



Proposed Implementation Timetable for Time of Use Tariffs Position Paper

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1 Introduction

1.1 Background

As a regulated provider of distribution network services, Aurora Energy Pty Ltd ABN 85 082 464 622 (Aurora) is required to build its network to supply the demand of customers taking supply from its electricity network. To provide a reliable and adequate service, Aurora must build its network to meet the maximum demand of its customers. Failure to meet this criterion would result in reduced supply voltages and a subsequent increase in equipment failures for both Aurora and its customers.

There are two factors underlying the maximum demand that is placed upon Aurora's distribution network; peak demand and increasing base-load demand. The peak demand of the Aurora distribution network occurs once a year, and is generally much larger than the normal or "base" load. This peak demand generally occurs in winter, and is driven by a number of factors, for example, the use of heat pumps by residential customers during winter months.

It is expected that base-load demand within Aurora's network will increase year-on-year as the number of customers connected to the network increases and/or as existing customers take-up new technology, such as heat pumps. In addition, it has been found that as the base load increases, the peak demand on the system also increases, as a proportion of this 'new' usage will occur in the peak period. To meet this additional peak demand, Aurora is required to increase the capacity of its system (for example, thicker wires, bigger sub-stations, etc). These increases come at a cost to Aurora, and are in turn passed on to customers in the form of higher prices.

The role of economic regulators is to ensure that the regulated entities do not charge customers excessively for the provision of the services that are regulated. One of their approaches to this is to only allow regulated businesses to recover from customers the efficient costs of providing regulated services. In the context of the current discussion, the economic regulator ensures that Aurora does not spend money unnecessarily upgrading its network to a standard above that required to meet either peak demand or increasing base load.

One solution to the dual problems of increasing peak demand and base load is to provide an incentive to customers to manage their demand upon the distribution network: "Demand-side Management". An alternative approach is "Supply-side Management", where some control over consumption is managed by network service providers, for example, through the use of ripple control to manage the heating times of storage hot-water heaters.

Both approaches to reducing peak demand are based upon providing customers with an incentive to move their electrical demands to a time of reduced overall network demand. The difference is the extent to which customers can directly influence when they use energy. Under the Demand Side Management approach, a financial incentive is provided in the form of a lower Network Tariff rate at times of low network usage or, alternatively, a higher Network Tariff rate at times of high network usage. Either way, the customer decides whether or not they will respond to that price signal by altering their energy consumption. Under the Supply-side Management approach, customers are limited as to when they can use their electrical appliances, but in recognition of this they are charged a 'reduced' price relative to those customers who are not subject to the same usage constraints.

Following on from this, managing the increasing base load can be achieved by providing individual customers with an incentive to minimise the difference between their individual peak loads and their ordinary base loads and/or, to reduce their overall electricity usage. This can also be achieved through charging according to their demand on the network, perhaps incorporating a premium Network Tariff for “excessive” demand.

Considering the above, Aurora believes that there is merit in the development and introduction of Network Tariffs that provide incentives to customers to alter their consumption behaviour, such that there is reduction in the demand placed upon the distribution system at peak periods and furthermore, an overall reduction in the amount of electricity used in peak periods. The overall benefits to the community may include: a reduction in the amount of future capital expenditure required to meet system peak demands, which would result in lower future prices to customers; and more efficient consumption of electricity, which may lead to reductions in carbon emissions that result from the production of energy and the distribution of that energy to end users.

1.2 The Purpose of this Paper

In line with the Network Tariff Strategy, Aurora published for consultation its issues paper *Introduction of Time of Use and Specified Demand Network Tariff Charging Components* (the Issues Paper) on 20 December 2008. The Issues Paper provided background information on the subject of Time of Use and Specified Demand tariff charging components, and presented a range of options for the introduction of such charging components to Aurora’s Network Tariffs.

This paper is to present Aurora’s proposed position on the introduction of new tariffs. Aurora has taken into account the submissions received and discussions held with interested parties following the release of the Issues Paper in the construction of the Network Tariffs presented in this paper. In addition, this paper is part of the consultation process that surrounds the introduction of new Network Tariffs or changes to the Terms and Conditions of existing Network Tariffs. In summary, the changes that are presented for comment are:

- the introduction of a new Specified Demand Network Tariff with Time of Use energy charging components for HV sites with an electrical demand of less than 2 MVA (section 4);
- the proposal to declare Obsolete the Network Tariff HV kVA Demand N10 as a result of the introduction of the new HV Specified Demand tariff (section 4);
- the introduction of a new Network Tariff with Time of Use energy charging components for irrigation customers (section 6);
- the proposal to declare Obsolete the Network Tariff LV Day/Night Irrigation N08 as a result of the introduction of the new Time of Use Irrigation tariff (section 6);
- the introduction of a new Network Tariff with Time of Use energy charging components for residential customers (section 7);
- the proposal to declare Obsolete the Network Tariff LV Uncontrolled Energy N05 as a result of the introduction of the new residential Time of Use tariff (section 7);
- the proposal to declare Obsolete the Network Tariff LV APAYG N13 as a result of the introduction of the new residential Time of Use tariff (section 7);
- the introduction of a new Network Tariff with Time of Use energy charging components for business customers (section 8);

- the proposal to declare Obsolete the Network Tariff General Network – Business N02 as a result of the introduction of the new business Time of Use tariff (section 8);
- the introduction of a new Network Tariff with “off-peak” availability to reflect the introduction of Time of Use tariffs for residential and business customers (section 9);
- the proposal to declare Obsolete Network Tariff LV Controlled Energy N06 as a result of the introduction of the new off-peak tariff (section 9); and
- changes to the method of calculation of charges for Network Tariffs with Specified Demand charging components (section 10) – currently only Network Tariff HV Specified Demand, Demand >2 MVA N15, but will also apply to the new HV Specified Demand tariff.

The paper also discusses Aurora’s position on the introduction of Specified Demand charging components for larger business customers that are supplied at LV and the introduction of Time of Use charging components for LV Metered Demand Network Tariffs (section 5). Aurora does not intend to introduce these two tariffs until at least Period 4 (commencing on 1 July 2010) due to logistical issues surrounding the provision of appropriate metering.

1.3 Consultation

The guideline *Approval of Network Tariffs in Accordance with the 2007 Determination* (the Guideline) issued by the Tasmanian Economic Regulator (the Regulator) in November 2007, required Aurora to consult with interested parties during the development of its Draft Network Tariff Strategy. In addition, Aurora undertook in its final Network Tariff Strategy to consult with interested parties whenever Aurora intended to either introduce a new Network Tariff or to change materially Terms and Conditions of existing Network Tariffs.

Written submissions to the issues canvassed in this Position Paper, and any other related issues, should be received by Aurora by the close of business Wednesday, 15 April 2009. Submissions can be sent electronically to networktariff@auroraenergy.com.au.

Alternatively, written submissions can be sent to:

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Aurora prefers that all submissions be in an electronic format and publicly available, to facilitate an informed, transparent and robust consultation process. Accordingly, submissions will be treated as public documents and posted on Aurora’s website, www.auroraenergy.com.au except and unless prior arrangements are made with Aurora to treat the submission, or portions of it, as confidential.

Any enquiries about this Position Paper, or about lodging submissions, should be directed to Leigh Mayne on (03) 6271 6544 or at the above email address.

Aurora will publish submissions as they are received unless an arrangement is made with the submitter to the contrary

2 Background

2.1 Who is Aurora?

Aurora is a an electricity distribution and retail company formed in July 1998 pursuant to the Electricity Companies Act 1997, and incorporated under the Corporations Law. Aurora is wholly owned by the Tasmanian Government, with the only two shareholders being the Minister for Energy and the Treasurer.

As the monopoly provider of electricity distribution services and certain metering services within the Tasmanian jurisdiction, Aurora is required to hold a distribution licence issued by the Tasmanian Economic Regulator (the Regulator) in accordance with the Electricity Supply Industry Act 1995 (ESI Act). This licence was issued in December 1998, and authorises Aurora to distribute electricity on mainland Tasmania subject to certain conditions and regulatory controls.

As the focus of this Position Paper is on Aurora's distribution network pricing, unless otherwise indicated, all mention of Aurora throughout this document should be understood to mean Aurora in its capacity as a regulated, licensed provider of distribution network services on mainland Tasmania, not as a Retailer of electricity in Tasmania or any other Australian jurisdiction.

2.2 Tasmanian Regulatory Arrangements

The Office of the Tasmanian Economic Regulator undertakes the regulation of distribution services within the Tasmanian jurisdiction. A key component of this jurisdictional regulation is the review and monitoring of the economic framework that applies to the regulated businesses within the jurisdiction. Under this economic framework, the Regulator is required to investigate, in accordance with the Electricity Supply Industry (Price Control) Regulations 2003 (the Price Control Regulations), the prices for the distribution and metering services that Aurora is licensed to provide. Such an investigation culminates in the release of a pricing determination outlining the maximum allowable revenues that Aurora may earn and the maximum prices that Aurora may charge for the provision of certain regulated distribution and metering services during a given period of time. The 2007 Determination was delivered in October 2007, and sets the maximum allowable revenues and prices that Aurora may earn for the regulatory period from 1 January 2008, to 30 June 2012. In conjunction with the 2007 Determination, the Regulator also issued a guideline: *Approval of Network Tariffs in Accordance with the 2007 Determination* (the Guideline) in November 2007, to assist Aurora in the development of Network Tariffs. Network Tariffs are discussed in more detail in section 3.

2.3 Retail Competition

On 29 May 2005, Tasmania entered the National Electricity Market (NEM), a major characteristic of which is free competition in the retailing of electricity. To move from the state of a retail monopoly, as it was on market entry, to free competition, the State Government mandated a staged approach through the Electricity Supply Industry (Contestable Customer) Regulations 2005 (the Contestable Customer Regulations). Under this approach, the Tasmanian consumer base is grouped according to consumption, with the groups with the largest consumption becoming eligible to choose their electricity retailer earliest. The timetable for the introduction of contestability is given in Table 1.

Table 1 – Contestability Timetable

Tranche	Date of Contestability	Minimum Annual Consumption
1	1 July 2006	20 GWh
2	1 July 2007	4 GWh
3	1 July 2008	750 MWh
4	1 July 2009	150 MWh

The final Tranche, composed of residential customers and small businesses with annual consumption less than 150 MWh per annum, was not automatically granted contestability. Rather, the State Government intended that retail contestability would be granted to the final tranche in the event of a positive cost-benefit analysis. The State Government requested the Regulator to perform such a cost-benefit analysis in September 2007; the final report of the investigation has not yet been made public.

2.4 Roll out of Electronic Meters

Metering of electrical consumption in Tasmania is performed under two different regimes depending upon whether the site being metered is classed as “contestable” under the Contestable Customer Regulations. Please note that under these regulations, it is the site that becomes contestable, not the customer; it is possible, therefore, for a single customer to operate sites that are both contestable and non-contestable.

The metering requirements of contestable sites are dictated by the NER and NEMMCO’s MSATS procedures. Under these, sites will need to be metered using equipment capable of capturing and storing energy consumption and demand data integrated over intervals of 15 minute duration. Sites classed as belonging to Tranches 1 and 2 under the Contestable Customer Regulations are already metered with such equipment. Aurora plans that all of those sites classed as belonging to Tranche 3 will be fitted with the appropriate metering equipment by 30 June 2009, and those belonging to Tranche 4 by the 30 June 2010.

The metering of those sites not classed as contestable is supplied and operated in accordance with the ESI Act and Regulations; and the TEC. Moreover, meters for sites in this group, unlike those for contestable sites, are subject to price regulation under the 2007 Determination and are expected to remain regulated, at least for the first regulatory period, by the AER when the transfer of economic regulation to the latter occurs.

Generally, metering of non-contestable residential and small business sites is performed using mechanical meters, although those sites at which customers use Aurora’s Pay-As-You-Go product have a form of electronic metering. Aurora’s metering strategy, consistent with the *Investigation of Prices for Electricity Distribution Services and Retail Tariffs on Mainland Tasmania Final Report and Proposed Maximum Prices* (the Final Report) published by the Regulator in September 2007, is to replace all mechanical meters with electronic meters as they reach the end of their useful life and connect all new customers with electronic meters. The implementation of this metering strategy will result in the introduction of electronic meters capable of measuring and recording electricity consumption in 15 minute intervals, which paves the way for the introduction of Time of Use Network Tariffs.

3 Network Tariffs

3.1 Background

Network Tariffs are developed in compliance with the 2007 Determination and the Guideline. The Guideline also requires Aurora to produce a Network Tariff Strategy and an annual Pricing Proposal.

The Network Tariff Strategy indicates Aurora's intentions with regard to pricing for regulated network services for the entire regulatory period. The annual Pricing Proposal provides an explicit description of the Network Tariffs and charges for the forthcoming year, and must be approved by the Regulator before implementation.

As required by the Guideline, Aurora undertook a public consultation in the development of the Network Tariff Strategy during March 2008. In addition, Aurora indicated that it would consult with interested parties before the introduction of new or revised Network Tariff terms and conditions so that those affected may input to the tariff development process.

3.2 Aurora's Current Network Tariffs

Network Tariffs are a schedule of rates and charges levied by an electricity network operator so that it may recover the allowed cost of operating the network. In particular, the Network Tariffs published by Aurora are designed to recover each year from customers connected to its distribution network the Annual Allowable Revenue set by the Regulator. In addition, Aurora's Network Tariffs include the charges levied upon Aurora by the operator of the transmission system, (Transend Networks Pty Ltd ABN 57 082 586 892) to which Aurora's distribution network is connected.

It is important to bear in mind during the reading of this paper that the Network Tariffs being discussed are a component of the final tariff charged by electricity retailers in Tasmania. In addition to the network component are charges for the energy consumed by the customer, and charges associated with the activity of running the retail business. Currently, network charges make up approximately 45% of the final retail charge for those customers on a regulated retail tariff. For other customers, the fraction apportionable to network charges varies primarily with the price of energy.

Aurora's current suite of Network Tariffs is presented below.

Table 2 – Network Tariffs

Network Tariff Code	MSATS Code	Description	Network Tariff Components
N01	AURESGEN	General Network – Residential	Daily charge with declining three step energy charge
N02	AUBLVGEN	General Network – Business	Daily charge with declining two step energy charge
N02A	AUBLVNURSE	General Network – Business, Nursing Homes	Daily charge with declining two step energy charge – Obsolete
N02B	AUBLVCURT	General Network – Business, Curtilage	Daily charge with declining two step energy charge – Obsolete
N03	AUBLVDMKW	LV kW Demand	Daily charge, single energy charge and declining two step demand charge – Obsolete
N05	AUHEATUNCO	Uncontrolled Energy	Daily charge with single energy charge
N06	AUHEATCONT	Controlled Energy	Daily charge with single energy charge
N07	AUUMS	Small LV Unmetered	Daily charge with single energy charge
N08	AUIRRIG	LV Day/Night (Irrigation)	Daily charge with peak and off-peak energy charge
N09	AUBLVDMKVA	LV kVA Demand	Daily charge, single energy charge and declining two step demand charge
N10	AUBHVDMKVA	HV kVA Demand	Daily charge, single energy charge and single demand charge
N11	AUBHVDMKW	HV kW Demand	Daily charge, single energy charge and single demand charge – Obsolete
N13	AUPAYG	LV APAYG	Daily charge with single energy charge
N15	AUCHVDM2	HV kVA Specified Demand (> 2.0MVA)	Daily charge, time of use energy charge, specified and excess demand charges and nodal transmission charge
N20		Street Lighting	Single demand charge
ITC	AUSPCCUST1	Individual Network Tariff Calculation	Charges individually calculated for each customer

3.3 Principles Underpinning the Development of Network Tariffs

There are a number of principles that Aurora uses to guide the development of its suite of Network Tariffs. In particular, the Final Report states that, “The Regulator considers that the pricing principles set out in the Draft Distribution Rules provide a sound basis for developing distribution tariffs.” These principles are given in Box 14.1 of the same document, and are as follows:

- (a) For each tariff class, the revenue expected to be recovered should lie on or between:
 - (1) an upper bound representing the stand alone cost of serving the customers who belong to that class; and
 - (2) a lower bound representing the avoidable cost of not serving those customers.
- (b) A tariff, and if it consists of 2 or more charging parameters, each charging parameter for a tariff class:
 - (1) must take into account the long run marginal cost for the service or, in the case of a charging parameter, for the element of the service to which the charging parameter relates; and
 - (2) must be determined having regard to:
 - (i) transaction costs associated with the tariff or each charging parameter; and
 - (ii) whether customers of the relevant tariff class are able or likely to respond to price signals.
- (c) If, however, as a result of the operation of paragraph (b), the Distribution Network Service Provider may not recover the expected revenue, the provider must adjust its tariffs so as to ensure recovery of expected revenue with minimum distortion to efficient patterns of consumption.

One of the key aspects to note from the above principles is the need for Aurora to signal the “long run marginal cost for the service or, in the case of a charging parameter, for the element of the service to which the charging parameter relates”. The purpose of this principle is to ensure that the variable price of providing a service (for example, electricity at peak times) reflects the estimated incremental cost of providing that service. This promotes economic efficiency, more specifically allocative efficiency, in that consumers only consume that service if the marginal benefit to them of making that consumption decision exceeds the marginal cost to the community of providing that service.

3.4 Augmentation & Extension, Consumption & Demand

Before discussing various types of Network tariffs, it will be necessary to explain some terminology used throughout this document: augmentation, extension, consumption, and demand.

- Augmentation, when used in relation to networks, refers to increasing the carrying capacity of the network. If we were referring to roads, for example, an augmentation would be like adding an extra lane to allow more traffic to flow.
- Extension, when used in relation to networks, refers to building new infrastructure to allow the connection of a new place. Using the road example, extension would be like building a new road to allow access to a new building.
- Consumption, when used in relation to electricity, is the amount of electricity that is taken from the network. Consumption is measured usually in kiloWatt hours, abbreviated to kWh.

- Demand, when used in relation to electricity, means the rate at which electricity is taken from the network. There are several units of measurement for electrical demand; the ones usually used by Aurora are the kilowatt, and the kiloVolt Amp (abbreviated to kW and kVA).

Consumption and demand are related in that, in essence, the consumption at a site is the product of the demand and the time over which the demand occurs.

The main driver for network augmentation (as opposed to network extension) is increasing demand, being the rate at which energy is consumed by customers connected to the network. Network service providers, such as Aurora, are required to build their networks to cope with the maximum electrical demand to ensure that customers receive an adequate electrical supply at all times. The usual electrical demand placed upon the network, however, is often much less than the maximum demand, meaning that, the networks must be built to a higher standard than strictly necessary.

In economic terms, this means that expenditure on the network is in excess of that which is strictly necessary; with the end result that those connected to the network must pay more than they really need to. It follows that, if the maximum demand could be reduced, network augmentation could be deferred and network extensions could be built to lesser specifications, investment in the network would be reduced and those connected to the network would have reduced costs passed through to them.

3.5 Time of Use Network Tariffs

Time of use Network Tariffs are charging regimes that provide time-dependent rates for certain components. Appropriately designed, time of use Network Tariff structures provide incentives to customers to move their consumption to times of low overall network demand, thereby enabling the network operator, in this case Aurora, to reduce its overall future investment costs and, hence, the costs passed through to those connected to the network. In addition, if adopted by Aurora in its Network Tariffs, such structures are likely to be consistent with the principles outlined in section 3.3, in that they better reflect Aurora's long run marginal cost of supply of distribution services.

An example of such a tariff structure is Aurora's existing LV Day / Night Irrigation Network Tariff (N08): the "night" energy usage rates are significantly less than the "day" energy rates for both DUOS and TUOS components. The adoption of this type of time of use tariff allows Aurora to provide primary producers with an incentive to irrigate their crops at night, when the general demand on the network is lower. Alternatively, should they wish to irrigate during periods of high network usage during the day, they will pay a higher rate.

Aurora has two other tariffs with time of use components. The LV Controlled Energy tariff N06 is a de-facto time of use tariff because supply is restricted to times of low system demand; the Network Tariff rate is correspondingly discounted. The HV kVA Specified Demand tariff N15 has time of use charging components for energy consumption: energy consumed during the "Off-Peak" period attracts a lower charge than energy consumed during the "Shoulder" period which, in turn, attracts a lower charge than energy consumed during the "Peak" period.

Historically, Aurora has not considered extending time of use tariffs to its broader customer base, since the majority of its existing meter fleet are mechanical or accumulation meters and are unable to capture energy consumption at different times of the day, week or year. As stated in section 2.4, Aurora will be rolling out electronic meters to its broader customer base, thus removing the key impediment that currently exists in relation to the adoption of such a time of use Network Tariff structure.

3.6 Demand Network Tariffs

As noted in section 3.4, distribution networks are built to serve maximum demand. Consistent with the key underlying pricing objectives, this driver of Aurora's future investment costs should, where feasible, be signalled to customers through the adoption of a cost-reflective tariff. This should lead to more economically efficient consumption decisions at the margin, whereby customers will only seek to increase their maximum apparent demand where the benefit to them is greater than the cost to the community of providing that increased demand.

In theory, the development of an efficient pricing structure to reflect demand may necessitate the adoption of a time of use demand tariff structure. This highlights that it is co-incident peak demand within a distribution network that is the true driver of network capacity augmentations and, furthermore, that co-incident peak demand is time based. For example, a business that reaches its maximum demand at midnight, or in summer, or on the weekend, is not going to contribute to Aurora's overall system peak, and therefore, in theory, it is neither efficient nor equitable for this firm to be charged the maximum peak price.

Aurora is not, however, proposing to adopt time of use components for demand at this stage, proposing, instead, to adopt a time of use energy charging regime. The reasons underpinning this approach are manifold and include that:

- the current direction of metering in the National Electricity Market is towards time of use components for energy consumption only;
- focus on energy is more consistent with the need to reduce carbon emissions stemming from the consumption and distribution of electricity; and
- there is a clear linkage between the two and therefore, it would be expected that a reduction in peak energy consumption would in fact lead to a reduction in the peak demand within the system, thus leading to a reduction in Aurora's future investment costs.

Charging for customer demand is typically in one of two units: kW or kVA, although some New Zealand utilities also charge based on kVAR demand. kVA is the measure of apparent power delivered to a site on an AC network, whereas kW is the measure of real power used at that site. The ratio of the real power (kW) to the apparent power (kVA) is called the Power Factor; the lower the Power Factor at a site, the more apparent power network providers must deliver to meet that site's demand.

There are two types of demand-charging regime in Aurora’s suite of Network Tariffs: “metered demand” and “specified demand”, both based on Any Time Maximum Demand (ATMD), which is the peak 15 minute demand recorded during the billing period. When on a metered demand tariff, a customer pays a DUoS charge equal to the ATMD for the billing period: the HV Metered Demand kVA Network Tariff N10 is an example of such a Network Tariff. On the other hand, when on a specified demand tariff, a customer will pay a set rate to take supply at demand up to a customer-nominated threshold ATMD, and will pay a premium rate for exceeding that threshold: the Network Tariff HV kVA Specified Demand N15 is an example of this type of Network Tariff.

Aurora considered a ratchet maximum demand regime, where the demand charge is based upon the highest historical ATMD, but decided that such a process was overly punitive. Using ATMD, especially with a Specified Demand approach, provides an incentive to users to accurately predict and tightly control demand. Indeed, if the customer manages their electrical demand, they should receive nearly immediate pay-back.

3.7 Obsolete and Deleted Tariffs

While Aurora may simply delete a Network Tariff, doing so may impose an unexpected financial burden upon those customers with sites to which the Network Tariff is applicable: it is more equitable to create a transition mechanism so that affected customers may choose when to transfer to a new tariff. In the past, Aurora has taken the approach of declaring a Network Tariff to be “Obsolete”. Once a Network Tariff is declared to be Obsolete, no new connections may be made using that Network Tariff, nor may existing connections be converted to using that Network Tariff. Existing installations already connected using an Obsolete Network Tariff, however, may continue to be connected using that Network Tariff until the customer controlling the installation chooses to move to another Network Tariff.

3.8 Interaction of Network Tariff and Retail Tariffs

In Tasmania, unless customers contract directly with Aurora for the provision of distribution network services, the only electricity account they receive will be from their nominated electricity retailer. Each customer’s electricity account has charges for the provision of transmission and distribution network services, energy purchases, and retailing costs. These charges may be individually identified on the bill, or they may be “bundled” by the retailer to form a final charge for the customer. This bundling of charges is an important issue as part of the introduction of time of use Network Tariffs.

Aurora currently produces Network Tariffs that comprise separate charges for the provision of:

- distribution network services;
- metering services; and
- transmission network services.

Under a Time of Use energy charging regime both distribution and transmission network services may include differing energy rates (peak, shoulder, off-peak) for consumption at differing times of the day, week and/or year. These rates are set so that they provide a pricing signal to consumers to shift their energy consumption from periods of higher charges/demand to those of lower charges/demand.

Electricity retailers are, however, under no obligation to pass these pricing signals through to consumers and may aggregate charges, periods and times to arrive at their own retail tariff charge. By way of example, a Network Tariff may comprise energy charges for peak, shoulder and off-peak consumption; a retailer may 'repackage' these charges to an average flat rate for all consumption effectively removing the signal from the network provider's tariff.

Aurora would hope that retailers choose to preserve the pricing signals built into Network Tariffs by adopting a 'pass through' of network charges wherever possible.

4 HV Specified Demand with Time of Use Energy Network Tariff for Sites with Demand Less Than 2 MVA (N10S)

4.1 Discussion

Aurora currently has two metered demand tariffs applicable to sites taking supply at HV with a demand of less than 2 MVA: HV kW Demand (tariff N11) and HV kVA Demand (tariff N10). These tariffs are structurally identical, both having a single rate energy charge and a dual rate demand charge, with only the units for measuring demand differing. In an attempt to rationalise the Network Tariff Suite, Aurora has undertaken to move all sites to which these tariffs are applicable to a single tariff. Since demand units of kVA more accurately reflect the effect of a site upon the distribution network than do demand units of kW, Aurora has chosen to delete tariff N11. This decision was announced in the previous regulatory period¹, and has been subject to consultation in 2005 and 2007, with no objections received. As noted in section 3.7, it is often appropriate to create a mechanism to allow a transition to a new Network Tariff. To this end, Aurora declared the Network Tariff N11 to be Obsolete, meaning that no new sites were eligible for this tariff, and provided an incentive, in the form of a tariff premium, to customers with sites on N11 to move from N11 to N10. The N11 Network Tariff will be deleted from the suite of tariffs from 1 July 2012 and will not be available to any customers after that date.

In the Issues Paper, Aurora proposed to introduce a new Network Tariff for all HV customers on N10 and N11 Network Tariff, with the long-term objective of moving all sites across to this new tariff. As with the current HV kVA Specified Demand (> 2.0 MVA) N15 Network Tariff, this tariff was to have a specified demand charging regime and a time of use energy-based tariff component. Unlike N15, there was to be no demand-based connection charge, nor would the TUoS charges be based on the transmission system nodal charges: these two charges arise because the customers on the N15 tariff generally have specific connection assets, an arrangement that does not apply to other HV customers. No submissions were received on this matter. Accordingly, Aurora proposes to introduce this new Network Tariff in Period 3.

The issues surrounding the introduction of Specified Demand and Time of Use energy charging components for HV sites with demand less than 2 MVA are similar to those surrounding the transition of sites from N11 to N10. The solution adopted by Aurora is to introduce a new Network Tariff with the desired characteristics, and to declare the existing Network Tariff to be Obsolete.

It should be emphasised that migration to the new Network Tariff will not be mandatory for existing connections. Aurora will give existing customers choice to migrate from the current N10 and N11 HV Network Tariffs to the new time of use HV Network Tariff. Aurora will however delete the current N10 Network Tariff from the suite of tariffs from 1 July 2012 and the tariff will not be available to any customers after that date.

¹ “*Report on the Formation and Introduction of Network Tariffs*, Aurora Energy, August 2005

New HV customers and existing HV customers who elect to move their eligible sites from their current tariff to the new HV Network Tariff, will have to nominate to Aurora a value for their ATMD (refer section 3.6 for a discussion of this) for a period of time, usually a year. This nominated value, known as the “Specified Demand”, will then be the basis of demand-based charging components. In special cases the specified demand value may be varied to recognise changes in customer installation operating conditions; for example, a mine temporarily suspending operations leading to an on-going reduced base demand, or an industry installing new equipment that would increase the base demand. Aurora considers that to deny customers that opportunity to renegotiate their nominated threshold values would, in such cases, be punitive.

4.2 Proposed Terms and Conditions for the HV Specified Demand with Time of Use Energy Network Tariff for Sites with Demand Less Than 2 MVA Tariff

The Terms and Conditions to this Network Tariff are additional to those applicable to all Network Tariffs (see Appendix).

1. MSATS Code: AUHVSPECDM Network Tariff Code: N10S
2. This Network Tariff is applicable to all qualifying sites that are connected to the Aurora distribution network on or after 1 July 2009. Existing qualifying sites may transfer to this Network tariff on or after 1 July 2009.
3. A site qualifies for this Network Tariff if:
 - connection is made to this site at HV; and
 - the expected ATMD of the site is less than 2 MVA.
4. A site connected to the Aurora distribution network with this Network Tariff is not eligible for any other Network Tariff.
5. A meter capable of recording “interval data” is required for installations on this tariff.
6. The Use of System charges applicable for this tariff is composed of the following charging components:
 - a) DUOS
 - i) A fixed daily charge; and
 - ii) An energy-based charge; the rate of the energy charge varies according to the time of day at which energy is consumed, with the periods being as identified in Table 3; and
 - iii) A demand-based charge calculated according to the method given in the General Terms and Conditions for Network Tariffs for the calculation of charges for Specified Demand tariffs. For the purposes of this calculation, the Excess Demand rate is ten times the Specified Demand rate.
 - b) TUOS
 - i) An energy-based charge; the rate of the energy charge varies according to the time of day at which energy is consumed, with the periods being as identified in Table 3.

- ii) A demand-based charge calculated according to the method given in the General Terms and Conditions for Network Tariffs for the calculation of charges for Specified Demand tariffs. For the purposes of this calculation, the Excess Demand rate is ten times the Specified Demand rate.
- c) Metering
 - i) A charge for the provision of metering services may apply, depending upon whether or not Aurora is appointed as Metering Provider.

Table 3 – Time Periods within Specified Demand Tariffs

Time Period	Summer (1 October - 31 March)	Winter (1 April - 30 September)
Week Day (0700 – 2200) (Monday – Friday)	Shoulder	Peak
Weekend Day (0700 – 2200) (Saturday & Sunday)	Off-peak	Shoulder
Any Day (2200 – 0700) (Monday – Sunday)	Off-peak	Off-peak

4.3 Changed Terms and Conditions to HV kVA Demand Tariff N10

There is a single change proposed for this Network Tariff to effect obsolescence from the commencement of Period 3 as a result of the introduction of the new HV Specified Demand with Time of Use Energy Network Tariff for sites with demand less than 2 MVA:

1. Network Tariff HV kVA (Demand Tariff Network N10), is Obsolete as of 1 July 2009. As a consequence:
 - this Network Tariff N10 is not applicable to new sites that are connected to Aurora’s distribution network after 1 July 2009;
 - existing sites that are connected on Network Tariff N10 at 1 July 2009, may remain on that tariff;
 - existing sites that are not connected on Network Tariff N10 at or after 1 July 2009, may not subsequently be connected using that tariff.
2. Network Tariff HV kVA Demand Tariff Network (N10), will be deleted from the suite of tariffs and this tariff will not be available to any customer after 1 July 2012.

To avoid equity issues as a result of this change, and to avoid confusion, Aurora will use the following approaches:

- Customer contributions already billed assuming N10 will be unchanged;
- Customer contributions calculated but not billed will be recalculated and billed at the lesser of N10 or new tariff;
- If customers connecting after 1 July 2009 in existing negotiations using N10 will be worse off under new tariff, they may chose to remain on N10.

4.4 Consultation

Aurora seeks feedback from interested parties about:

- the proposed introduction of a new HV Specified Demand with Time of Use Energy Network Tariff for sites with demand less than 2 MVA;
- any aspects of the proposed terms and conditions of the new HV Specified Demand with Time of Use Energy Network Tariff for sites with demand less than 2 MVA as set out in section 4.2, including the value of the excess demand rate; and
- the proposed change to the terms and conditions of the existing HV kVA Demand tariff N10 as set out in section 4.3.

5 LV Demand with Time of Use Energy

Aurora currently has two metered demand tariffs applicable to sites taking supply at LV: LV kW Demand (tariff N03) and LV kVA Demand (tariff N09). These tariffs are structurally identical, both having a single rate energy charge and a dual rate demand charge, with only the units for measuring demand differing. In an attempt to rationalise the Network Tariff suite, Aurora has undertaken to move all sites to which these tariffs apply to a single tariff. Since demand units of kVA more accurately reflect the effect of a site upon the distribution network than do demand units of kW, Aurora has chosen to delete tariff N03. This decision was announced in the previous regulatory period,² and has been subject to consultation in 2005 and 2007, with no objections received. As noted in section 3.7, it is often appropriate to create a mechanism to allow a transition to a new Network Tariff. To this end, Aurora declared the Network Tariff N03 to be Obsolete, meaning that no new sites were eligible for this tariff, and provided an incentive, in the form of a tariff premium, to customers with sites on N03 to move from N03 to N09. The N03 Network Tariff will be deleted from the suite of tariffs from 1 July 2012 and will not be available to any customers after that date.

5.1 LV Specified Demand with Time of Use Energy Network Tariff for Larger LV Sites (N09S)

In the Issues Paper, Aurora proposed to introduce a new Network Tariff with Specified Demand and Time of Use charging parameters for larger LV sites. It was recognised in the Issues Paper that, for various reasons, a Specified Demand-type Network Tariff is not appropriate for all larger LV users, and Aurora undertook to also maintain a simpler metered demand-type Network Tariff, and to provide Time of Use energy charging components within this Network Tariff to provide an incentive for load shifting.

No submissions were received on this matter. While it would be potentially possible to implement this tariff in Period 3, logistical issues surrounding the provision of metering (not all sites eligible for this Network Tariff will have a meter capable of providing data for this Network Tariff by 1 July 2009) provide an impediment to a successful implementation. In light of this, Aurora proposes to introduce this new Network Tariff in Period 4. Consultation around the Terms and Conditions for this new tariff will be performed before its introduction.

5.2 LV Metered Demand with Time of Use Energy Network Tariff (N09A)

In the Issues Paper, Aurora proposed to introduce a new Network Tariff with Demand and Time of Use charging parameters for LV sites. It was recognised in the Issues Paper that, for various reasons, a Specified Demand-type Network Tariff is not appropriate for all LV users, and Aurora undertook to maintain a simpler metered demand-type Network Tariff, and to provide Time of Use energy charging components within this Network Tariff to provide an incentive for load shifting.

² “Report on the Formation and Introduction of Network Tariffs, Aurora Energy, August 2005

No submissions were received on this matter. While it would be potentially possible to implement this tariff in Period 3, logistical issues surrounding the provision of metering (not all sites eligible for this Network Tariff will have a meter capable of providing data for this Network Tariff by 1 July 2009) provide an impediment to a successful implementation. In light of this, Aurora proposes to introduce this new Network Tariff in Period 4. Consultation around the Terms and Conditions for this new tariff will be performed before its introduction.

6 LV Irrigation Time of Use Network Tariff (N08A)

6.1 Discussion

Aurora currently offers a Network Tariff to irrigation customers that has simple peak and off-peak energy components, LV Day/Night Irrigation (N08). The energy pricing structure of this Network Tariff provides an irrigation customer with an incentive to irrigate at night, a time of low network demand. Whilst these irrigation customers currently have access to a time of use tariff (peak, off-peak) the intended introduction of other time of use tariffs may mean that irrigation customers may choose to move to these new tariffs in preference to the existing N08 Network Tariff. Aurora believes that this class of customer has seasonal consumption patterns that result in the bulk of their operations occurring during the warmer months of the year when system demand is lower.

In the Issues Paper, Aurora proposed to introduce a seasonal time of use tariff for irrigation customers. No submissions were received on this matter. Aurora wishes to minimise any “price shocks” caused by changes to Network Tariff charging regimes. The solution adopted by Aurora is to introduce a new Network Tariff with the desired characteristics, and to declare the existing Network Tariff to be Obsolete. This solution provides an additional, logistical advantage: new meters will be required at sites adopting the new Network Tariff; the introduction of a new tariff should allow a staged introduction as the tariff is taken up. Aurora intends to introduce this new tariff in Period 3.

It should be emphasised that migration to the new Network Tariff will not be mandatory for existing connections. Aurora will give existing customers choice to migrate from the current N08 Network Tariff to the new time of use LV Irrigation Network Tariff. The existence of this Network also does not preclude a site used for irrigation to be charged under another applicable Network Tariff. Aurora will however delete this tariff from 1 July 2012.

6.2 Proposed Terms and Conditions for the LV Time of Use Irrigation Tariff

The Terms and Conditions to this Network Tariff are additional to those applicable to all Network Tariffs (see Appendix).

1. MSATS Code AUTOUIRR. Network Tariff Code: N08A
2. This Network Tariff is applicable to all qualifying sites that are connected to the Aurora distribution network on or after 1 July 2009. Existing qualifying sites may transfer to this Network tariff on or after 1 July 2009
3. This Network Tariff is for primary producers’ business installations that are used solely for the irrigation of crops, which must be classified as ANZSIC class 01.
4. A meter capable of recording “interval data” is required for installations on this tariff.
5. The Use of System charges applicable for this tariff is composed of the following charging components:
 - a) DUOS
 - i) A fixed daily charge; and

- ii) An energy-based charge; the rate of the energy charge varies according to the time of day at which energy is consumed, with the periods being as identified in Table 4.
- b) TUOS
 - i) An energy-based charge; the rate of the energy charge varies according to the time of day at which energy is consumed, with the periods being as identified in Table 4.
- c) Metering
 - i) A charge for the provision of metering services may apply, depending upon whether or not Aurora is appointed as Metering Provider

Table 4 – Time Periods for Irrigation Tariff

Time Period	Summer (1 October - 31 March)	Winter (1 April - 30 September)
Week Day (0800 – 2200) (Monday – Friday)	Shoulder	Peak
Weekend Day (0800 – 2200) (Saturday & Sunday)	Off-peak	Shoulder
Any Day (2200 – 0800) (Monday – Sunday)	Off-peak	Off-peak

6.3 Changed Terms and Conditions to LV Day/Night Irrigation Tariff N08

There is a single change proposed for this Network Tariff to effect obsolescence from the commencement of Period 3:

1. Network Tariff LV Day/Night Irrigation, Network Code N08, is Obsolete as of 1 July 2009. As a consequence:
 - this Network Tariff N08 is not applicable to new sites that are connected to Aurora’s distribution network after 1 July 2009;
 - existing sites that are connected on Network Tariff N08 at 1 July 2009, may remain on that tariff;
 - existing sites that are not connected on Network Tariff N08 at or after 1 July 2010, may not subsequently be connected using that tariff; and
 - This Network Tariff will be deleted from 1 July 2012.

To avoid equity issues as a result of this change, and to avoid confusion, Aurora will use the following approaches:

- Customer contributions already billed assuming N08 will be unchanged;
- Customer contributions calculated but not billed will be recalculated and billed at the lesser of N08 or new tariff;
- If customers connecting after 1 July 2009 in existing negotiations using N08 will be worse off under new tariff, they may chose to remain on N08.

6.4 Consultation

Aurora seeks feedback from interested parties about:

- the proposed introduction of a new Time of Use Network Tariff solely for irrigation purposes;
- any aspects of the proposed terms and conditions of the new Time of Use Network for irrigation as set out in section 6.1; and
- the proposed change to the terms and conditions of the existing LV Day/Night Irrigation Tariff N08 as set out in section 6.2.

7 LV Residential with Time of Use Energy Charging and Retail Prepayment Tariff Support Network Tariff (N13R)

7.1 Discussion

Aurora currently does not offer a Time of Use Network Tariff for residential sites. Although Aurora Retail's pre-payment product contains Time of Use charging components, these are applied as part of the Retailer's billing approach rather than being a pass-through of a Network Tariff.

Small residential sites are served by four LV Network Tariffs:

- LV General Residential, N01, for general light and power;
- LV Uncontrolled Energy, N05, for large, wired-in space and water heaters and appliances;
- LV Controlled Energy N06, an "off peak" tariff for wired-in space and water heaters;
- LV APAYG, N13, the support tariff for the Aurora Retail prepayment product "Aurora Pay As You Go"; and

Based upon 2007 data, approximately 90% of 260,000 or so sites connected to the Aurora distribution network were residential, consuming about half of the total energy consumed. Although each site individually has a negligible effect on the electrical demand, collectively the residential sector contributes significantly to the overall demand peak. It is worthwhile, therefore, to introduce Time of Use charging components to this customer group.

Aurora, recognises, however, that the majority of the electrical demand due to this sector is from heating loads, whether for water or space heating. It is not practical, for example, to expect residential customers to turn off their heaters during a cold period. On the other hand, it is possible to connect storage hot water heaters to time clocks so that they heat during times of lower network electrical demand. For this reason, it is not appropriate to "punish" users by placing a premium upon electricity consumed during times of higher electrical demand; rather, a discount should be applied to provide an incentive to move consumption to a period of lower demand. This is the approach that Aurora intends to use in its Time of Use tariffs for residential customers.

Aurora intended, as noted in the Network Tariff Strategy, to combine the four tariffs into a single Network Tariff with Time of Use charging components. This approach was also raised in the Issues Paper. No responses were received on this matter.

Subsequent discussion with interested parties has indicated that it may be appropriate to retain an "off peak" tariff, where the supply times are determined by Aurora. Aurora agrees that this suggestion has merit as it provides a simple Time of Use product for those who do not want or need to provide their own timing devices to control their appliances.

The proposed implementation programmes for the residential tariffs are presented in the following sections.

7.2 Implementation of Time of Use Network Tariffs for Residential Customers

One of the requirements for the introduction of this tariff is the availability of appropriate metering equipment. Meters in the majority of residential sites are simple accumulation-type meters that are not capable of recording consumption data in the manner required for the application of a Time of Use tariff. Given the large number of meters in this part of the Aurora customer base (approximately 480,000) it is not practical to perform a mass replacement. As a result, Aurora intends to replace existing accumulation meters with interval-type meters (which can be used for Time of Use Network Tariff metering) as the existing meters reach the end of their service life. This staged approach was endorsed by the Regulator in the 2007 Determination and appropriate funding allowed for this purpose.

Aurora discussed the implementation of Time of Use Network Tariffs for small residential customers in the Issues Paper. No responses were received on the issue. Accordingly, Aurora proposes to move forward with the introduction of this Network Tariff, but not in Period 3 (1 July 2009 to 30 June 2010). Rather, due to resource issues surrounding the implementation of Retail Contestability for Tranche 3 and 4 customers, Aurora does not intend to implement a Time of Use Network Tariff for non-prepayment residential sites until Period 4, which commences on 1 July 2010.

As an equity issue, the presence of a time-of-use-capable meter on a site does not mean that the site will transfer to a Time of Use Network Tariff immediately at the commencement of Period 4: the new meters can still be read as simple accumulation-type meters, so the existing Network Tariff N01 can be retained. Rather, initially, Aurora will make the Network Tariff available to those residential customers that request it, and supply meters accordingly. New sites, however, will only be connected using the new Time of Use Network Tariff.

Although this tariff is not due for introduction until Period 4, the usage characteristics of sites on the General Residential Network Tariff N01 and the pre-payment support Network Tariff N13 are similar, and the metering equipment, except for the presence of a pre-payment meter, is identical, the terms and conditions for the new pre-payment Time of Use Network tariff will apply to all residential sites. As a result, the consultation upon the terms and conditions for the latter tariff will apply equally to non-pre-payment sites.

An additional effect of the introduction of a Time of Use Network Tariff for residential sites is the potential removal of the other two residential Network Tariffs N05 and N06, where the effects of doing such were raised in the Network Tariff Strategy³ and flagged in the Period 2 Pricing Proposal⁴.

³ *“Network Tariff Strategy”, Aurora Energy, April 2008*

⁴ *“Network Pricing Proposal, Period 2 to 5, 1 July 2008 to 30 June 2012”, Aurora Energy, June 2008*

The LV Uncontrolled Energy Tariff N05 is primarily for the operation of large, heating appliances: wired in heaters, swimming pools and storage hot water heaters. The current tariff, which is only available in conjunction with the LV General network Tariff N01, has a low fixed daily charge, a single-rate energy charge and a metering charge. The consolidation of this tariff with a Time of Use residential tariff may see a slight increase in the average energy rate, but the time of use of appliances have the largest effect on the final network charges. On the other hand, the metering charge will disappear as the appliances currently connected via N05 will be connected through the single Time of Use meter, rather than the presently required two meters, one each for N01 and N05. To reduce the impact of price changes upon customers, Aurora intends not to delete this Network Tariff, rather to declare it to be Obsolete. In this way, no new customers will be connected using this tariff, although it may continue to be used by existing sites until the customers choose to move to the Time of Use tariff. The declaration will not occur until Period 4, commencing on 1 July 2010.

The effect of the introduction of this Network Tariff on LV Controlled Energy Tariff N06 is considered in section 9.

7.3 Implementation of Time of Use Network Tariffs for Residential Customers on Prepayment Retail Tariffs

The Aurora Retail pre-payment product “Aurora Pay-As-You-Go” possess Time of Use components. The current Network Tariff used to support the product, LV APAYG N13, contains only a fixed daily charge and a single-rate energy consumption-based charge. This arrangement is an historical legacy. When the Retail Tariff was introduced, the provision of pre-payment metering was unregulated⁵, and Aurora’s Retail division owned the specialised metering equipment, so it was inappropriate for the regulated distribution business to collect revenue for the provision of metering services. In addition, the metering data was not available to Aurora’s distribution business, and so Time of Use network charging components were unavailable.

In the most recent pricing determination, the provision of pre-payment Retail services became regulated. As a result, ownership of the metering equipment passed to the distribution business to avoid compliance breaches. Various factors again prevent the application of Time of Use Network Tariff charging components using the current meters.

Advances in metering technology, however, now permit a Retailer to add a pre-payment unit to a standard meter, rather than requiring a completely different meter-pre-payment unit combination. Aurora has chosen its new standard small customer metering technology such that pre-payment units can be attached. This new meter is capable of providing metering data for Time of Use Network Tariffs. As with the non-pre-payment residential customers, the large number of old prepayment metering units (in excess of 45,000) precludes a mass replacement, so there will be a staged implementation of the new technology: initially, new meters will be used to replace existing units as they reach the end of their service life. In addition, new sites requiring pre-payment metering support will be supplied with the new Time of Use capable meters.

⁵ “Investigation of Prices for Electricity Distribution Services and Retail Tariffs on Mainland Tasmania, Final Report and Proposed Maximum Prices”, The Tasmanian Energy Regulator, September 2003, s. 10.2.

Due to ownership issues, when a site that is presently a pre-payment site ceases to be such, Aurora is obliged to change the site meters. The new meters, however, will require only the removal of the retailer's pre-payment unit. In such a case, the site will remain on a Time of Use Network Tariff, and will not be eligible for metering on an LV General Network Residential N01 tariff. In addition, the site will not be eligible for Network Tariff Controlled Energy N06 (with "afternoon boost"), although the new tariff N06a is applicable.

Aurora intends to start rolling out the new Time of Use capable meters during Period 3. Because there will not be a large number of existing Time of Use meters replaced during this period, Aurora will not declare the N13 tariff to be Obsolete until Period 4, which commences on the 1 July 2010. For customers with a pre-payment retail contract, transfer from N13 Network Tariff to the new Time of Use Network Tariff is contingent solely upon the replacement of the metering equipment.

7.4 Proposed Terms & Conditions for LV General Residential Time of Use Tariff N13R

Aurora proposes the following Terms & Conditions for the new Time of Use Residential Tariff:

1. MSATS Code: AURESTOU. Network Tariff Code: N13R
2. This Network Tariff is applicable to all qualifying sites that are connected to the Aurora distribution network on or after 1 July 2009. Existing qualifying sites may transfer to this Network tariff on or after 1 July 2010. Existing qualifying sites already on the Network Tariff at 1 July 2010, may remain on this tariff.
3. A site qualifies for this Network Tariff if:
 - connection is made to this site at low voltage; and
 - the installation at the premises used wholly or principally as private residential dwellings.

Note: A private residential dwelling is a house, flat, home unit, town house or similar qualifying residential premise.

4. There are no restrictions on the use for the supply.

Note: Farm outbuildings may be connected on this tariff provided that the connection is through the meters for the farm residence.

This tariff may be used in conjunction with network tariff N06a, but not N06.

A meter capable of recording “interval data” is required for installations on this tariff.

7. The Use of System charges applicable for this tariff is composed of the following charging components:
 - a) DUOS
 - i) A fixed daily charge; and
 - ii) An energy-based charge; the rate of the energy charge varies according to the time of day at which energy is consumed, with the periods being as identified in Table 5.
 - b) TUOS
 - i) An energy-based charge; the rate of the energy charge varies according to the time of day at which energy is consumed, with the periods being as identified in Table 5.
 - c) Metering
 - i) A charge for the provision of metering services may apply, depending upon whether or not Aurora is appointed as Metering Provider.

Table 5 – Time Periods for Residential Tariff

Time Period	Tariff Rate
Week Day (0700 – 1100) (Monday – Friday)	Peak
Week Day (1100 – 1630) (Monday – Friday)	Shoulder
Week Day (1630 – 2200) (Monday – Friday)	Peak
Weekend Day (0700 – 2200) (Saturday & Sunday)	Off-peak
Any Day (2200 – 0700) (Monday – Sunday)	Off-peak

8. For connection on this tariff, water heating systems:
- must comply with Australian Standard 1056, Storage Water Heaters; and
 - should comply with approved Australian Standards AS 3500.4.1 - 1997 and 3500.4.2:1997, National Plumbing and Drainage Code, Part 4 Hot Water Supply Systems and all amendments; non-compliant systems may be refused connection or disconnected.

7.5 Proposed Changes to Terms & Conditions for LV Uncontrolled Energy Tariff N05

There is a single change proposed for this Network Tariff to effect obsolescence from the commencement of Period 4:

1. Network Tariff LV Uncontrolled Energy, Network Tariff Code N05, is Obsolete as of 1 July 2010. As a consequence:
 - this Network Tariff N05 is not applicable to new sites that are connected to Aurora’s distribution network after 1 July 2010;
 - existing sites that are connected on Network Tariff N05 at 1 July 2010, may remain on that tariff;
 - existing sites that are not connected on Network Tariff N05 at or after 1 July 2010, may not subsequently be connected using that tariff.

7.6 Proposed Changes to Terms & Conditions for LV PAYG Tariff N13

There is a single change proposed for this Network Tariff to effect obsolescence from the commencement of Period 4:

1. Network Tariff LV APAYG, Network Tariff Code N13, is Obsolete as of 1 July 2010. As a consequence:
 - this Network Tariff N13 is not applicable to new sites that are connected to Aurora’s distribution network after 1 July 2010;
 - existing sites that are connected on Network Tariff N13 at 1 July 2010, may remain on that tariff;
 - existing sites that are not connected on Network Tariff N13 at or after 1 July 2010, may not subsequently be connected using that tariff.

7.7 Consultation

Aurora seeks feedback from interested parties about any aspects of the proposed new Network Tariff and alterations to existing Network Tariffs, including:

- the proposed terms and conditions of the proposed Network Tariff N13R, including the proposed times for Peak, Shoulder and Off Peak energy rates;
- making Network Tariff LV Uncontrolled Energy N05 Obsolete from Period 4; and
- making Network Tariff LV APAYG N13 Obsolete from Period 4.

8 LV Commercial Tariff with Time of Use Energy Charging Network Tariffs

8.1 Discussion

Aurora currently does not offer a Time of Use Network Tariff for small commercial sites, which are served by the following three LV Network Tariffs:

- General Network - Business, N02, for general light and power;
- LV Uncontrolled Energy, N05, for large, wired-in heaters and appliances; and
- LV Controlled Energy N06, an “off peak” tariff for wired-in heaters.

In addition, there are two subsets of Network Tariff N02 to cater for special needs groups:

- General Network - Business, Nursing Homes, N02A, for operators of nursing homes; and
- General Network - Business, Curtilage, N02B, for primary producers with out-buildings.

These last two Network Tariffs are Obsolete, and are also being brought into alignment with their parent Network Tariff N02. This process is discussed further in the Network Tariff Strategy.

Based upon 2007 data, small commercial sites comprise the second largest group connected to the Aurora distribution network, accounting for approximately 9% of 260,000 or so connected sites and about 20% of the total energy consumed. Again, although each site individually has a negligible effect on the electrical demand, collectively the small commercial sector contributes significantly to the overall demand peak. It is worthwhile, therefore, to introduce Time of Use charging components to this customer group.

Aurora recognises, however, that the majority of the electrical demand due to this sector occurs at times dictated by business opening hours and requirements of service provision. It is not practical, for example, to expect commercial customers to turn off their heaters during a cold period. On the other hand, it is possible to connect storage hot water heaters to time clocks so that they heat during times of lower network electrical demand. For this reason, it is not appropriate to “punish” users by placing a premium upon electricity consumed during times of higher electrical demand; rather, a discount should be applied to provide an incentive to move consumption to a period of lower demand. This is the approach that Aurora intends to use in its Time of Use tariffs for commercial customers.

Aurora intended, as noted in the Network Tariff Strategy, to combine the three commercial Network Tariffs N02, N05 and N06 into a single Commercial Network Tariff with Time of Use charging components. This approach was also raised in the Issues Paper. No responses were received on this matter.

Subsequent discussion with interested parties has indicated that it may be appropriate to retain an “off peak” tariff, where the supply times are determined by Aurora. Aurora agrees that this suggestion has merit as it provides a simple Time of Use product for those who do not want or need to provide their own timing devices to control their appliances.

The proposed implementation programmes for the residential tariffs are presented in the following sections.

8.2 Implementation of Time of Use Network Tariffs for Small Commercial Customers

One of the requirements for the introduction of this tariff is the availability of appropriate metering equipment. Meters in the majority of small commercial sites are simple accumulation-type meters that are not capable of recording consumption data in the manner required for the application of a Time of Use tariff. Given the large number of meters in this part of the Aurora customer base (approximately 45,000) it is not practical to perform a mass replacement. As a result, Aurora intends to replace existing accumulation meters with interval-type meters (which can be used for Time of Use Network Tariff metering) as the existing meters reach the end of their service life. This staged approach was endorsed by the Regulator in the Final Determination and appropriate funding allowed for this purpose.

Aurora discussed the implementation of Time of Use Network Tariffs for small commercial customers in the Issues Paper. No responses were received on the issue. Accordingly, Aurora proposes to move forward with the introduction of this Network Tariff, but not in Period 3 (1 July 2009 to 30 June 2010). Rather, due to resource issues surrounding the implementation of Retail Contestability for Tranche 3 and 4 customers, Aurora does not intend to implement a Time of Use Network Tariff for small commercial sites until Period 4, which commences on the 1 July 2010.

As an equity issue, the presence of a time-of-use-capable meter on a site does not mean that the site will transfer to a Time of Use Network Tariff immediately at the commencement of Period 4: the new meters can still be read as simple accumulation-type meters, so the existing Network Tariff N02 can be retained. Rather, initially, Aurora will make the Network Tariff available to those small commercial customers that request it, and supply meters accordingly. New sites, however, will only be connected using the new Time of Use Network Tariff.

Although this tariff is not due for introduction until Period 4, the usage characteristics of many sites on the Network Tariffs General Network - Business N02 and General Network - Business, Nursing Homes N02A are similar, thus the reason for the latter being a subset of the former. As discussed in section 8.3, it will be possible to place many Nursing Homes onto a Time of Use type Network Tariff during Period 3. As a result, proposed Terms and Conditions for the new business Time of Use Network Tariff, for which customers on N02 and N02A will be eligible, are presented for consultation purposes in section 8.6.

An additional effect of the introduction of a Time of Use Network Tariff for small commercial sites is the potential removal of the other two small commercial Network Tariffs N05 and N06, where the effects of doing such were raised in the Network Tariff Strategy⁶ and flagged in the Period 2 Pricing Proposal.⁷

⁶ *“Network Tariff Strategy”, Aurora Energy, April 2008*

⁷ *“Network Pricing Proposal, Period 2 to 5, 1 July 2008 to 30 June 2012”, Aurora Energy, June 2008*

In commercial premises LV Uncontrolled Energy Tariff N05 is primarily for the operation of storage hot water heaters. The current tariff, which is only available in conjunction with the LV General Network Tariffs N02 and N02A, has a low fixed daily charge, a single-rate energy charge and a metering charge. The consolidation of this tariff with a Time of Use residential tariff may see a slight increase in the average energy rate, but the time of use of appliances have the largest effect on the final network charges. On the other hand, the metering charge will disappear as the appliances currently connected via N05 will be connected through the single Time of Use meter, rather than the presently required two meters, one each for N01 and N05. To reduce the impact of price changes upon customers, Aurora intends not to delete this Network Tariff, rather to declare it to be Obsolete. In this way, no new customers will be connected using this tariff, although it may continue to be used by existing sites until the customers choose to move to the Time of Use tariff. The declaration will not occur until Period 4, commencing on the 1 July 2010. Changes in Terms and Conditions to make tariff N05 Obsolete are in section 7.5.

The effect of the introduction of this Network Tariff on LV Controlled Energy Tariff N06 is considered in section 9.

8.3 Implementation of Time of Use Network Tariffs for Nursing Home Operators

Historically, support for the dedicated Nursing Home tariff was provided at both an Aurora Retail and Aurora Distribution level. From a Distribution Network point of view, this tariff was a discounted sub-set of the LV General Network – Business network tariff N02. During the 2004/5 consultation process, Aurora network proposed to completely phase out the Nursing Home network tariff [N02a] by 2009, noting that:

- (a) Aurora does not propose to retain a specific Nursing Home distribution tariff in the long run. Nursing homes generally use much of their energy during off-peak periods and may be better serviced by the Business ToU tariff.

No submissions were received on this point. Moreover, the Regulator, in the 2003 Determination, allowed Aurora to increase the Nursing Home Retail tariff by up to 6% above the appropriate CPI rate until N02A and N02 eventually reach parity.

The introduction of Retail Contestability will create several issues for network users. Most Nursing Home sites become contestable before FRC in Tranches 3 and 4. As a result, for compliance purposes, these sites will require metering capable of capturing interval data. With such metering it becomes possible to introduce a Network Tariff with Time of Use energy charging components, which Aurora intends to do in Period 3.

It should be emphasised that migration to the new Network Tariff will not be mandatory for existing connections. Aurora will give existing customers choice to migrate from the current N02A Network Tariff to the new Time of Use Network Tariff.

For the avoidance of doubt, the discount currently applied to N02 to arrive at N02A rates will not be applied to the Time of Use Network Tariff to create a subset for Nursing Homes. Indications from Nursing Home operators are that sufficient load can be transferred to times of lower demand to render a special tariff unnecessary, especially given the alignment of the Nursing Home tariff with the General Business tariff.

8.4 Proposed Terms & Conditions for LV General Business Time of Use Tariff (N13B)

Aurora proposes the following Terms & Conditions for the new Time of Use Business Tariff:

1. MSATS Code: AUBUSTOU Network Tariff Code: N13B
2. This Network Tariff is applicable to all qualifying sites that are connected to the Aurora distribution network on or after 1 July 2009. Existing qualifying sites may transfer to this Network tariff on or after 1 July 2010. Existing qualifying sites already on the Network Tariff at 1 July 2010, may remain on this tariff.
3. A site qualifies for this Network Tariff if connection is made to this site at low voltage.
4. There are no restrictions on the use for the supply.
5. This tariff may be used in conjunction with network tariff N06a, but not N06.
6. A meter capable of recording “interval data” is required for installations on this tariff.
7. The Use of System charges applicable for this tariff is composed of the following charging components:
 - a) DUOS
 - i) A fixed daily charge; and
 - ii) An energy-based charge; the rate of the energy charge varies according to the time of day at which energy is consumed, with the periods being as identified in Table 6.
 - b) TUOS
 - i) An energy-based charge; the rate of the energy charge varies according to the time of day at which energy is consumed, with the periods being as identified in Table 6.
 - c) Metering
 - i) A charge for the provision of metering services may apply, depending upon whether or not Aurora is appointed as Metering Provider.

Table 6 – Time Periods for General Business Tariff

Time Period	Tariff Rate
Week Day (0700 – 2200) (Monday – Friday)	Peak
Weekend Day (0700 – 2200) (Saturday & Sunday)	Shoulder
Any Day (2200 – 0700) (Monday – Sunday)	Off-peak

8. For connection on this tariff, water heating systems:
 - must comply with Australian Standard 1056, Storage Water Heaters; and
 - should comply with approved Australian Standards AS 3500.4.1 - 1997 and 3500.4.2:1997, National Plumbing and Drainage Code, Part 4 Hot Water Supply Systems and all amendments; non-compliant systems may be refused connection or disconnected.

8.5 Proposed Changes to Terms & Conditions for Network Tariff General Network – Business (N02)

There is a single change proposed for this Network Tariff to effect obsolescence from the commencement of Period 4:

1. Network Tariff General Network – Business, Network Tariff Code N02, is Obsolete as of 1 July 2010. As a consequence:
 - this Network Tariff N02 is not applicable to new sites that are connected to Aurora’s distribution network after 1 July 2010;
 - existing sites that are connected on Network Tariff N02 at 1 July 2010, may remain on that tariff;
 - existing sites that are not connected on Network Tariff N02 at or after 1 July 2010, may not subsequently be connected using that tariff.

8.6 Consultation

Aurora seeks feedback from interested parties about any aspects of the proposed new Network Tariff and alterations to existing Network Tariffs, including:

- the proposed terms and conditions of the proposed Network Tariff N13B, including the proposed times for Peak, Shoulder and Off Peak energy rates; and
- making Network Tariff General Network – Business N02 Obsolete from Period 4.

9 LV Controlled Energy Tariff N06

9.1 Discussion

The introduction of a Time of Use Network Tariff for Residential Customers (see section 7.2) ostensibly reduces the need for the off-peak type tariff N06. The Time of Use Network Tariff removes the onus for operating appliances from Aurora to the customer, and it is possible for the customer to have a licensed electrical technician install and maintain time clocks to control the operation of larger appliances, thereby moving consumption from times of higher energy charges to times of lower energy charges.

In the Issues Paper, Aurora proposed to declare Network Tariff N06 to be Obsolete, with a view to transferring sites on this tariff to the appropriate new Time of Use Network Tariff. Following discussions with interested parties, it was concluded that to mandate a move to such a Network Tariff may produce undesirable outcomes. Some customers may not have either the desire or the resources to install and monitor private timing devices. A more equitable solution is to retain this Aurora-controlled tariff, while still offering the customer-controlled option. This solution adds no costs to Aurora (and, therefore, its customers) as the existing time-clocks and meters for this tariff will continue to be sufficient into the foreseeable future.

Aurora does, however, intend to introduce one change to the Network Tariff. Currently, supply is available on this Network Tariff for at least nine hours between 2000 hours and 0700 hours and a further two hours between 1300 hours and 1630 hours. Aurora intends to make this a true “off-peak” Network Tariff by aligning it with the times for the proposed new LV General Residential Time of Use Network Tariff. As a result, Aurora will remove the daily “afternoon boost” between 1300 and 1630 and restrict the start time to 2200 hours.

To avoid equity issues, however, Aurora will introduce a new off-peak tariff, and declare the existing tariff to be obsolete. This change will not occur until Period 4, which commences on 1 July 2010. It should be emphasised that migration to the new Network Tariff will not be mandatory for existing connections.

9.2 Proposed Changes to Terms & Conditions for LV Controlled Energy Tariff N06a

Aurora proposed that the existing Terms and Conditions be replaced with the following, to be applicable from 1 July 2010:

1. MSATS Code: AUHEATCONN. Network Code: N06a
2. This Network Tariff is applicable to all qualifying sites that are connected to the Aurora distribution network on or after 1 July 2009. Existing qualifying sites may transfer to this Network tariff on or after 1 July 2010. Existing qualifying sites already on the Network Tariff at 1 July 2010 are not required to change and may remain on this tariff.
3. A site qualifies for this Network Tariff if:
 - connection is made to this site at low voltage; and
 - the site has a circuit metered at either:
 - LV General Residential Time of Use N13R; or
 - LV General Residential N01; or
 - LV General Business Time of Use N13B; or
 - LV General Business N02.

(There will be no restrictions on the equipment connected on this tariff. General purpose outlets or ‘power points’ will be allowed on the ‘controlled’ circuit.)
4. A meter capable of recording “accumulation data” is required for installations on this tariff.
5. Energy will be supplied by Aurora on this Network Tariff overnight between the hours of 2200 and 0700,
6. The Use of System charges applicable for this tariff is composed of the following charging components:
 - a) DUOS
 - i) A fixed daily charge; and
 - ii) An energy-based charge;
 - b) TUOS
 - i) An energy-based charge;
 - c) Metering
 - i) A charge for the provision of metering services may apply, depending upon whether or not Aurora is appointed as Metering Provider.

7. Restrictions on the use for the supply are:
 - water heating must comply with condition 8 below;
 - an individual spa from which the water goes to waste after use may not be connected on this tariff.
8. For connection on this tariff, the water heating systems:
 - must comply with Australian Standard 1056, Storage Water Heaters; and
 - should comply with approved Australian Standards AS 3500.4.1 - 1997 and 3500.4.2:1997, National Plumbing and Drainage Code, Part 4 Hot Water Supply Systems and all amendments; non-compliant systems may be refused connection or disconnected.

9.3 Proposed Changes to Terms & Conditions for LV Controlled Energy Tariff N06

There is a single change proposed for this Network Tariff to effect obsolescence from the commencement of Period 4:

1. Network Tariff LV Controlled Energy, Network Tariff Code N06, is Obsolete as of 1 July 2010. As a consequence:
 - this Network Tariff N06 is not applicable to new sites that are connected to Aurora's distribution network after 1 July 2010;
 - existing sites that are connected on Network Tariff N06 at 1 July 2010, may remain on that tariff;
 - existing sites that are not connected on Network Tariff N05 at or after 1 July 2010, may not subsequently be connected using that tariff.

9.4 Consultation

Aurora seeks feedback from interested parties about any aspects of the introduction of the new Network Tariff N06a, including:

- the proposed availability to installations connected with Time of Use Network Tariffs;
- the proposed times at which supply will be made available on the proposed Network Tariff N06a; and
- the proposed declaration of obsolescence of existing Network Tariff N06.

10 Consultation - Change of Terms and Conditions for Calculation of Specified Demand Charges

10.1 Discussion

As noted in section 3.6, Aurora is obliged to build its distribution network to cope with the maximum electrical demand placed upon it by connected sites. The Specified Demand tariffs provide are designed to provide an incentive to owners of the sites with larger electrical demands (that is, those sites which more directly affect the requirement to augment the distribution network) to closely manage their demands. In doing so, the requirement for expenditure by Aurora to augment infrastructure may be deferred or removed.

There are several approaches to charging regimes for a Specified Demand. Aurora currently uses the value of the maximum 15 minute demand for a given month as the basis for that month's demand charging. Following discussions with various parties upon this matter, it has become apparent that this approach may be somewhat punitive in that it provides no allowance for small excursions above the nominated value. As a result, Aurora is proposing to make such an allowance, and also to move from charging on a monthly basis to charging on a daily basis.

Aurora proposes to alter its Specified Demand charging methodology. For existing customers on Network Tariff N15 Specified Demand (<2 MVA), the excess demand charges will be calculated on a daily, rather than monthly, basis. With this approach, the premium rate is applied for a single day, rather than the entire billing period, which is usually a month. In this way, owners of sites are not exposed to excessive monthly demand rates.

For customers on other Specified Demand tariffs:

- proposed HV Specified Demand (<2 MVA) Tariff, N10S (see section 4); and
- proposed LV Specified Demand Tariff, N09S (see section 5.1),

Aurora proposes to provide an allowance of 20% of the value nominated by a user for a site; provided that a site's demand does not exceed 120% of the Specified Demand, there will be no excess demand rate applied. As a trade-off for this allowance, however, Aurora intends to increase the premium to be charged as an excess demand rate in the event that a site's demand exceeds the combined Specified Demand and allowance. It is expected that the excess demand rate will be about 10 times the specified demand rate, although still calculated on a daily, rather than monthly, basis. These rates should provide to the customers on this Network Tariff a strong incentive to manage their overall demand on the network.

10.2 Proposed Alteration

The method for calculation of demand charges is currently given in the General Terms and Conditions for Network Tariffs which is contained within the Period 2 Pricing Proposal;⁸ these are reproduced in the Appendix, and the part applicable to Specified Demand tariffs is as follows:

- (a) Calculation of NUoS Charges for Specified Demand Tariffs
- (b) If the maximum demand is less than, or equal to, the specified demand, the daily charge for the entire billing period is the specified demand for the Billing Period multiplied by the specified demand charge rate.

⁸ "Network Pricing Proposal, Period 2", Aurora Energy, June 2008.

- (c) If the maximum demand is greater than the specified demand, the daily charge for the entire billing period is the sum of:
- the specified demand for the billing period multiplied by the specified demand charge rate; and
 - the difference between the specified demand for the billing period and the maximum demand for the billing period multiplied by the excess demand charge rate.

Aurora proposes to replace this with the following:

Calculation of NUoS Charges for Specified Demand Tariffs

In this section, “Nominated Demand” means the value of electrical demand of the site to which the Specified Demand Network Tariff applies as nominated by the operator of that site to Aurora.

Network Tariff N15:

The demand-based charges for an installation on the Network Tariff N15 would be calculated monthly as follows:

- (a) the monthly demand-based charge is the sum of the daily demand-based charges for the month;
- (b) the daily demand-based charges are:
- (i) if any daily ATMD in the month is less than or equal to 100% of the Nominated Demand, the demand charge for the day will be equal to the specified demand multiplied by the specified demand rate; or
 - (ii) if any daily maximum demand in the month is greater than the Nominated Demand, the daily demand charge will be the sum of:
 - the specified demand multiplied by the specified demand rate; and
 - the difference between the maximum demand and the specified demand multiplied by the excess demand rate;
 - (iii) the excess demand rate is five times the specified demand rate.

Network Tariffs other than N15:

The demand-based charges for an installation on a Specified Demand Network Tariff other than N15 would be calculated monthly as follows:

- (a) the monthly demand-based charge is the sum of the daily demand-based charges for the month;
- (b) the daily demand-based charges are:
- (i) if any daily ATMD in the month is less than or equal to 100% of the Nominated Demand, the demand charge for the day will be equal to the specified demand multiplied by the specified demand rate; or
 - (ii) if the daily ATMD is greater than the Nominated Demand, but not greater than 120% of the Nominated Demand, then the demand charge for the day will be the maximum demand multiplied by the specified demand rate; or
 - (iii) if any daily maximum demand in the month is greater than the Nominated Demand by 120%, the daily demand charge will be the sum of:
 - 120% of the specified demand multiplied by the specified demand rate; and

- the difference between the maximum demand and 120% of the specified demand multiplied by the excess demand rate;
- (iv) the excess demand rate is ten times the specified demand rate.

10.3 Consultation

Aurora seeks feedback from interested parties about any aspects of the proposed new method, including:

- for the N15 network tariff, changing the calculation of excess demand charges from a monthly to a daily basis;
- for Network Tariffs other than N15,
 - the introduction of an allowance to provide some leeway in demand management, including the appropriateness of the value 20%; and
 - the move to using a daily, rather than monthly, basis for calculating demand charges.

11 Next Steps

Written submissions on this Position Paper, and other related issues, should be received by Aurora by the close of business Wednesday, 15 April 2009. Submissions can be sent electronically to networktariff@auroraenergy.com.au.

Alternatively, written submissions can be sent to:

- (a) Mr Leigh Mayne
Network Regulation Manager
Network Division
Aurora Energy
177 Main Road
Moonah TAS 7009
- (b) Tel: (03) 6271 6544
Fax: (03) 6271 6517

Aurora prefers that all submissions be in an electronic format and publicly available, to facilitate an informed, transparent and robust consultation process. Accordingly, submissions will be treated as public documents and posted on Aurora's website, www.auroraenergy.com.au except and unless prior arrangements are made with Aurora to treat the submission, or portions of it, as confidential.

Any enquiries about this issues paper, or about lodging submissions, should be directed to Leigh Mayne on (03) 6271 6544 or at the above email address.

Aurora will publish submissions as they are received unless an arrangement is made with the submitter to the contrary

As required by the Guideline, a Pricing Proposal for the period covering 1 July 2009 to 30 June 2010, will be lodged with the Regulator by 30 April 2009.

12 Glossary

Aurora	Aurora Energy Pty Ltd ABN 85 082 464 622
Contestable Customer Regulations	Electricity Supply Industry (Contestable Customer) Regulations 2005
DUOS	Distribution Use of System
ESI Act	Electricity Supply Industry Act 1995
Final Report	<i>Investigation of Prices for Electricity Distribution Services and Retail Tariffs on Mainland Tasmania Final Report and Proposed Maximum Prices</i> published by the Regulator in September, 2007
Guideline	<i>Approval of Network Tariffs in Accordance with the 2007 Determination</i> published by the Regulator in November, 2007
HV	High Voltage, as defined in the ESI Act, between 1,000 Volts and 88,000 Volts.
Issues Paper	<i>Introduction of Time of Use and Specified Demand Network Tariff Charging Components</i> published by Aurora in December, 2008
LV	Low Voltage, less than High Voltage, less than 1,000 Volts
MSATS	Metering Settlements and Transactions
MWh	MegaWatt-hours, a unit of energy consumption, equivalent to one million Watt-hours.
NEMMCO	As defined in the TEC
NER	National Electricity Regulations
Price Control Regulations	Electricity Supply Industry (Price Control) Regulations 2003
Regulator	As defined in the ESI Act
TEC	Tasmanian Energy Code
TUOS	Transmission Use of System
ATMD	Any Time Maximum Demand
kVAR	kilo Volt Amps Reactive

13 Appendix

These General Network Terms and Conditions are applicable to all Network Tariffs.

13.1 Times

All times are given as Australian Eastern Standard Time.

13.2 Aurora's Obligation to Supply

Under Section 26(2) of the ESI Act, Aurora is not obliged to supply electricity to a customer if:

- (a) the supply would overload the power system or prejudice in some other way the supply of electricity to other customers; or
- (b) the supply would result in contravention of the conditions of the electricity entity's licence; or
- (c) the supply would result in risk of fire or some other risk to life or property; or
- (d) the supply is or needs to be interrupted –
 - (i) in an emergency; or
 - (ii) in circumstances beyond the electricity entity's control; or
 - (iii) for carrying out work on electricity infrastructure; or
 - (iv) to comply with a direction to the electricity entity under the ESI Act; or
- (e) the electricity entity is exempted from the obligation by regulation.

13.3 Customers' General Obligations

Aurora is obliged to place the following conditions upon customers under the TEC.

13.3.1 Use of Electricity

A Customer must not allow a supply of electricity to its electrical installation to be used other than at the Customer's premises nor will the Customer supply electricity so supplied to any other person without the prior approval of Aurora. [TEC 8.6.2(a)(1)]

A Customer must not take electricity supplied to another Customer's electrical installation by Aurora at the Customer's premises. [TEC 8.6.2(a)(8)]

13.3.2 Maintenance of Customers' Installations

A Customer must at its own expense, maintain the Customer's electrical installation in a safe condition to the satisfaction of its Distribution Network Service Provider [Aurora] or other relevant authority. [TEC 8.6.2(a)(5)]

13.3.3 Operation of Customers' Installation

A Customer must ensure that the Customer's electrical installation and any equipment within it (including protective equipment) are adequate, and effectively co-ordinated at all times with the electrical characteristics of Aurora's distribution system. [TEC 8.6.2(a)(6)]

A Customer must use the electricity supplied to its electrical installation in a manner which, in the opinion of Aurora, does not interfere with the supply of electricity to other Customers' electrical installations or cause damage or interference to any third party. [TEC 8.6.2(a)(7)]

13.3.4 Protection of Aurora Assets

A Customer must not interfere or allow interference with any equipment of its Distribution Network Service Provider [Aurora] which is on the Customer's premises except as may be permitted by law. [TEC 8.6.2(a)(2)]

A Customer must provide and maintain on the Customer's premises any reasonable or agreed facility required by Aurora to protect any equipment of the Distribution Network Service Provider [Aurora]. [TEC 8.6.2(a)(4)]

13.3.5 Access

A Customer must at all times, make available to Aurora's officers or agents, together with their equipment, a safe, convenient and unhindered access to the equipment of the Distribution Network Service Provider [Aurora] on the Customer's premises for any purposes associated with the supply, metering or billing of electricity or the inspection and/or testing of the Customer's electrical installation, provided that official identification is produced by the officers or agents on request. The Customer must provide protective equipment to officers or agents of Aurora if that is necessary to ensure safe access to the Customer's premises. [TEC 8.6.2(a)(3)]

13.3.6 Compulsory Provision of Land

A Customer must if, in respect of an electrical installation, it has a maximum demand over 100 kVA must, if Aurora is unable to continue to satisfy that maximum demand without installing a new substation, sell or lease to Aurora the land upon which a new substation can be installed by Aurora in order to allow Aurora to satisfy that maximum demand. [TEC 8.6.2(b)]

13.3.7 Power Factor

A Customer must (unless otherwise agreed with its Distribution Network Service Provider) at all times keep the power factor of its electrical installation within the relevant range set out in Table 7. [TEC 8.6.3(a)]

Table 7 – Power Factor Requirements

Supply Voltage (kV)	Power Factor range for Customer maximum demand and voltage					
	Up to 100 kVA		Over 100 kVA, less than 2 MVA		Over 2 MVA	
	Minimum Lagging	Minimum Leading	Minimum Lagging	Minimum Leading	Minimum Lagging	Minimum Leading
<1	0.75	0.80	0.80	0.80	0.85	0.85
1 - 6.6	0.75	0.80	0.80	0.80	0.90	0.90
6.6, 11, 22	0.80	0.80	0.85	0.85	0.90	0.90
33, 44, 66	0.85	0.85	0.90	0.90	0.95	0.95

Table PF

13.3.8 Voltage Fluctuations

A Customer must ensure that the customer's equipment does not cause voltage fluctuations at the point of common coupling greater than the levels specified in AS/NZ 61000.3.5:1998 and AS/NZ 61000.3.7:2001 as appropriate. [TEC 8.6.9]

If two or more Customers' electrical installations are connected at the same point of common coupling, the maximum permissible contribution to voltage fluctuations allowable from each Customer is to be determined in proportion to their respective maximum demand, unless otherwise agreed. [TEC 8.6.9]

13.3.9 Provision of Planning Information

[TEC 8.8(a)] A Customer must supply, if requested, to Aurora or the Electricity Retailer as the case may be, details of loads connected or planned to be connected to Aurora's distribution system which Aurora requires for the purpose of planning its distribution system, including:

- (1) the location of the load in the distribution system;
- (2) existing loads;
- (3) existing load profile;
- (4) changes in load scheduling;
- (5) planned outages;
- (6) forecasts of load growth;
- (7) anticipated new loads;
- (8) anticipated redundant loads; and
- (9) the nature of any disturbing loads.

13.3.10 Vegetation Management

A Customer must, at its own expense, maintain safe clearances between vegetation on the Customer's property and electrical infrastructure providing supply to the Customer's electrical installation. [TEC 8.6.2(a)(9)]

13.4 Fallback

In the event that a customer is moved onto a Fallback Contract under the provisions of the Contestable Customer Regulations, the Network Tariffs for that customer's installation(s) affected by the move remains unchanged.

13.5 Demand Tariffs

Reassignment of Network Tariffs due to Increases in Electrical Demand

Where a customer requires a change in Network Tariff due to an increase in electrical demand at a connection point, the customer must submit a written request to Aurora Energy.

The increased level of electrical demand shall apply from the requested date or as near as possible thereafter, subject to any required works being completed by Aurora Energy.

Customers seeking tariff reassignment must remain on the reassigned tariff for a minimum twelve (12) month period.

Exceptions will only be made at Aurora Network's discretion where it can be demonstrated that to not do so would result in unreasonable penalties or impose hardship on the customer.

Note: this condition prevents customers from changing tariffs to take advantage of seasonal variations in prices according to their individual load; thereby bypassing payment that reflects use of the distribution network over a full twelve (12) month cycle.

Reassignment of Network Tariffs due to Temporary Increases in Maximum Demand

Temporary increases in electrical demand will:

- Be subject to negotiation and approval by Aurora Energy.
- Be defined in terms of "additional demand" for a specific period and charged at an agreed Demand Charge rate.
- Apply for one full billing period, except in the case of commissioning of new plant, in which case the duration of the temporary increase may be extended for the duration of the commissioning period.
- Be limited to one occurrence each twelve months or as otherwise agreed with Aurora Energy.

Reassignment of Network Tariffs due to Reductions in Maximum Demand

Where a customer requires a change in Network Tariff due to a reduction in electrical demand at their connection point, the customer must provide six months written advice to Aurora Energy detailing their new requirement.

Aurora Energy will notify the customer in writing within sixty days of receipt of the written advice, advising the revised NUoS charges and also any costs associated with the relocation of Aurora's assets at their site.

Following the installation by a customer of load management equipment approved by Aurora Energy or the implementation of a demand management initiative approved by Aurora Energy, the six month notice period referred to above may be reduced at the discretion of Aurora Energy.

Customers seeking tariff reassignment must remain on the reassigned tariff for a minimum twelve (12) month period.

Exceptions will only be made at Aurora Network's discretion where it can be demonstrated that to not do so would result in unreasonable penalties or impose hardship on the customer.

Note: this condition prevents customers from changing tariffs to take advantage of seasonal variations in prices according to their individual load; thereby bypassing payment that reflects use of the distribution network over a full twelve (12) month cycle.

Calculation of Maximum Demand

Any tariff charges based upon the maximum demand of an installation are calculated using the maximum demand for the installation during the billing period. The maximum demand of an installation during a billing period is taken to be the largest value of the electrical demand for that installation during that billing period. The electrical demand of an installation for a "Demand Integration Period" is taken to be the energy consumption of that installation during the "Demand Integration Period" divided by the length of the "Demand Integration Period" measured in hours. Currently, the Demand Integration Period is 15 minutes.

Calculation of NUoS Charges for Specified Demand Tariffs

If the maximum demand is less than, or equal to, the specified demand, the daily charge for the entire billing period is the specified demand for the Billing Period multiplied by the specified demand charge rate.

If the maximum demand is greater than the specified demand, the daily charge for the entire billing period is the sum of:

- the specified demand for the billing period multiplied by the specified demand charge rate; and
- the difference between the specified demand for the billing period and the maximum demand for the billing period multiplied by the excess demand charge rate.