



SA Power Networks

Pricing Proposal 2019/20



March 2019

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Executive summary

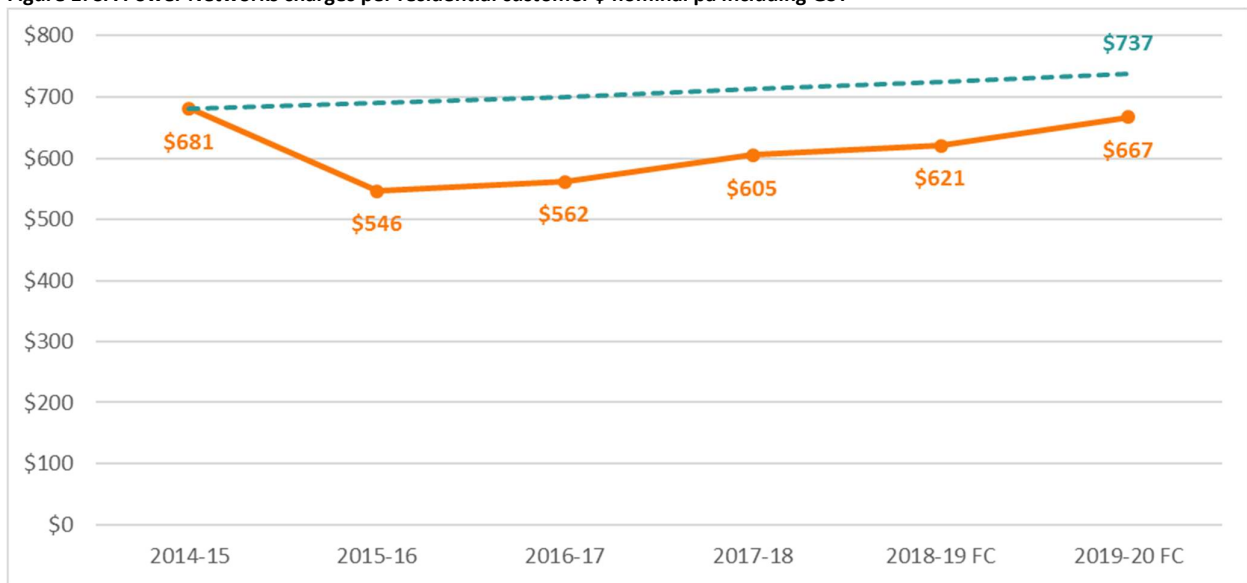
This Annual Pricing Proposal (APP), which has been prepared by SA Power Networks under the requirements of the National Electricity Rules (NER), provides details of SA Power Networks’ proposed 2019/20 distribution and metering services charges, and comprehensive information on the tariffs for each type and size of customer.

SA Power Networks’ revenue for operating and maintaining the distribution network for the period 1 July 2019 to 30 June 2020 has been set by the Australian Energy Regulator (AER). This results in a \$46 (2.5%) increase in retail electricity prices for the average residential customer.¹

Residential customers received a \$135 reduction in SA Power Networks’ distribution prices in 2015-16 with smaller increases of about \$25 in each subsequent year prior to this year’s \$46 increase. The net effect is that SA Power Networks’ distribution charges during the current five-year regulatory period will be lower in both nominal and real terms through to 2019-20 than they were in 2014-15.

The chart below shows SA Power Networks’ distribution charges (including metering charges) for the average South Australian residential customer (in nominal terms including GST). The dashed line shows the CPI-escalation of the 2014/15 average distribution charge.

Figure 1: SA Power Networks charges per residential customer \$ nominal pa including GST



SA Power Networks’ distribution charges are only one aspect of the electricity bill paid by customers and have not been the reason for the significant increases in customers’ electricity bills in recent years. There are other charges including transmission charges, government solar schemes and retail/energy charges that make up the total electricity bill to customers. Retail/energy costs are determined by retailers and are not regulated. They are not covered in this proposal.

As required by the AER, this proposal includes pricing of other charges. These do not relate to SA Power Networks’ costs for our distribution and metering services and are not revenue earned by SA Power Networks. These are charges that are ‘passed-through’ by the distribution provider to customers. The other charges included in total network charges apart from SA Power Networks’ distribution charges are:

¹ The average distribution customer is determined by total residential customer usage divided by residential customer numbers, ie it is the average outcome for residential customers that year.

1. Transmission network charges of transmission operators ElectraNet and MurrayLink. For the average residential customer there will be a \$6 increase in transmission charges in 2019/20; and
2. Collection of monies to fund the South Australian Government’s Photo-voltaic Feed-in Tariff (**PV FiT**) scheme, which is paid to retailers to be applied to the accounts of the owners of qualifying solar photo-voltaic (**PV**) electricity generators. For the average residential customer, the cost increase of the PV FiT Scheme will be \$7 in 2019/20.

The following Chart and Table provide a comparison of the average residential customers’ annual charge² for these three components.

As retail prices for 2019/20 have not been published we have used 2018/19 energy/retail prices including an estimated retailer discount of 15.5% on energy usage prices to calculate increases. On this basis, the retail bill for the average customer will increase by \$46 (2.5%) due to SA Power Networks’ distribution and metering charges. Other charges (recovery of transmission charges and the SA Government’s PV FiT Scheme costs) will increase the retail bill by \$13 (0.7%). The total of these charges results in a \$59 (3.2%) increase in the average residential customer’s retail bill.

Figure 2: Total network charges per residential customer \$ nominal pa including GST

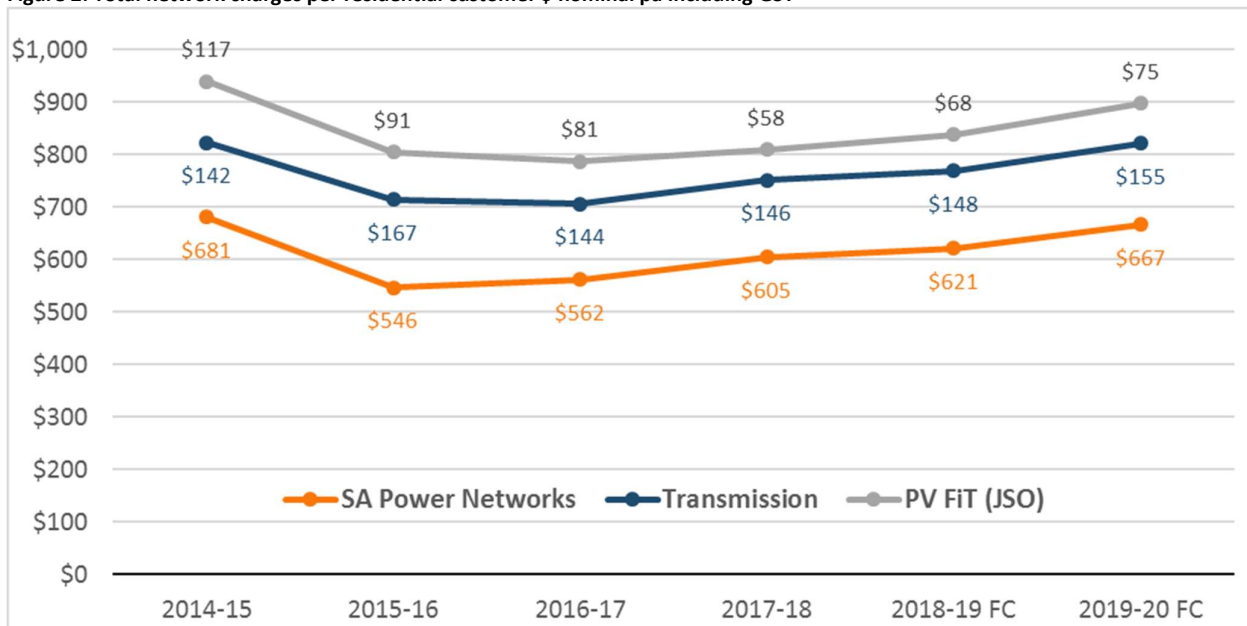


Table 1: Residential Electricity charges per customer \$ nominal incl GST

	2014/15 \$pa	2015/16 \$ pa	2016/17 \$ pa	2017/18 \$ pa	2018/19 \$ pa	2019/20 \$ pa	Increase 19/20 v 18/19	Retail Bill Impact
Distribution (SAPN)	645	524	534	575	590	635	\$ 45.81	2.5%
Metering (SAPN)	36	22	28	30	31	32	\$ 0.41	0.0%
SA Power Networks	681	546	562	605	621	667	\$ 46.22	2.5%
Transmission	142	167	144	146	148	155	\$ 6.40	0.3%
PV FIT (JSO)	117	91	81	58	68	75	\$ 6.68	0.4%
Total	940	805	787	809	838	897	\$ 59.30	3.2%
Retail/Energy after disc.	739	796	924	1,199	1,028			
Average Residential Bill	1,679	1,601	1,711	2,008	1,866			

² Ibid, as per footnote above.

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1. Introduction

The National Electricity Rules (**NER**) require SA Power Networks to submit an Annual Pricing Proposal (**APP**) to the Australian Energy Regulator (**AER**) at least three months before the commencement of each regulatory year. This APP is for the 2019/20 regulatory year and has been prepared in accordance with the requirements of the NER³, the AER’s 2015-20 Regulatory Determination⁴ and the AER-approved 2017-20 Tariff Structure Statement (**TSS**).⁵

This APP sets out proposed prices for all of SA Power Networks’ standard control services tariffs and alternative control services (ie metering services) for the 2019/20 regulatory year.

1.1 Our Business

SA Power Networks is a Distribution Network Service Provider (**DNSP**) which operates within the National Electricity Market (**NEM**).

Our distribution network serves the State of South Australia, with a service territory of about 178,200 km², with a coastline of over 5,000 km. The network’s route length is 82,000km (circuit length 89,000km), with approximately 20% underground. The extent of SA Power Networks’ operations in South Australia is shown in SA Power Networks’ service area in Figure 3.

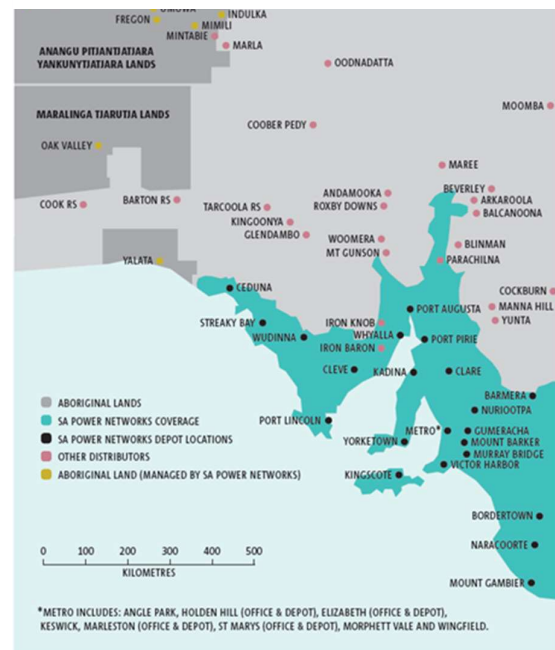
Except for much of the coastal area and the Adelaide Hills, South Australia is very sparsely settled. Approximately 70% of customers reside in Adelaide, including the great majority of business and commercial customers. However, the extensive area serviced by the distribution network results in 70% of the network infrastructure delivering energy to the remaining 30% of customers. Compared with other states, South Australia has relatively few regional centres, and they are generally small and sparsely located. As a result, the average customer density across the State is very low.

Our primary role is operating, building, extending, maintaining and upgrading South Australia’s distribution network. In this capacity, SA Power Networks plays an important role in supporting the achievement of South Australia’s economic, community and social objectives.

We are committed to delivering on our regulated obligations, including high levels of service, reliability, safety and efficiency for the South Australian community. The key services we provide include:

- Delivering electricity from ElectraNet’s transmission network, through the distribution poles and wires, to homes and businesses;
- Maintaining the reliability and safety of the distribution network of substations, poles, wires and transformers;
- Extending and upgrading the distribution network to meet changing needs; and
- Providing an emergency response in the event of power outages.

Figure 3: SA Power Networks’ service area



³ Version 119, February 2019.

⁴ AER, Final Decision – SA Power Networks Determination 2015-16 to 2019-20, October 2015.

⁵ AER, Final Decision – SA Power Networks Tariff Structure Statement 2017-20, February 2017.

We also monitor and read electricity meters⁶ and maintain street lights. These two services are provided under separate pricing arrangements to our standard control services.

1.2 Network tariff objectives

Our network tariffs have been developed in accordance with the NER.⁷ The methodologies described in our AER-approved 2017-20 TSS are designed to allow for recovery of efficient regulated costs of providing distribution services to our customers.

1.3 Summary of key changes in this APP

This section sets out the key changes and movements in prices for 2019/20 compared to 2018/19.

1. Average annual residential distribution and metering charges are \$46 higher in 2019/20 than in 2018/19 (including GST). This equates to a 2.5% increase on the total retail price for these customers. Note that the annual consumption by these customers is forecast to reduce further in 2019/20 from customer investment in energy efficient appliances, solar PV and the price elasticity response to large retail energy price increases. Usage prices have increased by more than average customer charges.
2. Average annual residential transmission and photo-voltaic Feed-in-Tariff (**PV FIT**) which is a jurisdictional service obligation (**JSO**), recovery charges (also referred to as ‘other network costs’) are \$13 higher in 2019/20 than in 2018/19. This equates to a 0.7% increase on the total retail price for these customers. Usage prices have increased by more than average customer charges.
3. The difference in the residential inclining blocks has been reduced in 2019/20. The TSS proposed that the two blocks would be merged in 2019/20, this has been postponed until 2020/21 to allow for stability of year on year price movements for this tariff class. In 2018/19 the distribution component for block 1 (usage to 4 MWh pa) was 12.8 c/kWh and for block 2 14.0 c/kWh – a 1.2 c/kWh difference. That difference has been reduced to 0.7 c/kWh in 2019/20 with block 1’s distribution component now 14.2 c/kWh and block 2 14.9 c/kWh.
4. The large business actual demand transition tariff rate has completely transitioned to the actual demand tariff rate in 2019/20, as proposed in the TSS. In 2018/19, this tariff was in its last year of transition at 83% of actual demand rate and 17% of business 2-rate.
5. Three trial tariffs are proposed for 2019/20, which trial certain aspects of pricing proposed for 2020-25.
 - a. The Riverland trial for a handful of very large customers is continuing for a second year, but with the peak demand window in summer shifting half an hour earlier to 5pm-9pm on days when the local maximum is forecast to reach 40 degrees in November to March. The anytime demand is reverting to a simpler single half-hour maximum. The trial is being extended to Eyre Peninsula for one customer who has demonstrated a willingness to manage load. This trial is conducted by SA Power Networks directly with these customers on a ‘can’t lose’ rebate basis and does not involve retailers.
 - b. Two further trials have been proposed for a residential Time of Use (**TOU**) trial and a controlled load TOU trial to assist with our ‘getting hot water back under control’ program. The tariffs mimic those proposed for 2020-25 for residential and will enable some technology trial initiatives as well as an opportunity for retailers if they choose to shift the hot water heating to a lower network price period. Details of proposed trials for 2019/20 are set out in Section 2.3.6.
6. Network price increases for residential and business customers in 2019/20 average 9.9% on a weighted-average basis. This is due to the combination of higher allowed distribution revenue and

⁶ Changes to the NER, from 1 December 2017, mean that Retailers will be responsible for installing all new and replacement electricity meters in South Australia. SA Power Networks will continue to be responsible for the monitoring and reading of the existing meters until they are replaced.

⁷ NER 6.18.2(b)(2) to (8).

pass-throughs (transmission and PV FiT payment) of 3.2%, revenue cap over-recovery increasing tariff recovery of a further 3.3% and the decline in weighted average sales quantities on last year's forecast of 3.2%. Both business and residential energy usage has been declining through in-house use of solar and energy efficiency and is forecast to continue to decline in 2019/20.

- a. The price increases have been applied to all tariffs, with slightly higher price increases for unmetered supply (eg streetlights) and the Business Actual Demand tariff. Unmetered supply still has a lower price than business 2-rate off-peak supply so is reasonably priced. The Business actual demand tariffs (SBD, BD and HBD) have been increased by a further 0.7 cents/kWh to better reflect the costs of supply.

1.4 Summary of changes versus TSS forecasts

This section sets out the differences between the indicative prices that were published in our 2017-20 TSS and the prices published in this APP. For detailed information, refer to Section 3.4.

Standard control services prices

The standard control services pricing for 2019/20 have been set according to our 2017-20 TSS methodology. Compared to the TSS forecast prices for 2019/20, distribution prices are 4.0% higher, transmission prices are 3.6% lower and JSO (**PV FiT**) prices are 5.0% lower than indicated in the TSS. Overall, total network charges are \$25M (2.1%) higher than the TSS forecast for 2019/20.

Compared to the overall average change in network prices, residential network prices increased by 0.02% whilst business network prices were 0.03% lower than the average increase, that is the proportion of network charges forecast to be recovered from residential is slightly higher in 2019/20 than was forecast for 2018/19 which is in line with the 2017-20 TSS.

This APP provides the pricing for the final year of our 2015-20 regulatory period. Indicative pricing for 2020/21 can be found in our 2020-25 Regulatory Proposal; Attachment 17 – Tariff Structure Statement.

Alternative control services prices

The alternative control services (metering) pricing for 2019/20 have been updated in accordance with the AER's price cap arrangements. The pricing changes set out below are a direct outcome of that price cap formula and the latest CPI movement.

Note that the AER formulae also set a price for upfront capital fees for new and upgraded meters. The provision of these meters is now the responsibility of retailers through their metering co-ordinators since December 2017 when metering contestability commenced. These upfront capital charges are now redundant.

1.5 Structure of this document

This APP has been structured to demonstrate compliance with the specific requirements of the Rules and the AER’s Regulatory Determination for 2015-20. The substantive sections of the APP are set out in Table 2.

Table 2: Structure of SA Power Networks' Pricing Proposal

Section	Purpose	NER clause	
1	Introduction	Introduces the Pricing Proposal and provides background information	-
2	Tariff classes and tariffs	Explains how we recover revenue from our customers and outlines our tariff classes, tariff structures and their charging parameters	6.18.2(b)(2-3,8); 6.18.3
3	Standard control services charges	Demonstrates compliance with the Rules and the AER’s Final Decision with respect to the control mechanism, the revenue X factors, side constraints and the NER pricing principles. Sets out our cost recovery for DUoS, TUoS and JSO	6.18.2(b)(4-8); 6.18.5; 6.18.6; 6.18.7 and 6.18.7A
4	Alternative control services	Sets out our tariffs for alternative control services (metering) as per the AER’s requirements described in its revenue determination	6.18.2(a)(2)
Appendices			
A	Standard control services tariff schedules	Sets out our standard control services tariff schedules	6.18.2(d)(e)
B	Alternative control services tariff schedules	Sets out our alternative control services tariff schedules for metering	6.18.2(d)(e)
C	Shortened forms	Provides a description of the shortened forms used within this document	-
D	List of attachments	Lists attachments to this Pricing Proposal	-

1.6 Confidential information

The NER⁸ classifies all network pricing information about a Distribution Network User used by a DNSP for the purposes of network pricing as confidential. SA Power Networks has nominated ‘Attachment A – Revenue cap model’ which constitutes part of this Pricing Proposal, as confidential.

SA Power Networks requests that the AER does not disclose the information contained in Attachment A to any person outside of the AER.

⁸ NER 6.19.2

2. Tariff classes and tariffs

This section describes SA Power Networks' standard control service tariff classes and related tariff structures. It sets out the way in which they have been constructed to comply with the requirements of the NER and the AER's 2015-20 Regulatory Determination.

2.1 How we recover revenue

SA Power Networks' Network Use of System (**NUoS**) tariffs are an aggregation of Distribution Use of System (**DUoS**) tariffs, metering services tariffs, Transmission Use of System (**TUoS**) cost recovery tariffs and the SA Government's JSO scheme for PV FiT.

Retailers may pass through the components of SA Power Networks' network tariffs to customers directly or modify their structure by bundling with the retail component, which includes the cost of purchasing wholesale energy from the NEM and retail costs. This is at the discretion of retailers.

This section outlines the distribution tariff structures, which are designed to recover the cost of providing standard control services to customers.

Section 4 of this APP outlines the arrangements for SA Power Networks' alternative control services (ie metering) tariffs which, in accordance with the NER⁹, have been constituted as a separate tariff class with separate charging parameters.

The process by which SA Power Networks recovers the SA Government solar PV-FiT payments through the JSO is described in Section 3.3. These amounts are paid to retailers to be applied to the accounts of the owners of qualifying PV electricity generators.

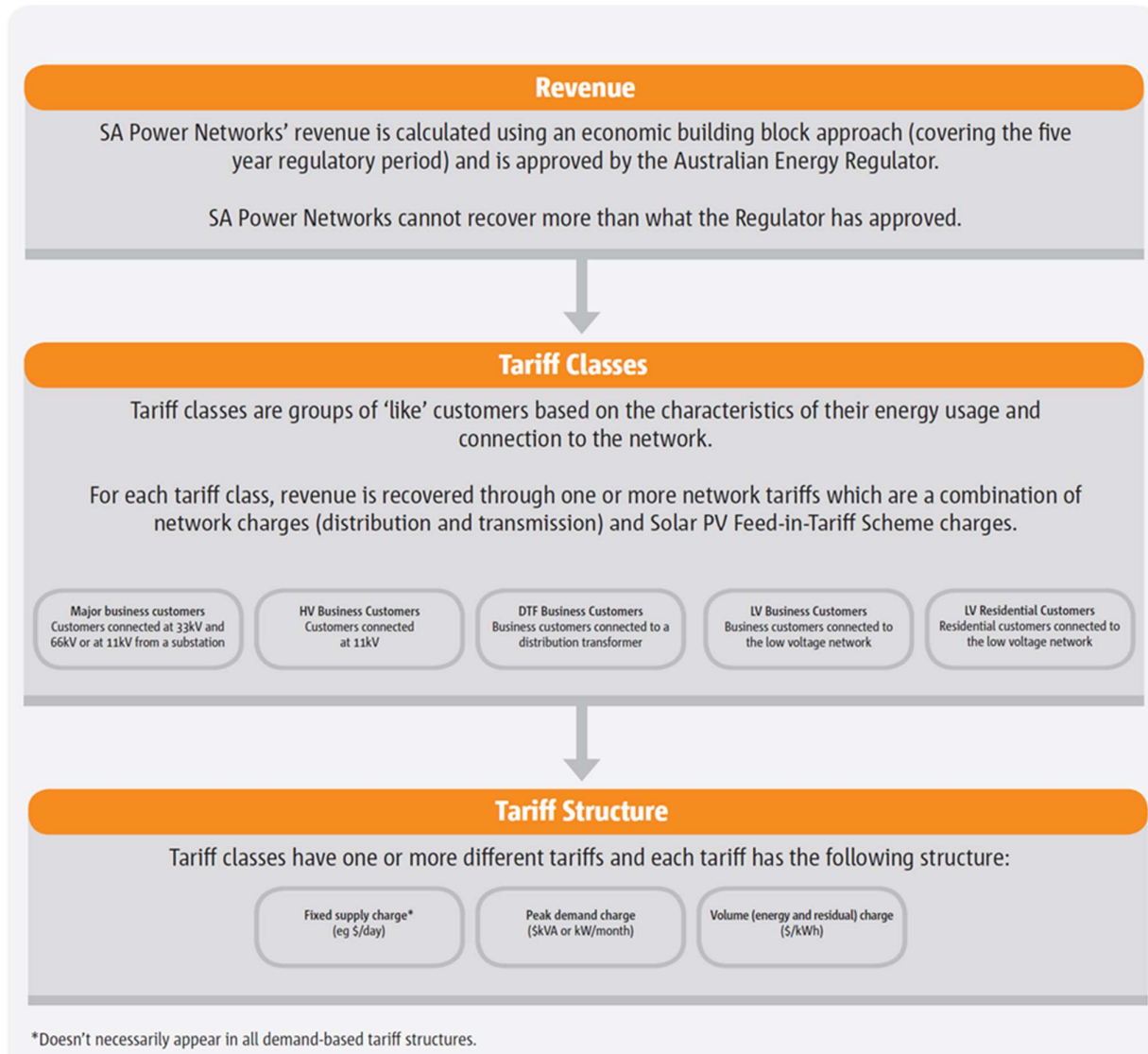
The NER requires tariff structures to have two main functions:

- to send a price signal for efficient consumption via the retailer; and
- to recover revenue from customers in a way that as much as possible reflects the total efficient cost of supplying those customers without distorting the efficient price signal.

Our allocation of revenue requirements to tariff classes and then tariffs is illustrated in Figure 4. It is a three-stage process, involving determining the allowed revenue, splitting that revenue across the five tariff classes (and their tariffs) and finally setting prices for each tariff parameter to recover from customers the revenue allocated to that tariff class (and their tariffs).

⁹ NER 6.18.3(c)

Figure 4: Allocation of revenue to tariff classes/tariffs and to tariff parameters



The grouping of customers into standard control service tariff classes and the tariffs therein has historically distinguished between customers based on the following factors:

- the nature and extent of usage of different types of customer (eg residential and small business customers);
- for large business customers, the nature of connection to the network, including the voltage of connection;
- whether the customer also receives a controlled load service; and
- the type of meter installed at the premises (for large LV business customers).

2.2 Standard control services tariff classes

SA Power Networks' network tariff classes and tariffs for 2017-20 are summarised in Table 3. The tariff classes have been constituted with regard to the provisions of the NER¹⁰ concerning economic efficiency and transaction costs.

The suite of tariffs provides:

- a range of tariffs which are dependent upon a customer's size, consumption characteristics and voltage of connection (these factors are generally related); and
- Long Run Marginal Cost (**LRMC**) cost-reflectivity in the demand tariff options, facilitated by the metering arrangements.

Table 3: SA Power Networks' tariff classes and associated tariffs

Tariff class	Customer type	Tariffs
Residential	Low voltage residential customers, single phase and three phase	RSR, MRD, MTOUTR, RSROPCLTR
Small business	Low voltage businesses consuming less than 160MWh per annum, single phase and multi-phase	B2R, SBD, SBDT, LVUU, LVUU24, BSR, SLV
Large LV business	Low voltage businesses consuming more than 160MWh per annum	BD, BDT, LV, LBSR, LB2R, LVSG, LVB, LVTR
High Voltage business	High voltage businesses generally supplied at 11kV	HV, HV400, HBD, HVB, HVN, B2R124H, HVTR
Major business	Businesses requiring at least 5MVA of capacity connected to the sub-transmission network or a zone substation	STN, STNXXX, STNB, STNTR, ZSN, ZSNXXX, ZSNB, ZSNTR, ZSSXXX, STRXXX

The structure of our tariffs, and the associated tariff charging parameters for each tariff within a tariff class, follow in Section 2.3.

¹⁰ NER 6.18.3(d)

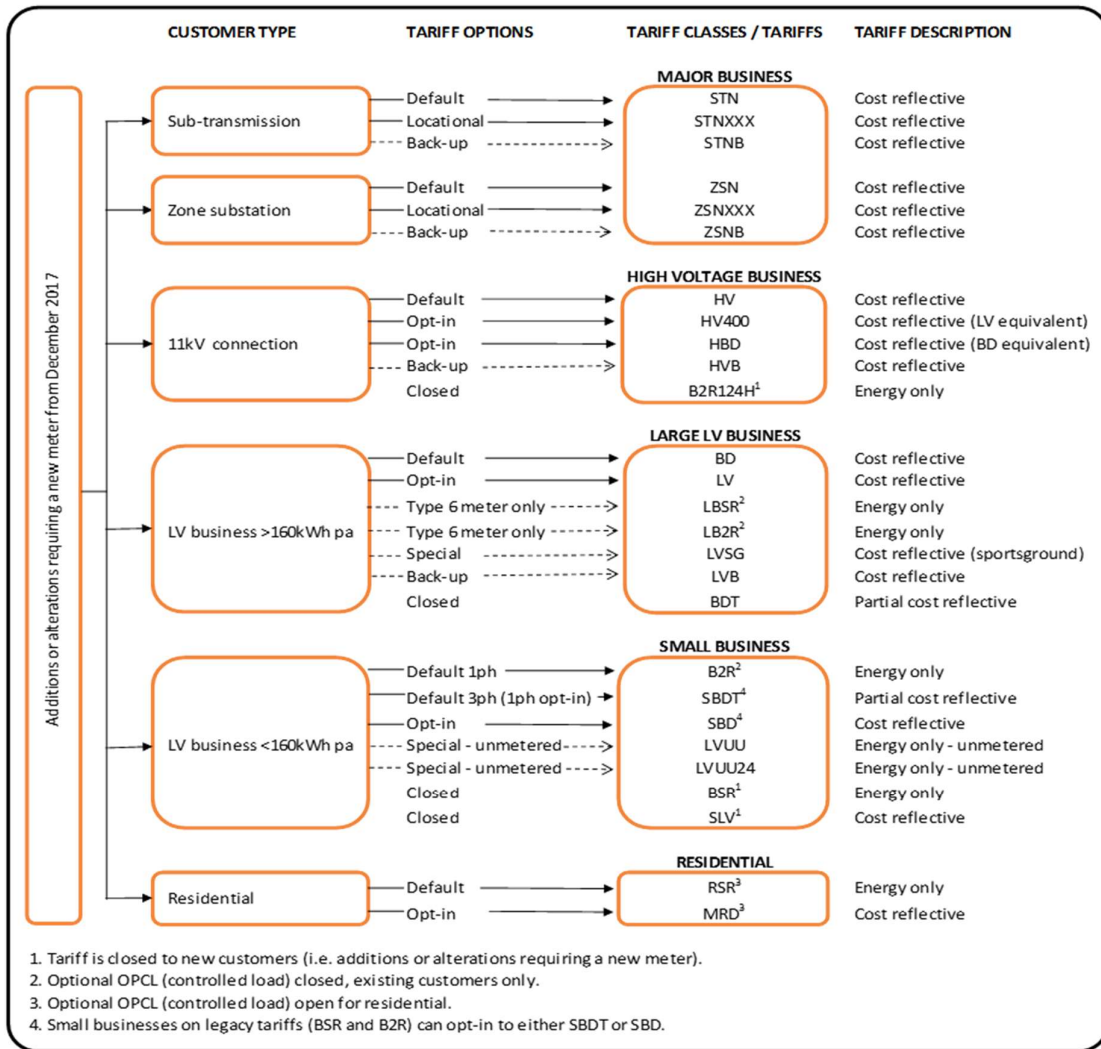
2.3 Tariff structure

Within each of our five standard control services tariff classes we offer a number of different network tariffs. The basic structure of our tariffs is very similar to that of other electricity distributors in the NEM with three key tariff components:

- a fixed supply charge (\$ per day, month or quarter);
- a peak demand charge to send a forward LPMC price signal (\$ per kW or kVA per day); and
- a volume charge (\$/kWh) to recover residual costs not recovered by the other two elements.

Many small customers are not assigned to a tariff with a peak demand charge today, therefore the volume charge recovers a greater portion of total costs. Figure 5 outlines the options for tariff assignment.

Figure 5: SA Power Networks' tariff assignment options



The following section sets out our tariff structures and charging parameters for the 2019/20 regulatory year.

2.3.1 Residential tariff class

The residential tariff class structure and charging parameters are set out in Table 4 and include:

- an inclining block energy tariff (RSR). This tariff consists of a fixed daily charge and an inclining two block energy component. A separate energy rate applies to the energy consumption within each block level;
- a fully cost-reflective opt-in actual kW demand tariff (MRD); and
- there is a controlled load (hot water) ‘partner’ tariff available with these residential tariffs. The controlled load tariff is used to control permanently installed hot water services and other appliances generally consuming less than 25 Amps between 23:00 – 07:00 hours CST, with an option for use between 10:00 – 15:00 hours CST when high solar PV output typically occurs.

Table 4: Residential tariff structures and charging parameters

Network tariff	Status	Components	Measurement	Charging parameter
Residential single-rate (RSR)	Default	Fixed	\$/customer/day	Fixed supply charge per annum
		Usage	\$/kWh	Anytime based on usage, inclining block: ¹¹ <ul style="list-style-type: none"> • Block 1: 0-4MWh pa • Block 2: >4MWh pa
		Controlled load	\$/kWh	Based on usage
Residential monthly actual kW demand (MRD)	Opt-in	Fixed	\$/customer/day	Fixed supply charge per annum
		Usage	\$/kWh	Anytime based on usage
		Demand	\$/kW/day	Maximum demand charge based on monthly maximum kW demand measured: <ul style="list-style-type: none"> • Over a 30-minute time period • Between 16:00-21:00hrs local time • All days except Christmas Day • Higher charge from November to March (Peak) • Lower charge April to October (Shoulder)
		Controlled load	\$/kWh	Based on usage

¹¹ Block 1 and 2 were proposed to be replaced by a single block in 2019/20, this has been postponed until 2020/21 to allow for stability of year on year price movements for this tariff class.

2.3.2 Small low voltage business tariff class (<160MWh pa)

The small low voltage business customer tariff class structures and charging parameters are set out in Table 5 and include:

- a two-rate energy tariff (peak and off-peak) with a fixed daily charge (B2R). Off-peak DUoS and TUoS pricing are set at half of peak pricing. This tariff applies to existing customers and new single-phase customers;
- an actual kVA demand tariff with a fixed daily charge (SBD). The demand charges reflect LRMC costs, with shoulder demand priced at half of peak demand. This tariff is suitable for larger (eg three phase) small customers, particularly those with either a seasonal load that varies across the year or a flexible load;
- a transitional version of the kVA demand tariff which is default (mandatory) for new multi-phase customers or existing multi-phase customers who alter their supply and require a new meter, including single phase customers converting to a multi-phase supply (SBDT). The transitional version of the kVA demand tariff is optional for all customers. This transitional price is a combination of actual demand and two rate energy tariffs through to June 2020;
- an unmetered 12-hour energy tariff (LVUU). This tariff is typically used for overnight public lighting;
- an unmetered 24-hour energy tariff (LVUU24). This tariff is typically used for public phones, traffic lights and telecommunications installations;
- a single rate energy tariff (anytime) with a fixed daily charge (BSR). This tariff has been closed to new small business customers from July 2010 as it is more suited to large business customers;
- an annual kVA agreed demand tariff with a fixed daily charge (SLV). This tariff has been closed to new customers from July 2016; and
- there was a controlled load (hot water) partner tariff available with the business two rate and business single rate tariffs. This partner tariff is now closed to new applicants. The controlled load tariff is used to control permanently installed hot water services and other appliances consuming less than 25 Amps between 23:00 – 07:00 hours CST, with an option for use between 10:00 – 15:00 hours CST when high solar PV output typically occurs.

Table 5: Small business tariff structures and charging parameters (<160MWh pa)

Network tariff	Status	Components	Measurement	Charging parameter
Business two-rate (B2R)	Default single phase	Fixed Usage	\$/customer/day \$/kWh	Fixed supply charge per annum Based on usage: ¹² <ul style="list-style-type: none"> • Higher rate for peak 07:00 to 21:00 hrs CST workdays; and • Lower rate for off-peak 21:00 to 07:00hrs CST workdays and all hours non-work days.
	Closed to multi- phase			
		Controlled load	\$/kWh	Based on usage
Business monthly actual kVA demand transitional (SBDT)	Default multi- phase	Fixed Usage	\$/customer/day \$/kWh	Fixed supply charge per annum Based on usage: <ul style="list-style-type: none"> • Higher rate for peak 07:00 to 21:00 hrs CST workdays; and • Lower rate for off-peak 21:00 to 07:00hrs CST workdays and all hours on non-work days.
	also			
	Opt-in			

¹² Where metering does not record public holidays or weekends, peak rates will apply at times on non-work days.

Network tariff	Status	Components	Measurement	Charging parameter
		Demand	\$/kVA/day	Maximum demand charge based on actual monthly maximum kVA demand measured: <ul style="list-style-type: none"> Over a 30-minute time period; and 12:00 to 16:00hrs local time, workdays, 12 months (Shoulder); 16:00 to 21:00hrs local time, workdays, Nov-March (Peak).
Business monthly actual kVA demand (SBD)	Opt-in	Fixed	\$/customer/day	Fixed supply charge per annum
		Usage	\$/kWh	Anytime based on usage
		Demand	\$/kVA/day	Maximum demand charge based on actual monthly maximum kVA demand measured: <ul style="list-style-type: none"> Over a 30-minute time period; and 12:00 to 16:00hrs local time, workdays, 12 months (Shoulder); 16:00 to 21:00hrs local time, workdays, Nov-March (Peak).
Unmetered 12hr (LVUU) Streetlights	Special purpose	Usage	\$/kWh	Anytime, based on usage
Unmetered 24hr (LVUU24)	Special purpose	Usage	\$/kWh	Anytime, based on usage
Business single-rate (BSR)	Closed	Fixed	\$/customer/day	Fixed supply charge per annum
		Usage	\$/kWh	Anytime based on usage
		Controlled load	\$/kWh	Based on usage
Annual agreed kVA demand (SLV)	Closed	Fixed	\$/customer/day	Fixed supply charge per annum
		Usage	\$/kWh	Anytime based on usage
		Demand	\$/kVA/day	Peak period Nov-March, 12:00 to 21:00 local time, work days agreed peak demand, declining block: <ul style="list-style-type: none"> Block 1: 0-1000 kVA Block 2: >1000kVA Additional demand applies outside of peak

2.3.3 Large low voltage business tariff class (>160MWh pa)

Large low voltage business customer tariff class structures and charging parameters are set out in Table 6 and include:

- an actual kVA demand tariff with a fixed daily charge (BD). The demand charges reflect LRMC costs, with shoulder demand priced at half of peak demand prices. This tariff is the default tariff for large LV business customers and is suitable for larger customers, particularly those with either a seasonal load that varies across the year or a flexible load;
- a transitional version of the actual kVA demand tariff was created for customers on fully cost-reflective tariffs who were facing cost increases (BDT). As of July 2016, the transitional version of this tariff was closed to existing large LV business customers. In 2018/19 the transitional tariff comprises 84%/16% of actual demand and two-rate energy. In 2019/20 the tariff will be 100% actual demand;
- An agreed kVA demand tariff with a fixed daily charge (LV). This tariff is available on an opt-in basis for large LV business customers. The demand charge is stepped according to the customer’s size, to reflect the LRMC of providing network capacity at the particular voltage level. There are variants of this tariff available for:
 - sportsgrounds with significant floodlighting (LVSG). This variant uses a peak demand period of 12:00 to 19:00 local time, December to February on work days. This is because floodlights are not typically used during extreme heat;
 - back-up supply (LVB); and
 - generation house supply (LVN), note that this tariff does not have a usage charge; and
- a single rate transitional tariff with a fixed daily charge (LBSR). This tariff is for large business customers with a Type 6 meter only. Large business generally uses interval meters; and
- two-rate transitional tariff with a fixed daily charge (LB2R). This tariff is for large business customers with a Type 6 meter only. Large business generally uses interval meters.

Table 6: Large LV business tariff structures and charging parameters (>160MWh pa)

Network tariff	Status	Components	Measurement	Charging parameter
Business monthly actual kVA demand (BD)	Default	Fixed	\$/customer/day	Fixed supply charge per annum
		Usage	\$/kWh	Anytime based on usage
		Demand	\$/kVA/day	Maximum demand charge based on actual monthly maximum kVA demand measured: <ul style="list-style-type: none"> • Over a 30-minute time period; • 12:00 to 16:00hrs local time, workdays, 12 months (Shoulder); and • 16:00 to 21:00hrs local time, workdays, Nov-March (Peak).
Business annual agreed kVA demand (LV)	Opt-in	Fixed	\$/customer/day	Fixed supply charge per annum
		Usage	\$/kWh	Anytime based on usage
		Demand	\$/kVA/day	Peak period Nov-March, 12:00 to 21:00 local time, work days agreed demand, declining block: <ul style="list-style-type: none"> • Block 1: 0-1000 kVA • Block 2: >1000kVA
		Additional demand	\$/kVA/day	Based on agreed demand that exceeds the peak agreed demand
Business single rate transition (LBSR)	Type 6 meters only	Fixed	\$/customer/day	Fixed supply charge per annum
		Usage	\$/kWh	Anytime based on usage
		Controlled load	\$/kWh	Based on usage

Network tariff	Status	Components	Measurement	Charging parameter
Business two rate transition (LB2R)	Type 6 meters only	Fixed	\$/customer/day	Fixed supply charge per annum
		Usage	\$/kWh	Based on usage: <ul style="list-style-type: none"> Higher rate for peak 07:00-21:00hrs CST workdays; and Lower rate for off-peak 21:00-07:00hrs CST workdays and all hours non-work days.
		Controlled load	\$/kWh	Off peak, based on usage
Sportsground annual agreed kVA demand (LVSG)	Special purpose	Fixed	\$/customer/day	Fixed supply charge per annum
		Usage	\$/kWh	Anytime based on usage
		Demand	\$/kVA/day	Peak period Dec-Feb, 12:00 to 19:00hrs local time, workdays, agreed demand, declining block <ul style="list-style-type: none"> Block 1: 0-1000kVA Block 2: >1000kVA
		Additional demand	\$/kVA/day	Based on agreed demand that exceeds the peak agreed demand
Business annual agreed kVA demand back-up (LVB)	Special purpose	Fixed	\$/customer/day	Fixed supply charge per annum
		Usage	\$/kWh	Anytime based on usage
		Demand	\$/kVA/day	Anytime based on agreed demand
Business annual agreed kVA demand negotiated (LVN)	Special purpose	Fixed	\$/customer/day	Fixed supply charge per annum
		Demand	\$/kVA/day	Anytime based on agreed demand
Business monthly actual kVA demand transition (BDT)	Closed	Fixed	\$/customer/day	Fixed supply charge per annum
		Usage	\$/kWh	Based on usage: <ul style="list-style-type: none"> Higher rate for peak 07:00-21:00hrs CST workdays; and Lower rate for off-peak 21:00-07:00hrs CST workdays and all hours non-work days
		Demand	\$/kVA/day	Maximum demand charge based on actual monthly maximum kVA demand measured: <ul style="list-style-type: none"> Over a 30 minute time period; 12:00-16:00hrs local time, workdays, 12 months (Shoulder); and 16:00-21:00hrs local time, workdays, Nov-March (Peak).

2.3.4 High voltage business tariff class

High voltage customer tariff class structures and charging parameters are set out in Table 7 and include:

- a high voltage annual agreed kVA demand tariff which is suitable for larger high voltage customers with demands above 400 kVA (HV). This is the default tariff for the HV tariff class. There are variants of this tariff as follows:
 - 400kVA variant which is more suited to demands below 400kVA (HV400). This variant is the equivalent of the large LV business agreed demand tariff;
 - A back-up tariff for customers who have a second supply source for a higher security of supply (HVB); and
 - A tariff for generators who require house supplies (HVN)
- an actual kVA demand tariff suitable for large customers, for seasonal large customers whose load varies across the year and also those large customers with very flexible load (HBD); and
- a high voltage business two rate tariff which is closed to new customers (B2R124H).

Table 7: High voltage business tariff structures and charging parameters

Network tariff	Status	Components	Measurement	Charging parameter
High voltage business annual agreed kVA demand (HV)	Default	Fixed	\$/customer/day	Fixed supply charge per annum
		Usage	\$/kWh	Anytime based on usage
		Demand	\$/kVA/day	Peak period Nov-March, 12:00 to 21:00 local time, work days agreed demand
		Additional	\$/kVA/day	Based on agreed demand that exceeds the peak agreed demand
High voltage business annual agreed kVA demand <400kVA (HV400)	Opt-in	Fixed	\$/customer/day	Fixed supply charge per annum
		Usage	\$/kWh	Anytime based on usage
		Demand	\$/kVA/day	Peak period Nov-March, 12:00 to 21:00 local time, work days agreed demand, declining block: <ul style="list-style-type: none"> • Block 1: 0-1000 kVA • Block 2: >1000kVA
		Additional	\$/kVA/day	Based on agreed demand that exceeds the peak agreed demand
Business monthly actual kVA demand (HBD)	Opt-in	Fixed	\$/customer/day	Fixed supply charge per annum
		Usage	\$/kWh	Anytime based on usage
		Demand	\$/kVA/day	Maximum demand charge based on actual monthly maximum kVA demand measured: <ul style="list-style-type: none"> • Over a 30 minute time period; • 12:00 to 16:00hrs local time, workdays, 12 months (Shoulder); and • 16:00 to 21:00hrs local time, workdays, Nov-March (Peak).
High voltage business annual agreed kVA demand back-up (HVB)	Special purpose	Usage	\$/kWh	Anytime based on usage
		Demand	\$/kVA/day	Based on agreed (anytime) demand
High voltage business annual agreed kVA demand negotiated (HVN)	Special purpose	Demand	\$/kVA/day	Based on agreed (anytime) demand
High voltage business two-rate (B2R124H)	Closed	Fixed	\$/customer/day	Fixed supply charge per annum
		Usage	\$/kWh	Based on usage: <ul style="list-style-type: none"> • Higher rate for peak 07:00-21:00hrs CST workdays; and • Lower rate for off-peak 21:00-07:00hrs CST workdays and anytime non-workdays.

2.3.5 Major business tariff class

The major business customers are the largest consuming customers connected to SA Power Networks' network. They comprise a range of industrial, manufacturing and commercial enterprises. Most of these customers have a maximum demand exceeding 10 MVA or usage exceeding 40 GWh pa and their transmission tariff component is priced on location.

Table 8: Major business tariff structures and charging parameters

Network tariff	Status	Components	Measurement	Charging parameter
Sub-transmission annual agreed kVA demand non-locational (STN)	Default	Fixed	\$/customer/day	Supply charge reflecting a fixed amount per annum
		Usage	\$/kWh	Anytime based on usage
		Demand	\$/kVA/day	Peak period Nov-March, 12:00 to 21:00 local time, work days agreed demand
		Additional	\$/kVA/day	Based on agreed demand that exceeds the peak agreed demand
Sub-transmission annual agreed kVA demand locational (STNXXX)¹³	Locational	Fixed	\$/customer/day	Supply charge reflecting a fixed amount per annum
		Usage	\$/kWh	Anytime based on usage
		Demand	\$/kVA/day	Peak period Nov-March, 12:00 to 21:00 local time, work days agreed demand
		Additional	\$/kVA/day	Based on agreed demand that exceeds the peak agreed demand
Sub-transmission annual agreed kVA back-up (STNB)	Special purpose	Fixed	\$/customer/day	Supply charge reflecting a fixed amount per annum
		Usage	\$/kWh	Anytime based on usage
		Demand	\$/kVA/day	Based on agreed (anytime) demand
Zone substation annual agreed kVA demand non-locational (ZSN)	Default	Fixed	\$/customer/day	Supply charge reflecting a fixed amount per annum
		Usage	\$/kWh	Anytime based on usage
		Demand	\$/kVA/day	Peak period Nov-March, 12:00 to 21:00 local time, work days agreed demand
		Additional	\$/kVA/day	Based on agreed demand that exceeds the peak agreed demand
Zone substation annual agreed kVA demand locational (ZSNXXX)¹⁴	Locational	Fixed	\$/customer/day	Supply charge reflecting a fixed amount per annum
		Usage	\$/kWh	Anytime based on usage
		Demand	\$/kVA/day	Peak period Nov-March, 12:00 to 21:00 local time, work days agreed demand
		Additional	\$/kVA/day	Based on agreed demand that exceeds the peak agreed demand
Zone substation annual agreed kVA back-up (ZSNB)	Special purpose	Fixed	\$/customer/day	Supply charge reflecting a fixed amount per annum
		Usage	\$/kWh	Anytime based on usage
		Demand	\$/kVA/day	Based on agreed (anytime) demand

¹³ Sub-transmission customers with locational transmission charges have an individual tariff identifier.

¹⁴ Zone substation customers with locational transmission charges have an individual tariff identifier.

2.3.6 Trial Tariffs

We are conducting three trials in 2019/20. Each trial involves less than 0.5% of distribution revenue, and cumulatively will involve less than 1.0% of distribution revenue.

Riverland Tariff Trial – Second Year:

The Riverland trial is an alternate agreed demand tariff. This is a voluntary participation trial involving large customers in the Riverland region each using at least 1 MVA of demand across their Riverland supplies. It is a complex calculation of agreed demand, so we calculate that demand in-house, and manage the tariff directly with the trial participants. We pay a network rebate to the participants if the trial tariff provides a lower price than the agreed demand tariff. The trial participants continue to use the agreed demand tariff via their retailer. This arrangement will ensure that retailers do not face unnecessary costs in undertaking a trial that will involve perhaps 5 customers (4 customers in 2018/19).

The trial tariff has used the existing agreed demand tariff as its foundations, with some tweaks:

1. The fixed charge and usage charge is the same price as the existing agreed demand price for that voltage (eh LV, HV, ZSTN and STR);
2. An anytime maximum demand is used to cover local network asset demand. The additional demand price of the existing agreed demand tariff is used, but is applied to anytime demand, not additional demand. The anytime agreed demand for the trial tariff will be the highest half hour demand across 2019/20 for that customer; and
3. A peak demand is used to cover upstream network assets e.g. transmission and the higher distribution voltages. The price is determined by subtracting from the agreed peak demand price the agreed additional demand price. The agreed peak demand for the trial tariff will be the average of the five highest 4-hour average demands between 1700 and 2100 (amended from 17:30 and 2130 trialled in 2018/19) local summer time on days (work and non-work) when the forecast Renmark temperature is 40 degrees or higher (forecast from late afternoon on the day preceding). We have estimated that the typical average of these 5 days for agreed peak demand participants will be 70% of the existing agreed peak demand and so have escalated the trial peak demand price accordingly.
4. The trial is being expanded for one customer with operations on Eyre peninsula where there are opportunities to trial the staging of

This arrangement preserves the TSS pricing arrangements but applies them in a manner more aligned to concepts proposed for 2020-25. The selection of Riverland will enable some analysis of the effects on overall demand if trial participants choose to respond. The desktop analysis of outcomes will also assist in identifying issues for the 2020-25 TSS that should be considered. We should be able to avoid any unnecessary costs in the trial by undertaking this directly with customers and not through retailers, with any rebate earned from the trial being passed directly to the trial participant from the distributor.

Residential and Controlled Load TOU Tariffs:

This trial involves two of the proposed residential tariffs in the TSS 2020-25:

- a residential time-of-use tariff which has on overnight off-peak (1am-6am) priced at 50% of the single-rate price and a solar-sponge component in the middle of the day (10am-3pm) priced at 25% of the single rate price. The other 14 hours of the day is priced at 'peak' at 125% of the single rate price.
- An off-peak controlled load tariff designed for use with interval meters where retailers and their metering co-ordinators have incentives to shift the flexible load via the interval meter controls to lower-load periods. This tariff has a similar pricing structure and time windows as the residential TOU, with slightly wider windows due to the one-hour start/end randomisation required on OPCL and to align with the slightly earlier start near midnight for hot water generally.

Participation by retailers in these trials is optional.

The two tariffs would be used by a trial of new technologies proposed by a technology provider and a retailer, which is currently before the SA Government and ARENA for funding approval. The likely use of the technology tariff might be a few thousand customers in 2019/20, certainly well below the threshold of the 0.5% distribution revenue cap. The technology trial is proposed to use both the use of interval meter control of OPCL time of use and residential customers using the TOU tariff with their solar PV to heat water, potentially with alternate technology.

The two tariffs are also available to any other retailer wishing to participate in the trial. The 0.5% distribution revenue cap would not be breached in the unlikely event that 100% of type 4 metered OPCL participated in the trial. For the TOU tariff, we need to limit the participation to less than 7,000 customers to comply with the 0.5% cap. The TOU tariff is available to retailers for customers with flexible load, eg EVs, heat pumps, swimming pool pumps, hot water heating by PV that may need supplementary energy from the grid. We do not know whether retailers will participate in this trial.

Table 9: Trial tariff business tariff structures and charging parameters

Network tariff	Status	Components	Measurement	Charging parameter
Trial Tariff business annual agreed kVA demand (LVTR, HVTR, ZSNTR, STNTR)	Opt-In Trial	Fixed	\$/customer/day	Fixed supply charge per annum
		Usage	\$/kWh	Anytime based on usage
		Peak Demand	\$/kVA/day	Peak period Nov-March, 17:30 to 21:30 local time, work and non-work days, agreed demand determined by highest five days average 4-hour demand when the Renmark day-ahead temperature forecast is 40 degrees or higher
		Anytime Maximum Demand	\$/kVA/day	Anytime agreed demand determined by highest five days 30-minute demand over the year
Trial Tariff Residential TOU (RTOCTR)	Default	Fixed	\$/customer/day	Fixed supply charge per annum
		Peak	\$/kWh	Based on usage 06:00 to 10:00 and 15:00 to 01:00 local time all year, 125% of flat rate
		Solar Sponge	\$/kWh	Based on usage 10:00 to 15:00 local time all year, 25% of flat rate
		Off-peak	\$/kWh	Based on usage 01:00 to 06:00 local time all year, 50% of flat rate
Trial Tariff Residential Single-rate with TOU OPCL (RSROPCLTR)	Opt-in	Fixed	\$/customer/day	Fixed supply charge per annum
		Usage	\$/kWh	Anytime based on usage, inclining block: ¹⁵ <ul style="list-style-type: none"> • Block 1: 0-4MWh pa • Block 2: >4MWh pa
		Controlled load Peak	\$/kWh	Based on usage 06:00 to 09:30 and 15:30 to 23:30 local time all year, 125% of flat rate
		Controlled Load Solar Sponge	\$/kWh	Based on usage 09:30 to 15:30 local time all year, 25% of flat rate (1 hour randomised start/finish time)
		Controlled load Off-peak	\$/kWh	Based on usage 23:30 to 06:30 local time all year, 50% of flat rate (1 hour randomised start/finish time)

¹⁵ Block 1 and 2 were proposed to be replaced by a single block in 2019/20, this has been postponed until 2020/21 to allow for stability of year on year price movements for this tariff class.

2.4 Pricing variations from 2018/19

The following sections provide information on the three NUoS components of SA Power Networks' tariffs (ie DUoS, TUoS and JSO) and the movement in revenue recovery proposed for 2019/20 compared to 2018/19 by each of the five tariff classes.

Tables 10 to 13 compare NUoS¹⁶ changes with changes on the overall retail bill for customers consuming between 2 and 16MWh pa.¹⁷ These tables also show the SA Power Networks' related DUoS price changes but excludes the alternative control services Type 6 metering costs typically associated with this customer.

2.4.1 Low voltage residential tariff class

Low voltage residential tariff

The low voltage residential tariff has a single-rate with an inclining block structure and two consumption steps. The 2019/20 annual bill and price change for this tariff is shown in Table 10, for a range of representative customer consumption levels.

Table 10: Low voltage residential price change in 2019/20

Annual Usage MWh pa	NUoS 2018/19 \$ pa	NUoS 2019/20 \$ pa	Change in Retail %	DUoS 2018/19 \$ pa	DUoS 2019/20 \$ pa	Change in Retail %
2	401	446	5.0%	307	343	4.0%
4	656	731	4.9%	481	540	3.8%
5	797	880	4.5%	581	645	3.4%
8	1,218	1,327	3.9%	881	959	2.8%
16	2,341	2,519	3.3%	1,680	1,799	2.2%

Residential with controlled load tariff

The controlled load tariff has a single block. The 2019/20 annual bill and price change is shown in Table 11 for residential customers with hot water, for a range of representative consumption levels.

Table 11: Low voltage residential + hot water price change in 2019/20

Annual Usage MWh pa	NUoS 2018/19 \$ pa	NUoS 2019/20 \$ pa	Change in Retail %	DUoS 2018/19 \$ pa	DUoS 2019/20 \$ pa	Change in Retail %
2 + 1	468	520	4.8%	348	388	3.7%
4 + 2	790	878	4.6%	563	630	3.5%
5 + 3	997	1,100	4.3%	704	780	3.1%
8 + 4	1,485	1,621	3.8%	1,045	1,140	2.7%
16 + 5	2,675	2,886	3.3%	1,886	2,025	2.2%

¹⁶ NUoS comprises distribution, transmission and JSO (PV FiT) charges.

¹⁷ Retail bill changes are based on AGL transactional contract charge determined from the AGL standing contract offer including a 15.5% discount on usage charges.

2.4.2 Low voltage small business tariff class

Low voltage small business single rate tariff (obsolete)

The low voltage small business single rate tariff has an anytime consumption charge with an inclining block structure and two consumption steps. Table 12 shows the 2019/20 annual bill and price change for this tariff, for a range of annual consumption levels.

Table 12: Low voltage business single rate NUoS price change in 2019/20

Annual Usage MWh pa	NUoS 2018/19 \$ pa	NUoS 2019/20 \$ pa	Change in Retail %	DUoS 2018/19 \$ pa	DUoS 2019/20 \$ pa	Change in Retail %
4	716	786	3.9%	546	604	3.2%
10	1,569	1,714	3.6%	1,166	1,280	2.8%
20	2,992	3,260	3.5%	2,199	2,407	2.7%
40	5,838	6,352	3.4%	4,265	4,661	2.6%
80	11,530	12,536	3.4%	8,397	9,169	2.6%

Low voltage small business 2-rate tariff

The effect of the price change in 2019/20 for low voltage business 2-rate will depend upon the customer consumption profile and the ratio of peak to off-peak period usage. Table 13 shows how the 2019/20 annual bill has changed for this tariff, for different customer consumption levels and average peak to off peak consumption proportions of 50%.

Table 13: Low voltage business 2-rate NUoS price change in 2019/20

Annual Usage MWh pa	NUoS 2018/19 \$ pa	NUoS 2019/20 \$ pa	Change in Retail %	DUoS 2018/19 \$ pa	DUoS 2019/20 \$ pa	Change in Retail %
8	1,116	1,221	3.8%	832	915	3.0%
20	2,406	2,801	3.6%	1,879	2,057	2.8%
50	5,810	6,750	3.5%	4,498	4,913	2.7%
100	11,482	13,333	3.4%	8,863	9,673	2.6%
160	18,289	21,232	3.4%	14,101	15,385	2.6%

2.4.3 Low voltage large business tariff class

Low voltage kVA agreed demand/actual demand/transition actual demand tariff

The average NUoS price increase for LV agreed kVA large business customers in 2019/20 is 9.1%. The retail price increase will vary but is likely to be about 3.9%.

The average NUoS price decrease for LV actual kVA large business customers in 2019/20 is 16.7%. The retail price decrease is likely to be about 6.7%.

The transition tariff closes on 30 June 2019, and all users (approx. 100) will be reassigned to LV Actual demand. This is as proposed in the 2017-20 TSS.

2.4.4 High voltage business tariff class

High voltage kVA agreed demand tariff

The average NUoS price decrease of high voltage kVA agreed demand customers in 2019/20 is 9.1%. The average retail price increase will be about 3.7%.

2.4.5 Major business tariff class

Zone substation and Sub-transmission kVA agreed demand locational tariffs

There is little variability between the individual price changes for these customers and the averages for the tariff. There is considerable variability in locational transmission prices for individual major businesses.

Individual tariffs have been included for each major business on non-locational tariffs. Where other changes apply to these customers, they have been included in the tariff schedule.

3. Standard control services charges

This section sets out how SA Power Networks’ tariffs for the 2019/20 regulatory year comply with the NER and the AER’s revenue determination for SA Power Networks.

The standard control services charges for 2019/20 have been calculated in accordance with the methodologies described within our 2017-20 TSS. For detailed information on our pricing methodologies for 2019/20, refer to our 2017-20 TSS Part B.

3.1 Distribution Charges

Control mechanism

The form of control mechanism (including the X factor) for SA Power Networks’ standard control services for the 2015-20 regulatory control period (**RCP**) is a revenue cap. The allowed revenue for SA Power Networks for any given regulatory year is the total annual revenue (**TAR**) calculated using the formula in the AER’s 2015-20 Regulatory Determination - Attachment 14, plus any adjustment required to move the DUoS under and overs account to zero.

Compliance with the revenue cap

The AER’s Revenue Cap model has been used for the purposes of demonstrating compliance with the provisions of the 2015-20 revenue cap. This model is submitted as Attachment A (confidential) and forms part of this Pricing Proposal.

3.1.1 2019/20 prices for standard control services

Revenue cap formulae

SA Power Networks’ revenues must be consistent with the total annual revenue formulae set out below¹⁸ plus any under/overs adjustment needed to move the balance of its DUoS unders and overs account to zero.¹⁹

1. $TAR_t \geq \sum_{i=1}^n \sum_{j=1}^m p_t^{ij} q_t^{ij}$ i=1,...,n and j=1,...,m and t=1,...,5
2. $TAR_t = AR_t \pm I_t \pm B_t \pm C_t$ t=1,2,...,5
3. $AR_t = AR_{t-1}(1 + \Delta CPI_t)(1 - X_t)(1 + S_t)$ t=1,2,...,5

Where:

TAR_t Is total annual revenue in year t.

p_t^{ij} Is the price of component i of tariff j in year t.

q_t^{ij} Is the forecast quantity of component i of tariff j in year t.

AR_t Is the annual smoothed expected revenue for year t. For the first year of the 2015–20 RCP, this amount will be equal to the smoothed revenue requirement for 2015/16 set out in the Post Tax Revenue Model (**PTRM**).

¹⁸ AER, Final Decision – SA Power Networks determination 2015-16 to 2019-20, October 2015, Attachment 14 pp.11-12.

¹⁹ AER, Final Decision – SA Power Networks determination 2015-16 to 2019-20, October 2015, Attachment 14 pp.16.

I_t	Is the final carryover amount from the application of the Demand Management Incentive Scheme (DMIS) from the 2010–15 distribution determination. This amount will be deducted from/added to allowed revenue in the 2019/20 Pricing Proposal.
C_t	Is the approved pass through amounts (positive or negative) with respect to regulatory year t , as determined by the AER.
B_t	Any under or over recovery of actual revenue collected through DUoS charges as calculated using the method in appendix A. ²⁰
ΔCPI_t	Is the annual percentage change in the Australian Bureau of Statistics (ABS) Consumer Price Index All Groups, Weighted Average of Eight Capital Cities from December in year $t-2$ to December in year $t-1$. For example, for the 2018/19-year, $t-2$ is December 2016 and $t-1$ is December 2017.
X_t	The smoothing factor determined in accordance with the PTRM as approved in the AER's final decision, and annually revised for the return on debt updated in accordance with the formula specified in the return on debt appendix I calculated for the relevant year.
S_t	Is the Service Target Performance Incentive Scheme (STPIS) factor sum of the raw s -factors for all reliability of supply and customer service parameters (as applicable) to be applied in year t . ²¹

Table 14 sets out our revenue cap calculation for the 2019/20 regulatory year.

Table 14: Revenue cap calculation

Revenue cap calculation	
Annual revenue t-1 \$000	\$ 804,158
Percentage change in CPI (all groups, weighted average, eight capital cities)	1.784%
X factor	-0.854%
S factor	-1.436%
$Ar_t = Ar_{t-1} \times (1+CPI) \times (1-X \times (1+S))$	\$ 837,348

²⁰ AER, Final Decision – SA Power Networks determination 2015-16 to 2019-20, October 2015, Attachment 14, appendix A.

²¹ In the formulas in the STPIS attachment, the AR_{t+1} is equivalent to AR_t in this formula. Calculation of the S factor adjustments are made accordingly.

Tariff class side constraints

SA Power Networks must demonstrate in its Pricing Proposal that proposed DUoS prices for the next year (t) will meet the side constraints formula for each tariff class²².

Side constraints

$$\frac{\left(\sum_{i=1}^n \sum_{j=1}^m d_t^{ij} q_t^{ij}\right)}{\left(\sum_{i=1}^n \sum_{j=1}^m d_{t-1}^{ij} q_t^{ij}\right)} \leq (1 + \Delta CPI_t) \times (1 - X_t) \times (1 + 2\%) \times (1 + S_t) + I_t' + B_t' + C_t'$$

where each tariff class has up to 'm' components, and where:

- d_t^j Is the proposed price for component 'j' of the tariff class for year t.
- d_{t-1}^j Is the price charged by SA Power Networks for component 'j' of the tariff class in year t-1.
- q_t^j Is the forecast quantity of component 'j' of the tariff class in year t.
- ΔCPI_t Is the annual percentage change in the ABS CPI All Groups, Weighted Average of Eight Capital Cities from December in year t-2 to December in year t-1.
- X_t Is the smoothing factor determined in accordance with the PTRM as approved in the AER's final decision, and annually revised for the return on debt updated in accordance with the formula specified in the return on debt appendix I calculated for the relevant year. If $X > 0$, then X will be set equal to zero for the purposes of the side constraint formula.
- S_t Is the STPIS factor sum of the raw s-factors for all reliability of supply and customer service parameters (as applicable) to be applied in year t.²³
- I_t Is the final carryover amount from the application of the DMIS from the 2010–15 distribution determination. This amount will be deducted from/added to allowed revenue in the 2018/19 Pricing Proposal.
- B_t Is any under or over recovery of actual revenue collected through DUoS charges as calculated using the method in appendix A.²⁴
- C_t Is the sum of adjustments relating to pass through events.
- $DUoS_t$ Is an annual adjustment factor related to the balance of the DUoS under and overs account with respect to regulatory year t.

²² AER, Final Decision – SA Power Networks determination 2015-16 to 2019-20, October 2015, Attachment 14 pp.13.

²³ In the formulas in the STPIS attachment, the AR_{t+1} is equivalent to AR_t in this formula. Calculation of the S factor adjustments are made accordingly.

²⁴ AER, Final Decision – SA Power Networks determination 2015-16 to 2019-20, October 2015, Attachment 14, appendix A.

Except for CPI and X factors, the percentage for each of the other factors above can be calculated by dividing the incremental revenues (as used in the total annual revenue formula) for each factor by the expected revenues for regulatory year t–1 (based on the prices in year t–1 multiplied by the forecast quantities for year t). In this APP, we have determined B_t by reference to the average change in revenue at year t quantities for year t-1 prices and year t prices. This ensures that the side constraint target for each tariff class is 2% higher than the average price change occurring in 2019/20.

Tariff class movement side constraint

Table 15 sets out the maximum increase in distribution charges as determined by the side constraint equation.

Table 15: Side constraint equation

Criterion	2019/20 Value %
Consumer Price Index	1.784
X Factor	-0.854
S Factor	1.436
I Factor	0.000
B Factor	5.894
C Factor	0.000
Side $C(1+CPI) \times (1-X) \times (1+2\%) + I + B + C - 1$	12.100

Weighted average revenue - Distribution

SA Power Networks is required to demonstrate compliance with the NER²⁵ and side constraint formula. Tables 16 to 19 set out, for each tariff class related to standard control services, the expected weighted average revenue for the relevant regulatory year (2019/20) and for the current regulatory year (2018/19).

Our allowed DUoS revenue rises from \$804.2M (2018/19) to \$837.3M (2019/20). This increase includes CPI of 1.7%, X factor (ie the Regulatory-approved year-on-year revenue adjustment for 2018/19) of -0.8% and the performance incentive scheme outcomes (for 2017/18 performance) of 4.4% (S factor is 1.4% for the year). After allowing for the rebalance of distribution charges due to under-recovery in the last two years, we forecast to recover \$858.2M from customers.

Table 16 demonstrates that all tariff class increases in 2019/20 are below the 12.1% increase permitted by the side constraint rule.

Table 16: DUoS revenue using forecast quantities at 2018/19 and 2019/20 prices

Tariff class	2018/19 Revenue \$'000 at 19/20 quantities	2019/20 Revenue \$'000 at 19/20 quantities	Change in weighted average revenue %	Side constraint %
Residential	408,721	450,196	10.15%	12.10%
Small Business	137,392	152,033	10.66%	12.10%
Large LV Business	188,152	207,352	10.20%	12.10%
HV Business	32,721	36,432	11.34%	12.10%
Major Business	11,369	12,238	7.64%	12.10%
Total	778,354	858,251	10.27%	12.10%

²⁵ NER 6.18.2(b)(4)

Weighted average revenue - Transmission

TUoS component increases have been calculated with final prices provided by ElectraNet, and broadly applied across all tariff classes and elements to non-major business customers. Major Business locational prices have been determined based on the final locational prices published by ElectraNet on 15 March 2019.

The TUoS prices have changes in the balance between service-related and general charges, which has been incorporated into this price update. The Transmission Price Reset for ElectraNet and Murraylink lowered specific-service charges, but discounts to general charges from settlement residue proceeds were reduced.

The TUoS charges for 2019/20 are forecast to increase from \$240.0M (2018/19) to \$244.0M (2019/20). This is an increase of 1.7%. Combining the increase in transmission charges with the estimated under-recovery balance at June 2019 means our 2019/20 TUoS prices will recover \$250.5M. The 2019/20 transmission prices will be 1.4% lower on average than forecast in our TSS.

Table 17: TUoS component using forecast quantities at 2018/19 and 2019/20 prices

Tariff class	2018/19 Revenue \$'000 at 19/20 quantities	2019/20 Revenue \$'000 at 19/20 quantities	Change in weighted average revenue %
Residential	101,787	109,552	7.6%
Small Business	39,536	43,424	9.8%
Large LV Business	58,610	64,056	9.3%
HV Business	14,476	15,619	7.9%
Major Business	16,940	17,810	5.1%
Total	231,348	250,461	8.3%

Weighted average revenue – PV FiT Recovery (JSO)

The revenue collected for the State Government's solar PV FiT as a JSO will be similar in 2019/20, compared with the prior two years (2017/18 and 2018/19) but lower than in 2016/17 due to the expiry of the '16 cent' scheme²⁶ in September 2016.

Payments to customers are forecast to be increase from \$80.5M (2018/19) to \$81.0M (2019/20). Our 2019/20 JSO prices will recover \$83.6M, with our PV FiT prices increasing on average by 10.7%. This price will be 5.0% lower on average than forecast in our TSS as payments under the 44-cent scheme have reduced.

Table 18: JSO component using forecast quantities at 2018/19 and 2019/20 prices

Tariff class	2018/19 Revenue \$'000 at 19/20 quantities	2019/20 Revenue \$'000 at 19/20 quantities	Change in weighted average revenue %
Residential	47,241	53,262	12.7%
Small Business	10,670	11,417	7.0%
Large LV Business	13,217	15,275	15.6%
HV Business	2,278	2,734	20.0%
Major Business	853	907	6.4%
Total	74,258	83,595	12.6%

Weighted average revenue – Total Network Charges (NUoS)

Summing the three sets of charges shown above equates to the NUoS outcome. Overall, the average NUoS price increases in 2019/20 by 9.9%.

²⁶ More information is available by searching on 'solar feed in' at www.sa.gov.au

Table 19: NUoS outcomes using forecast quantities at 2018/19 and 2019/20 prices

Tariff class	2018/19 Revenue \$'000 at 19/20 quantities	2019/20 Revenue \$'000 at 19/20 quantities	Change in weighted average revenue %
Residential	557,749	613,010	9.9%
Small Business	187,598	2016,875	10.3%
Large LV Business	260,352	286,861	10.2%
HV Business	52,379	57,011	8.8%
Major Business	30,170	32,073	6.3%
Total	1,088,249	1,195,830	9.9%

3.1.2 Compliance with pricing principles

When setting prices for standard control services, the NER²⁷ requires SA Power Networks to comply with the pricing principles where, for each tariff class, the revenue we expect to recover should lie on or between:

- an upper bound representing the stand alone cost of serving the customers who belong to that class; and
- a lower bound representing the avoidable cost of not serving those customers.

Where a tariff consists of two or more charging parameters, each charging parameter for a tariff class must consider the LRMC for the service or, in the case of a charging parameter, for the element of the service to which the charging parameter relates.

SA Power Networks must also ensure each tariff class has regard to the transaction costs associated with the tariff or each charging parameter and whether customers of the relevant tariff class are able or likely to respond to price signals.

Stand-alone and avoidable costs

The stand-alone and avoidable cost methodologies applied are consistent with those used for the 2010-15 RCP, however the calculations have been updated as part of the LRMC recalculation for our 2017-20 TSS. The stand-alone and avoidable cost methodologies are used to calculate the revenues for each standard control services tariff class. These costs are compared with the weighted average revenue derived from SA Power Networks' proposed tariffs. For detailed information on our stand-alone and avoidable cost methodologies, refer to Appendix C of our 2017-20 TSS Part B.

The revenue expected to be recovered from each of SA Power Networks' tariff classes in 2019/20 is compared with the stand-alone and avoidable costs in Table 20.

Table 20: Stand-alone and avoidable distribution network costs (\$million)

Tariff class	Stand-alone cost	Tariff revenue	Avoidable cost
Residential	718.9	450.2	268.3
Small Business	332.5	152.0	66.7
Large LV Business	280.3	207.4	48.6
HV Business	98.3	36.4	5.9
Major Business	83.3	12.2	5.9

SA Power Networks' tariff classes lie within the subsidy free range, in that the expected DUoS revenue collected from each tariff class lies between the avoidable and stand-alone costs of supply and therefore complies with the NER.²⁸

²⁷ NER 6.18.5(e)-(j)

²⁸ NER 6.18.5(e)

Long Run Marginal Costs

The consideration of LRMC applies where price signalling charging parameters (peak period energy and demand related components) form part of a tariff. SA Power Networks aims to ensure that where price signals are varied, they are moved in such a direction as to improve alignment with the LRMC. Charging components that materially over-recover or under-recover the LRMC would not pass on an efficient pricing signal to customers that represents their cost of utilising the network.

Where such price signalling charging parameters of a tariff do not recover sufficient revenue to cover the capital, operating and maintenance costs of the existing assets, the shortfall is recovered through a charging component that minimises distortion of the customers' consumption decisions, such as a fixed daily charge or an energy usage charge.

SA Power Networks applied the average incremental cost (AIC) approach to determine the network LRMC for our tariff classes. The methodology has been set out in detail in Part B, Appendix C of our 2017-20 TSS. The TSS sets out the compliance of our indicative prices with these pricing principles, with the LRMC pricing signals set at appropriate levels. We have utilised these indicative prices as the basis for the 2019/20 distribution prices with negligible adjustment, which ensures our compliance in this APP with the pricing principles.

3.1.3 Distribution cost recovery

Distribution use of system overs and unders account balance

In accordance with Attachment 14A of the AER's 2015-20 Revenue Determination, Table 21 provides the forecast 30 June 2019 balance of SA Power Networks' distribution use of system overs and unders account.

SA Power Networks is expected to achieve a closing balance as close to zero as practicable on its designated pricing proposal charges overs and unders account in each forecast year in its annual pricing proposals in the 2015–20 regulatory control period.²⁹

Table 21: Distribution overs and unders account balance (\$'000)

Overs and unders account	2017/18 Actual	2018/19 Estimate	2019/20 Forecast
Revenue from distribution cost recovery (A)	764,969	797,480	858,251
Less TAR components for regulatory year =	788,554	804,158	837,348
+ Annual smoothed revenues (ARt)	788,554	804,158	837,348
+ DMIS carryover amount (It)	-	-	-
+ Approved pass-throughs (Ct)	-	-	-
(under)/Over Recovery of revenue for regulatory year	(23,585)	(6,678)	(20,904)
OVERS AND UNDERS ACCOUNT			
Annual rate of interest applicable to balances	6.18%	6.13%	6.09%
Opening balance	8,034	(12,670)	(20,326)
Interest on opening balance	496	(777)	(1,237)
(Under)/over recovery for financial year	(23,585)	(6,678)	20,904
Interest on (under)/over recovery	(717)	(202)	627
Other Adjustments	3,103	-	-
Closing balance	(12,670)	(20,326)	(32)

²⁹ AER, Final Decision SA Power Networks Distribution Determination 2015-20, Attachment 14, Control Mechanisms, October 2015, page 14-17.

3.2 Transmission charges

SA Power Networks' Pricing Proposal is required under the NER³⁰ to set out how the TUoS charges it incurs are passed on to customers.

3.2.1 Transmission cost recovery

The key principles of SA Power Networks' transmission cost recovery (TCR) tariff methodology are:

- the total TUoS allocated to network tariffs aligns with the total estimated transmission charge to be paid by SA Power Networks, adjusted for any overs and unders account balance;
- to the extent possible, given the constraints of metering and tariff structures, transmission charges are allocated to network tariffs in a manner that reflects the cost drivers present in transmission pricing (ElectraNet has amended the price signals in 2019/20 following their 2018-23 Reset determination, plus lower discounts from settlement residue proceeds);
- customers with a demand of 10 MW or consumption in excess of 40 GWh pa have individually calculated tariffs with transmission charges allocated in a manner that preserves the location and time signals of transmission pricing in accordance with the NER principles.³¹
- network tariffs for smaller customer classes have transmission charges allocated on an energy basis, as location signals cannot be preserved. Small customers are assumed to have a load factor better suited to using ElectraNet's non-locational energy prices than the capacity-based price. Large business cost-reflective tariffs have costs allocated on a capacity basis but are then priced partly as demand and partly as energy. This ensures a reasonable outcome across the large business tariff classes that do not receive an individually calculated transmission price. It also ensures a reasonable balance between large and small customers.

3.2.2 Avoided TUoS payments

With respect to avoided TUoS for embedded generators, SA Power Networks calculates the avoided TUoS for all embedded generators that export to its distribution network at the same rates for the locational component which would be applied to a load of similar size at the same connection point. These calculations are prepared on a with/without basis.

This payment of avoided TUoS charges to embedded generators is in accordance with the NER.³² These avoided TUoS payments to embedded generators would be recouped through the recovery mechanism for the TUoS charges. We have not made any payments to date.

³⁰ NER 6.18.2(b)

³¹ NER Chapter 6A Part J

³² NER 5.5(h), 5.5(i) and 5.5(j)

3.2.3 Transmission use of system overs and unders account balance

In accordance with Attachment 14B of the AER’s 2015-20 revenue determination, Table 22 provides the forecast 30 June 2019 balance of SA Power Networks’ TUoS overs and unders account.

Table 22: Transmission overs and unders account balance (\$'000)

Overs and unders account	2017/18 Actual	2018/19 Estimate	2019/20 Forecast
Revenue from transmission cost recovery	228,292	237,774	250,461
Transmission charges to be paid to TNSP	239,002	239,995	244,016
(settlement residue payments)	239,002	239,995	244,016
Avoided TUoS payments	-	-	-
Inter-DNSP Payment	-	-	-
OVERS AND UNDERS ACCOUNT			
Annual rate of interest applicable to balances	6.18%	6.13%	6.09%
Opening balance	6,936	(3,671)	(6,183)
Interest on opening balance	428	(225)	(376)
(Under)/over recovery for financial year	(10,710)	(2,220)	6,445
Interest on (under)/over recovery	(326)	(67)	193
Closing balance	(3,671)	(6,183)	78

3.2.4 Charging parameters for transmission recovery tariffs

SA Power Networks’ transmission recovery tariffs are included in the bundled NUoS rates of customer tariffs. The charging parameters associated with transmission cost recovery tariffs are shown in Section 2 in Table 6 through to Table 8. For customers with a demand greater than 10 MW or consumption in excess of 40 MWh pa the transmission cost recovery tariff is location specific; for all other customers including small customers it is averaged. Transmission cost recovery amounts are billed at the same frequency as the relevant tariff for standard control services.

3.2.5 Transmission recovery tariffs for 2019/20

SA Power Networks’ 2019/20 transmission charges are forecast to increase from an estimated \$240.0M in 2018/19 to \$244.0M in 2019/20. The forecast increase of \$4.0M (1.7%) is due to a decrease in ElectraNet and MurryLink revenues in 2019/20 from the 2018-23 Reset Final Determination, offset by a decline in discounts from lower settlement residues.

SA Power Networks has prepared prices for 2019/20 that recover ElectraNet’s charges and the closing balance of past under-recoveries. Prices for locational customers are based on the ElectraNet Price List.

All other customers have had prices applied on a State-wide non-locational basis, using the pricing signals provided by ElectraNet, the billing parameters available for that customer segment and the customer demand assumptions for that customer segment.

3.3 Jurisdictional scheme obligations (JSO) for PV-FiT

The solar PV feed-in tariff (**PV-FiT**) scheme is a SA Government initiative which commenced on 1 July 2008 and is to apply for 20 years. It was reviewed by the SA Government in 2009/10 and amendments to the legislation took effect from 29 July 2011³³. The amendments to the legislation introduced two further schemes – one which required application by September 2011 which also applies until June 2028 and a further scheme for subsequent applications which applied until September 2016 and is no longer in effect. Entry to the 2028 scheme is closed. Under the SA Government legislation, SA Power Networks is obliged to make PV-FiT payments to qualifying customers that have solar PV generators, for energy they export to the grid.

The purpose of the JSO is to allow SA Power Networks to recover from all its customers the cost of the SA Government legislated feed-in tariff payments that SA Power Networks is required to make to those customers that have qualifying solar PV generators.

Under the JSO arrangements, SA Power Networks is required to provide information on the payments and recoveries of PV FiT in the same manner to that used for transmission (see Section 3.2 for these requirements). SA Power Networks recovers the JSO as an additional component of its bundled NUoS charges. Since 2016/17 we have applied the tariff class outcome for PV FiT broadly equally across all tariffs and elements within that tariff class.

3.3.1 Jurisdictional Scheme Obligation (JSO) overs and unders account balance

In accordance with the AER’s 2015-20 Final Determination, Table 23 provides the forecast 2019/20 balance of SA Power Networks’ JSO overs and unders account.

Table 23: JSO overs and unders account balance (\$'000)

Overs and unders account	2017/18 Actual	2018/19 Estimate	2019/20 Forecast
Revenue from JSO Recovery	63,419	75,535	83,595
PV Incentive Scheme Payments for export PV – 2028 scheme	14,689	14,740	14,740
PV Incentive Scheme Payments for export PV – 2028S scheme	66,451	66,308	66,308
PV Incentive Scheme Payments for export PV – 2016 scheme	2	-	-
Total JSO (PV pass through) payments	81,143	81,048	81,048
OVERS AND UNDERS ACCOUNT			
Annual rate of interest applicable to balances	6.18%	6.13%	6.09%
Opening balance	20,014	2,987	(2,509)
Interest on opening balance	1,236	183	(153)
(Under)/over recovery for financial year	(17,724)	(5,513)	(2,547)
Interest on (under)/over recovery	(539)	(166)	76
Closing balance	2,987	(2,509)	(39)

3.3.2 JSO recovery tariffs for 2019/20

The JSO will be paid to qualifying generation customers via two types of payments:

- Payments under the original scheme (the ‘2028’ Scheme): This scheme closed to new applicants in August 2010. Payments of \$14.7M are estimated for 2018/19 and the forecast payment for 2019/20 is also \$14.7M;
- Payments under the subsequent scheme (the ‘2028 Stepped’ Scheme): This scheme opened to new applicants when the 2028 scheme closed and required applications to be approved by September

³³ Government of South Australia, Electricity (Feed-In Scheme—Solar Systems) Amendment Act 2008.

2011. The number of generators approved under this scheme is much higher than under the 2028 scheme, and the size of the PV generation in each installation is also much higher. As a result, payments under this scheme are significantly higher than the original 2028 scheme, with estimated payments in 2018/19 of \$66.3M and the forecast payment for 2019/20 is also \$66.3M.

Both 2028 schemes have payments set at 44 cents/kWh for qualifying generation until June 2028. Payments under the 2016 scheme ceased from 30 September 2016 and as a result there will be nil payments in 2019/20.

SA Power Networks' JSO (PV-FiT) recovery tariffs are estimated to recover a total of \$75.5M for 2018/19 and the forecast recovery payment for 2019/20 is \$83.6M. The recovery tariffs were lower in 2017/18 as past over-recoveries were returned to customers in those tariffs.

3.4 Pricing for 2019/20 compared to the TSS

The pricing for 2019/20 for each tariff is shown in Tables 24 to 27 below. These tables show where prices/recoveries have varied from the indicative forecast published in our 2017-20 TSS.

Distribution

As shown in Table 24, DUoS prices are forecast to recover an additional \$33.1M (4.0%) in 2019/20 compared to that forecast in our TSS.

Table 24: DUoS movement compared to the 2017-20 TSS (\$million)

Standard Control (DUoS)	2017/18	2018/19	2019/20
Tariff published in 2017-20 TSS	769.2	796.3	825.2
Cost of debt adjustment	-0.4	-2.5	-2.7
Adjusted	768.8	793.8	822.5
Actual CPI adjustment	-7.7	-12.5	-18.6
STPIS adjustment	27.5	22.9	35.3
Other changes eg recovery	-23.7	-6.7	19.0
TOTAL	765.0	797.5	858.3
Change from 2017-20 TSS \$	-4.2	1.2	33.1
Change from 2017-20 TSS %	-0.6%	0.1%	4.0%

Transmission

As shown in Table 25, TUoS prices are forecast to recover \$254.1M in 2019/20, \$3.6M (-1.4%) below that forecast in our TSS.

Table 25: TUoS movement compared to the 2017-20 TSS (\$million)

Standard Control (TUoS)	2017/18	2018/19	2019/20
Tariff published in 2017-20 TSS	263.1	239.8	254.1
Actual CPI adjustment	-2.6	-3.8	-5.7
Other changes - ElectraNet	-21.5	4.0	-4.3
Other changes eg recovery	-10.7	-2.2	6.4
TOTAL	228.3	237.8	250.5
Change from 2017-20 TSS \$	-34.8	-2.0	-3.6
Change from 2017-20 TSS %	-13.2%	-0.8%	-1.4%

JSO

As shown in Table 25, JSO prices are forecast to recover \$4.4M (5.0%) less in 2019/20 compared to that forecast in our TSS. Lower payments to qualifying generators is the main cause.

Table 26: JSO movement compared to the 2017-20 TSS (\$million)

Standard Control (JSO)	2017/18	2018/19	2019/20
Tariff published in 2017-20 TSS	88.0	88.0	88.0
Other changes – lower payments	-6.9	-7.0	-7.0
Other changes eg recovery	-17.7	-5.5	2.5
TOTAL	63.4	75.5	83.6
Change from 2017-20 TSS \$	-24.6	-12.5	-4.4
Change from 2017-20 TSS %	-27.9%	-14.2%	-5.0%

NUoS

As shown in Table 27, overall NUoS prices are forecast to recover \$25.0M (2.1%) more in 2019/20 compared to that forecast in our TSS.

Table 27: NUoS movement compared to the 2017-20 TSS (\$million)

Standard Control (NUoS)	2017/18	2018/19	2019/20
Tariff published in 2017-20 TSS	1,120.3	1,124.1	1,167.3
Changes DUoS	-4.2	1.2	33.1
Changes TUoS	-34.8	-2.0	-3.6
Changes JSO	-24.6	-12.5	-4.4
TOTAL	1,056.7	1,110.8	1,192.3
Change from 2017-20 TSS \$	-63.6	-13.3	25.0
Change from 2017-20 TSS %	-5.7%	-1.2%	2.1%

3.4.1 Compliance of the 2019/20 APP with the 2017-20 TSS

The AER approved our revised 2017-20 TSS in February 2017. Our approach to setting pricing for our annual direct control services must comply with the approach set out in our TSS. On this basis, our APP has used the TSS:

- five tariff classes into which retail customers for direct control services are divided;
- tariff assignment and reassignment policies and procedures used for retail customers;
- tariff structures;
- charging parameters for each tariff; and
- approach taken in setting each tariff's price.

We have adjusted the prices for 2019/20 by a separate factor for the distribution, transmission and PV FIT recovery components of the network charges. We have set out below any deviation from the assumptions used to develop the TSS indicative prices. These arrangements have enabled a transparent conversion of the TSS indicative prices into those applied in this APP. It also ensures that the APP complies with the distribution pricing principles, as the TSS indicative prices were developed for such compliance.

Distribution

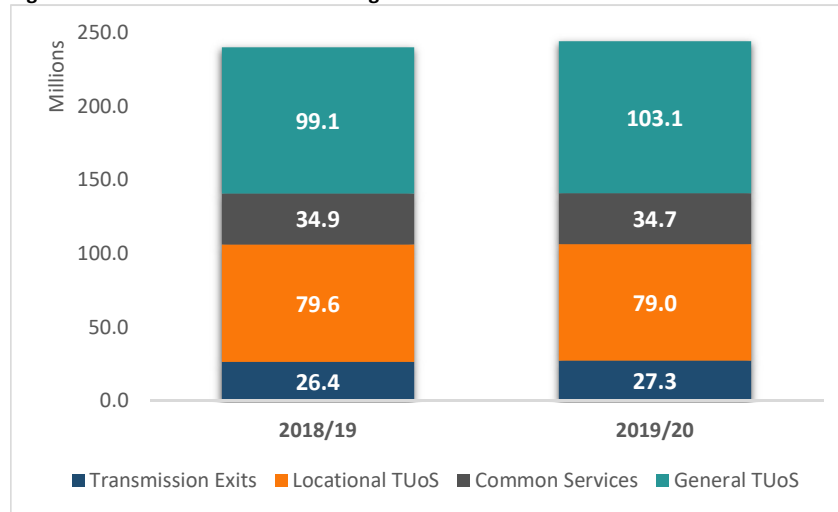
Under the TSS directions, residential prices were to increase slightly more over time than business. In this APP, the proportion of total distribution charges forecast to be recovered from residential increases by 0.2% to 52.5% of total distribution costs. We have priced the residential and actual business demand prices as per the TSS directions. However, there is still some further rebalancing to residential to occur in future years.

Transmission

All non-locational transmission 2019/20 prices were set at 107.7% of last year’s prices. The locational transmission prices were determined separately by reference to the detailed ElectraNet 2019/20 transmission pricing structures and prices for those major business customers using locational prices.

The increase in General TUoS charges this year (because of the reduction in discounts from settlements residue proceeds) can be seen in Figure 6 below.

Figure 6: ElectraNet Transmission charges to SA Power Networks



JSO (PV-FIT)

All JSO 2019/20 prices were set at 113.1% of last year’s prices. In the 2019/20 APP, we have retained the simplification adopted in last year’s APP whereby the JSO price is constant across all tariffs in a tariff class.

3.4.2 Changes to tariff charging components compared to the TSS

Within the framework of SA Power Networks’ longer-term tariff strategy, this section sets out our pricing schedule for tariff charging components of standard control services for:

- the actual 2018/19 prices;
- the indicative pricing schedule for 2019/20 as forecast in the TSS; and
- this APP’s proposed pricing schedule for 2019/20; and

In previous years we have also set out the indicative pricing schedule for the remainder of the regulatory period. As 2019/20 is the final year of the 2015-20 period future indicative prices have not been included in this Pricing Proposal. Further information on future indicative pricing can be found in our 2020-25 Regulatory Proposal; Attachment 17 – Tariff Structure Statement.

It should be noted that the information in this section relates to SA Power Networks’ standard control services and pass-throughs (if relevant). These NUoS charges to customers are bundled charges that contain:

- SA Power Networks’ standard control services (DUoS);
- Transmission cost recovery components (TUoS); and
- JSO (PV-FIT) cost recovery components.

The charges bundled to customers can also include alternative control services charges for metering (not included in the tables below). These charges are explicitly set out separately in our tariff list but are not part

of the standard control services network charges (NUoS) to customers. Metering is discussed separately in Appendix B.

Table 28: SA Power Networks' indicative residential tariff rates for NUoS charges

Tariff	Component	2017/18 Actual	2018/19 Actual	2019/20 TSS	2019/20 APP
Residential single rate (RSR)					
Supply Rate	\$/day	0.380	0.401	0.407	0.442
Usage Block 1	\$/kWh	0.116	0.128	0.135	0.142
Usage Block 2	\$/kWh	0.141	0.140	0.135	0.149
Controlled Load	\$/kWh	0.061	0.067	0.067	0.073
Residential monthly actual kW demand (MRD)					
Supply Rate	\$/day	0.380	0.401	0.407	0.442
Usage	\$/kWh	0.046	0.051	0.062	0.056
Controlled Load	\$/kWh	0.061	0.067	0.067	0.073
Peak Actual kW	\$/kW/day	0.375	0.385	0.402	0.422
Shoulder Actual kW	\$/kW/day	0.185	0.190	0.198	0.208
Off-Peak Actual kW	\$/kW/day	-	-	-	-

Table 29: SA Power Networks' indicative small low voltage business tariff rates for NUoS charges

Tariff	Component	2017/18 Actual	2018/19 Actual	2019/20 TSS	2019/20 APP
Small business 2-rate (B2R)					
Supply Rate	\$/day	0.375	0.401	0.407	0.460
Peak Usage	\$/kWh	0.150	0.159	0.157	0.173
Off-Peak Usage	\$/kWh	0.078	0.083	0.082	0.090
Controlled Load	\$/kWh	0.058	0.063	0.067	0.073
Small business monthly actual kVA demand (SBD)					
Supply Rate	\$/day	0.375	0.401	0.407	0.460
Usage	\$/kWh	0.052	0.057	0.055	0.069
Peak Actual kVA	\$/kVA/day	0.413	0.362	0.358	0.394
Shoulder Actual kVA	\$/kVA/day	0.205	0.180	0.178	0.196
Off-Peak Actual kVA	\$/kVA/day	-	-	-	-
Small business monthly actual kVA demand transition (SBDT)					
Supply Rate	\$/day	0.375	0.401	0.407	0.460
Peak Usage	\$/kWh	0.097	0.109	0.094	0.122
Off-Peak Usage	\$/kWh	0.064	0.070	0.066	0.080
Peak Actual kVA	\$/kVA/day	0.222	0.181	0.221	0.197
Shoulder Actual kVA	\$/kVA/day	0.110	0.090	0.110	0.097
Off-Peak Actual kVA	\$/kVA/day	-	-	-	-
Unmetered 24 hour and 12 hour (streetlights) (LVUU and LVUU24)					
Usage	\$/kWh	0.060	0.068	0.063	0.080
Small business single-rate (obsolete July 2010) (BSR)					
Supply Rate	\$/day	0.375	0.401	0.407	0.460
Usage	\$/kWh	0.133	0.142	0.140	0.155
Controlled Load	\$/kWh	0.058	0.063	0.067	0.073

Table 30: SA Power Networks' indicative large low voltage business tariff rates for NUoS charges

Tariff	Component	2017/18 Actual	2018/19 Actual	2019/20 TSS	2019/20 APP
Large business annual agreed kVA demand (LV)					
Supply Rate	\$/day	10.275	10.881	10.569	11.867
Usage	\$/kWh	0.038	0.042	0.043	0.046
Agreed kVA Block 1	\$/kVA/day	0.274	0.286	0.286	0.311
Agreed kVA Block 2	\$/kVA/day	0.221	0.230	0.231	0.250
Additional kVA	\$/kVA/day	0.110	0.116	0.113	0.127
Large business monthly actual kVA demand (BD)					
Supply Rate	\$/day	0.346	0.365	0.368	0.420
Usage	\$/kWh	0.050	0.054	0.053	0.067
Peak Actual kVA	\$/kVA/day	0.413	0.362	0.358	0.394
Shoulder Actual kVA	\$/kVA/day	0.205	0.180	0.178	0.196
Off-Peak Actual kVA	\$/kVA/day	-	-	-	-
Large business monthly actual kVA demand transition (obs. July 2016) (BDT)					
Supply Rate	\$/day	0.346	0.365	0.368	0.420
Peak Usage	\$/kWh	0.082	0.073	0.053	0.067
Off-Peak Usage	\$/kWh	0.058	0.060	0.053	0.067
Peak Actual kVA	\$/kVA/day	0.275	0.302	0.358	0.394
Shoulder Actual kVA	\$/kVA/day	0.137	0.150	0.178	0.196
Off-Peak Actual kVA	\$/kVA/day	-	-	-	-

Table 30: SA Power Networks' indicative high voltage business tariff rates for NUoS charges

Tariff	Component	2017/18 Actual	2018/19 Actual	2019/20 TSS	2019/20 APP
HV business annual agreed kVA demand (HV)					
Supply Rate	\$/day	70.377	74.526	72.388	81.278
Usage	\$/kWh	0.026	0.029	0.028	0.032
Agreed Peak kVA	\$/kVA/day	0.217	0.226	0.227	0.245
Additional kVA	\$/kVA/day	0.132	0.139	0.135	0.152

Table 31: SA Power Networks' indicative major business tariff rates for NUoS charges

Tariff	Component	2017/18 Actual	2018/19 Actual	2019/20 TSS	2019/20 APP
Zone substation annual agreed kVA demand (non-locational) (ZSN)					
Supply Rate	\$/day	-	-	-	-
Usage	\$/kWh	0.015	0.015	0.016	0.018
Agreed Peak kVA	\$/kVA/day	0.164	0.167	0.173	0.184
Additional kVA	\$/kVA/day	0.102	0.102	0.104	0.117
Sub transmission annual agreed kVA demand (non-locational) (STN)					
Supply Rate	\$/day	-	-	-	-
Usage	\$/kWh	0.011	0.012	0.012	0.013
Agreed Peak kVA	\$/kVA/day	0.086	0.088	0.092	0.100
Additional kVA	\$/kVA/day	0.038	0.023	0.024	0.044

4 Alternative control services charges

In its 2015-20 revenue determination, the AER determined that a price cap applies for Alternative Control Services (ie regulated metering services). Attachment 16 to the 2015-20 Revenue Determination sets out all the pricing arrangements and the final prices that will apply.³⁴

The annual metering charges contain a capital and a non-capital charge, with different prices applying to the three categories of alternative control services metering, ie whole current (**WC**), current transformer (**CT**) and exceptional meters.

There are four different combinations of metering fees possible:

- existing customers using SA Power Networks' meters. These customers continue to pay the capital and non-capital charges;
- where an existing customer at June 2015 has the meter replaced by an alternate meter provider eg a type 4 meter, the customer will continue to pay the Capital-related charge but will cease paying the non-capital related charge. This will apply to all metering upgrades and replacements undertaken by retailers under metering contestability arrangements post December 2017;
- where an existing customer at June 2015 was not using a SA Power Networks meter but that of an alternate meter provider, eg a type 4 meter, the customer is not liable for any annual metering charges to SA Power Networks; and
- from December 2017 (metering contestability commencement), where a new customer connects to the network the retailer will arrange metering. There will not be any SA Power Networks metering charges applicable. Where new customers have elected to be connected and use a SA Power Networks meter (typically new connections from July 2015 to November 2017), the customer will have incurred an upfront capital charge and will continue to incur the annual non-capital charge.

Under the AER's Final Decision in 2015, these charges continue to June 2020. The AER's 2020-25 Reset will determine the pricing arrangements that will apply from July 2020.

Our 2019/20 alternative control services annual metering charges and upfront capital metering charges are set out in Table 33 and Table 34 below.

4.1 Annual metering charges

Table 32: AER nominated metering charges starting prices, CPI escalations and X-Factors

Metering Charges Starting Prices, CPI Escalation and X-Factors		2015/16	2016/17	2017/18	2018/19	2019/20
Annual Non-Capital x-factor (table 16.12)		-	-34.81%	5.00%	5.00%	5.00%
Annual Capital x-factor (table 16.12)		-	-20.47%	-15.00%	-15.00%	-15.00%
Annual metering charges starting prices (table 16.11)						
Type 1-4 Exceptional	non-capital	135.07				
	capital	176.18				
Type 5-6 CT	non-capital	73.52				
	capital	95.90				
Type 5-6 WC	non-capital	8.98				
	capital	11.71				

³⁴ Part A of Attachment 16 sets out the annual metering charges (AER Table 16.11) and the upfront capital charges (AER Table 16.14, with annual X-factors set out in AER Table 16.15).

Table 33: SA Power Networks annual metering charge (\$nominal)

		2015/16	2016/17	2017/18	2018/19	2019/20	2019/20
Price^t =							
Price^{t-1} x (CPI^t/CPI^{t-1}) x (1 - X^t)		\$pa	\$pa	\$pa	\$pa	\$pa	\$/day
Type 1-4 'Exceptional' remotely read interval meter	Non-capital	135.07	185.16	178.50	172.81	167.10	0.4566
	Capital	176.18	215.83	251.87	295.18	345.51	0.9440
	Non-capital and capital	311.25	400.99	430.37	467.99	512.61	1.4006
Type 5-6 CT connected manually read meter	Non-capital	73.52	100.79	97.16	94.06	90.96	0.2485
	Capital	95.90	117.48	137.10	160.67	188.07	0.5139
	Non-capital and capital	169.42	218.27	234.26	254.74	279.03	0.7624
Type 5-6 WC manually read meter	Non-capital	8.98	12.31	11.87	11.49	11.11	0.0304
	Capital	11.71	14.35	16.74	19.62	22.96	0.0627
	Non-capital and capital	20.69	26.66	28.61	31.11	34.07	0.0931

Note that the upfront capital charges for metering services (Table 35) are redundant post the commencement of metering contestability in December 2017, as SA Power Networks can no longer supply meters to new customers. This is now a retailer responsibility through their metering co-ordinators.

Table 34: upfront capital starting price and x-factor

	2015/16	2016/17	2017/18	2018/19	2019/20
Upfront capital starting price and x-factor	Table 16.14	Table 16.15	Table 16.15	Table 16.15	Table 16.15
Type 5 single element	163.92	-17.43%	-0.60%	-0.75%	-0.87%
Type 5 two element	235.02	-17.65%	-0.60%	-0.75%	-0.87%
Type 5 three phase	404.13	-17.39%	-0.60%	-0.75%	-0.87%
Type 6 single element	102.00	-7.64%	-0.60%	-0.75%	-0.87%
Type 6 two element	259.44	-6.57%	-0.60%	-0.75%	-0.87%
Type 6 three phase	304.19	-7.27%	-0.60%	-0.75%	-0.87%
	Actual	Actual	Actual	Actual	Actual
CPI index	106.6	108.4	110.0	112.1	114.1

Table 35: SA Power Networks upfront metering charge (\$nominal)³⁵

	2015/16	2016/17	2017/18	2018/19	2019/20
	\$	\$	\$	\$	\$
Type 5 single element	163.92	195.74	199.82	NA	NA
Type 5 two element	235.02	281.17	287.03	NA	NA
Type 5 three phase	404.13	482.42	492.48	NA	NA
Type 6 single element	102.00	111.65	113.97	NA	NA
Type 6 two element	259.44	281.15	287.02	NA	NA
Type 6 three phase	304.19	331.81	338.73	NA	NA

³⁵ Table 35 no longer applies to distribution pricing as all new metering is undertaken through retailers and not through SA Power Networks.

Appendix A: Standard control services tariff schedules

This appendix includes the standard control services and negotiated services tariff schedules for 2019/20. Indicative tariff schedules for 2020/21 are included in our 2020-25 Regulatory Proposal: Attachment 17 – Tariff Structure Statement.

Table 36: NUoS tariff schedule 2019/20

SA Power Networks' Tariffs 2019/20		Supply Rate \$/day	Energy based usage				Usage Off- Peak \$/kWh	Controlled Load \$/kWh	Annual agreed kVA demand				Monthly actual kVA demand			Monthly actual kW demand			
FINAL Distribution Prices Schedule comprises DUoS only excludes GST, Metering	NUoS		Usage Block 1 \$/kWh	Usage Block 2 \$/kWh	Usage Peak \$/kWh	Usage Shoulder \$/kWh			Block 1 \$/kVA/day	Block 2 \$/kVA/day	Anytime \$/kVA/day	Additional \$/kVA/day	Summer Peak \$/kVA/day	Year Shoulder \$/kVA/day	Year Peak \$/kVA/day	Off	Summer Peak \$/kW/day	Winter Shoulder \$/kW/day	Year Peak \$/kW/day
Tariff Class and Tariffs																			
Residential Tariff Class																			
RSR Residential		\$ 0.4420	\$ 0.1424	\$ 0.1490															
MRD Residential Monthly Actual kW Demand		\$ 0.4420	\$ 0.0557			\$ 0.1778	\$ 0.0782	\$ 0.0448							\$ 0.4219	\$ 0.2084	\$ -		
RTOUTR Residential TOU Trial		\$ 0.4420	\$ -	\$ -		\$ 0.1778	\$ 0.0782	\$ 0.0448											
RSROPCLTR Residential Single Rate with Trial TOU OPCL		\$ 0.4420	\$ 0.1424	\$ 0.1490		\$ 0.1778	\$ 0.0782	\$ 0.0448											
Small Business Tariff Class (<160 MWh)																			
LVIU Unmetered 12 hour (streetlights)		\$ 0.4601	\$ 0.0797																
LVIU24 Unmetered 24 hour		\$ 0.4601	\$ 0.0797																
BSR Business Single-Rate (obsolete July 2010)		\$ 0.4601	\$ 0.1546																
B2R Business Two-Rate		\$ 0.4601			\$ 0.1731		\$ 0.0902	\$ 0.0734											
SBD Business Monthly Actual kVA Demand		\$ 0.4601	\$ 0.0689							\$ 0.3936	\$ 0.1955	\$ -							
SBDT Business Monthly Actual kVA Demand Transition		\$ 0.4601	\$ -			\$ 0.1215		\$ 0.0800		\$ 0.3936	\$ 0.1955	\$ -							
SLV Business Annual Agreed kVA Demand (obsolete July 2016)		\$ 11.9068	\$ 0.0478						\$ 0.3107		\$ 0.1267								
BSRN Business Single-Rate (negotiated service)		\$ 0.4198	\$ 0.1127																
B2RN Business Two-Rate (negotiated service)		\$ 0.4198		\$ 0.1269			\$ 0.0635												
Large Business LV Tariff Class (LV and >160 MWh)																			
LBSR Business Single-Rate Transition		\$ 0.4198	\$ 0.1820					\$ 0.0734											
LBR Business Two-Rate Transition		\$ 0.4198		\$ 0.2046			\$ 0.1048	\$ 0.0734											
BD Business Monthly Actual kVA Demand		\$ 0.4198	\$ 0.0670							\$ 0.3936	\$ 0.1955	\$ -							
B2T Business Monthly Actual kVA Demand Trans. (obs. July 2016)		\$ 0.4198		\$ 0.0670						\$ 0.3936	\$ 0.1955	\$ -							
LV Business Annual Agreed kVA Demand		\$ 11.8665	\$ 0.0459						\$ 0.3107	\$ 0.2497	\$ 0.1267								
LVS Sportsgrounds Annual Agreed kVA Demand		\$ 11.8665	\$ 0.0459						\$ 0.3107	\$ 0.2497	\$ 0.1267								
LVB Business Annual Agreed kVA Demand (back-up)		\$ 11.8665	\$ 0.0459						\$ -	\$ -	\$ 0.1267								
LVN Business Annual Agreed kVA Demand (negotiated service)		\$ 11.8665	\$ -						\$ 0.2440	\$ 0.1830	\$ 0.1267								
LVRT Bus LV Agreed Demand Trial kVA		\$ 11.8665	\$ 0.0459						\$ 0.2629	\$ 0.1757	\$ 0.1267								
High Voltage Business Tariff Class																			
B2R124H High Voltage Business Two-Rate (obsolete July 2015)		\$ 0.4198		\$ 0.2030			\$ 0.1032												
HB Business Monthly Actual kVA Demand		\$ 0.4198	\$ 0.0654							\$ 0.3936	\$ 0.1955	\$ -							
HV400 HV Business Annual Agreed kVA Demand < 400 kVA		\$ 11.8665	\$ 0.0455						\$ 0.3107		\$ 0.1267								
HV HV Business Annual Agreed kVA Demand		\$ 81.2776	\$ 0.0320						\$ 0.2452		\$ 0.1519								
HV400N Business HV Demand < 400 kVA (negotiated service)		\$ 11.8665	\$ 0.0164						\$ 0.3107		\$ 0.1267								
HVB Business HV Demand kVA (back-up)		\$ -	\$ 0.0320						\$ -	\$ -	\$ 0.1519								
HVN Business HV Demand kVA (negotiated service)		\$ -	\$ -						\$ -	\$ -	\$ 0.1519								
HV568 Business HV Demand kVA (negotiated service)		\$ -	\$ -						\$ 0.1785		\$ 0.1519								
HVTR Bus HV Agreed Demand Trial kVA		\$ 81.2776	\$ 0.0320						\$ 0.1333	\$ 0.1519									
Major Business Tariff Class																			
ZSN Zone Substation Annual Agreed kVA Demand (non-location)		\$ -	\$ 0.0177						\$ 0.1839		\$ 0.1172								
ZSNB Zone Substation kVA (back-up)		\$ -	\$ 0.0230						\$ 0.1172		\$ 0.1172								
ZSNTR Zone Substation kVA Trial		\$ -	\$ 0.0177						\$ 0.0953	\$ 0.1172									
STN Sub Transmission Annual Agreed kVA Demand (non-location)		\$ -	\$ 0.0130						\$ 0.1002		\$ 0.0436								
STNB Subtransmission kVA (back-up)		\$ -	\$ 0.0130						\$ 0.0266		\$ 0.0266								
STNTR Subtransmission kVA Trial		\$ -	\$ 0.0130						\$ 0.0809	\$ 0.0436									
Zone Substation Annual Agreed kVA Demand (locational)																			
ZSN021 ZSN021		\$ 456.00	\$ 0.0061						\$ 0.3038		\$ 0.1172								
ZSN022 ZSN022		\$ -	\$ 0.0061						\$ 0.1172		\$ 0.1172								
ZSN024 ZSN024		\$ 97.00	\$ 0.0061						\$ 0.2693		\$ 0.1172								
ZSN026 ZSN026 (closed)		\$ -	\$ -						\$ -		\$ -								
ZSN035 ZSN035		\$ 134.00	\$ 0.0061						\$ 0.3061		\$ 0.1172								
ZSN131 ZSN131		\$ -	\$ 0.0061						\$ 0.1172		\$ 0.1172								
ZSN228 ZSN228		\$ 109.00	\$ 0.0061						\$ 0.4016		\$ 0.2344								
ZSN438 ZSN438		\$ 46.00	\$ 0.0061						\$ 0.2693		\$ 0.1172								
ZSN608 ZSN608		\$ 115.37	\$ 0.0061						\$ 0.2690		\$ 0.1172								
ZSN8230 ZSN8230 (back-up)		\$ -	\$ -						\$ -		\$ -								
Sub Transmission Annual Agreed kVA Demand (locational)																			
STN018 VSTN018		\$ 638.00	\$ 0.0021						\$ 0.2118		\$ 0.0266								
STN084 VSTN084		\$ 1,110.00	\$ 0.0021						\$ 0.2230		\$ 0.0266								
STN161 VSTN161		\$ 536.00	\$ 0.0186						\$ 0.0627		\$ 0.0266								
STN162 VSTN162		\$ 120.00	\$ 0.0021						\$ 0.2053		\$ 0.0532								
STN378 VSTN378		\$ 402.00	\$ 0.0021						\$ 0.2233		\$ 0.0266								
STN557 VSTN557		\$ 220.00	\$ 0.0184						\$ 0.1355		\$ 0.0266								
STN609 VSTN609		\$ 2,479.00	\$ 0.0185						\$ 0.0266		\$ 0.0266								
STN788 VSTN788		\$ 283.00	\$ 0.0021						\$ 0.1998		\$ 0.0532								
STN840 VSTN840		\$ 90.00	\$ 0.0186						\$ 0.0627		\$ 0.0266								
STN164 VSTN164 (back-up)		\$ -	\$ -						\$ -		\$ -								
STN8796 VSTN8796 (back-up)		\$ -	\$ -						\$ -		\$ -								
Zone Substation non-Locational																			
ZS5025 ZS5025		\$ -	\$ 0.0177						\$ 0.1839		\$ 0.1172								
ZS5296 ZS5296		\$ 1,120.40	\$ 0.0177						\$ 0.1839		\$ 0.1172								
ZS5766 ZS5766		\$ -	\$ 0.0177						\$ 0.1839		\$ 0.1172								
ZS5951 ZS5951		\$ 289.39	\$ 0.0177						\$ 0.1839		\$ 0.1172								
Sub Transmission non-Locational																			
STR148 STR148		\$ -	\$ 0.0130						\$ 0.1002		\$ 0.0436								
STR610 STR610		\$ 1,302.42	\$ 0.0130						\$ 0.1002		\$ 0.0436								
STR749 STR749		\$ 582.39	\$ 0.0130						\$ 0.1002		\$ 0.0436								

Table 37: DUoS tariff schedule 2019/20

SA Power Networks' Tariffs 2019/20		Supply Rate \$/day	Energy based usage					Annual agreed kVA demand				Monthly actual kVA demand			Monthly actual kW demand			
FINAL Distribution Prices Schedule comprises DUoS only excludes GST, Metering			Usage Block 1 \$/kWh	Usage Block 2 \$/kWh	Usage Peak \$/kWh	Usage Shoulder \$/kWh	Usage Off-Peak \$/kWh	Controlled Load \$/kWh	Block 1 \$/kVA/day	Block 2 \$/kVA/day	Anytime \$/kVA/day	Additional \$/kVA/day	Summer Peak \$/kVA/day	Year Shoulder \$/kVA/day	Year Peak \$/kVA/day	Summer Peak \$/kW/day	Winter Shoulder \$/kW/day	Year Peak \$/kW/day
Residential Tariff Class																		
RSR	Residential	\$ 0.4017	\$ 0.0983	\$ 0.1049														
MRD	Residential Monthly Actual kW Demand	\$ 0.4017	\$ 0.0286												\$ 0.3276	\$ 0.1618	\$ -	
RTOUTR	Residential TOU Trial	\$ 0.4017			\$ 0.1256	\$ 0.0503	\$ 0.0251											
RSROPLTR	Residential Single Rate with Trial TOU OPCL	\$ 0.4017	\$ 0.0983	\$ 0.1049	\$ 0.1256	\$ 0.0503	\$ 0.0251											
Small Business Tariff Class (<160 MWh)																		
LVUU	Unmetered 12 hour (streetlights)	\$ 0.4198	\$ 0.0502															
LVUU24	Unmetered 24 hour	\$ 0.4198	\$ 0.0502															
BSR	Business Single-Rate (obsoleted July 2010)	\$ 0.4198	\$ 0.1127															
B2R	Business Two-Rate	\$ 0.4198		\$ 0.1269		\$ 0.0635	\$ 0.0452											
SBD	Business Monthly Actual kVA Demand	\$ 0.4198	\$ 0.0443											\$ 0.3074	\$ 0.1527	\$ -		
SBDT	Business Monthly Actual kVA Demand Transition	\$ 0.4198	\$ 0.0443											\$ 0.1538	\$ 0.0763	\$ -		
SLV	Business Annual Agreed kVA Demand (obsoleted July 2016)	\$ 11.8665	\$ 0.0291	\$ 0.0856		\$ 0.0539		\$ 0.2440					\$ 0.1267					
BSRN	Business Single-Rate (negotiated service)	\$ -	\$ -															
B2RN	Business Two-Rate (negotiated service)	\$ -	\$ -															
Large Business LV Tariff Class (LV and >160 MWh)																		
LBSR	Business Single-Rate Transition	\$ 0.4198	\$ 0.1351															
LBR	Business Two-Rate Transition	\$ 0.4198		\$ 0.1524		\$ 0.0761	\$ 0.0452											
BD	Business Monthly Actual kVA Demand	\$ 0.4198	\$ 0.0443											\$ 0.3074	\$ 0.1527	\$ -		
BDT	Business Monthly Actual kVA Demand Trans. (obs. July 2016)	\$ 0.4198	\$ 0.0443	\$ 0.0443		\$ 0.0443								\$ 0.3074	\$ 0.1527	\$ -		
LV	Business Annual Agreed kVA Demand	\$ 11.8665	\$ 0.0291					\$ 0.2440	\$ 0.1830				\$ 0.1267					
LVSG	Sportsgrounds Annual Agreed kVA Demand	\$ 11.8665	\$ 0.0291					\$ 0.2440	\$ 0.1830				\$ 0.1267					
LVB	Business Annual Agreed kVA Demand (back-up)	\$ -	\$ 0.0291					\$ -	\$ -				\$ -					
LVN	Business Annual Agreed kVA Demand (negotiated service)	\$ -	\$ -					\$ -	\$ -				\$ -					
LVTR	Bus LV Agreed Demand Trial kVA	\$ 11.8665	\$ 0.0291					\$ 0.1676	\$ 0.0804	\$ 0.1267			\$ -					
High Voltage Business Tariff Class																		
B2R124H	High Voltage Business Two-Rate (obsoleted July 2015)	\$ 0.4198		\$ 0.1524		\$ 0.0761												
HBD	Business Monthly Actual kVA Demand	\$ 0.4198	\$ 0.0443											\$ 0.3074	\$ 0.1527	\$ -		
HV400	HV Business Annual Agreed kVA Demand < 400 kVA	\$ 11.8665	\$ 0.0291					\$ 0.2440					\$ 0.1267					
HV	HV Business Annual Agreed kVA Demand	\$ 81.2776	\$ 0.0168					\$ 0.1785					\$ 0.1519					
HV400N	Business HV Demand < 400 kVA (negotiated service)	\$ -	\$ -					\$ -	\$ -				\$ -					
HVB	Business HV Demand kVA (back-up)	\$ -	\$ 0.0168					\$ -	\$ -				\$ -					
HVN	Business HV Demand kVA (negotiated service)	\$ -	\$ -					\$ -	\$ -				\$ -					
HVS58	Business HV Demand kVA (negotiated service)	\$ -	\$ -					\$ -	\$ -				\$ -					
HVTR	Bus HV Agreed Demand Trial kVA	\$ 81.2776	\$ 0.0168					\$ 0.0380		\$ 0.1519			\$ -					
Major Business Tariff Class																		
ZSN	Zone Substation Annual Agreed kVA Demand (non-locational)	\$ -	\$ 0.0053					\$ 0.1172					\$ 0.1172					
ZSNB	Zone Substation kVA (back-up)	\$ -	\$ 0.0053					\$ -					\$ -					
ZSNTR	Zone Substation kVA Trial	\$ -	\$ 0.0053					\$ -	\$ 0.1172				\$ -					
STN	Sub Transmission Annual Agreed kVA Demand (non-locational)	\$ -	\$ 0.0013					\$ 0.0266					\$ 0.0266					
STNB	Sub Transmission Annual Agreed kVA Demand (non-locational)	\$ -	\$ -					\$ -					\$ -					
STNTR	Subtransmission kVA Trial	\$ -	\$ 0.0013					\$ -	\$ 0.0266				\$ -					
<i>Zone Substation Annual Agreed kVA Demand (locational)</i>																		
ZSN021	ZSN021	\$ -	\$ 0.0053					\$ 0.1172					\$ 0.1172					
ZSN022	ZSN022	\$ -	\$ 0.0053					\$ 0.1172					\$ 0.1172					
ZSN024	ZSN024	\$ -	\$ 0.0053					\$ 0.1172					\$ 0.1172					
ZSN026	ZSN026	\$ -	\$ -					\$ -					\$ -					
ZSN035	ZSN035	\$ -	\$ 0.0053					\$ 0.1172					\$ 0.1172					
ZSN131	ZSN131	\$ -	\$ 0.0053					\$ 0.1172					\$ 0.1172					
ZSN228	ZSN228	\$ -	\$ 0.0053					\$ 0.1172					\$ 0.1172					
ZSN438	ZSN438	\$ -	\$ 0.0053					\$ 0.1172					\$ 0.1172					
ZSN608	ZSN608	\$ 82.37	\$ 0.0053					\$ 0.1172					\$ 0.1172					
ZSN8230	ZSN8230 (back-up)	\$ -	\$ -					\$ -					\$ -					
<i>Sub Transmission Annual Agreed kVA Demand (locational)</i>																		
STN018	VSTN018	\$ -	\$ 0.0013					\$ 0.0266					\$ 0.0266					
STN084	VSTN084	\$ -	\$ 0.0013					\$ 0.0266					\$ 0.0266					
STN161	VSTN161	\$ -	\$ 0.0013					\$ 0.0266					\$ 0.0266					
STN162	VSTN162	\$ -	\$ 0.0013					\$ 0.0266					\$ 0.0266					
STN378	VSTN378	\$ -	\$ 0.0013					\$ 0.0266					\$ 0.0266					
STN557	VSTN557	\$ -	\$ 0.0013					\$ 0.0266					\$ 0.0266					
STN609	VSTN609	\$ -	\$ 0.0013					\$ 0.0266					\$ 0.0266					
STN788	VSTN788	\$ -	\$ 0.0013					\$ 0.0266					\$ 0.0266					
STN840	VSTN840	\$ -	\$ 0.0013					\$ 0.0266					\$ 0.0266					
STNB164	VSTNB164 (back-up)	\$ -	\$ -					\$ -					\$ -					
STNB796	VSTNB796 (back-up)	\$ -	\$ -					\$ -					\$ -					
<i>Zone Substation non-Locational</i>																		
ZS5025	ZS5025	\$ -	\$ 0.0053					\$ 0.1172					\$ 0.1172					
ZS5296	ZS5296	\$ 1,120.40	\$ 0.0053					\$ 0.1172					\$ 0.1172					
ZS5766	ZS5766	\$ -	\$ 0.0053					\$ 0.1172					\$ 0.1172					
ZS5951	ZS5951	\$ 289.39	\$ 0.0053					\$ 0.1172					\$ 0.1172					
<i>Sub Transmission non-Locational</i>																		
STR148	STR148	\$ -	\$ 0.0013					\$ 0.0266					\$ 0.0266					
STR610	STR610	\$ 1,262.76	\$ 0.0013					\$ 0.0266					\$ 0.0266					
STR749	STR749	\$ 582.30	\$ 0.0013					\$ 0.0266					\$ 0.0266					

Table 38: TUoS tariff schedule 2019/20

SA Power Networks' Tariffs 2019/20		Supply Rate \$/day	Energy based usage					Annual agreed kVA demand				Monthly actual kVA demand				Monthly actual kW demand			
FINAL Distribution Prices Schedule comprises TUoS only excludes GST, Metering	TUoS		Usage Block 1 \$/kWh	Usage Block 2 \$/kWh	Usage Peak \$/kWh	Usage Shoulder \$/kWh	Usage Off- Peak \$/kWh	Controlled Load \$/kWh	Block 1 \$/kVA/day Annual	Block 2 \$/kVA/day Annual	Anytime \$/kVA/day Annual	Additional \$/kVA/day Annual	Summer Peak \$/kVA/day 5 months	Year Shoulder \$/kVA/day 12 months	Year Peak \$/kVA/day 12 months	Off	Summer Peak \$/kW/day 5 months	Winter Shoulder \$/kW/day 7 months	Year Peak \$/kW/day 12 months
		Residential Tariff Class																	
RSR	Residential	\$ -	\$ 0.0325	\$ 0.0325			\$ 0.0166												
MRD	Residential Monthly Actual kW Demand	\$ -	\$ 0.0155				\$ 0.0166									\$ 0.0943	\$ 0.0466	\$ -	
RTOUTR	Residential TOU Trial	\$ -	\$ -	\$ -	\$ 0.0406	\$ 0.0163	\$ 0.0081												
RSROPCLTR	Residential Single Rate with Trial TOU OPCL	\$ -	\$ 0.0325	\$ 0.0325	\$ 0.0406	\$ 0.0163	\$ 0.0081												
Small Business Tariff Class (<160 MWh)																			
LVIU	Unmetered 12 hour (streetlights)	\$ -	\$ 0.0224																
LVIU24	Unmetered 24 hour	\$ -	\$ 0.0224																
BSR	Business Single-Rate (obsolete July 2010)	\$ -	\$ 0.0348																
B2R	Business Two-Rate	\$ -		\$ 0.0391		\$ 0.0196	\$ 0.0166												
SBD	Business Monthly Actual kVA Demand	\$ -	\$ 0.0175									\$ 0.0862	\$ 0.0428	\$ -					
SBOT	Business Monthly Actual kVA Demand Transition	\$ -	\$ -		\$ 0.0288		\$ 0.0190					\$ 0.0131	\$ 0.0214	\$ -					
SLV	Business Annual Agreed kVA Demand (obsolete July 2016)	\$ -	\$ 0.0116					\$ 0.0667			\$ -								
BSRN	Business Single-Rate (negotiated service)	\$ -	\$ -																
B2RN	Business Two-Rate (negotiated service)	\$ -	\$ -	\$ -		\$ -													
Large Business LV Tariff Class (LV and >160 MWh)																			
LBSR	Business Single-Rate Transition	\$ -	\$ 0.0417				\$ 0.0166												
LBR	Business Two-Rate Transition	\$ -		\$ 0.0470		\$ 0.0235	\$ 0.0166												
BD	Business Monthly Actual kVA Demand	\$ -	\$ 0.0175									\$ 0.0862	\$ 0.0428	\$ -					
BOT	Business Monthly Actual kVA Demand Trans. (obs. July 2016)	\$ -	\$ -	\$ 0.0175		\$ 0.0175						\$ 0.0862	\$ 0.0428	\$ -					
LV	Business Annual Agreed kVA Demand	\$ -	\$ 0.0116					\$ 0.0667	\$ 0.0667		\$ -								
LVS	Sportsgrounds Annual Agreed kVA Demand	\$ -	\$ 0.0116					\$ 0.0667	\$ 0.0667		\$ -								
LVB	Business Annual Agreed kVA Demand (back-up)	\$ -	\$ 0.0116					\$ -	\$ -		\$ -								
LVN	Business Annual Agreed kVA Demand (negotiated service)	\$ -	\$ -					\$ -	\$ -		\$ -								
LVTR	Bus LV Agreed Demand Trial kVA	\$ -	\$ 0.0116					\$ 0.0953	\$ 0.0953	\$ -									
High Voltage Business Tariff Class																			
B2R124H	High Voltage Business Two-Rate (obsolete July 2015)	\$ -		\$ 0.0470		\$ 0.0235													
HBD	Business Monthly Actual kVA Demand	\$ -	\$ 0.0175									\$ 0.0862	\$ 0.0428	\$ -					
HV400	HV Business Annual Agreed kVA Demand < 400 kVA	\$ -	\$ 0.0128					\$ 0.0667			\$ -								
HV	HV Business Annual Agreed kVA Demand	\$ -	\$ 0.0116					\$ 0.0667			\$ -								
HV400N	Business HV Demand < 400 kVA (negotiated service)	\$ -	\$ 0.0128					\$ 0.0667			\$ -								
HVB	Business HV Demand kVA (back-up)	\$ -	\$ 0.0116					\$ -	\$ -		\$ -								
HVN	Business HV Demand kVA (negotiated service)	\$ -	\$ -					\$ 0.0667			\$ -								
HV6568	Business HV Demand kVA (negotiated service)	\$ -	\$ -					\$ -	\$ -		\$ -								
HVTR	Bus HV Agreed Demand Trial kVA	\$ -	\$ 0.0116					\$ 0.0953		\$ -									
Major Business Tariff Class																			
ZSN	Zone Substation Annual Agreed kVA Demand (non-locational)	\$ -	\$ 0.0116					\$ 0.0667			\$ -								
ZSNB	Zone Substation kVA (back-up)	\$ -	\$ 0.0116					\$ -			\$ -								
ZSNTR	Zone Substation kVA Trial	\$ -	\$ 0.0116					\$ 0.0953		\$ -									
STN	Sub Transmission Annual Agreed kVA Demand (non-locational)	\$ -	\$ 0.0109					\$ 0.0736		\$ 0.0170									
STNB	Subtransmission kVA (back-up)	\$ -	\$ 0.0109					\$ -			\$ -								
STNTR	Subtransmission kVA Trial	\$ -	\$ 0.0109					\$ 0.0809		\$ 0.0170									
Zone Substation Annual Agreed kVA Demand (locational)																			
ZSN021	ZSN021	\$ 456.00	\$ -				\$ 0.1866				\$ -								
ZSN022	ZSN022	\$ -	\$ -				\$ -				\$ -								
ZSN024	ZSN024	\$ 97.00	\$ -				\$ 0.1521				\$ -								
ZSN026	ZSN026	\$ -	\$ -				\$ -				\$ -								
ZSN035	ZSN035	\$ 134.00	\$ -				\$ 0.1889				\$ -								
ZSN131	ZSN131	\$ -	\$ -				\$ -				\$ -								
ZSN228	ZSN228	\$ 109.00	\$ -				\$ 0.1672				\$ -								
ZSN438	ZSN438	\$ 46.00	\$ -				\$ 0.1521				\$ -								
ZSN608	ZSN608	\$ 33.00	\$ -				\$ 0.1518				\$ -								
ZSN8230	ZSN8230 (back-up)	\$ -	\$ -				\$ -				\$ -								
Sub Transmission Annual Agreed kVA Demand (locational)																			
STN018	VSTN018	\$ 638.00	\$ -				\$ 0.1852				\$ -								
STN084	VSTN084	\$ 1,110.00	\$ -				\$ 0.1964				\$ -								
STN161	VSTN161	\$ 536.00	\$ 0.0165				\$ 0.0361				\$ -								
STN162	VSTN162	\$ 120.00	\$ -				\$ 0.1521				\$ -								
STN378	VSTN378	\$ 402.00	\$ -				\$ 0.1967				\$ -								
STN557	VSTN557	\$ 220.00	\$ 0.0163				\$ 0.1089				\$ -								
STN609	VSTN609	\$ 2,479.00	\$ 0.0164				\$ -				\$ -								
STN788	VSTN788	\$ 283.00	\$ -				\$ 0.1466				\$ -								
STN840	VSTN840	\$ 90.00	\$ 0.0165				\$ 0.0361				\$ -								
STN8164	VSTN8164 (back-up)	\$ -	\$ -				\$ -				\$ -								
STN8796	VSTN8796 (back-up)	\$ -	\$ -				\$ -				\$ -								
Zone Substation non-Locational																			
ZS025	ZS025	\$ -	\$ 0.0116				\$ 0.0667				\$ -								
ZS296	ZS296	\$ -	\$ 0.0116				\$ 0.0667				\$ -								
ZS766	ZS766	\$ -	\$ 0.0116				\$ 0.0667				\$ -								
ZS951	ZS951	\$ -	\$ 0.0116				\$ 0.0667				\$ -								
Sub Transmission non-Locational																			
STR148	STR148	\$ -	\$ 0.0109				\$ 0.0736				\$ 0.0170								
STR610	STR610	\$ -	\$ 0.0109				\$ 0.0736				\$ 0.0170								
STR749	STR749	\$ -	\$ 0.0109				\$ 0.0736				\$ 0.0170								

Table 39: JSO PV tariff schedule 2019/20

SA Power Networks' Tariffs 2019/20	Supply Rate \$/day	Energy based usage						Annual agreed kVA demand				Monthly actual kVA demand			Monthly actual kW demand					
		Usage Block 1		Usage Block 2		Usage Off-Peak		Controlled Load	Block 1 Annual	Block 2 Annual	Anytime Annual	Additional Annual	Summer	Year	Year	Off	Summer	Winter	Year	Off
		\$/kWh	\$/kWh	\$/kWh	\$/kWh	\$/kWh	\$/kWh						\$/kVA/day	\$/kVA/day	\$/kVA/day	\$/kVA/day	5 months	12 months	12 months	5 months
Residential Tariff Class																				
RSR Residential	\$ 0.0403	\$ 0.0116	\$ 0.0116				\$ 0.0116													
MRD Residential Monthly Actual kW Demand	\$ 0.0403	\$ 0.0116					\$ 0.0116													
RTOUTR Residential TOU Trial	\$ 0.0403	\$ -	\$ -	\$ 0.0116	\$ 0.0116	\$ 0.0116	\$ 0.0116													
RSROPCLTR Residential Single Rate with Trial TOU OPCL	\$ 0.0403	\$ 0.0116	\$ 0.0116	\$ 0.0116	\$ 0.0116	\$ 0.0116	\$ 0.0116													
Small Business Tariff Class (<160 MWh)																				
LVIU Unmetered 12 hour (streetlights)	\$ 0.0071																			
LVIU24 Unmetered 24 hour	\$ 0.0071																			
BSR Business Single-Rate (obsolete July 2010)	\$ 0.0403	\$ 0.0071					\$ 0.0116													
B2R Business Two-Rate	\$ 0.0403	\$ 0.0071	\$ 0.0071				\$ 0.0116													
SBD Business Monthly Actual kVA Demand	\$ 0.0403	\$ 0.0071					\$ 0.0116													
SBOT Business Monthly Actual kVA Demand Transition	\$ 0.0403	\$ 0.0071					\$ 0.0071													
SLV Business Annual Agreed kVA Demand (obsolete July 2016)	\$ 0.0403	\$ 0.0071	\$ 0.0071				\$ 0.0071													
BSRN Business Single-Rate (negotiated service)	\$ -	\$ -																		
B2RN Business Two-Rate (negotiated service)	\$ -	\$ -	\$ -																	
Large Business LV Tariff Class (LV and >160 MWh)																				
LBSR Business Single-Rate Transition	\$ -	\$ 0.0052					\$ 0.0116													
LBR Business Two-Rate Transition	\$ -	\$ 0.0052	\$ 0.0052				\$ 0.0116													
BD Business Monthly Actual kVA Demand	\$ -	\$ 0.0052					\$ 0.0052													
BOT Business Monthly Actual kVA Demand Trans. (obs. July 2016)	\$ -	\$ 0.0052	\$ 0.0052				\$ 0.0052													
LV Business Annual Agreed kVA Demand	\$ -	\$ 0.0052					\$ -	\$ -		\$ -										
LVSG Sportsgrounds Annual Agreed kVA Demand	\$ -	\$ 0.0052					\$ -	\$ -		\$ -										
LVB Business Annual Agreed kVA Demand (back-up)	\$ -	\$ 0.0052					\$ -	\$ -		\$ -										
LVN Business Annual Agreed kVA Demand (negotiated service)	\$ -	\$ -					\$ -	\$ -		\$ -										
LVTR Bus LV Agreed Demand Trial kVA	\$ -	\$ 0.0052					\$ -	\$ -		\$ -										
High Voltage Business Tariff Class																				
B2R124H High Voltage Business Two-Rate (obsolete July 2015)	\$ -		\$ 0.0036				\$ 0.0036													
HBD Business Monthly Actual kVA Demand	\$ -	\$ 0.0036																		
HV400 HV Business Annual Agreed kVA Demand < 400 kVA	\$ -	\$ 0.0036					\$ -		\$ -											
HV HV Business Annual Agreed kVA Demand	\$ -	\$ 0.0036					\$ -		\$ -											
HV400N Business HV Demand < 400 kVA (negotiated service)	\$ -	\$ 0.0036					\$ -		\$ -											
HVB Business HV Demand kVA (back-up)	\$ -	\$ 0.0036					\$ -		\$ -											
HVN Business HV Demand kVA (negotiated service)	\$ -	\$ -					\$ -		\$ -											
HV5558 Business HV Demand kVA (negotiated service)	\$ -	\$ -					\$ -		\$ -											
HVTR Bus HV Agreed Demand Trial kVA	\$ -	\$ 0.0036					\$ -		\$ -											
Major Business Tariff Class																				
ZSN Zone Substation Annual Agreed kVA Demand (non-locational)	\$ -	\$ 0.0008					\$ -		\$ -											
ZSNB Zone Substation kVA (back-up)	\$ -	\$ 0.0008					\$ -		\$ -											
ZSNTR Zone Substation kVA Trial	\$ -	\$ 0.0008					\$ -		\$ -											
STN Sub Transmission Annual Agreed kVA Demand (non-locational)	\$ -	\$ 0.0008					\$ -		\$ -											
STNB Subtransmission kVA (back-up)	\$ -	\$ 0.0008					\$ -		\$ -											
STNTR Subtransmission kVA Trial	\$ -	\$ 0.0008					\$ -		\$ -											
Zone Substation Annual Agreed kVA Demand (locational)																				
ZSN021 ZSN021	\$ -	\$ 0.0008					\$ -		\$ -											
ZSN022 ZSN022	\$ -	\$ 0.0008					\$ -		\$ -											
ZSN024 ZSN024	\$ -	\$ 0.0008					\$ -		\$ -											
ZSN026 ZSN026	\$ -	\$ -					\$ -		\$ -											
ZSN035 ZSN035	\$ -	\$ 0.0008					\$ -		\$ -											
ZSN131 ZSN131	\$ -	\$ 0.0008					\$ -		\$ -											
ZSN228 ZSN228	\$ -	\$ 0.0008					\$ -		\$ -											
ZSN438 ZSN438	\$ -	\$ 0.0008					\$ -		\$ -											
ZSN608 ZSN608	\$ -	\$ 0.0008					\$ -		\$ -											
ZSN8230 ZSN8230 (back-up)	\$ -	\$ -					\$ -		\$ -											
Sub Transmission Annual Agreed kVA Demand (locational)																				
STN018 VSTN018	\$ -	\$ 0.0008					\$ -		\$ -											
STN084 VSTN084	\$ -	\$ 0.0008					\$ -		\$ -											
STN161 VSTN161	\$ -	\$ 0.0008					\$ -		\$ -											
STN162 VSTN162	\$ -	\$ 0.0008					\$ -		\$ -											
STN378 VSTN378	\$ -	\$ 0.0008					\$ -		\$ -											
STN557 VSTN557	\$ -	\$ 0.0008					\$ -		\$ -											
STN609 VSTN609	\$ -	\$ 0.0008					\$ -		\$ -											
STN788 VSTN788	\$ -	\$ 0.0008					\$ -		\$ -											
STN840 VSTN840	\$ -	\$ 0.0008					\$ -		\$ -											
STN8164 VSTN8164 (back-up)	\$ -	\$ -					\$ -		\$ -											
STN8796 VSTN8796 (back-up)	\$ -	\$ -					\$ -		\$ -											
Zone Substation non-Locational																				
ZS5025 ZS5025	\$ -	\$ 0.0008					\$ -		\$ -											
ZS296 ZS296	\$ -	\$ 0.0008					\$ -		\$ -											
ZS766 ZS766	\$ -	\$ 0.0008					\$ -		\$ -											
ZS951 ZS951	\$ -	\$ 0.0008					\$ -		\$ -											
Sub Transmission non-Locational																				
STR148 STR148	\$ -	\$ 0.0008					\$ -		\$ -											
STR610 STR610	\$ -	\$ 0.0008					\$ -		\$ -											
STR749 STR749	\$ -	\$ 0.0008					\$ -		\$ -											

Table 40: Negotiated services tariff schedule 2019/20

SA Power Networks' Tariffs 2019/20		Supply	Energy based usage						Annual agreed kVA demand				Monthly actual kVA demand			Monthly actual kW demand		
FINAL Distribution Prices Schedule comprises DUS only distribution element charged as negotiated service		Neg Serv	Usage Block 1	Usage Block 2	Usage Peak	Usage Shoulder	Usage Off-Peak	Controlled Load	Block 1	Block 2	Anytime	Additional	Summer Peak	Year Shoulder	Year Off	Summer Peak	Winter Shoulder	Year Off
Tariff Class and Tariffs			\$/kWh	\$/kWh	\$/kWh	\$/kWh	\$/kWh	\$/kVA/day	\$/kVA/day	\$/kVA/day	\$/kVA/day	5 months	12 months	12 months	5 months	7 months	12 months	
Residential Tariff Class																		
RSR	Residential		\$ -	\$ -	\$ -													
MRD	Residential Monthly Actual kW Demand		\$ -	\$ -														
RTOULTR	Residential TOU Trial		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -										
RSROPCLTR	Residential Single Rate with Trial TOU OPCL		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -										
Small Business Tariff Class (<160 MWh)																		
LVEU	Unmetered 12 hour (streetlights)		\$ -															
LVEU24	Unmetered 24 hour		\$ -															
BSR	Business Single-Rate (obsolete July 2010)		\$ -															
B2R	Business Two-Rate		\$ -		\$ -		\$ -	\$ -										
SBD	Business Monthly Actual kVA Demand		\$ -									\$ -	\$ -	\$ -	\$ -			
SBDT	Business Monthly Actual kVA Demand Transition		\$ -									\$ -	\$ -	\$ -	\$ -			
SLV	Business Annual Agreed kVA Demand (obsolete July 2016)		\$ -									\$ -						
BSRN	Business Single-Rate (negotiated service)		\$ 0.4198	\$ 0.1127														
B2RN	Business Two-Rate (negotiated service)		\$ 0.4198		\$ 0.1269		\$ 0.0635											
Large Business LV Tariff Class (LV and >160 MWh)																		
LBSR	Business Single-Rate Transition		\$ -															
LBSR	Business Two-Rate Transition		\$ -					\$ -	\$ -									
BD	Business Monthly Actual kVA Demand		\$ -			\$ -						\$ -	\$ -	\$ -	\$ -			
BDT	Business Monthly Actual kVA Demand Trans. (obs. July 2016)		\$ -			\$ -						\$ -	\$ -	\$ -	\$ -			
LV	Business Annual Agreed kVA Demand		\$ -					\$ -	\$ -			\$ -						
LVSG	Sportsgrounds Annual Agreed kVA Demand		\$ -					\$ -	\$ -			\$ -						
LVB	Business Annual Agreed kVA Demand (back-up)		\$ 11.8665					\$ -	\$ -			\$ 0.1267						
LVN	Business Annual Agreed kVA Demand (negotiated service)		\$ 11.8665					\$ 0.2440	\$ 0.1830			\$ 0.1267						
LVTR	Bus LV Agreed Demand Trial kVA		\$ -					\$ -	\$ -		\$ -	\$ 0.1267						
High Voltage Business Tariff Class																		
B2R124H	High Voltage Business Two-Rate (obsolete July 2015)		\$ -		\$ -													
HBD	Business Monthly Actual kVA Demand		\$ -									\$ -	\$ -	\$ -				
HV400	HV Business Annual Agreed kVA Demand < 400 kVA		\$ -					\$ -										
HV	HV Business Annual Agreed kVA Demand		\$ -					\$ -				\$ -						
HV400N	Business HV Demand < 400 kVA (negotiated service)		\$ 11.8665					\$ 0.2440				\$ 0.1267						
HVB	Business HV Demand kVA (back-up)		\$ -					\$ -				\$ 0.1519						
HVN	Business HV Demand kVA (negotiated service)		\$ -					\$ 0.1785				\$ 0.1519						
HV558	Business HV Demand kVA (negotiated service)		\$ -					\$ 0.1785				\$ 0.1519						
HVTR	Bus HV Agreed Demand Trial kVA		\$ -					\$ -			\$ -							
Major Business Tariff Class																		
ZSN	Zone Substation Annual Agreed kVA Demand (non-locational)		\$ -					\$ -				\$ -						
ZSNB	Zone Substation kVA (back-up)		\$ -	\$ 0.0053				\$ 0.1172				\$ 0.1172						
ZSNTR	Zone Substation kVA Trial		\$ -					\$ -			\$ -							
STN	Sub Transmission Annual Agreed kVA Demand (non-locational)		\$ -					\$ -				\$ -						
STNB	Subtransmission kVA (back-up)		\$ -	\$ 0.0013				\$ 0.0266				\$ 0.0266						
STNTR	Subtransmission kVA Trial		\$ -					\$ -			\$ -							
<i>Zone Substation Annual Agreed kVA Demand (locational)</i>																		
ZSN021	ZSN021		\$ -					\$ -				\$ -						
ZSN022	ZSN022		\$ -					\$ -				\$ -						
ZSN024	ZSN024		\$ -					\$ -				\$ -						
ZSN026	ZSN026		\$ -					\$ -				\$ -						
ZSN035	ZSN035		\$ -					\$ -				\$ -						
ZSN131	ZSN131		\$ -					\$ -				\$ -						
ZSN228	ZSN228		\$ -					\$ 0.1172				\$ 0.1172						
ZSN438	ZSN438		\$ -					\$ -				\$ -						
ZSN608	ZSN608		\$ -					\$ -				\$ -						
ZSN8230	ZSN8230 (back-up)		\$ -					\$ -				\$ -						
<i>Sub Transmission Annual Agreed kVA Demand (locational)</i>																		
STN018	VSTN018		\$ -					\$ -				\$ -						
STN084	VSTN084		\$ -					\$ -				\$ -						
STN161	VSTN161		\$ -					\$ -				\$ -						
STN162	VSTN162		\$ -					\$ 0.0266				\$ 0.0266						
STN378	VSTN378		\$ -					\$ -				\$ -						
STN557	VSTN557		\$ -					\$ -				\$ -						
STN609	VSTN609		\$ -					\$ -				\$ -						
STN788	VSTN788		\$ -					\$ 0.0266				\$ 0.0266						
STN840	VSTN840		\$ -					\$ -				\$ -						
STN8164	VSTN8164 (back-up)		\$ -					\$ -				\$ -						
STN8796	VSTN8796 (back-up)		\$ -					\$ -				\$ -						
<i>Zone Substation non-Locational</i>																		
ZS5025	ZS5025		\$ -					\$ -				\$ -						
ZS296	ZS296		\$ -					\$ -				\$ -						
ZS766	ZS766		\$ -					\$ -				\$ -						
ZS951	ZS951		\$ -					\$ -				\$ -						
<i>Sub Transmission non-Locational</i>																		
STR148	STR148		\$ -					\$ -				\$ -						
STR610	STR610		\$ 39.66					\$ -				\$ -						
STR749	STR749		\$ -					\$ -				\$ -						

Notes accompanying the 2019/20 tariff schedules

1. Network tariffs are calculated on a GST exclusive basis. GST is added to the distribution tariffs.
2. SA Power Networks must assign each Distribution Network User to a distribution tariff in respect of each of its connection points in accordance with the following principles.

Assignment to cost-reflective (demand based) tariffs

- i. A Distribution Network User that connected to or altered the supply arrangements with the Distribution Network from 1 July 2010 and requiring more than 100 amps (70 kVA) supply must be assigned to a distribution network tariff that includes a demand component in respect of that connection point.
- ii. A Distribution Network User connected to the Distribution Network that has a maximum demand of 250 kVA or more in respect of a connection point, must be assigned to a distribution tariff that includes a demand component in respect of that connection point.
- iii. From 1 July 2015, a Distribution Network User connected to the Distribution Network that would qualify as a large customer (annual usage of 160 MWh or more) must be assigned to a distribution network tariff that includes a demand component in respect of that connection point. If the customer has a Type 6 meter, then a transition business single-rate or transition business 2-rate tariff must be used until a Type 1-5 meter is installed.
- iv. A new Distribution Network Business User connecting or an existing Distribution Network Business User altering the supply arrangements to the Distribution Network from 1 July 2015 and requiring multi-phase supply must be assigned to a distribution network tariff that includes a demand component in respect of that connection point. A Type 1-5 meter is required at such sites. Customers should note that where they choose to have a Type 1-4 meter, they have the right to exercise choice regarding their metering service provider. Installation of a Type 1-5 meter by itself is not an alteration to supply, but installation of an inverter, eg for solar PV equipment or battery storage, is an alteration to supply.

General notes applicable to demand tariffs:

1. Agreed Demand charges for business customers are determined based on the maximum half-hour trading interval for:
 - a. Agreed Maximum Demand (Annual Peak Demand) on workdays between 1200 and 2100 local time, during November to March only;
 - b. Agreed additional maximum demand (Additional Demand), as the difference between the customer's anytime maximum demand and the agreed (peak) maximum demand; and
 - c. For business customers on the Sports Ground demand kVA tariff, the Agreed Peak Demand shall be determined on work days between 1200 and 1900 local time, during December to February only. Additional Demand shall be determined using all other times of the year.
2. Actual Demand charges for business customers are determined based on the maximum half-hour trading interval since the last meter read (Type 1-4 meters are assumed to be read each calendar month) for:
 - a. Summer Peak Demand on work days between 1600 and 2100 local time, during November to March only;

- b. Year-round Shoulder Demand on work days between 1200 and 1600 local time; and
 - c. Off-peak Demand at all other times (the price is zero for actual off-peak demand).
3. Actual Demand charges for residential customers are determined based on the maximum half-hour trading interval since the last meter read (Type 1-4 meters are assumed to be read each calendar month) for:
 - a. Summer Peak Demand on all days between 1600 and 2100 local time during November to March only;
 - b. Winter Shoulder Demand on all days between 1600 and 2100 local time; and
 - c. Off-peak Demand at all other times (the price is zero for actual off-peak demand).
4. Peak energy is energy consumed on business days between the hours of 0700 and 2100 CST. Type 6 meters typically measure this component during week days whereas Type 1-5 meters will measure this in on work days. For customers with Type 6 metering that does not recognise specific days, peak energy is energy consumed on each day between the hours of 0700 and 2100 CST.
5. Off-peak energy is energy consumed other than peak energy.
6. Residential tariff notes:
 - a. The low voltage residential single rate tariff is currently available to eligible residential customers taking supply at less than 1 kV. These customers ordinarily use a Type 1-6 National Electricity Market (**NEM**) compliant meter. The metered energy consumption is charged in two blocks. Block 1 is 0-4MWh pa, Block 2 is >4MWh pa.
 - b. The low voltage residential monthly actual demand tariff is available to eligible residential customers taking supply at less than 1 kV. These customers will require a Type 1-5 NEM compliant meter read at least monthly. The metered energy consumption is charged at a single rate. The maximum kW demand charge is based on the actual maximum demand measured over a half hour interval, on any day in the month between 16:00 and 21:00 hours local time. A higher price applies during the summer period (November to March) than the winter period (April to October). Currently, there is no charge for demand that is higher outside of the peak 16:00 and 21:00 local time, time period. The demand charge is applied on a 'per day' basis according to the days in the month.
 - c. Controlled load is an optional partner tariff component used to control permanently installed hot water services and other appliances (including electric vehicles and battery chargers up to 32A), during off peak times between 23:00-07:00 hours Central Standard Time (CST). Operation anywhere within this window is permitted based on the customer's requirements but with a randomised start time. Where multiple appliances are connected to a single phase of the OPCL circuit, eg hot water, EV batteries, battery storage and under-floor heating, only one appliance can operate at a time on that phase. A solar sponge version is also available between 10:00-15:00 hours CST.

Small business tariff notes:

1. The low voltage business two rate tariff has a Time of Use (**TOU**) structure with peak and off-peak consumption charges. This tariff is the default tariff for new single-phase customers. Peak charges (at a higher rate) apply work days 07:00-21:00 hours CST with all other times including non-work-days defined as off-peak (charged at a lower rate). Peak and off-peak is charged in single blocks. A Type 1-6 NEM compliant meter is required.

2. The small business monthly actual kVA demand transition tariff is mandatory for new multi-phase small business customers or existing small business customers who upgrade to a multi-phase supply and require a new meter. The usage portion has peak charges (at a higher rate) that apply work days 07:00-21:00 hours local time, with all other times including non-work-days defined as off-peak (charged at a lower rate). The demand charge is based on the actual maximum kVA demand measured over a half hour interval, on any day in the month between 12:00 and 16:00 hours local time, work days, for the shoulder period (12 months). An additional peak demand price applies during the peak period (November to March) between 16:00 and 21:00 hours local time, on workdays. Currently, there is no charge for demand that is higher outside of the peak 16:00 and 21:00 time period. The tariff is a combination of 50% business 2-rate and 50% small business actual demand. These customers require a Type 1-5 interval meter read at least monthly.
3. The small business actual kVA demand tariff is optional to small business customers taking supply at less than 1 kV. Metered energy consumption is charged at a single rate. Shoulder demand (12 months) applies to the monthly workday maximum kVA demand (measured over a half hour interval) between 12:00 and 16:00 hours local time, for each month of the year. Peak demand prices also apply during the peak period (November to March) between 16:00 and 21:00 hours local time, on workdays. These customers will require a Type 1-5 interval meter read at least monthly.
4. Unmetered supply tariffs are applicable to supply points that are not metered. Unmetered tariffs comprise of an energy rate that is applied to the calculated electricity consumption using an agreed algorithm from the applicable Metrology Procedure. Unmetered supply tariffs are generally invoiced monthly.
5. The business single rate tariff is a closed tariff that was available for use before July 2010. The consumption is charged on a flat scale (previously inclining block until July 2016).
6. The low voltage agreed kVA demand tariff is a closed tariff that was available for use before July 2016. The peak demand is agreed and measured on work days between 12:00 and 21:00 hours local time, during the summer months of November to March and is charged on an inclining scale in two demand blocks. Block 1: 0-1000kVA, block 2: >1000kVA. An additional demand applies where higher levels of demand are required during the year than are required during the peak demand period. Customers (through their retailer) can apply for agreed demand to be amended. Reduction requests require supporting evidence. This tariff requires a Type 1-5 interval meter capable of measuring both active and reactive power.
7. Controlled load is a closed optional partner tariff component used to control permanently installed hot water services and other appliances, during off peak times between 23:00-07:00 hours CST. Operation anywhere within this window is permitted based on the customer's requirements but with a randomised start time. A solar sponge version is also available between and 10:00-15:00 hours CST.

Large LV business tariff notes:

1. The large LV business actual kVA demand tariff is the default tariff for large LV business customers. It has a fixed daily charge and a metered energy consumption charged at a single rate. Shoulder demand (12 months) applies to the monthly workday maximum kVA demand (measured over a half hour interval) between 12:00 and 16:00 hours local time, for each month of the year. An additional peak demand price applies during the peak period (November to March) between 16:00 and 21:00 hours local time, on workdays. These customers will require a Type 1-5 interval meter read at least monthly.
2. The large LV business agreed kVA demand tariff is an opt-in tariff for large LV business customers. It has a fixed daily charge and a metered energy consumption charged at a single rate. The peak demand is measured on work days between 12:00 and 21:00 hours local time, during the summer months of

November to March and is charged on a declining scale in two consumption blocks. Block 1: 0-1000kVA, block 2: >1000kVA. An additional demand applies where higher levels of demand are required during the year than are required during the peak demand period. Customers (through their retailer) can apply for agreed demand to be amended. Reduction requests require supporting evidence. This tariff requires a Type 1-5 interval meter capable of measuring both active and reactive power.

3. The sportsground agreed kVA demand tariff is a special purpose tariff for sportsgrounds with significant floodlighting. It has a fixed daily charge and a metered energy consumption charged at a single rate. The peak demand is measured on work days between 12:00 and 21:00 hours local time, during the summer months of December to February and is charged on a declining scale in two consumption blocks. Block 1: 0-1000kVA, block 2: >1000kVA. An additional demand applies where higher levels of demand are required during the year than are required during the peak demand period. Customers (through their retailer) can apply for agreed demand to be amended. Reduction requests require supporting evidence. This tariff requires a Type 1-5 interval meter capable of measuring both active and reactive power.
4. The back-up agreed kVA demand tariff is special purpose tariff. It has a fixed daily charge and metered energy consumption charged at a single rate. The peak demand is measured on work days between 12:00 and 21:00 hours local time, during the summer months of November to March and is charged on a flat scale. Customers (through their retailer) can apply for agreed demand to be amended. Reduction requests require supporting evidence. This tariff requires a Type 1-5 interval meter capable of measuring both active and reactive power.
5. The single rate transitional tariff has a fixed daily charge. The metered energy consumption is charged on a flat scale. This tariff is only available to businesses with a Type 6 meter.
6. The two-rate transitional tariff has a fixed daily charge and a TOU structure with peak and off-peak consumption charges. Peak charges (at a higher rate) apply on work days from 07:00-21:00 hours local time, with all other times including non-work-days defined as off-peak (and charged at a lower rate). Peak usage and off-peak is charged in single blocks. This tariff is only available to businesses with a Type 6 meter.
7. A controlled load partner tariff is a closed optional tariff component used to control permanently installed hot water services and other appliances, during off peak times between 23:00-07:00 hours CST. Operation anywhere within this window is permitted based on the customer's requirements but with a randomised start time. A solar sponge version is also available between and 10:00-15:00 hours CST.

High voltage business tariff notes:

1. The high voltage annual agreed kVA demand tariff is the default tariff for this tariff class. It consists of a single block of peak demand, a single usage price for energy and a significant fixed daily charge. An additional demand applies where higher levels of demand are required during the year than are required during the peak demand period. Customers (through their retailer) can apply for agreed demand to be amended. Reduction requests require supporting evidence. This tariff requires a Type 1-5 interval meter capable of measuring both active and reactive power.
2. The high voltage annual agreed kVA demand <400kVA tariff is available on an opt-in basis however the customer's maximum demand must not exceed 400 kVA. It consists of a single block of peak demand, a single usage price for energy and a fixed daily charge.
3. An additional demand charge applies where higher levels of demand are required during the year than are required during the peak demand period. Customers (through their retailer) can apply for agreed

demand to be amended. Reduction requests require supporting evidence. This tariff requires a Type 1-5 interval meter capable of measuring both active and reactive power.

4. The business monthly actual kVA demand tariff is an opt-in tariff. It has a metered energy consumption charged at a single rate. Shoulder demand applies to the monthly workday maximum kVA demand (measured over a half hour interval) between 12:00 and 16:00 hours central local time every month of the year. An additional peak demand price applies during the peak period (November to March) between 16:00 and 21:00 hours local time, on workdays. These customers will require a Type 1-5 interval meter read at least monthly.
5. The back-up annual agreed kVA demand tariff is a special purpose tariff. It consists of a single block of peak demand and a single usage price for energy. An additional demand applies where higher levels of demand are required during the year than are required during the peak demand period. Customers (through their retailer) can apply for agreed demand to be amended. Reduction requests require supporting evidence. This tariff requires a Type 1-5 interval meter capable of measuring both active and reactive power.
6. The two-rate tariff is closed to new customers. It has a fixed daily charge and a TOU structure with peak and off-peak consumption charges. Peak charges (at a higher rate) apply during work days from 07:00-21:00 hours local time, with all other times including non-work-days defined as off-peak (charged at a lower rate). Peak and off-peak usage is charged in single blocks. This tariff is only available to businesses with a Type 6 meter.

Major business tariff notes:

1. The sub-transmission and zone substation kVA demand tariff is for business customers that take supply directly from the sub-transmission network or a zone substation but do not utilise locational transmission pricing (ie their demand is < 10 MW and their annual usage is below 40 GWh pa). It consists of a single block of peak demand and a single usage price for energy. The peak demand price applies during the peak period (November to March) between 12:00 and 21:00 hours local time, on workdays. An additional demand charge applies where higher levels of demand are required during the year than are required during the peak demand period. The minimum level of agreed demand (peak plus additional) for this tariff is 5,000 kVA. A Type 1-4 interval meter is required with the ability to measure both active and reactive power.
2. The locational sub-transmission and zone substation kVA demand tariff is for business customers that take supply directly from the sub-transition network or a zone substation and are subject to locational transmission pricing (ie their demand is > 10 MW and their annual usage is above 40 GWh pa). It consists of a fixed daily rate based on locational pricing, a single block of peak demand and a single usage price for energy. The peak demand price applies during the peak period (November to March) between 12:00 and 21:00 hours local time, on workdays. An additional demand charge applies where higher levels of demand are required during the year than are required during the peak demand period. The minimum level of agreed demand (peak plus additional) for this tariff is 5,000 kVA. A Type 1-4 interval meter is required with the ability to measure both active and reactive power.
3. The sub-transmission and zone substation kVA demand back-up tariff is a special purpose tariff for business customers that require additional security of supply. It consists of a single block of peak demand and a single usage price for energy. A Type 1-4 interval meter is required with the ability to measure both active and reactive power is required.
4. Sub-transmission and zone substation customers on locational tariffs have individually calculated charges.

General notes applicable to demand tariffs:

1. Agreed Demand charges for business customers are determined based on the maximum half-hour trading interval for:
 - a. Agreed Maximum Demand (Annual Peak Demand) on workdays between 1200 and 2100 local time, during November to March only;
 - b. Agreed additional maximum demand (Additional Demand), as the difference between the customer's anytime maximum demand and the agreed (peak) maximum demand; and
 - c. For business customers on the Sports Ground demand kVA tariff, the Agreed Peak Demand shall be determined on work days between 1200 and 1900 local time, during December to February only. Additional Demand shall be determined using all other times of the year.

2. Actual Demand charges for business customers are determined based on the maximum half-hour trading interval since the last meter read (Type 1-4 meters are assumed to be read each calendar month) for:
 - a. Summer Peak Demand on work days between 1600 and 2100 local time, during November to March only;
 - b. Year-round Shoulder Demand on work days between 1200 and 1600 local time; and
 - c. Off-peak Demand at all other times (the price is zero for actual off-peak demand).

3. Actual Demand charges for residential customers are determined based on the maximum half-hour trading interval since the last meter read (Type 1-4 meters are assumed to be read each calendar month) for:
 - a. Summer Peak Demand on all days between 1600 and 2100 local time during November to March only;
 - b. Winter Shoulder Demand on all days between 1600 and 2100 local time; and
 - c. Off-peak Demand at all other times (the price is zero for actual off-peak demand).

4. Peak energy is energy consumed on business days between the hours of 0700 and 2100 CST. Type 6 meters typically measure this component during week days whereas Type 1-5 meters will measure this in on work days. For customers with Type 6 metering that does not recognise specific days, peak energy is energy consumed on each day between the hours of 0700 and 2100 CST.

5. Off-peak energy is energy consumed other than peak energy.

Appendix B: Alternative control services tariff schedules

This appendix includes the alternative control services tariff schedules for 2019/20.

Table 41: SA Power Networks' annual metering charge (\$nominal)

Price ^t = Price ^{t-1} x (CPI ^t /CPI ^{t-1}) x (1 - X ^t)		2015/16	2016/17	2017/18	2018/19	2019/20	2019/20
		\$pa	\$pa	\$pa	\$pa	\$pa	\$/day
Type 1-4	Non-capital	135.07	185.16	178.50	172.81	167.10	0.4566
	Capital	176.18	215.83	251.87	295.18	345.51	0.9440
'Exceptional' remotely read interval meter	Non-capital and capital	311.25	400.99	430.37	467.99	512.61	1.4006
Type 5-6 CT connected	Non-capital	73.52	100.79	97.16	94.06	90.96	0.2485
	Capital	95.90	117.48	137.10	160.67	188.07	0.5139
manually read meter	Non-capital and capital	169.42	218.27	234.26	254.74	279.03	0.7624
Type 5-6 WC manually read meter	Non-capital	8.98	12.31	11.87	11.49	11.11	0.0304
	Capital	11.71	14.35	16.74	19.62	22.96	0.0627
	Non-capital and capital	20.69	26.66	28.61	31.11	34.07	0.0931

Table 42: SA Power Networks' upfront metering charge (\$nominal)

	2015/16	2016/17	2017/18	2018/19	2019/20
	\$	\$	\$	\$	\$
Type 5 single element	163.92	195.74	199.82	NA	NA
Type 5 two element	235.02	281.17	287.03	NA	NA
Type 5 three phase	404.13	482.42	492.48	NA	NA
Type 6 single element	102.00	111.65	113.97	NA	NA
Type 6 two element	259.44	281.15	287.02	NA	NA
Type 6 three phase	304.19	331.81	338.73	NA	NA

General notes applicable to metering tariffs:

There are four different combinations of metering fees possible:

- existing customers using SA Power Networks' meters. These customers continue to pay the capital and non-capital charges;
- where an existing customer at June 2015 has the meter replaced by an alternate meter provider eg a type 4 meter, the customer will continue to pay the capital-related charge but will cease paying the non-capital related charge. This will apply to all metering upgrades and replacements undertaken by retailers under metering contestability arrangements post December 2017;
- where an existing customer at June 2015 was not using an SA Power Networks meter but that of an alternate meter provider, eg a type 4 meter, the customer is not liable for any annual metering charges to SA Power Networks; and
- From December 2017 (metering contestability commencement), where a new customer connects to the network the retailer will arrange metering. There will not be any SA Power Networks metering charges applicable. Where new customers have elected to be connected and use a SA Power Networks meter (typically new connections from July 2015 to November 2017), the customer will have incurred an upfront capital charge and will continue to incur the annual non-capital charge.

Under the AER's Final Decision in 2015, these charges continue to June 2020. The AER's 2020-25 Reset will determine the pricing arrangements that will apply from July 2020.

Appendix C: Glossary/shortened forms

Abbreviation	Definition or description
AER	Australian Energy Regulator.
Augmentation	Investment in new network assets to meet increased demand.
Capacity	The amount of electrical power that a part of the network is able to carry.
Capital Contributed Works	Works for which the customer(s) contribute towards the cost of supplying assets, typically because they are the sole users.
COAG	Council of Australian Governments.
Contestability	Customer choice of electricity or related service supplier.
Controlled Load	The DNSP controls the hours in which the supply is made available.
Cost of Supply Model	Theoretical and algorithmic model used to calculate prices, which conform to the pricing goals.
Cross subsidy	Where the price to a tariff class falls outside the range between the avoidable incremental cost of supply and the cost of stand-alone supply, an economic cross subsidy from or to other customers is said to exist.
Decision	The Australian Energy Regulator’s Final Decision on South Australia -distribution determination 2015–16 to 2019–20, October 2015
Demand	Electricity consumption at a point in time.
Demand Management	Attempt to modify customer behaviour so as to constrain customer demand at critical times.
Distribution Network	The assets and service which links energy customers to the transmission network.
Distributor, DNSP	Distribution Network Service Provider.
DUoS	Distribution Use of System. The utilisation of the distribution network in the provision of electricity to consumers (a component of NUoS).
DAPR	Distribution Annual Planning Report.
ESCoSA	Essential Services Commission of South Australia, a South Australian Regulator of energy and other infrastructure.
FIT	Feed-in Tariff paid to customers that have solar PV generators.
High Voltage	Equipment or supplies at voltages of 7.6kV or 11kV.
IBT, Inclining Block Tariff	A network tariff energy rate in which the rate increases above specific consumption thresholds.
JSO	Jurisdictional Scheme Obligation, a component of the Network Use of System charge to fund Feed-in Tariff payments to customers that have solar PV generators.
kVA, MVA	Kilo-volt amps and Mega-volt amps, units of apparent total electrical power demand. Usually the peak demand is referenced. See also PF for the relationship between power demand quantities.
kVAr, MVAR	Kilo-volt amps (reactive) and Mega-volt amps (reactive) units of instantaneous reactive electrical power demand. Usually the peak demand is referenced. See also PF for the relationship between power demand quantities.
kW, MW	Kilo-watts and Mega-watts, units of instantaneous real electrical power demand. Usually the peak demand is referenced. See also PF for the relationship between power demand quantities.
kWh, MWh	Kilo-watt hours and Mega-watt hours, units of electrical energy consumption.
Low Voltage	Equipment or supply at a voltage of 230V single phase or 400V, three phase.

Marginal Cost	The cost of providing a small increment of service. The Long Run Marginal Cost (LRMC) includes future investment, Short Run Marginal Cost (SRMC) considers only the costs involved without extra investment.
Market Participant	Businesses involved in the electricity industry are referred to as Market or Code Participants.
Supply Rate	The fixed daily cost component of a Network price.
NEL	National Electricity Law.
NEM	National Electricity Market.
NER	National Electricity Rules.
NUoS	Network Use of System. The utilisation of the total electricity network in the provision of electricity to consumers (NUoS = DUoS + TUoS).
PV	Photo-Voltaic
PF	Power Factor, a measure of the ratio of real power to total power of a load. The relationship between real, reactive and apparent power is as follows: Power Factor = Real Power (kW) / Apparent Power (kVA) Apparent Power (kVA) = $\sqrt{\text{Real Power (kW)}^2 + \text{Reactive Power (kVAr)}^2}$
Price Signal	Prices set to convey a desired behaviour because of the costs associated with supplying the service.
Price Structure	The components that make up a Price available to customers.
Retailer	A Full Retail Contestability market participant (business) supplying electricity to customers.
Rules	National Electricity Rules.
Sub-transmission	Equipment or supplies at voltage levels of 33kV or 66 kV.
Tariff	Network price components and conditions of supply for a tariff class.
Tariff class	A class of customers for one or more direct control services who are subject to a particular tariff or particular tariffs with similar electricity demand and usage requirements.
ToU	Time of Use, a system of pricing where energy or demand charges are higher in periods of peak utilisation of the network.
Transmission Network	The assets and service that enable generators to transmit their electrical energy to population centres. Operating voltage of equipment is 275kV and 132kV with some at 66kV.
TUoS	Transmission Use of System charges for the utilisation of the transmission network.
Unmetered supply	A connection to the distribution system which is not equipped with a meter and has estimated consumption. Connections to public lights, phone boxes, traffic lights and the like are not normally metered.

Appendix D: List of attachments

Attachment	Title
Attachment A	Revenue cap model (confidential)
Attachment B	S-Factor calculation
Attachment C	ElectraNet's 2019/20 TUoS tariffs
Attachment D	Audit report on SA Power Networks' schedules of billing and revenue data for 2017/18
