetworks to seek realignment under a shorter time period where circumstances allow.

Tariff rebalancing

Generally we approve TasNetworks proposal to rebalance its tariffs, such that there is more emphasis on the fixed service charge component and less on consumption based charging.³⁸ We consider the increase in fixed charges can signal the fixed nature of network costs and therefore contributes to the achievement of compliance with the distribution pricing principles.

However, we do not consider TasNetworks tariff structure statement has demonstrated reasonable consideration of the impact of the proposed increases in fixed charges for high voltage business customers, where the fixed charge is increasing significantly.³⁹ On this basis, we do not approve TasNetworks tariff structure statement as we do not consider this tariff contributes to the achievement of compliance with the distribution pricing principles, in particular clause 6.18.5(h) of the NER. We require TasNetworks revised tariff structure statement to provide further analysis and reasoning to demonstrate it has taken into consideration the impact on these customers.

19.4.3 Tariff structures

Tariff structure incorporates the charges that make up a tariff. For example, a demand tariff typically comprises a fixed charge and a demand charge; and for some distributors usage charges also apply. How those charges are applied to a customer reflect the tariff's **charging parameters**. Examples of charging parameters include:

- how frequently a charge is applied to a customer
- the times during which usage or demand is measured to calculate a charge
- variations in charges and how those variations are triggered.

When designing a tariff, distributors may match the charging parameters to the purpose of their design. For example, the demand charge within a demand tariff may target the time of a distributor's broad network peak, a local regional peak, or a customer class peak (e.g. residential customers).

TasNetworks' tariff structure statement proposed the continuation of the tariffs (continuing tariffs) in place immediately prior the commencement of the 2017–19 regulatory control period.⁴⁰ The tariff structures for these continuing tariffs will be unchanged. However, TasNetworks acknowledged that the tariff structures for some of

³⁸ TasNetworks, *Tariff structure statement*, January 2016, p. 6

³⁹ NER, cl. 6.18.5(h).

⁴⁰ TasNetworks, *Tariff structure statement*, January 2016, pp. 32–38.

its continuing tariffs are not cost reflective.⁴¹ To transition toward more cost reflective pricing it proposed to undertake the following initiatives:⁴²

- realign the relative prices of a number of continuing tariffs to eliminate some long standing cross subsidies between different customer groups
- rebalance the service (fixed) and variable charging parameters of continuing tariffs by increasing the emphasis on the fixed charge and reducing the extent to which variable consumption charges are used to recover network costs.

TasNetworks noted that to ensure it avoids any sudden price shocks to its customers, the changes proposed will occur over a 15 year period. It noted in the short term this will mean that for most customers only incremental changes will occur.

In addition to the continuing tariffs, TasNetworks proposed the introduction of three new time of use demand based tariffs for residential and low voltage business customers. These tariffs will, initially, be available on an opt-in basis for customers. The tariff structures of these demand tariffs will be new to TasNetworks' customers.

This following section sets out our assessment of TasNetworks' proposed tariff structures, including tariff design and charging windows.

19.4.3.1 Tariff design

We consider the tariff design of TasNetworks' proposed tariff structures contributes to the achievement of compliance with the distribution pricing principles. TasNetworks' continuing tariffs will maintain their current designs which are largely flat usage or time of use usage tariffs. The new time of use demand tariff designs will comprise of a fixed charge and two demand charges (for peak and off-peak periods). While we acknowledge some continuing tariffs will not be cost reflective in the short term, we consider the overall suite of tariffs represent a positive movement along the cost reflectivity spectrum.

We also acknowledge that the proposed continuation of the existing tariffs in their current design is in the interest of managing pricing impacts on customers as they respond to tariff reform. This is in recognition that this tariff structure statement will apply only for two years and that TasNetworks plans to refine its cost reflective tariffs for the period beyond June 2019. We consider this appropriate in this initial stage of tariff reform given that a more cost reflective tariff (the opt-in time of use demand tariff) is made available to customers.

However, we expect TasNetworks to move further along the cost reflectivity spectrum in its 2019–24 tariff structure statement. Our considerations on tariff design are

⁴¹ TasNetworks, *Tariff structure statement*, January 2016, p. 35.

⁴² TasNetworks, *Tariff structure statement*, January 2016, p. 6.

supported by the submissions we received from stakeholders on TasNetworks' proposal.⁴³

The following discusses TasNetworks' proposed tariffs and their designs by respective tariff classes.

Residential customer tariffs

TasNetworks' proposed five residential customer tariffs in its tariff structure statement. Four of these tariffs are currently available and are proposed to continue in their current design over the 2017–19 regulatory control period. TasNetworks also proposed to introduce a new time of use demand tariff available to customers on an opt in basis. The design of the demand tariff will be new to TasNetworks' residential customers.

Continuing residential tariffs

TasNetworks' default residential customer tariff is a 'flat' usage tariff comprising a fixed service charge (fixed charge) and a usage charge that does not vary in different time periods or with how much electricity is consumed. This tariff design is not cost reflective. The usage charge does not signal times of peak demand when most stress is on the network. Also, customers are unable to reduce their bills by shifting their usage away from peak demand periods to off peak periods.

A similarly structured flat usage tariff is offered to residential customers who have a prepayment metering product.⁴⁴ This tariff is not available to new customers.⁴⁵

In addition to the flat usage tariffs, TasNetworks also offers an opt-in time of use consumption tariff comprising a fixed charge and variable usage charges for different periods of the day—peak and off peak. Compared to the flat usage tariffs, the time of use tariffs are more cost reflective as they signal times of peak demand. Customers on this tariff can shift their usage away from peak demand periods and reduce their bills. This tariff is also available to customers who have a prepayment metering product.

Although the time of use consumption tariffs are more cost reflective than the flat tariff, TasNetworks acknowledged that some customers on consumption based tariffs may not pay their fair share of network costs.⁴⁶ TasNetworks noted that under the current consumption based tariffs there are some customers, such as those with solar panels, who pay less than their fair share for network services, even though the demands they

⁴³ ENA, *Australian Energy Regulatory Issues papers on draft tariff structure statements for TasNetworks*, 28 April 2016; TasCOSS, *Submission on AER Issues Paper: Tariff Structure Statement proposals (TasNetworks)*, 29 April 2016; Tasmanian Renewable Energy Alliance, *TREA response to AER March 2016 issues paper: TasNetworks tariff structure statement proposals*, 5 May 2016.

⁴⁴ TasNetworks, *Indicative pricing schedule: Regulatory control period 1 July 2017 to 30 June 2019*, January 2016, p. 6.

⁴⁵ TasNetworks, *Tariff structure statement*, January 2016, p. 77.

⁴⁶ TasNetworks, *Tariff structure statement*, January 2016, p. 24.

place on the network at peak times may be just as great as customers without solar panels.⁴⁷

The inequity of 'fair share of network costs' occurs because the main driver of network costs is not total electricity consumed over time, but rather how much is consumed at peak times. This is because a primary cost to TasNetworks' is to build its network to satisfy network capacity at peak demand. Thus, consumption based tariffs generally do not send accurate price signals about peak demand.

Therefore, we are encouraged by TasNetworks' proposal to introduce a tariff which will send more reliable price signals about the demand a customer places on the network at different times of day. Also, we are encouraged by TasNetworks' vision that all of its residential and business customers will transition to demand based tariffs in time.⁴⁸ This demand tariff will apply to solar customers and non-solar customers. This ensures both groups of customers are treated in a similar fashion and that the applicable tariff is not based on the technology installed by customers.

New time of use demand tariff for residential customers

We are satisfied TasNetworks' proposed residential time of use demand tariff contributes toward the achievement of compliance with the distribution pricing principles. The demand tariff will allow customers the ability to manage their peak loads which will ultimately assist in greater network utilisation and minimise future investment costs. This new demand tariff shows movement along the cost reflectivity spectrum, away from consumption tariffs.

The design of the demand tariff will include a fixed service charge, a peak demand charge and an off peak demand charge (figure 19.1). Unlike demand tariffs being introduced by distributors in other jurisdictions, TasNetworks' demand tariff does not include any consumption based charges.

Figure 19.1 Charging components of the time of used demand tariff



Source: TasNetworks, *Tariff structure statement*, January 2016, p. 40.

⁴⁷ TasNetworks, *Improving the way we price our services: Tariff structure statement—Regulatory control period 1 July 2017 to 30 June 2019*, January 2016, p. 24.

⁴⁸ TasNetworks, *Improving the way we price our services: Tariff structure statement—Regulatory control period 1 July 2017 to 30 June 2019*, January 2016, p. 33.

The demand charges will be based on a customer's highest 30 minute demand over a billing period for each charging window—peak and off peak.⁴⁹ The peak demand charge will be set at a higher rate than the off peak demand charge thereby signalling to customers the value of using the network, particularly at peak times. The peak demand charge will signal the forward looking costs associated with demand growth.

We note that although the NER does not favour any specific tariff design, tariffs that better reflect a distributor's efficient costs of providing regulated network services are required for compliance with the distribution pricing principles.

TasNetworks acknowledged that there are a number of ways it could have designed its demand tariffs.⁵⁰ There are other tariff options which provide more detailed cost reflective price signals. However, its focus has been on striking a balance between tariffs which are cost reflective and tariffs which are easy for customers to understand.

TasNetworks considered that demand based tariffs (measured in kW), rather than consumption based tariffs (measured in kWh), represent the best trade-off between cost reflectivity and ensuring customers can understand and respond to the tariff.⁵¹ The demand tariff sends an 'average' price signal in the sense that it applies the same generic price across all customers assigned to the tariff. It is not a locational price signal, where the price per unit of electricity varies depending upon network constraints within specific areas of the distribution network.

While we note the distribution pricing principles require consideration of locational pricing,⁵² currently in Tasmania network tariffs for customers that consume less than 150MWh of electricity per annum are required to be uniform.⁵³ Therefore TasNetworks' current ability to develop locational cost reflective tariffs is limited. We observe ENA cautioned against locational pricing in this initial phase of tariff reform noting it could lead to very significant price increases for some regional customers.⁵⁴ It considered customer impact and ability to respond to price signals should be carefully evaluated.

The residential time of use demand tariff peak and off peak charging windows will align with those of the continuing residential time of use consumption tariff. That is, peak charges will occur from 7am to 10am and 4pm to 9pm weekdays. All other times, including weekends, will be off peak.

To allow customers time to understand the demand tariff before switching to it, TasNetworks proposed to introduce the time of use demand based tariff as an optional tariff (opt-in). It noted the opt-in basis of the demand tariff was supported by its Tariff

⁴⁹ TasNetworks, *Tariff structure statement*, January 2016, p. 40.

⁵⁰ TasNetworks, *Tariff structure statement*, January 2016, pp. 72–73.

⁵¹ TasNetworks, *Tariff structure statement*, January 2016, p. 25.

⁵² NER, cl. 6.18.5(f)(3).

⁵³ NER, cl. 6.18.5(j) and cl. 9.48.4B.

⁵⁴ ENA, *Australian Energy Regulatory Issues papers on draft tariff structure statements for TasNetworks*, 28 April 2016, pp. 3–4.

Reform Working Group.⁵⁵ It also noted that customers wishing to be assigned to a time of use demand tariff will require an electronic meter capable of recording interval data.

We note all stakeholder submissions we received supported TasNetworks' proposed introduction of the time of use demand tariff and were also in support of its introduction on an opt-in basis initially.⁵⁶ The stakeholders agreed that demand based tariffs are more complex than the consumption based tariffs residential customers are accustomed to. Therefore, customers should be given an opportunity to learn more about the tariff and how it might suit their needs before committing to it.

TasCOSS also considered customers should be informed of the pre-requisite that an appropriate meter would be required to opt-in to the demand tariff and how to obtain a meter.⁵⁷ We agree with TasCOSS and consider TasNetworks' revised tariff structure statement would benefit by including its approach to informing customers of this requirement.

30 minute demand measurement periods

TasNetworks proposed to calculate the peak and off peak demand charges based on a customer's highest 30 minute peak demand over a billing period for each charging window. We approve of this basis of charging in this initial phase of tariff reform as we consider the simplicity of a single 30 minute period will be easily understood by customers which will allow them to respond to the price signals.⁵⁸ We also consider customer impact is adequately managed given the demand tariff is opt-in meaning only customers who choose to be exposed to the demand charges will face those price signals. However, we are interested in exploring whether an alternative basis of charging is a more reliable basis for TasNetworks 2019–24 tariff structure statement.

For example, an alternative approach is to average a customer's top several demand periods for each charging window during a billing period. We note Ergon Energy proposed to average the four highest demand periods as the basis of calculating the peak demand charge for its residential customers. While we approve TasNetworks' approach of using a single 30 minute period, we also consider there are potential benefits in the averaging approach. We are interested in working through this issue with the industry and stakeholders for the next round of tariff structure statements.

The potential differences in these approaches relate to the extent to which they:

⁵⁵ TasNetworks, *Tariff structure statement*, January 2016, p. 28.

⁵⁶ ENA, *Australian Energy Regulatory Issues papers on draft tariff structure statements for TasNetworks*, 28 April 2016, pp. 2–3; TasCOSS, *Submission on AER Issues Paper: Tariff Structure Statement proposals (TasNetworks)*, 29 April 2016, pp. 2–3; Tasmanian Renewable Energy Alliance, *TREA response to AER March 2016 issues paper: TasNetworks tariff structure statement proposals*, 5 May 2016, pp. 1–2.

⁵⁷ TasCOSS, *Submission on AER Issues Paper: Tariff Structure Statement proposals (TasNetworks)*, 29 April 2016, pp. 2–3.

⁵⁸ NER, cl. 6.18.5(i).

- send price signals to customers that are more closely aligned with the network’s co-incident demand
- enable customers to respond to price signals, and
- avoid or manage the potential for a customer to incur ‘bill shock’.

It is not an individual customer’s peak demand that drives network costs, but the extent to which that customer’s peak demand contributes towards network congestion and the network’s co-incident demand. However, the network’s co-incident demand may not be on the same day as an individual customer’s highest demand. Ergon Energy’s averaging approach increases the probability that a customer’s highest demand will coincide with the day, or days, on which the network’s peak demand also occurs.

We encourage distributors to collect data during this first tariff structure statement period that demonstrates the extent to which customers’ peak demand typically occurs at the same time as the network also experiences its peak demand. This should provide a useful basis for determining if subsequent tariff structure statements should change to averaging a customer’s highest demand days, similar to Ergon Energy’s approach.

The use of a single period or averaging approach may also have an impact on a customer’s ability to respond to price signals. Price signals aim to elicit an informed and considered response by consumers. If a customer has automatic appliances (e.g. air-conditioner or battery storage programmed to respond to peak demand periods), then responding to price signals might be straight forward.

However, in the absence of automatic appliances, there is the potential for customer’s peak demand periods to occur more by accident than design, especially initially, as customers gradually become familiar with demand signals and the amount of electricity different appliances consume. If a customer’s top 30 minute demand window occurs by accident in one billing period, they will have a heightened incentive to understand their electricity usage the following billing period to avoid a repeat situation. Whereas an averaging approach might assist a customer in responding within the billing period, rather than waiting until the next billing cycle. For similar reasons, an averaging approach may also assist a customer to avoid or manage ‘bill shock’.

Notwithstanding these potential issues, we consider TasNetworks’ proposed approach of using a single 30 minute period adequately manages customer impact as the demand tariff is opt-in meaning only customers who choose to be exposed to the demand charges will face those price signals.

Billing periods

TasNetworks proposed to continue with its current practice of quarterly billing cycles for most customers over the 2017–19 regulatory control period.⁵⁹ We approve of this

⁵⁹ TasNetworks, *Tariff structure statement*, January 2016, p. 40.

billing period cycle in this initial phase of tariff reform. However, we expect TasNetworks to transition to more frequent billing cycles for customers on demand tariffs in its next tariff structure statement.

We agree with submissions from TREA and TasCOSS that quarterly billing cycles are not optimal for the time of use demand tariffs.⁶⁰ The delay between when a customer's maximum demand incidents occur and when they receive their bill will dilute the price signals of the charges. A more frequent billing cycle would allow consumers to relate their demand to their bills much more easily than in a quarterly billing cycle.⁶¹ Both TREA and TasCOSS consider monthly billing periods would be optimal.⁶²

TasNetworks' has indicated that it would like to transition to monthly billing cycles.⁶³ However, it noted that current metering constraints do not support a change to monthly billing for all small customers at this stage. It noted that while monthly billing would provide more accurate and timely price signals, the costs of implementing new systems to enable monthly billing may be 'prohibitive' at this time.

The current metering constraints are acknowledged by us and other stakeholders.⁶⁴ Therefore, we agree the transitioning to monthly billing may not be optimal for the 2017–19 regulatory control period. However, we agree with TasCOSS that timelier billing cycles for the demand based tariffs should be an outcome that is actively pursued by TasNetworks.⁶⁵ We consider TasNetworks should transition to more frequent billing cycles for demand based tariffs in its next tariff structure statement.

Controlled and uncontrolled load tariffs

TasNetworks proposed the continuation of its controlled and uncontrolled load tariffs. These are primarily used for water heating and space heating for low voltage customers. Both tariffs include a service charge and a flat consumption usage charge.

While TasNetworks did not propose to change the design of these tariffs, it noted the uncontrolled low voltage network tariff is currently not cost reflective, as it is subsidised by other customers.⁶⁶ This tariff also allows consumption at off peak rates at all times,

⁶⁰ TasCOSS, *Submission on AER Issues Paper: Tariff Structure Statement proposals (TasNetworks)*, 29 April 2016, pp. 2–3; Tasmanian Renewable Energy Alliance, *TREA response to AER March 2016 issues paper: TasNetworks tariff structure statement proposals*, 5 May 2016, pp. 3–4.

⁶¹ TasCOSS, *Submission on AER Issues Paper: Tariff Structure Statement proposals (TasNetworks)*, 29 April 2016, pp. 2–3.

⁶² TasCOSS, *Submission on AER Issues Paper: Tariff Structure Statement proposals (TasNetworks)*, 29 April 2016, pp. 2–3; Tasmanian Renewable Energy Alliance, *TREA response to AER March 2016 issues paper: TasNetworks tariff structure statement proposals*, 5 May 2016, p.4.

⁶³ TasNetworks, *Response to the AER's Issues Paper: Tariff structure statement proposals — TasNetworks*, April 2016, p. 23.

⁶⁴ TasCOSS, *Submission on AER Issues Paper: Tariff Structure Statement proposals (TasNetworks)*, 29 April 2016, pp. 2–3.

⁶⁵ TasCOSS, *Submission on AER Issues Paper: Tariff Structure Statement proposals (TasNetworks)*, 29 April 2016, pp. 2–3.

⁶⁶ TasNetworks, *Tariff structure statement*, January 2016, p. 38.

including peak periods. In order to make this tariff more cost reflective, TasNetworks proposed to rebalance the uncontrolled load tariff over time.

We approve of TasNetworks' proposed approach to removing these cross subsidies as it is a movement along the cost reflectivity spectrum. The removal of the cross subsidies will allow tariffs to be based on the cost of providing the service.⁶⁷

TasNetworks noted that many Tasmanians rely on electricity to provide home heating and hot water.⁶⁸ It noted that the use of electricity for both of these purposes was made possible by historical policy decision to apply subsidies to relative network and retail tariffs over many years. In the transition to more cost reflective tariffs, it considered these subsidies need to be removed.

TasNetworks noted as part of its stakeholder engagement one of the options it proposed was to remove the uncontrolled low voltage network tariff to all new customers.⁶⁹ However, it noted that most of the feedback it received during the engagement was not supportive of this approach. As a result, it changed its strategy to rebalance the tariff to be more cost reflective. To offset the change, the rebalancing will be done with tariffs used by the same customers from the same tariff class.

The proposed rebalancing will be gradual—to be completed by the end of the 2024–29 regulatory control period—to allow customers time to adjust to the changes.⁷⁰ It noted the rebalancing may be done under a shorter time period where circumstances allowed. However, any changes will be guided by the customer impact principle.

Low voltage business customer tariffs

TasNetworks' has two tariff classes for low voltage business customers—small and large. Similar to the residential tariff class, TasNetworks proposed the continuation of currently available tariffs for both of these tariff classes over the 2017–19 regulatory control period. These tariffs will continue in their current tariff design.

However, TasNetworks noted two continuing small business low voltage tariffs are not currently cost reflective. Consistent with the uncontrolled load tariff, the Business low voltage nursing home tariff and the General network–business curtilage tariff has been historically cross subsidised from other customers. For both of these tariffs, TasNetworks proposed the removal of the current cross subsidies by rebalancing these tariffs rather than a change to their tariff design.

In addition to the continuing tariffs, TasNetworks proposed to introduce the new time of use demand tariff for both the small and large low voltage business customers. The

⁶⁷ NER, cl. 6.18.5(f).

⁶⁸ TasNetworks, *Tariff structure statement*, January 2016, p. 26.

⁶⁹ TasNetworks, *Tariff structure statement*, January 2016, p. 26.

⁷⁰ TasNetworks, *Response to the AER's Issues Paper: Tariff structure statement proposals — TasNetworks*, April 2016, p. 23.

designs of the demand tariffs are exactly the same as the time of use demand tariff being introduced for residential customers. These demand tariffs will be optional.

Continuing low voltage business tariffs

For small low voltage business customers, the default tariff is a flat usage tariff comprising a fixed service charge and a usage charge that remains constant regardless of when or how much electricity is consumed.

A time of use consumption tariff is also available for small low voltage business customers on an opt-in basis. The design of this tariff comprises a fixed charge and a number of variable charges for different periods of the day—peak, off peak and shoulder. Consistent with the discussion above for residential tariffs, although the time of use consumption tariff is more cost reflective than a flat usage tariff, some customers on consumption based tariffs may not pay in proportion to their contribution towards network costs.

As noted, TasNetworks will also offer two continuing small low voltage business tariffs which are not cost reflective because they have been historically cross subsidised by other customers.⁷¹ TasNetworks proposed it will make these tariffs more cost reflective by unwinding the cross subsidies and realigning these tariffs with the non-cross subsidised tariffs applied to customers in the same tariff class.

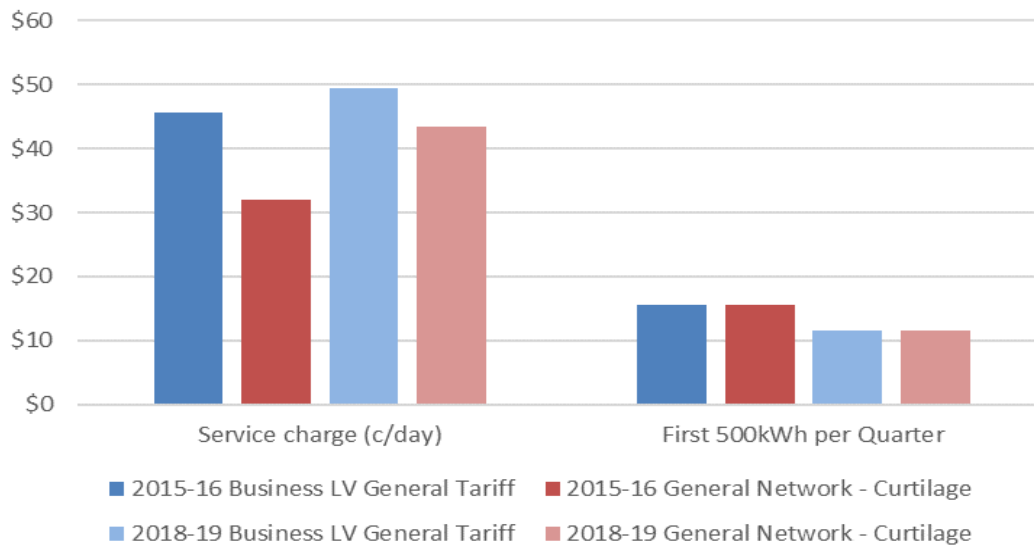
The first of these tariffs—General network–business, curtilage tariff—is for low voltage rural installations that have a single connection point but require more than one meter due to site layout. Its design is a fixed service charge and a constant usage charge. This tariff is no longer available to new customers.

To unwind the cross subsidies, TasNetworks will realign this tariff with the default tariff—Business low voltage general tariff.⁷² TasNetworks noted this alignment began in 2008 and the usage tariff is already realigned. The realignment of the service charge is expected to be completed by 2019–20. Figure 19.2 shows the indicative realignment transition between 2015–16 and 2018–19.

⁷¹ TasNetworks, *Response to the AER's Issues Paper: Tariff structure statement proposals* — TasNetworks, April 2016, p. 9.

⁷² TasNetworks, *Response to the AER's Issues Paper: Tariff structure statement proposals* — TasNetworks, April 2016, pp. 9–10.

Figure 19.2 Comparison of the low voltage business curtilage and general network tariffs



Source: TasNetworks, *Response to the AER's Issues Paper: Tariff structure statement proposals* — TasNetworks, April 2016, p. 11.

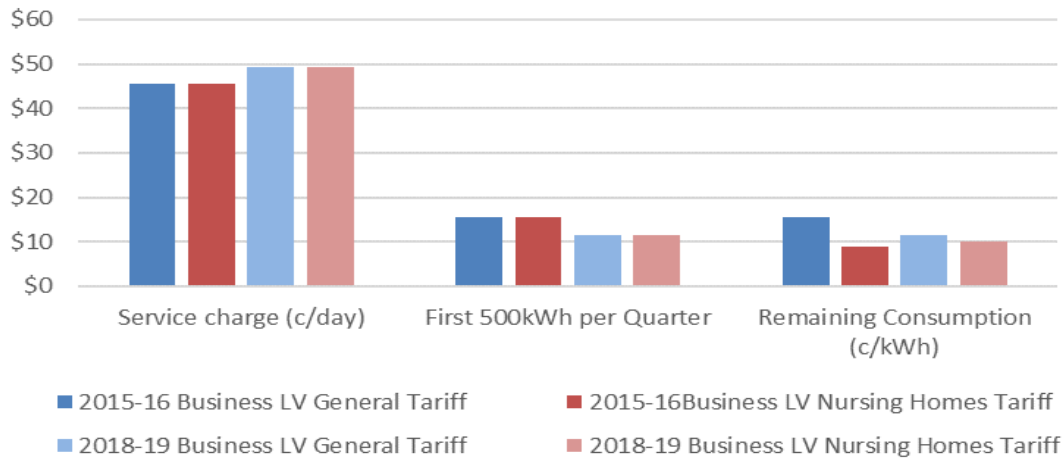
The second cross subsidised tariff is the business low voltage nursing homes tariff. As the name suggests, the tariff is for nursing homes and is no longer available to new customers. This tariff differs from all other tariff designs. It consists of a fixed charge and two blocks where the first block is charged at a higher cent per kilowatt hour (c/kWh) rate than the second block. This means it is a declining block tariff.

Declining block tariffs are not a common feature in electricity distribution pricing. They are made on the basis that customers who consume relatively little electricity are less price sensitive than individuals who consume larger volumes. There is little information on the price elasticity of customers on this specific tariff. For these reasons, we do not consider declining block tariffs to be particularly cost reflective, especially considering that time of use and demand based charging send more pointed signals about a customer's impact on the network.

To unwind the cross subsidies for this tariff, TasNetworks will realign it with the Business low voltage general tariff.⁷³ To do this the two blocks of the nursing homes tariff will be aligned with the single block of the Business low voltage general tariff. TasNetworks noted this alignment has already begun with the service charge and first usage block charge already realigned. The realignment of the second usage block charge is expected to be completed over the next four to five years. Figure 19.3 shows the indicative realignment transition between 2015–16 and 2018–19.

⁷³ TasNetworks, *Response to the AER's Issues Paper: Tariff structure statement proposals* — TasNetworks, April 2016, pp. 9–10.

Figure 19.3 Comparison of the low voltage nursing homes and general network tariffs



Source: TasNetworks, *Response to the AER's Issues Paper: Tariff structure statement proposals* — TasNetworks, April 2016, p. 10.

We are satisfied TasNetworks' realignment of these small low voltage business tariffs contribute to improving cost reflectivity. We acknowledge the tariff that they are being aligned to is a flat usage tariff which is not ultimately cost reflective as it does not signal times of peak demand when most stress is on the network. However, we approve the proposed approach in this initial phase of tariff reform for a number of reasons.

First we note the two cross subsidised tariffs are no longer available to new customers. Second, we note new customers will be assigned to a more cost reflective tariff. For example, TasNetworks informed us that the tariff to which all new nursing homes are assigned to is the Business low voltage time of use tariff. Further, they anticipate that Aurora Energy Retail will offer this alternative tariff as a standing offer tariff which will be available to existing customers, who are anticipated to be better off by switching to it.

In addition, we consider the proposed approach is an appropriate response to improving cost reflectivity given that a more cost reflective tariff is, and will continue to be, made available. Finally, we note TasNetworks intent to transition all of its residential and business customers to demand based tariffs in time.⁷⁴

For large low voltage business customers, which are customers that due to their size have largely dedicated connection assets and use a small proportion of the shared low voltage network, there is currently only one tariff—business low voltage kVA demand.

⁷⁴ TasNetworks, *Improving the way we price our services: Tariff structure statement—Regulatory control period 1 July 2017 to 30 June 2019*, January 2016, p. 33.

We approve the proposed tariff structure as it consists of a fixed service charge, a flat usage tariff and an anytime demand charge which is relatively cost reflective tariff.

New time of use demand tariffs for low voltage business customers

TasNetworks proposed to introduce two new time of use demand tariffs for low voltage customers—one tariff for small low voltage business customers and one tariff for large low voltage business customers.

We are satisfied the introduction of the demand tariffs contributes to the achievement of compliance with the distribution pricing principles. These demand tariffs will allow the low voltage business customers the ability to manage peak load on the network which will ultimately assist in greater network utilisation and minimise future investment costs. These new demand tariffs show movement towards cost reflectivity and away from consumption tariffs.

The design of the time of use demand tariffs for the low voltage business customers is the same as the residential customers. That is, the demand tariffs will include a fixed service charge, a peak demand charge and an off peak demand charge. The demand charges will be based on a customer's highest 30 minute demand over a billing period for each charging window—peak and off peak. The peak demand charges are set at a higher rate than the off peak demand charges, signalling to customers the value of using the network, particularly at peak times.

While we approve these low voltage demand tariffs in their proposed design, we encourage TasNetworks to collect data during this initial phase of tariff reform to determine whether an alternative design could provide more detailed cost reflective price signals in future periods. A more targeted approach for low voltage customers may be more reliable than the use of a 'one size' fits all approach to demand tariffs.

Irrigation customers

TasNetworks proposed the continuation of a time of use tariff for irrigation customers. The design of this tariff consists of a fixed service charge and a number of variable charges for different periods of the day—peak, off peak and shoulder—which vary with seasons. We consider this tariff is relatively cost reflective given the tariff features seasonal time of use charges.

TasNetworks noted the irrigation customers tend to be very responsive to price signals.⁷⁵ Given these customers have the ability to choose between tariffs it expects the new demand tariff may be attractive to them. On this basis we approve the continuation of the current tariff as the ability for customers to respond to price signals by moving to a more cost reflective tariff is an appropriate response of the tariff reform.

⁷⁵ TasNetworks, *AER information request: TasNetworks response to questions raised by the AER—Request ID: 001*, 21 April 2016, p. 22.

TasNetworks also noted that additional options for customers on this tariff will be a key area of focus over the 2017–19 regulatory control period with its consultation with its Tariff Reform Working Group.⁷⁶ It will continue to review the customer and revenue impacts, and collect additional information to facilitate further changes to reflect the efficient costs of providing services to this customer class. However, its current view is demand based network tariffs may be the best long term solution to its customers.

High voltage business customers

We consider TasNetworks' high voltage business customer tariff structures are consistent with the distribution pricing principles. TasNetworks' tariffs for these customers are already relatively cost reflective given the tariffs feature elements such as time of use charges, demand based charges and seasonal variations. We also note the individual calculation tariffs have locational price signals.

However, as will be discussed in section 19.4.4.3, we do not consider TasNetworks tariff structure statement has demonstrated reasonable consideration of the impact of the proposed changes in fixed charges for these high voltage business customers.

19.4.3.2 Charging windows

In setting out tariffs, a distributor has to determine over what periods it will charge customers. This includes determining if there should be peak period, shoulder period or off peak period charges, or if charges should vary by season (summer and non-summer). We refer to these here as 'charging windows'.

These charging windows will have a bearing on how customers use the network through their response to prices and their network (and final retail) bills.

We are satisfied that TasNetworks' proposed charging windows contribute towards the achievement of compliance with the distribution pricing principles. With regard to the new demand tariffs, the charging windows reflect times of overall network stress and incorporate times either side of the peak which aid in avoiding issues surrounding customers shifting load and creating new peaks.

Residential customers

TasNetworks' tariff structure statement will align the charging windows for its residential time of use consumption tariffs and the new residential time of use demand tariff (demand tariff).⁷⁷ In terms of design, TasNetworks decided to only distinguish between peak and off peak periods and determine charges accordingly. It noted this

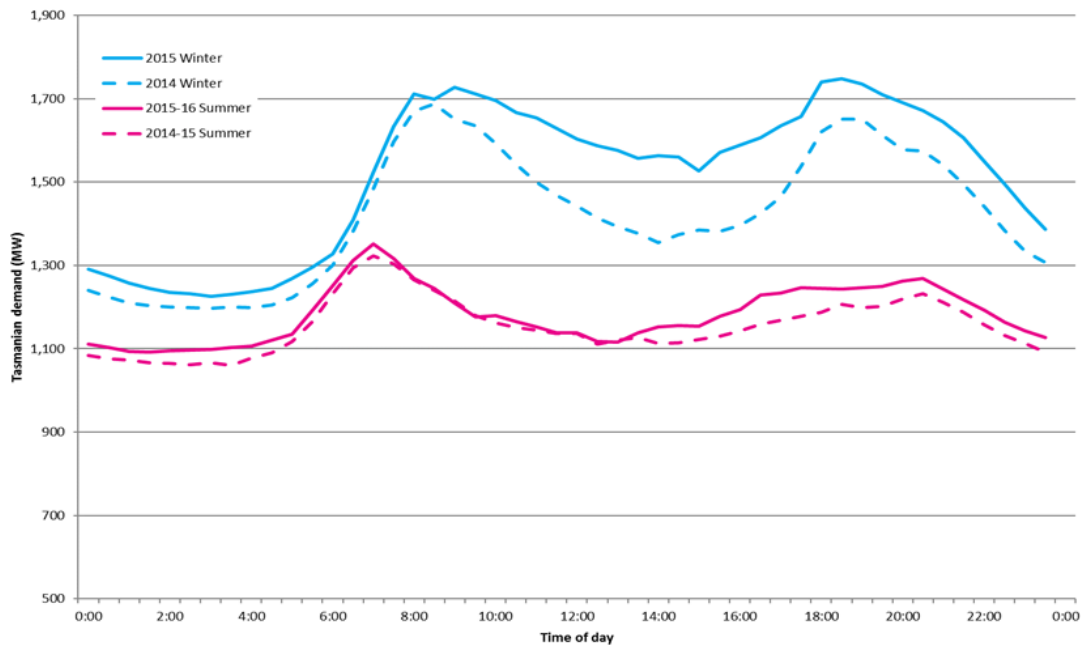
⁷⁶ TasNetworks, *Response to AER Issues Paper: Tariff Structure Statements proposals – TasNetworks*, April 2016, p. 17.

⁷⁷ TasNetworks, *Tariff structure statement*, January 2016, p. 41.

simplicity in charging was to ensure customers can readily understand the tariffs. This charging structure was supported by TasNetworks Tariff Reform Working Group.⁷⁸

As shown in figure 19.4, TasNetworks' load profile is a winter peaking network where peaks occur twice during the day—early morning and late afternoon/early evening on weekdays.⁷⁹ This load profile is prominent for residential customers. TasNetworks has a winter peaking network and therefore it has proposed a morning peak.

Figure 19.4 Comparison of winter and summer peak demand



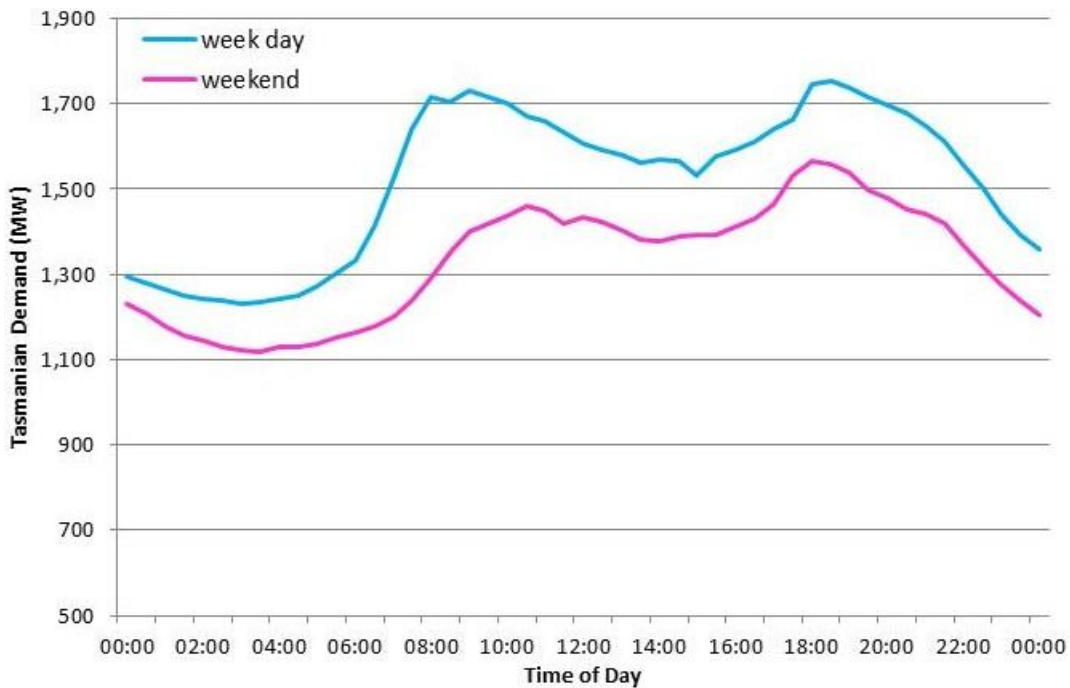
Source: TasNetworks, *Response to AER Issues Paper: Tariff Structure Statements proposals – TasNetworks*, April 2016, p. 19.

TasNetworks noted the peak and off peak charging windows reflect a week day as it is more representative of its system wide peak—as shown in figure 19.5.

⁷⁸ TasNetworks, *Tariff structure statement*, January 2016, p. 42.

⁷⁹ TasNetworks, *Response to AER Issues Paper: Tariff Structure Statements proposals – TasNetworks*, April 2016, p. 33.

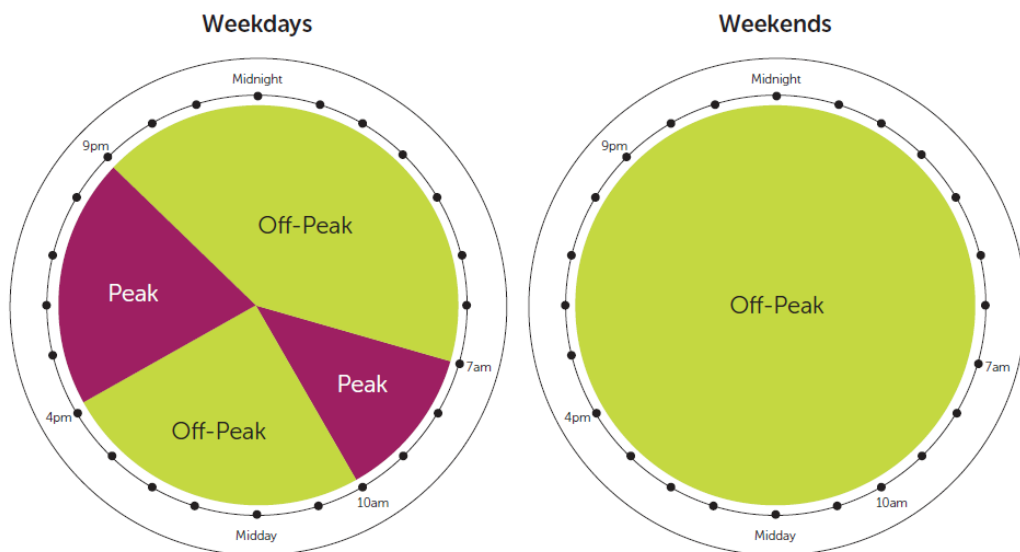
Figure 19.5 Comparison of peak demand on week days and weekends



Source: TasNetworks, *Response to AER Issues Paper: Tariff Structure Statements proposals – TasNetworks*, April 2016, p. 20.

On this basis, TasNetworks proposed peak charges to apply from 7am to 10am, and then again from 4pm to 9pm, on weekdays only. All other times are off peak, including all day weekends. These charging windows are set out in figure 19.6.

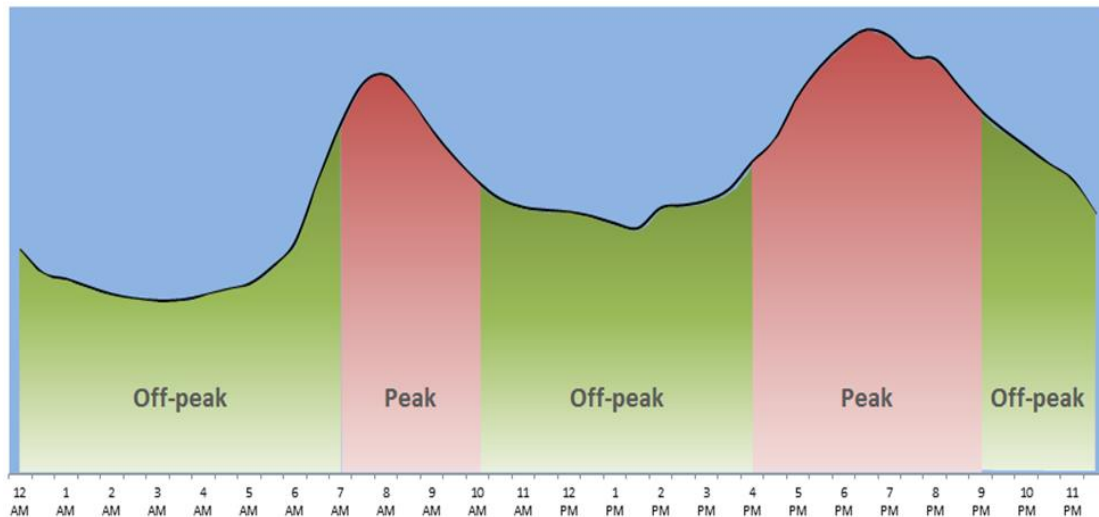
Figure 19.6 TasNetworks proposed residential time of use consumption and demand tariff charging windows



Source: TasNetworks, *Tariff structure statement*, January 2016, p. 41.

TasNetworks acknowledged that while the load profile in locations may differ slightly due to the diversity of customers, it elected to use the load profile of the system as a whole to identify the peak and off peak periods.⁸⁰ This approach aligns with the jurisdictional requirement that tariffs must be uniform for all small customers in Tasmania. As figure 19.7 shows, the proposed peak and off peak charging parameters reflect the system wide load profile.

Figure 19.7 Time of use periods and peak demand in winter, system wide load



Source: TasNetworks, *Tariff structure statement*, January 2016, p. 43.

We consider the peak period charging windows proposed by TasNetworks are wide enough to capture periods of high demand. But they also allow customers, particularly in the afternoon/evening, enough flexibility within which to shift their demand to outside the peak period. Avoidance of electricity use during the peak period is not necessary. Rather, customers can respond to the price signal by reducing the number of appliances concurrently used during this period. This intensive use—sometimes called appliance stacking—will drive up the level of recorded demand. Appliance use that is spread out during the peak period (turning off one appliance before another is used) will limit household peak demand, and so enable bill savings to be made. Evening out this peak will also reduce the need for, or defer, future network asset upgrades, resulting in savings for all customers.

As a consequence, we consider the proposed charging windows provides customers with an ability to respond to the signals being sent about network use, and further, that they will be able to shift some of their load to the off peak periods.

Low voltage business customers

⁸⁰ TasNetworks, *Tariff structure statement*, January 2016, p. 41.

Unlike the residential tariffs, TasNetworks has not sought to align the charging windows of the low voltage business time of use demand tariffs with the time of use consumption tariffs.

Instead it has decided to align the charging windows across the three demand tariffs—residential, small low voltage and large low voltage. The demand tariff charging windows for the low voltage business customer demand tariffs are shown above in figure 19.6.

In terms of the demand tariff charging windows, TasNetworks acknowledged the daily load profiles of residential and low voltage business are not the same.⁸¹ However, it decided to keep the same peak and off peak windows across the new demand tariffs to ensure the right pricing signals are sent to customers about system wide demand.

We are satisfied the alignment of charging windows for demand tariffs contribute towards the achievement of compliance with the distribution pricing principles. The alignment of charging windows reflects times of overall network stress and incorporates times either side of the peak which aid in avoiding issues surrounding customers shifting load and creating new peaks.

In terms of the small low voltage time of use consumption tariff—Business low voltage time of use—we note that unlike the demand tariff it has three charging windows—peak, off peak and shoulder. As shown in table 19.5, the charging windows of the Business low voltage time of use tariff are different to those of the demand tariff.

Table 19.5 Charging windows for Business low voltage time of use tariff

Charging windows	Tariff rate
Week day (07:00–22:00) (Monday – Friday)	Peak
Weekend day (07:00–22:00) (Saturday and Sunday)	Shoulder
Any day (22:00–24:00) (Monday–Sunday)	Off peak
Any day (0:00–07:00) (Monday–Sunday)	Off peak

Source: TasNetworks, *Network tariff application and price guide 2016–17*, June 2016, p. 27.

Although the charging windows are different, we approve the continuation of the Business low voltage time of use tariff charging windows over the 2017–19 regulatory control period for a number of reasons.

⁸¹ TasNetworks, *Tariff structure statement*, January 2016, p. 42.

First, we have taken into consideration customer impacts and consider the continuation of these tariffs in their current design will limit any short term price impacts to customers. In forming our decision, we have taken into consideration stakeholders submissions which posited that in this initial stage of tariff reform, the customer impacts and simplicity to minimise customer confusion should be key considerations.⁸²

Second, we consider the point of difference between the charging windows of the consumption and demand tariffs will encourage customers to inquire about how the demand tariff might suit their needs. Given these customers have the ability to choose between tariffs, the time of use demand tariff may be attractive to them. On this basis we approve the continuation of the charging windows as the ability for customers to respond to price signals by moving to a more cost reflective tariff is an appropriate response of the tariff reform. Again we have taken into consideration stakeholder submissions which posited that customers be given an opportunity to learn more about the demand tariff and how it might suit their needs before committing to it.⁸³

Finally, we consider maintaining the current charging windows on the basis that TasNetworks has indicated that over time it will align the charging windows of the time of use consumption tariff with the demand tariff.⁸⁴ On this final consideration, we expect TasNetworks' next tariff structure statement to include a timeframe for when this alignment would take place to allow predictability in pricing to customers.

As for TasNetworks' large low voltage kVA demand tariff, it does not need to have specified charging windows as its demand charge is based on anytime demand (c/kVA/day). We approve of this charging structure as the anytime demand charge reflects that these customers peak demand can occur at any time during the week, and that when that peak occurs it puts stress on the network.

Irrigation customers

TasNetworks Irrigation low voltage time of use tariff is relatively cost reflective in that the tariff charging windows not only incorporate time of use charges but also seasonal variations as shown in table 19.6. We approve of the continuation of the charging windows for this tariff for the same reasons we are approving the continuation of the Business low voltage time of use tariff charging windows discussed above.

⁸² ENA, *Australian Energy Regulatory Issues papers on draft tariff structure statements for TasNetworks*, 28 April 2016, pp. 2–3; TasCOSS, *Submission on AER Issues Paper: Tariff Structure Statement proposals (TasNetworks)*, 29 April 2016, pp. 2–3; Tasmanian Renewable Energy Alliance, *TREA response to AER March 2016 issues paper: TasNetworks tariff structure statement proposals*, 5 May 2016, pp. 1–2.

⁸³ ENA, *Australian Energy Regulatory Issues papers on draft tariff structure statements for TasNetworks*, 28 April 2016, pp. 2–3; TasCOSS, *Submission on AER Issues Paper: Tariff Structure Statement proposals (TasNetworks)*, 29 April 2016, pp. 2–3; Tasmanian Renewable Energy Alliance, *TREA response to AER March 2016 issues paper: TasNetworks tariff structure statement proposals*, 5 May 2016, pp. 1–2.

⁸⁴ TasNetworks, *Network tariff application and price guide 2016–17*, June 2016, p. 20.

Table 19.6 Charging windows for Irrigation low voltage time of use tariff

Charging windows	Summer (1 October – 31 March)	Winter (1 April – 30 September)
Week day (07:00–22:00) (Monday–Friday)	Shoulder	Peak
Weekend day (07:00–22:00) (Saturday and Sunday)	Off-peak	Shoulder
Any day (22:00–24:00) (Monday–Sunday)	Off-peak	Off-peak
Any day (0:00–07:00) (Monday–Sunday)	Off-peak	Off-peak

Source: TasNetworks, *Network tariff application and price guide 2016–17*, June 2016, p. 30.

High voltage business customers

We consider TasNetworks' high voltage business customer charging structures contribute towards the achievement of compliance with the distribution pricing principles. These tariffs feature elements such as time of use charges, demand based charges and seasonal variations. The time of use charging windows for these tariffs are the same as those for the Irrigation low voltage time of use tariff set out in table 19.6. The demand charges are negotiated between TasNetworks and the customer on the basis of the level of specified demand for the coming financial year.

19.4.4 Tariff levels

An important feature of this draft decision is the concept of **long run marginal cost**. Long run marginal cost is equivalent to the forward looking cost of a distributor providing one more unit of service, measured over a period of time sufficient for all factors of production to be varied. Long run marginal cost could also be described as a distributor's forward looking costs that are responsive to changes in electricity consumption.

The NER requires network tariffs to be based on long run marginal cost.⁸⁵ However, not all of a distributor's costs are forward looking and responsive to changes in electricity consumption. Hence, if network tariffs only reflected long run marginal cost, a distributor would not recover all its costs. Costs not covered by a distributor's long run marginal cost are called '**residual costs**'. The NER requires network tariffs to

⁸⁵ NER, cl. 6.18.5(f).

recover residual costs in a way that minimises distortions to the price signals for efficient usage that would result from tariffs reflecting only long run marginal costs.⁸⁶

This section sets out our considerations on TasNetworks' approach to calculating long run marginal cost, passing those costs through to customers and dealing with residual costs.

19.4.4.1 Calculation and recovery of long run marginal cost

When tariffs accurately reflect the marginal or forward-looking cost of increasing demand, consumers may make informed choices about their electricity usage. Tariff reform seeks to promote additional investment in the network by distributors only when consumers value increased demand more than the cost of delivering the additional network capacity necessary to meet that demand.

We approve TasNetworks' calculation and recovery of long run marginal cost. We are satisfied that TasNetworks' approach to estimating long run marginal cost and passing it through to customers contributes to the achievement of compliance with the distribution pricing principles. We note that forward looking price signals will, on average, improve over time as less cost reflective tariffs are progressively phased out. TasNetworks' application of forward looking price signals within its more cost reflective tariffs, such as demand tariffs, appropriately matches costs to tariff components.

We received no comments from stakeholders on TasNetworks' long run marginal cost methodology and calculation.

TasNetworks used the average incremental approach to derive its long run marginal costs. The rationale for using this method included:

- it relied on information already available, and included as part of its overall 2017–19 revenue proposal
- the method is commonly employed by distribution networks throughout Australia and so provides consistent application both in Tasmania and compared to its distributor peers.⁸⁷

In its approach, TasNetworks identified forecast works (projects and programs) required to meet the forecast cumulative growth in maximum demand on the network over the next 10 years. Incremental capital and operational expenditure resulting from incremental changes in demand were included in the calculation. Forecast replacement expenditure was only included in the calculation when there was a forecast change to capacity.⁸⁸

TasNetworks apportioned costs to its tariffs using the following method:

⁸⁶ NER, cl. 6.18.5(g)(3).

⁸⁷ TasNetworks, *Tariff structure statement*, January 2016, p. 83.

⁸⁸ TasNetworks, *Response to AER Issues Paper: Tariff Structure Statements proposals – TasNetworks*, April 2016, pp. 15–16.

- revenues (costs) are allocated to different voltage levels and regions.
- voltage levels are then further allocated to customer classes using a combination of demand and number of connections
- using a combination of demand, consumption and connection numbers, revenues (costs) are then allocated from the customer class to the network tariffs.

The peak demand charging component in the time of use demand tariffs is set at equal to (or approaching) TasNetworks long run marginal cost for each tariff class. As TasNetworks has chosen not to reduce the peak demand charge as a means of managing customer impacts, it will send a strong signal to customers about the impact of their usage decisions on future costs of the network.⁸⁹

We consider TasNetworks method of calculating long run marginal cost appropriate. Using the average incremental approach and the types of costs included in the calculation (incremental capital expenditure and related operational expenditure) sufficiently complies with the NER for this initial stage of tariff reform.

However, we encourage TasNetworks, when updating its long run marginal cost forecast and included costs in future tariff structure statements, to consider if asset replacement costs should also be included in the long run marginal cost calculation. We observe that TasNetworks did include some replacement capex in its long run marginal cost estimates.

We note that in the long run, the level of capacity is variable. When assets come to the end of their useful life, distributors have a choice of maintaining their current level of capacity, increasing capacity or decreasing capacity, depending on demand and use of the network. Distributors should not adopt a default position of maintaining existing capacity levels, especially where existing networks have spare capacity and where there are changing patterns of use. Replacement capital expenditure and associated operating expenditure should be included in long run marginal cost estimates to encourage network capacity to move towards the level that customers' value.

The NER does not prescribe which costs should and should not be included in long run marginal cost estimates. For this initial round of tariff structure statements we will not require replacement capital expenditure to be included in long run marginal cost calculations. For future tariff structure statements we leave open the option to take a stronger position on this matter.

19.4.4.2 Recovery of residual costs

We approve TasNetworks' proposed approach to the recovery of residual costs. We are satisfied TasNetworks' approach contributes to the achievement of compliance with the distribution pricing principles.

⁸⁹ TasNetworks, *Response to AER Issues Paper: Tariff Structure Statements proposals – TasNetworks*, April 2016, pp. 14–15.

Not all of a distributor's costs are forward looking and variable. Costs not captured by long run marginal cost estimates are called residual costs. Together, long run marginal costs and residual costs form a distributor's total costs. The distribution pricing principles require total costs be recovered in a way which minimises distortions to price signals for efficient usage resulting from tariffs reflecting long run marginal cost.⁹⁰ In this context, non-distortionary tends to mean unresponsive to customer usage. That is, because customers cannot avoid the residual costs they are asked to pay, they should respond to long run marginal cost price signals about their usage. For demand tariffs, to conform to the distribution pricing principles requirements, distributors generally propose recovery of residual costs through a form of fixed charge.

TasNetworks provided high level information within its tariff structure statement on what its residual costs were and how they intend to recover them. Its residual costs represent the remaining costs not recovered from the forward looking long run marginal cost signal (recouped via the demand charge).⁹¹

This is the same approach as adopted by other distributors in the national electricity market.⁹²

TasNetworks highlighted its process of determining how forward looking and residual costs are recovered from each tariff component.⁹³ They:

- determine the total efficient costs at the tariff class/tariff level
- apportion its long run marginal cost to the demand charge (where a tariff has a demand charge)
- determine the residual costs for each tariff
- calculate the service charge to recover the residual costs
- recover any remaining residual costs from each tariffs usage charge, where the tariff has such a charge applied.

We consider using a fixed service charge to recover residual costs for demand tariffs reasonable and contributes to the achievement of compliance with the distribution pricing principles, in particular, clause 6.18.5(g)(3). It does not distort the price signal being provided to customers through the demand charge, and also signals to customers there is an on-going cost for customers to remain connected to the network.

While not explicitly stated, it appears for tariffs that do not include a demand charge; the majority of fixed costs would be recovered from the service charge. Any remaining costs will be recovered via usage charges. We consider this method of recovering fixed costs reasonable for these types of tariffs.

⁹⁰ NER, cl. 6.18.5(g)(3).

⁹¹ TasNetworks, *Tariff structure statement*, January 2016, p. 82.

⁹² See for example: SA Power Networks, *Tariff structure statement*, December 2015, p. 31

⁹³ TasNetworks, *Response to AER Information Request*, April 2016, pp.18-19.

We note TasNetworks has proposed to increase its service charge for all of its tariffs. Discussion on this issue is in section 19.4.4.3 below.

We consider TasNetworks' revised tariff structure statement would benefit from including the information provided in response to the AER information request on long run marginal cost and recovery of residual costs. We do not require this information for compliance; however we encourage TasNetworks to include this information for the benefit of stakeholders.

19.4.4.3 Tariff rebalancing

TasNetworks proposed to rebalance its tariffs, such that there is more emphasis on the fixed service charge component and less on consumption based charging, over the 2017–19 regulatory control period.⁹⁴ Generally we approve TasNetworks' proposed tariff rebalancing approach. We consider the increase in fixed charges can signal the fixed nature of network costs and therefore contributes to the achievement of compliance with the distribution pricing principles.

However, we observe that TasNetworks proposes its high voltage customers will incur substantially higher increases in its fixed charges over the 2017–19 regulatory control period than other customers. We consider TasNetworks tariff structure statement has not demonstrated reasonable consideration of the impact of the proposed changes in fixed charges for these high voltage business customers.⁹⁵ On this basis, we do not approve TasNetworks tariff structure statement, as we do not consider this proposal complies with the distribution pricing principles, in particular clause 6.18.5(h). We require TasNetworks revised tariff structure statement to provide further analysis and reasoning to demonstrate it has taken into consideration the impact on these customers.

We note TasNetworks tariff structure statement proposed to increase fixed charges for all tariffs it offers to residential, low voltage and high voltage business customers— table 19.7. The move to increase cost recovery through a fixed supply charge is a reflection that a large portion of TasNetworks' costs are fixed, having been incurred in the past to supply business and household connections. The increase in fixed charges will be offset by the recovery of fewer costs through consumption charges (where applicable).

⁹⁴ TasNetworks, *Tariff structure statement*, January 2016, p. 6

⁹⁵ NER, cl. 6.18.5(h).

Table 19.7 TasNetworks' proposed increases in fixed service charges

Tariff	2015/16	2018/19	Percentage change
Residential low voltage (LV) general	\$166	\$175	5%
Residential LV time of use	\$166	\$196	15%
Residential LV pay as you go	\$166	\$175	5%
Residential LV pay as you go time of use	\$166	\$196	18%
Uncontrolled LV heating	\$18	\$20	11%
Controlled LV energy - Off-peak (with afternoon boost)	\$34	\$41	21%
Controlled LV energy	\$34	\$41	21%
Business LV general	\$166	\$176	6%
Business LV nursing Homes	\$166	\$176	6%
General network - curtilage	\$116	\$148	23%
Business LV time of Use	\$170	\$209	23%
Irrigation LV time of Use	\$800	\$841	5%
Unmetered LV supply general	\$166	\$176	6%
Business LV kVA demand	\$812	\$1042	6%
Business high voltage (HV) kVA specified demand	\$568	\$1,023	80%
Business HV kVA specified demand >2.0 MVA	\$7,530	\$9,248	23%

Source: TasNetworks submission to AER issues paper

TasNetworks noted the rebalancing of tariff components will be undertaken over time and is anticipated to be complete by June 2029, unless customer feedback in coming years indicates that a faster transition is preferable, and can be achieved.⁹⁶ The latter might occur if there are overall reductions in future revenues, providing headroom to rebalance tariff components without significant customer impacts.

We note that recovering a distributors fixed (sunk) costs can be done either by a fixed supply charge—usually charged in cents per day, or dollars per day—or by a minimum charge of some description. This charge could include for instance specifying a minimum level of demand that will be charged for the billing period, irrespective of actual customer demand over that period.

⁹⁶ TasNetworks, *Response to AER Issues Paper: Tariff Structure Statements proposals – TasNetworks*, April 2016, p .11.

TasNetworks has chosen the fixed supply charge option. This is likely due to the considerable number of customers expected to be on consumption based charges during the 2017–19 regulatory control period.

TasNetworks noted the revenue cap control mechanism applying to it permits it to recover its allowed revenue no matter the actual level of energy consumption.⁹⁷ Differences between actual revenues and allowed revenues due to variation in actual energy delivered compared to forecast are resolved via the unders and overs account. By placing a greater reliance on fixed charges, and less on consumption based charges, bill volatility can be reduced.

Increases in fixed charges will also remove cross subsidies from existing tariffs (that is TasNetworks has lower prices embedded into certain tariffs than would occur under full cost reflectivity), with a focus on unwinding cross subsidies that apply to specific industries (like irrigators) and nursing homes. TasNetworks has other tariffs available for these customers, and noted in particular that there were relatively few nursing homes customers on the legacy tariff. Most of these customers had already switched to another tariff as they would be better off.

We consider TasNetworks' proposed increases to fixed charges could better signal the fixed nature of network costs however impacts on customers also need to be considered.

We note submissions from TREA and TasCOSS did not support TasNetworks' proposal to increase fixed charge component of the tariffs.⁹⁸ They submitted that high fixed charges would impact low usage customers particularly low income households.

While we acknowledge the considerations by TREA and TasCOSS, we consider TasNetworks has taken into consideration pricing impacts for residential and low voltage customers. We note TasNetworks tariff structure statement outlines its role in supporting vulnerable customers and highlights that its gradual transitional timeline is to provide customers opportunity to understand and respond to these price signals. It noted this will reduce any potential adverse impacts of tariff reform on their retail electricity bills.

As shown in table 19.7, the relatively small increase for residential and low voltage customers demonstrates TasNetworks consideration of price impacts on these customers as it moves toward full cost reflectivity. However, the size of the increase is significant more pronounced for its high voltage customers.

When we compare the proposed increases in fixed charges for the 2017–19 regulatory control period against those we approved in the 2013–14 pricing proposal we note the

⁹⁷ TasNetworks, *Response to AER Issues Paper: Tariff Structure Statements proposals – TasNetworks*, April 2016, pp. 3– 5.

⁹⁸ TasCOSS, *Submission on AER Issues Paper: Tariff Structure Statement proposals (TasNetworks)*, 29 April 2016, p. 2; Tasmanian Renewable Energy Alliance, *TREA response to AER March 2016 issues paper: TasNetworks tariff structure statement proposals*, 5 May 2016, p. 3.

increases for high voltage customers is significant.⁹⁹ For the Business HV kVA specified demand tariff the percentage increase is up 110 percent and for the Business HV kVA specified demand > 2.0 MVA tariff, the increase is up 43 percent.

We consider TasNetworks tariff structure statement has not demonstrated reasonable consideration of the impact of the proposed changes in fixed charges for these high voltage business customers.¹⁰⁰ Given the materiality of these increases, we consider we cannot approve them without TasNetworks demonstrating it has taken reasonable consideration of the price impacts on these customers.

19.4.5 Tariff assignment policies

This section sets out our assessment of TasNetworks' policies and procedures for grouping and assigning customers to tariffs.

Tariff classes

We approve TasNetworks' proposed tariff classes because we are satisfied they comply with the distribution pricing principles.¹⁰¹ We note TasNetworks did not propose any change from the tariff classes applied in the current regulatory control period. A simplified version of the tariff classes are set out in table 19.8. A more detailed version is set out in table 19.10 in appendix D.

Table 19.8 TasNetworks' tariff classes for standard control services

Network tariff class	Description
Residential	Tariff class is for premises that are wholly or principally as private residential dwellings. This is a relatively homogenous group of customers.
Controlled energy	Tariff class is for off-peak water, residential space and/or indoor pool heating for installations that are private residential dwellings. This is a relatively homogenous group of customers.
Uncontrolled energy	Tariff class is for water, residential space and/or domestic indoor pool heating for installations that are private residential dwellings. This is a relatively homogenous group of customers.
Small low voltage	Tariff class is for all other businesses (i.e. installations that are not private residential dwellings) that are connected to the low voltage network.
Irrigation	Tariff class is for primary producers' business installations that are used primarily for the irrigation of crops.
Large low voltage	Tariff class is for large businesses (i.e. installations that are not private residential dwellings) low voltage customers that, due to their size, are likely to have dedicated (or largely dedicated) transformers and use a small proportion of the shared low voltage system.
High voltage	Tariff class is for large customers that are able to agree a specified maximum demand that is then used for pricing purposes.

⁹⁹ Aurora Energy, *Pricing proposal: 1 July 2014 – 30 June 2015*, April 2014, pp. 69-70.

¹⁰⁰ NER, cl. 6.18.5(h).

¹⁰¹ NER, cl.6.18.3.

Unmetered	Tariff class is for unmetered connections, other than streetlights. This is a relatively homogenous group of customers.
Streetlights	Tariff class is for customers that have a public lighting service (other than installation and replacement lamps). This is relatively homogenous group of customers.
Individual tariff calculation	Tariff class is for very large customers for which tariffs are calculated on an individual basis.
Embedded generators	Tariff class is for the recording of energy imported into the distribution network, and applies to customers with embedded generation. While there are specific tariffs within this tariff class, TasNetworks do not apply charges for these network tariffs.

Source: TasNetworks, *Tariff structure statement*, January 2016, pp. 74–75.

Tariff assignment policy

We consider TasNetworks' tariff assignment policy contributes to the achievement of compliance with the distribution pricing principles. In terms of moving towards cost reflective tariffs, TasNetworks adopted a relatively cautious approach, making the demand based cost reflective tariffs opt-in for retail and small business customers. While this approach will delay realisation of the network and customer benefits from tariff reform, it is not inconsistent with the distribution pricing principles.

TasNetworks' approach to tariff assignment groups customers based on their characteristics and the implications these could have on network costs:

- customers are identified as residential or business customers
- customers are grouped into tariff classes based on their connection voltage (e.g. low or high voltage) and the size of their use (e.g. small or large customer)
- some large customers are deemed to have specific characteristics such that they are assigned to individually calculated tariffs.

Residential and low voltage business customer tariff assignment policies

For the duration of the tariff structure statement period, no residential or low voltage business customers will be mandatorily assigned to a time of use consumption or a time of use demand tariff. Instead these tariffs will be offered on an opt-in basis. We note this approach is at one end of the spectrum of possible approaches, including:

- assigning customers to a cost reflective tariff (subject to appropriate metering) but allowing them to opt-out
- leaving existing customers on current tariffs but assigning new customers to cost reflective tariffs (subject to appropriate metering) and allowing opt-out
- mandatorily assigning customers to cost reflective tariffs wherever appropriate metering is available.

The approach adopted by TasNetworks is the least progressive of the possible approaches. However, as we noted, and observed by the Energy Networks Association,¹⁰² the distribution pricing principles support a broad range of approaches.

At this initial step in the tariff reform process, in light of the distribution pricing principles' reference to transition periods,¹⁰³ we consider the approach proposed by TasNetworks contributes to the achievement of compliance with the distribution pricing principles. This is because it takes into account customer impacts by ensuring that small customers have time to better understand new demand tariffs—this might be through retailers' communication with them. In this way, the goal of tariff reform is progressively explained over time, lending itself to potentially more acceptance than one based on significant short term change. This position is supported in submissions by a number of stakeholders.¹⁰⁴

We also note that while TasNetworks have progressively installed meters with the capacity to record demand levels in intervals as required by the new tariffs, there are many residential and small business customers who have meters that do not.¹⁰⁵ Customer awareness of tariff reform is likely also limited. Also, stakeholder submissions to us in response to TasNetworks' tariff structure statement were overwhelmingly in favour of the proposed opt-in arrangements.¹⁰⁶

On balance, we consider TasNetworks' proposed tariff assignment policies contribute to the achievement of compliance with the distribution pricing principles. We expect the distributors in the national electricity market will move towards more prescriptive approaches in their subsequent tariff statements. Indeed, TasNetworks stated:¹⁰⁷

In time, we expect that all small business and residential customers will move over to demand based network tariffs rather than the current consumption based network tariffs.

With appropriate metering becoming more widespread and tariff reform under way, for subsequent tariff statement proposals stakeholders should expect that distributors may propose more ambitious changes to tariff assignment to achieve cost reflective tariffs.

¹⁰² ENA, *Australian Energy Regulatory Issues papers on draft tariff structure statements for TasNetworks*, 28 April 2016, p. 2.

¹⁰³ NER, cl. 6.18.5(h)(1).

¹⁰⁴ ENA, *Australian Energy Regulatory Issues papers on draft tariff structure statements for TasNetworks*, 28 April 2016, pp. 2–3; TasCOSS, *Submission on AER Issues Paper: Tariff Structure Statement proposals (TasNetworks)*, 29 April 2016, pp. 2–3.

¹⁰⁵ TasNetworks, *Tariff structure statement*, January 2016, p. 28.

¹⁰⁶ ENA, *Australian Energy Regulatory Issues papers on draft tariff structure statements for TasNetworks*, 28 April 2016, pp. 2–3; TasCOSS, *Submission on AER Issues Paper: Tariff Structure Statement proposals (TasNetworks)*, 29 April 2016, pp. 2–3.

¹⁰⁷ TasNetworks, *Improving the way we price our services: Tariff structure statement—Regulatory control period 1 July 2017 to 30 June 2019—Overview*, January 2016, p. 12.

Menu of tariffs

We are satisfied that TasNetworks' proposal to include demand tariffs in its tariff structure statement contributes towards the achievement of compliances with the distribution pricing principles. We consider that offering further cost reflective tariffs (i.e. a menu of tariffs) should be explored by TasNetworks in the next tariff structure statement period; however at this stage we will not require it for compliance.

Our issues paper discussed the possibility of TasNetworks considering a menu of tariff options for customers, rather than just a single new tariff. The rationale was that a menu of tariff options would provide retailers in particular with an opportunity to create different retail offerings that reflect varying degrees of cost reflective prices.

In this way, a distributor could have two types of cost reflective tariffs within the one tariff class—one tariff that only partially reflects the long run marginal cost of demand (perhaps with a ramp up of these costs over time) and a second tariff that fully reflects the forward looking costs. Such an approach enables those customers who consider they will be better off on a demand tariff to face its full costs immediately and thus get full benefits sooner. In contrast, increasing the demand charging component progressively over time delays benefits for those customers.

TasNetworks will transition all of its network tariffs to a cost reflective level over a 15 year period that commenced from 1 July 2014.¹⁰⁸ Customers will not have the ability to choose a faster transition to the demand tariff though. This was based on TasNetworks consultation with customer groups, who preferred an opt-in cost reflective tariff.

In response to our issues paper, TasNetworks advised it had considered a menu of tariff options. However, to ensure understanding, simplicity and reduce administration for itself and retailers, TasNetworks decided against offering a wider selection of tariffs.¹⁰⁹ It considered the opt-in demand tariff in addition to its existing tariffs will give customers sufficient tariff choice.

The ENA and TREA agreed that a menu of tariff options is not needed at this stage of tariff reform.¹¹⁰ ENA cautioned that mandating a menu of tariff options may have implications for complexity and transaction costs in the absence of strong evidence that additional options would be taken up by retailers and customers. It noted the NER provided an adequate framework for TasNetworks, in consultation with its customers, to consider the prospective need or benefit of such options.

¹⁰⁸ TasNetworks, *Tariff structure statement*, January 2016, p. 27.

¹⁰⁹ TasNetworks, *Response to AER Issues Paper: Tariff Structure Statement proposals – TasNetworks*, April 2016 submission, p. 32.

¹¹⁰ ENA, *Australian Energy Regulatory Issues papers on draft tariff structure statements for TasNetworks*, 28 April 2016, p. 3; Tasmanian Renewable Energy Alliance, *TREA response to AER March 2016 issues paper: TasNetworks tariff structure statement proposals*, 5 May 2016, p.4.

We accept that a menu of tariffs need not be adopted by TasNetworks at this stage. Tariff reform is still in its early stages and customers will need to get used to being charged for kW demand instead of kWh energy, if they choose the demand tariffs. As noted, TasNetworks indicated it wants customers to eventually be on demand tariffs in the longer term. This implies it may consider an alternative demand tariff with a quicker transition to full cost reflectivity in a future tariff structure statement.

High voltage business customer tariff assignment policies

We are satisfied that TasNetworks' proposed assignment policies for high voltage business customers contribute towards the achievement of compliance with the distribution pricing principles.

TasNetworks' offers a number of tariffs to its high voltage business customers. Assignment to tariffs is generally based on connection type, annual usage thresholds and maximum demand levels. Some high voltage customers are deemed to have specific characteristics such that they are assigned to individually calculated tariffs.

TasNetworks' tariffs for high voltage business customers are already relatively cost reflective given the tariffs feature elements such as time of use charges, demand based charges and seasonal variations. However, the proportion of TasNetworks' network costs recovered from particular tariff classes will change over time as part of the process to remove cross subsidies between different classes of customers.

A Background of tariff structure statements

The requirement on distributors to prepare a tariff structure statement arises from a long process of reform to the NER governing distribution network pricing. The purpose of the reforms is to empower consumers to make informed choices by:

- Providing better price signals—tariffs that reflect what it costs to use electricity at different times so that customers can make informed decisions to better manage their bills.
- Transitioning to greater cost reflectivity—requiring distributors to explicitly consider the impacts of tariff changes on customers, and engaging with customers (and their representatives) and retailers in developing tariff proposals over time.
- Managing future expectations—providing guidance for retailers, customers and suppliers of services such as local generation, batteries and demand management by setting out the distributor's tariff approaches for a set period of time.

Why is network tariff reform important?

Distribution tariffs historically have not varied according to the time when electricity is used. But distribution costs reflect the maximum demand the network must cater for at key points in time. This means existing network tariffs do not reflect network costs. Most existing tariffs send price signals that don't inform customers about the costs imposed on distribution networks in peak demand periods. This can also mean that some customers are paying more for electricity than they should, while others pay less, despite having similar load profiles.

Lifestyle changes, including use of air conditioners, means consumers now use relatively more of their electricity at peak times, even if overall energy consumption has declined. Network costs have increased in recent years as distributors invest in additional infrastructure upgrades to meet the higher peak demand. This increased investment has been a factor driving electricity price rises in the recent past.

As there is greater diversity today in how consumers use electricity, it is important consumers understand the value of their choices. Moving to tariffs that reflect electricity use during peak demand periods will make pricing for electricity more transparent.

As such, cost reflective pricing means the tariffs individual consumers pay more accurately reflect the way they use electricity. Those who use electricity at peak times will pay rates better reflecting the costs created by their use. Those who use less power in peak demand periods and more at other times will benefit from lower network prices during non-peak times. And if consumers take heed of these price signals, network investment requirements will be lower than they otherwise would be because new network assets will not need to be built as peak demand is stabilised, or reduced. This reduces upwards pressure on electricity prices for everyone.

Differences between demand and consumption

Electricity **consumption** is the total amount of electricity consumed (used) over a period of time. For example, a typical Australian household might use around 7,000 kWh of electricity over 12 months.¹¹¹ **Demand** means the amount of electricity used at a single point in time. **Peak demand** is the maximum amount of electricity used at a single point in time over a defined time period, often a day or a year. A typical Australian household might have its yearly peak demand of around 5kW, either on a hot summer afternoon when air conditioning is used, or on a winter evening when electric heating is used.¹¹² That is, the household's annual peak demand is 5kW.

A good analogy for electricity consumption compared to electricity demand is a river flowing under a bridge. Annual electricity consumption is equivalent to the total water volume flowing under the bridge during a year. Electricity demand is equivalent to the volume of water under the bridge at a single point in time. Peak electricity demand is equivalent to the time when the largest volume of water is flowing under the bridge.

Long run marginal cost and residual costs

An important feature of this draft decision is the concept of **long run marginal cost**. Long run marginal cost is equivalent to the forward looking cost of a distributor providing one more unit of service, measured over a period of time sufficient for all factors of production to be varied. Long run marginal cost could also be described as a distributor's forward looking costs that are responsive to changes in electricity consumption.

The NER requires network tariffs to be based on long run marginal cost.¹¹³ However, not all of a distributor's costs are forward looking and responsive to changes in electricity consumption. Hence, if network tariffs only reflected long run marginal cost, a distributor would not recover all its costs. Costs not covered by a distributor's long run marginal cost are called '**residual costs**'. The NER requires network tariffs to recover residual costs in a way that minimises distortions to the price signals for efficient usage that would result from tariffs reflecting only long run marginal costs.¹¹⁴

Types of network tariffs

A network 'tariff' is the combination of charges paid by a network customer in return for network services. Historically, most small customers in Australia have been on either a flat usage tariff or a block tariff (tiered pricing):

- **Flat tariff**—usually consists of a fixed charge and flat usage charge. That is, usage is charged the same price no matter how much electricity the customer uses.

¹¹¹ For a 3 person household in NSW without gas nor swimming pool, via: Acil Allen Consulting, Electricity bill benchmarks for residential customers (report to the Australian Energy Regulator), March 2015, p. 29.

¹¹² EMET Consultants Pty Ltd as referenced by solarchoice.net.au.

¹¹³ NER, cl. 6.18.5(f).

¹¹⁴ NER, cl. 6.18.5(g)(3).

- **Inclining block tariff**—usually consists of a fixed charge and a series of block charges where the price changes depending on the size of the customer's total consumption. The first consumption block is charged the lowest price, and each successive block of consumption is charged at a higher rate.
- **Declining block tariff**—usually consists of a fixed charge and a series of block charges where the price changes depending on the size of the customer's total consumption. The first consumption block is charged the highest price, and each successive block of consumption is charged at a lower rate. A declining block tariff is the reverse of an inclining block tariff.

Flat tariffs or inclining block tariffs are relatively common. Declining block tariffs are now relatively uncommon in most jurisdictions.

A different type of tariff is a **time of use (TOU) tariff**. Time of use tariffs usually also have a fixed charge component. Time of use tariffs apply a different price depending on when the customer consumes electricity. A time of use tariff will have defined charging windows when different rates apply. These charging windows might be labelled the 'peak' window, 'shoulder' window, and 'off-peak' window. The highest usage rate applies to consumption during the peak window, and the lowest usage rate applies to consumption during the off-peak window.

A **demand tariff** includes a charge based on the customer's highest measured demand during the billing period. Often, demand charges will be limited to the highest demand measured during charging windows. Typically, charging windows will coincide with the peak demand times for the whole network or for specific customer types (e.g. residential or small business customers). Demand tariffs may also include fixed charges and usage charges.

Critical peak pricing is another tariff variant and an example of more dynamic tariffs. Under this approach a distributor can specify periods of critical network peak demand, and will set prices particularly high for any demand or consumption that occurs during the specified critical peak event. This approach is generally in use currently only for certain larger businesses which can moderate consumption (e.g. by shutting down part of a production line) or use their own generation assets as a substitute for network electricity.

Distributors sometimes offer combinations of a **primary tariff**, such as those listed above, with **secondary tariffs**, such as **load control tariffs**. These tariffs typically apply a lower rate to electricity used for certain appliances in return for using those appliances during off peak times. For example, off peak hot water. In other cases a lower rate may apply to customers who allow a distributor to remotely cycle appliances on and off during peak demand periods. Distributors will often limit access to secondary tariffs to customers on specified primary tariffs such as flat usage tariffs or block tariffs.

In addition to tariffs, distributors sometimes seek to influence network demand by offering **rebates** (partial refunds) to customers in return for demand reductions made

by the customer during specific time periods. Rebates may be linked to critical peak demand times or to specific geographic areas, or both.

Metering and tariffs

Flat tariffs or block tariffs can be applied to customers with basic **accumulation meters** (type 6 meters). This is because to calculate the tariff, it is only necessary to know the customer's total consumption, not when that consumption has occurred. Whereas **interval** (type 5) or **smart meters** (type 4) can facilitate time of use or demand tariffs. This is because interval and smart meters measure both when and how much electricity a customer has consumed, which is necessary to calculate a time-of-use tariff or demand tariff.

A **manually read meter** (generally an accumulation or interval meter) must be read in person at the customer's premises. A **remotely read meter** requires the meter to have communications functionality, radio or digital communications, generally associated with smart meters. This allows them to be read remotely or electronically without the need for a site visit.

Degree of choice in network tariff assignment

A constituent element of a tariff structure statement are the policies and procedures a distributor will apply for assigning customers to tariffs or reassigning customers from one tariff to another.¹¹⁵ These policies and procedures should include certainty around whether a tariff is a 'mandatory' tariff, 'opt-out' tariff or 'opt-in' tariff for particular customer types. Among other possibilities, customer types might be based on the connection characteristics and metering arrangements of the customer, as well as whether the customer is a new or existing customer. The differences between these three options are:

- **A mandatory tariff**—means this is the only tariff available for customers of a particular type. For example, industrial customers connected to the high voltage network and whose annual consumption falls within a particular range may be required to be assigned a demand tariff, and there may be no other tariff options they can choose from.
- **An opt-out tariff**—means the customer is assigned to this tariff by default, but they may voluntarily choose to be re-assigned to a different tariff. For example, a residential customer may by default be assigned to a block tariff, but could choose to switch to a time-of-use tariff.
- **An opt-in tariff**—means the customer can choose to be re-assigned to this tariff, but is by default assigned to some other tariff. This is the opposite of an opt-out tariff. In the previous example, the time-of-use tariff would be described as an opt-in tariff.

¹¹⁵ NER, cl.6.18.1A(a)(2).

It is important that distributors are clear in their tariff structure statements which of their proposed tariffs are mandatory, opt-out and opt-in, and for which customer types.

To assign customers to one of the various tariffs offered by a distributor requires also that the distributor group customers into types, or classes. Customer classes might be based on a customer's connection type or metering arrangements, their annual usage, or whether the customer is a new or existing customer.

Elements of a tariff structure

Tariff structure incorporates the charges that make up a tariff. For example, a demand tariff typically comprises a fixed charge, a usage charge and a demand charge. How those charges are applied to a customer reflect the tariff's **charging parameters**. Examples of charging parameters include:

- how frequently a charge is applied to a customer
- the times during which usage or demand is measured to calculate a charge
- variations in charges and how those variations are triggered.

Charging parameters may be varied to match the purpose of the distributor when designing the tariff. For example, the demand component within a demand tariff may target the time of a distributor's broad network peak, a local regional peak, or a customer class peak (e.g. residential customers).

To illustrate charging parameters linked to charges, table 19.9 sets out the three usual charges for a demand tariff. Alongside those usual charges are typical parameters for each charge.

Table 19.9 Example demand tariff and charging parameters

Charge	Charging parameters
Fixed charge	Applied once per customer per billing period. Does not vary with customer usage or demand.
Usage charge	Calculated using the total electricity consumed by the customer over the billing period.
Demand charge	Calculated based on the customer's highest demand recorded during the demand charging window.

Any of the charges described in table 19.9 may vary according to the time of day, day of the week or time of the year. For example, any of the fixed charge, usage charge or demand charge could be higher in summer months and lower in non–summer months.

How does the tariff structure statement fit into the regulatory process?

Tariff statements are a new element of the NER. Generally, tariff statements will be submitted to us by distributors with their distribution or revenue proposals every five

(usually) years.¹¹⁶ Revenue proposals set out the total amount of revenue required from customers to run a network over a regulatory period (typically 5 years). As part of our distribution determination process we will publish, assess and invite feedback on a tariff statement along with a revenue proposal. An approved tariff statement will then apply to the distributor's tariffs for the coming five year regulatory control period.

For TasNetworks, their tariff structure statement aligns with the timing of their distribution determination and applies for two years only.

Once approved, a tariff statement will guide a distributor in shaping its annual pricing proposals, submitted to us prior to each regulatory year. The annual pricing proposal is where a distributor reflects our distribution determination into tariffs. We check that total expected revenue to be earned in the coming regulatory year is consistent with the annual revenue we have determined for that year.

We will now also check that an annual pricing proposal is consistent with a distributor's approved tariff statement. A distributor may not propose a tariff which was not included in its approved tariff statement. Nor may a distributor materially vary the parameters of a tariff from that described in its approved tariff statement. This provides retailers, customers and other stakeholders with certainty about the structure of tariffs to be charged in each year of the regulatory control period.

Approved tariff statements address tariffs for both standard control services and alternative control services. However, in practice the tariffs for alternative control services are almost entirely dealt with by our distribution determinations and the annual tariff approval process. There is relatively little regulatory role left for tariff statements in the context of alternative control services. Tariffs for fee based and quoted services are set on an individual customer specific basis, so typically reflect the costs that each user imposes on the distributor to provide the service. For this reason distributors deal with alternative control services in their tariff statements relatively briefly and for completeness. For the same reason our tariff structure decisions will focus on standard control services and make little comment on a distributor's alternative control services.

How does network tariff reform interact with other reforms?

Network tariff reform is commencing at the same time as reforms to provision of metering services and access to customer information. These related reforms have implications for network tariffs, including the pace at which tariffs can evolve to become more cost reflective.

For metering, changes to the NER will remove the existing barrier to third parties supplying accumulation and interval meters to customers. The same wave of changes to metering arrangements will establish new minimum specifications to improve performance for all new meters compared to most meters currently in use. In effect, all new meters will incorporate functionality equivalent to smart meters. This will see

¹¹⁶ NER, cl. 6.8.2.

better meter functionality progressively taken up across distribution networks and facilitate broader use of more cost reflective pricing over time.

Consumers may engage an energy services provider or retailer to use their consumption information to recommend bundled energy plans. In recognition of how customer energy usage information might be used, reforms have been introduced to make it easier to obtain access to this information.¹¹⁷ Customers may now access their consumption data from their distributor and retailer. They may also authorise other parties, such as retailers, to do so on their behalf. These reforms will not only help customers but also assist energy service providers in developing tailored and innovative energy products and services.

How does network pricing interact with network planning and demand management?

Demand pressures can be addressed by sending price signals to encourage customers (and retailers) to reduce demand, consistent with the aims of tariff reform. Alternatively, demand pressures can be addressed by network expenditure, as has been the case in the recent past. Another option, which distributors are required by the NER to consider, is the use of demand management initiatives. These can include rebates for customers who reduce their consumption. Or distributors can install or utilise generation assets in areas where the associated cost is less than the cost of network investment to meet local area demand.

While not explicitly required of distributors by the NER, we consider it useful for tariff statements to describe the distributor's approach to integrating tariff reform, network investment and demand management. Such discussion will position tariff statements within the broader context of how distributors intend to respond to demand and service challenges. Also, while the NER requires distributors to consider the time and location varying nature of network cost drivers, difficulties with locational pricing suggest a larger role for demand management initiatives to address local network demand pressures.

An example of this is United Energy proposing to apply rebates for customers in selected locations within its network, to encourage demand reductions that will limit peak demand.¹¹⁸ This will alleviate, or postpone, the need for more costly network upgrades to those areas where network constraints may be likely in the near term, and still ensure continuing electricity supply and reliability.

¹¹⁷ Australian Energy Markets Commission, National Electricity Amendment (Customer access to information about their energy consumption) Rule 2014, Final Determination, 6 November 2014.

¹¹⁸ United Energy, *Revised Tariff Structure Statement 2017–20*, 29 April 2016, pp. 34-35.

B Our consultation process

On 11 March 2016, we published our issues paper on TasNetworks' tariff structure statement proposal. The paper summarised key aspects of TasNetworks' proposal, highlighting issues we consider relevant to our assessment and invited stakeholder submissions. Submissions on the issues paper closed on 28 April 2016. We received submissions from the following stakeholders:

1. Energy Networks Association
2. TasNetworks
3. Tasmanian Council of Social Services
4. Tasmanian Renewable Energy Alliance

On 17 March 2016, the AER hosted a public forum on TasNetworks' tariff structure statement proposal. We highlighted issues we considered relevant to our assessment and invited stakeholder commentary.

On 21 April 2016, we provided TasNetworks with an information request covering topics such as tariff levels, tariff design, customer impacts and long run marginal cost. On 2 May 2016 TasNetworks provided a response to our request.

C TasNetworks' customer consultation and customer impact analysis

Distributors must include in their tariff structure statements a description of how they engaged with customers and retailers in developing their proposals, including how they sought to address concerns raised during the engagement.¹¹⁹

TasNetworks has provided this in its proposed tariff structure statement. Overall TasNetworks' engagement seems transparent and thorough. They engaged with numerous stakeholders and created the 'TasNetworks Tariff Reform Working Group' which had direct input on the direction of the tariff structure statement.¹²⁰

The tariff structure statement highlights the engagement processes TasNetworks undertook and how feedback they received shaped the proposal.

A distributor must show how they have complied with the NER including those requiring reasonable management of customer impacts and those that require tariffs to be reasonably understandable.¹²¹

TasNetworks' proposed tariff structure statement itself does not contain a large amount of customer impact information. However we note that throughout their consultation process it developed and presented to stakeholders what appears to be a thorough analysis on customer impacts. Specifically, TasNetworks published a consultation paper which included charts highlighting the impacts for different customers moving from a usage based tariff to the proposed time of use demand tariffs.¹²²

TasNetworks also provided a submission in response to our issues paper which presented more in-depth summaries of customer impacts.¹²³

Examples of impacts resulting from moving on to a time of use demand tariff can be seen in figure 19.8 below. The forecast impacts presented are based on sample data due to the lack of metering data being available.

¹¹⁹ NER, cl. 6.8.2(c1a).

¹²⁰ TasNetworks, *Tariff Structure Statement*, pg. 21.

¹²¹ NER, cl. 6.18.5(h); NER, cl. 6.18.5(i)

¹²² TasNetworks, *Demand based network tariffs – offering a new choice*, September 2015, pp. 23-27.

¹²³ TasNetworks, Response to the AER's Issues Paper: *Tariff Structure Statement proposal*, pp. 25-31.

Figure 19.8 TasNetworks customer impacts for residential and small business

Figure 13: Residential Network Customer Impact (Residential Low Voltage General and Uncontrolled Low Voltage Heating distribution network tariffs)

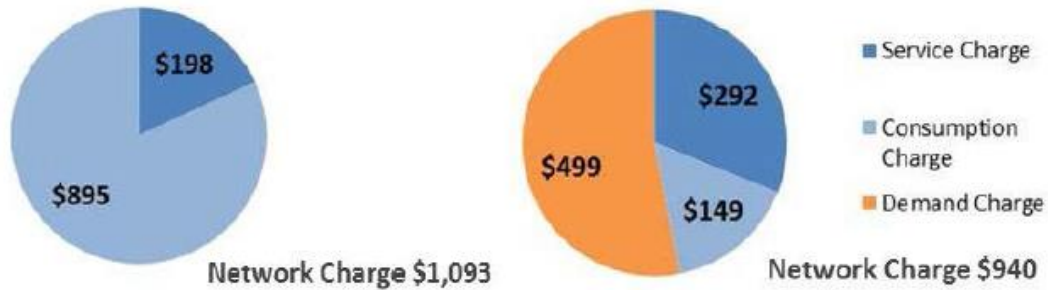


Figure 15: Low Voltage Commercial Network Customer Impact (Business Low Voltage General distribution network tariff)



Source: TasNetworks: *Demand based network tariffs – offering a new choice - Consultation paper*, September 2015.

Although the analysis has been created with sample data, which is appropriate due to the lack of smart meters in TasNetworks, we encourage TasNetworks to include this type of information in its revised and subsequent tariff structure statement proposals.

We also encourage TasNetworks to provide real customer impacts as the number of customers with smart meters increases in the coming years. Providing this information in the tariff structure statement will ensure access to this information for all, not just those stakeholders who were included in the consultation process.

D TasNetworks tariff classes for standard control services

Table 19.10 TasNetworks tariff classes for standard control services

Network tariff class	Network tariff	Description
Residential	Residential time of use demand	This network tariff is for low voltage installations that are premises used wholly or principally as private residential dwellings. There are no restrictions on the use of the supply (i.e. the supply may be used for general power, heating, water heating, etc.). Farm outbuildings may be connected on this network tariff provided that the connection is through the meters of the farm residence. This network tariff may not be used in conjunction with any other network tariff offering.
	Residential low voltage general (TAS31)	This network tariff is for low voltage installations located at premises that are used wholly or principally as private residential dwellings. There are no restrictions on the use of the supply (i.e. the supply may be used for general power, heating, water heating, etc.). Farm outbuildings may be connected on this network tariff provided that the connection is through the meters of the farm residence.
	Residential low voltage PAYG (TAS101)	This network tariff applies to low voltage installations at premises which are used wholly or principally as private residential dwellings and were supplied in accordance with a prepayment metering product prior to 1 July 2013. There are no restrictions on the use of the supply (i.e. the supply may be used for general power, heating, water heating, etc.). This network tariff may not be used in conjunction with any other network tariff offering. This network tariff is obsolete and no longer available to new customers.
	Residential low voltage PAYG time of use (TAS92)	This network tariff applies to low voltage installations at premises which are used wholly or principally as private residential dwellings and were supplied in accordance with a prepayment metering product. There are no restrictions on the use of the supply (i.e. the supply may be used for general power, heating, water heating, etc.). This network tariff may not be used in conjunction with any other network tariff offering.
	Residential low voltage time of use (TAS93)	This network tariff is available for low voltage installations that are premises used wholly or principally as private residential dwellings. There are no restrictions on the use of the supply (i.e. the supply may be used for general power, heating, water heating, etc.). Farm outbuildings may be connected on this network tariff provided that the connection is through the meters of the farm residence.
Controlled energy	Controlled low voltage energy–off peak with afternoon boost (TAS61)	<p>This network tariff is for low voltage installations. In the case of installations that are private residential dwellings and have a current connection on network tariff Residential low voltage general (TAS31), this network tariff may be used for:</p> <ul style="list-style-type: none"> • water heating and/or residential space heating and/or other 'wired in' appliances TasNetworks approves; and or • heating swimming pools, including those that incorporate a spa, but not separate spas from which the water goes to waste after use. <p>In installations that are not private residential dwellings but which have a current connection on either network tariff Business low voltage general (TAS22) or Business low voltage nursing homes (TAS34), this network tariff may be used for water heating and/or space heating and/or other 'wired in' appliances TasNetworks approves.</p>

	Controlled low voltage energy–night period only (TAS63)	<p>This network tariff available for low voltage installations only. In the case of installations that are private residential dwellings, this network tariff may be used for:</p> <ul style="list-style-type: none"> • water heating and/or residential space heating and/or other 'wired in' appliances TasNetworks approves; and or • heating swimming pools, including those that incorporate a spa, but not separate spas from which the water goes to waste after use. <p>In installations that are not private residential dwellings, this network tariff is for water heating and/or space heating and/or other circuits TasNetworks approves.</p>
Uncontrolled energy	Uncontrolled low voltage heating (TAS41)	This network tariff is for low voltage installations. In installations that are located on premises that are used wholly or principally as private residential dwellings, this network tariff is for water heating and/or residential space heating and/or domestic indoor pool heating only. In installations that are not located a private residential dwellings this network tariff is for water heating or space heating only.
	Low voltage commercial time of use demand	This network tariff is for low voltage installations that are not used either wholly or principally as private residential dwellings. There are no restrictions on the use of the supply (i.e. the supply may be used for general power, heating, water heating, etc.). This network tariff may not be used in conjunction with any other network tariff offering.
	Business low voltage general (TAS22)	This network tariff is for low voltage installations located on premises that are not used either wholly or principally as private residential dwellings. There are no restrictions on the use of supply (i.e. the supply may be used for general power, heating, water heating, etc.)
Small low voltage	Business low voltage nursing homes (TAS34)	This network tariff applies to low voltage installations that are registered as aged care facilities. There are no restrictions on the use of the supply (i.e. the supply may be used for general power, heating, water heating, etc.). This network tariff is obsolete and no longer available to new customers.
	General network–business, curtilage (TASCURT)	This network tariff applies to low voltage rural installations which have a single connection point but require more than one meter due to site layout. This single connections point must supply an installation qualifying for, and being supplied under network tariff, Business low voltage general (TAS22). This network tariff is obsolete and no longer available to new customers.
	Business low voltage time of use (TAS94)	This network tariff is available for low voltage installations that are not private residential dwellings. There are no restrictions on the use of supply (i.e. the supply may be used for general power, heating, water heating, etc.).
Irrigation	Irrigation low voltage time of use (TAS75)	This low voltage network tariff is for primary producers' business installations that are used primarily for the irrigation of crops. This network tariff may not be used in conjunction with any other network tariff offering.
Large low voltage	Business low voltage kVA demand (TAS82)	This network tariff is for installations taking low voltage multi-phase supply. There are no restrictions on the use of the supply (i.e. the supply may be used for general power, heating, water heating, etc.). This network tariff may not be used in conjunction with any other network tariff offering.
	Large low voltage commercial time of use	This network tariff is for installations taking low voltage multi-phase supply that are not private residential dwellings. There are no restrictions on the use of the supply (i.e. the supply may be used for general power, heating, water heating, etc.). This network tariff may not be used in

	demand	conjunction with any other network tariff offering.
Streetlights	Unmetered supply low voltage public lighting (TASUMSSL)	This low voltage network tariff is for the provision of public lighting services and is available to councils, road authorities and other customers wishing to install contract lighting. The street lighting tariff rate is based on a 'use of system charge' and charged on a per lamp wattage rate. This network tariff charge is an additional charge to charges published for the provision of public lighting services. The network tariff does not include charges for the installation and/or replacement of lamps. Costs for the installation and/or replacement of lamps are recovered through additional charges which are included in TasNetworks' public lighting services tariffs.
Unmetered	Unmetered supply low voltage general (TASUMS)	This network tariff is intended to applied to small, low voltage, low demand installations with a relatively constant load profile such as illuminated street signs; public telephone kiosks; electric fences; two-way radio transmitters; fixed steady wattage installations; traffic lights; or level crossings. For an installation to be supplied under this network tariff, the electrical devices being supplied must be permanently connected. For the avoidance of doubt, an installation containing a general purpose outlet does not qualify for this network tariff.
High voltage	Business high voltage kVA specified demand (TASSDM)	<p>This network tariff is for installations taking supply at high voltage, with an expected any time maximum demand of less than 2 MVA. There are no restrictions on the use of the supply (i.e. the supply may be used for general power, heating, water heating, etc.). The customer must supply their own transformers and switchgear for installations connected on this network tariff.</p> <p>No later than two months prior to the commencement of each financial year, customers on this network tariff are required to reach an agreement on the level of specified demand which will apply to their electrical installation. Once agreed, this value is used in the calculation of demand charges for the following financial year. The network tariff may not be used in conjunction with any other network tariff offering.</p>
	Business high voltage kVA specified demand >2MVA	<p>This network tariff applies to customers with an anytime maximum demand in excess of 2 MVA that are supplied directly from the distribution network with none of TasNetworks assets beyond the connection point. The customer must supply its own transformers and switchgear for HV installations connected on this network tariff.</p> <p>No later than two months prior to the commencement of a financial year, customers on this network tariff are required to reach an agreement about the specified demand for their electrical installation. Once agreed this value is used in the calculation of network use of system charges for the following financial year. A site connected to the distribution network with this network tariff is not eligible for any other network tariff offering.</p>
Individual tariff calculation	Individual tariff calculation (TASCUSC)	<p>Individual tariff calculation network tariffs will typically apply to customers with an electrical demand in excess of 2 MVA or where a customer's circumstances in a pricing zone identifies the average shared network charge to be meaningless or distorted. Individually calculated customer network charges are determined by modelling the connection point requirements as requested by the customer or their agents.</p> <p>Individual tariff calculation prices are based on actual transmission use of system charges for the relevant transmission connection point (preserving the pricing signals within the transmission charges), plus charges associated with the actual shared distribution network utilised for the electricity supply, along with connection charges based on the actual connection assets employed. This provides the greatest cost reflectivity for this type of customer and is feasible since the number of such customers is relatively small.</p> <p>Terms and conditions for these customers are contained within individually negotiated connection arrangements.</p>

Source: TasNetworks, *Improving the way we price our services: Tariff structure statement—Regulatory control period 1 July 2017 to 30 June 2019*, January 2016, pp. 76–81.