



Review of Alternative Control Services: SA Power Networks,
Ergon Energy and Energex
Advice to Australian Energy Regulator

June 2019

Prepared for Australian Energy Regulator
June 2019

Marsden Jacob Associates

ABN 66 663 324 657
ACN 072 233 204

economists@marsdenjacob.com.au

Authors

Phil Pickering – Marsden Jacob Associates
Philip Jones – Marsden Jacob Associates

About Us

Established in 1996, Marsden Jacob Associates has grown to be Australia's leading dedicated natural resource economics, policy and strategy advisory. We employ talented economists and policy advisors who specialise in solving practical, real world problems relating to water, energy, environment, natural resources, agriculture, earth resources, public policy and transport. We work with a wide range of cross-disciplinary partner firms to deliver best project outcomes for our clients.

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1. Review of Alternative Control Services

This report presents the findings of an independent study by Marsden Jacob Associates of input costs for Alternative Control Services for SA Power Networks, Ergon Energy and Energen.

Marsden Jacob Associates (Marsden Jacob) has been engaged by the Australian Energy Regulator (AER) to undertake input cost assessment services in relation to regulatory determinations for:

- SA Power Networks (SA PN);
- Ergon Energy (Ergon); and
- Energen (Energen).

The assessments are to consider the reasonableness of forecast cost inputs that generate prices for Alternative Control Services (ACS) for these distribution network businesses in relation to their respective regulatory proposals for the 2020–25 regulatory control period. In particular, it reflects information provided by SA PN in March 2019 and by Ergon/Energen in May 2019. The scope of engagement is provided in Appendix 1.

1.1 Approach

In reviewing the proposed ACS charges, we have considered:

- proposed labour rates;
- material costs; and
- time taken to perform fixed fee and quoted services.

This approach is similar to the methodology used for our previous recommendations for other Distribution Network Service Providers (DNSPs).

Importantly, we have considered only whether cost inputs and prices are *reasonable* and not whether they are efficient or best practice. The approach is considered appropriate for this review. It establishes a methodology for analysing and comparing the network businesses' ACS costs and establishes maximum prices.

As noted in our other assessments, the AER may wish to consider a more assertive approach for future reviews, in which prices are moved toward the efficiency frontier. Rather than establishing prices based on reasonable costs, this approach would establish efficient costs by examining underlying drivers and considering the benchmarks set by the most efficient providers, including those outside the AER's jurisdiction.

By establishing maximum 'reasonable' prices only, the current approach may inadvertently discourage providers that are already operating below the 'reasonable' threshold from seeking further cost efficiencies. A more assertive approach would provide an incentive for inefficient businesses to continually reduce their costs toward the efficient benchmark.

A more assertive approach would require more detailed information to ensure that material differences between the organisations and their services is taken into account when establishing efficient costs. Ideally, this information would be received in a standardised format to facilitate comparison. The AER would also need to consider whether (and how) it would be appropriate to reward efficient providers to ensure the system is not entirely punitive.

1.2 Base year

In reviewing ACS, Marsden Jacob has examined the charges or equivalent charges for 2019/20, the year prior to the regulatory period. For the purposes of escalation by the general inflation rate, we have used Treasury's estimate of the through the year inflation for 2018/19 and 2019/20, assumed constant changes in each year and obtained a year average growth for each year.

In most cases, regulated businesses either provided estimates for this base year and extrapolated into the new regulatory period or provided estimates that could be converted to 2019/20:

- **SA Power Networks** developed charges for June 2018 and then escalated through the regulatory period using projected inflation (to inflate to 2019/20) and real indexation factors for different costs through to 2024/25. The 2019/20 figures were examined. The real indexation factors were not the same for individual labour rates. A one per cent rate of annual increase was applied to "Labour" and "Contractor" inputs. "Network management", "vehicles" and "Materials" did not incur any real increase. However, both "Network management" and "Labour" comprise labour inputs: both include "Admin" and "Field workers".
- **Ergon Energy and Energex** developed prices for 2020/21 then escalated (de-escalated) for years 2018/19 to 2024/25. The 2020/21 figure is generated from 2018/19 estimates escalated. Neither company showed explicit total labour cost figures for 2019/20. The figures used in this analysis were derived by Marsden Jacob from the Ergon Energy and Energex's input figures and adjustments.

1.3 Labour rates

All DNSPs provided underlying labour rates. The overall labour rate reflects the base cost of salaries plus on-costs and attribution of overheads. The extent of detail varied across each DNSP:

- **SA PN** provided labour costs inclusive of on-costs. Specific overhead rates were applied to internal labour and materials. In addition, all components (materials, internal labour, external services and vehicles) were allocated business overheads and a global margin.
- **Ergon Energy and Energex** provided raw labour rates, separate on-costs for labour and materials, separate business overheads for non-network and network components and global allocation of "corporate costs, revenue on Non-network capital costs, MTC & Call Centre costs".¹

Marsden Jacob has reviewed each of the labour rates provided by the distribution businesses. For this analysis, we note that the two Queensland providers used a significantly broader range of labour categories, including both cheaper inputs (Apprentices) and more expensive (System Operators). SA PN included one extra classification (Project Manager) compared with our standard labour categories. In evaluating cost inputs, we have compared the overall mix against benchmarks used in earlier analyses. We have therefore sought to establish if using different inputs has achieved any efficiency gains in delivering common services. Where practicable, we have aligned the DNSP labour categories with our

¹ In addition, in their public proposals, Ergon Energy and Energex state that prices will comprise a labour component, a contractor component, a material component and a capital allowance. The capital allowance comprises part of the overheads additional cost. The description in the public document omits reference to allocation of corporate overheads.

standardised categories - Administration, Technical Services, Engineers, Field Workers and Senior Engineers.

For this analysis, we have added a Project Manager labour category, which covers the DNSP categories Project Managers (SA PN), and Professional Managerial and Supervisor (Ergon and Energex). The Project Manager category does not fit within our existing categorisations and the rates proposed by the DNSPs are below that of the most senior labour input (Senior Engineers and System Operators). In contrast with other managerial roles, which would be addressed through the overhead allocation, Project Managers provide specific input into certain services.

A full translation of the DNSP categories to the six Marsden Jacob categories is provided in Appendix 2.

Using these categories, Marsden Jacob developed benchmark labour rates based on Hays 2018/19 *Energy* sector and *Office Support* salary data, against which the reasonableness of proposed labour rates could be assessed. These annual salary figures are provided in Appendix 3.

In assessing the reasonableness of labour rates, Marsden Jacob has 'normalised' the rates provided by each business, i.e. decomposed the rates into comparable subcomponents.

The 'normalised' rates are shown in 2019/20 dollars and are separated into '*raw*' labour rates (presented in section 1.3.1), *on-costs* (section 1.3.2) and *overheads* (section 1.3.3). As noted above, not all DNSPs provide sufficient information to compare all of these elements. Together the elements add to the *total* or '*all-in*' labour rate (section 1.3.4), which may be applied to calculate cost reflective prices for ACS when a 'bottom-up' approach to pricing is utilised.

Marsden Jacob have defined the scope of each cost element as:

- '*Raw*' labour costs are the most basic hourly labour rates. The value excludes all on-costs and overheads. This rate excludes basic leave allowances such as sick leave, annual leave, and public holidays and is calculated based on a 40-hour week.
- *On-costs* include:
 - Basic leave allowances (sick leave, annual leave, public holidays);
 - Superannuation;
 - Workers Compensation;
 - Payroll tax;
 - Annual leave loading; and
 - Long service leave loading.
- *Overheads* are all additional costs included in the total labour rates proposed by distribution business.

'Implied overhead rates' have been calculated by Marsden Jacob as a ratio of the total labour rates compared with the base labour rates (including on-costs). We have adopted this method rather than using the more disaggregated overhead rates proposed by businesses to ensure that the total overhead rates are directly comparable. This method avoids the need to compare sub-categories of overhead charges, which have been inconsistently defined between the businesses.

1.3.1 Raw labour rates

Marsden Jacob has proposed a maximum rate for each labour category based on consideration of the rates applied across the businesses and a comparison against the Hays benchmark salary rates (Table 1).

The Hays annual salaries have been converted to a raw hourly rate. As there are very few relevant rates provided for non-metropolitan areas in Queensland and SA,² we have applied the “metropolitan” figures for the purposes of this analysis.³

Table 1: Hays annual salary rates (\$'000) ex-super, 2018/19

		Adelaide	Brisbane
Administration	Low	40	40
	High	70	65
Technical specialist	Low	70	65
	High	150	160
Engineer	Low	80	80
	High	130	150
Field worker	Low	70	70
	High	110	130
Senior Engineer	Low	100	100
	High	155	190
Project manager	Low	120	120
	High	150	170

Source: Hays 2018

Consistent with the approach in the previous review, we have taken the maximum figure for each group to represent the highest ‘reasonable’ rate. As the Hays rates are for 2018/19, we have adjusted these for projected wage inflation using the Commonwealth Budget’s projected wage price inflation for 2019/20. In addition, consistent with previous analysis, we have provided an (approximate mid-point) allowance of 2.5% to reflect the fact that Hays rates tend to only increase in increments of \$5,000 and many of those used in ACS have not changed since 2014.

Table 2 provides a summary of the 2019/20 maximum rates for each jurisdiction.

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² In SA, only figures for Adelaide are provided. For Queensland, Hays provides a number of Office Support categories for non-metropolitan areas, but the difference with the metropolitan figures is minor and it is arguable that most of the Office Support work is undertaken from administration centres.

³ In the case of Queensland, the metropolitan figures include Brisbane, Gold Coast and Sunshine Coast. SA includes just Adelaide.

Table 2: Maximum hourly rates – ‘raw’ labour rates, adjusted for increments

	Adelaide	Brisbane
Administration	\$35.42	\$32.89
Technical Specialist	\$75.90	\$80.96
Engineer	\$65.78	\$75.90
Field Worker	\$55.66	\$65.78
Senior Engineer	\$78.43	\$96.15
Project Manager	\$75.90	\$86.02

1.3.2 On-costs

Two types of on-costs have been added to the ‘raw’ labour rates to benchmark the total on-cost rates proposed by the distribution businesses:

- *Basic leave entitlements* including annual leave, sick leave and public holidays - the leave entitlements, once added to the raw labour rate, establish the wage rate per hour actually worked by an employee; and
- *Standard on-costs* such as superannuation, workers compensation, payroll tax, annual leave loading, and long service leave.

Table 3 provides Marsden Jacob’s recommendations in relation to total on-costs. Basic leave entitlements have been estimated on the basis of 44 weeks of actual work per year (52 weeks minus 4 weeks of annual leave, 2 weeks of sick leave and 2 weeks of public holidays).

The estimates for standard on-costs have been developed with reference to:

- the maximum superannuation level included in the Enterprise Bargaining Agreements for each DNSP;
- an estimate of workers compensation premiums;
- standard payroll tax rates for each jurisdiction;
- annual leave loading of 17.5% loading on 4 weeks annual leave (industry standard), which equates to 1.35% of total salary; and
- a conservative long service leave allowance based on three months leave for every 10 years of service, equating to 2.5% per year.

Table 3: Labour on-costs

Description	SA PN	Ergon	Energex
<i>Basic leave entitlements</i>			
Standard leave (annual leave, sick leave, public holidays)	Rate of 18.18% assumed for all businesses		
<i>Standard on-costs</i>			
Superannuation ⁴	10.25%	12.50%	12.50%
Workers Compensation	0.54%	0.74%	0.74%
Payroll tax	4.95%	4.75%	4.75%
Annual leave loading	1.35%	1.35%	1.35%
Long Service leave allowance	2.50%	2.50%	2.50%
<i>Total leave and on-costs (note percentages are compounded)</i>			
Marsden Jacob proposed leave and on-cost allowances⁵	42.82%	45.75%	45.75%

Marsden Jacob recommendations:

Marsden Jacob recommends that the maximum on-cost applied for ancillary network services should be the rates shown in Table 3 based on a ‘bottom up’ estimate of each of the factors that are included in the on-cost.

1.3.3 Overheads

The overheads applied by each of the distribution businesses varied substantially both in definition and in magnitude between businesses.

In previous reviews, Marsden Jacob calculated an ‘implied overhead rate’ for each of the businesses by taking the ratio between the total labour rate proposed by distribution businesses (including all on-costs and overheads) and the standard labour rate (including on-costs but not overheads). This approach provided a simple method of calculating directly comparable total overhead rates. For this review we have concentrated only on the total (‘all-in’) rate, inclusive of a maximum benchmark overhead rate, to avoid the need for assumptions regarding the breakdown of on-costs and overheads.

The DNSPs provided a breakdown of overhead rates (Table 4).

⁴ For Ergon and Energex, the EBA stipulates a range of 9.5%-12.5% based on the level of employee contributions. In this case, we have applied the maximum rate.

⁵ By comparison, Ergon and Energex have used labour on-costs of 43.5% and 41.7% respectively. SA PN did not provide separate on-costs. While the Queensland rates are close to those developed by Marsden Jacob, it is unlikely the rates are comparable. The DNSP on-costs are unlikely to include leave allowances, but may include other allowances. We note, for example, that Ergon and Energex also add on-costs to materials, which suggests a different interpretation of on-costs. As noted later, because of the potential difference in definitions, we only benchmark against the total or “all-in” labour rate.

Table 4: DNSP proposed overhead rates

	SA PN		Ergon		Energex
Labour	17.65%	Non-network	49.71%	Non-network	47.94%
Business	25.60%	Network	23.16%	Network	21.17%
Margin*	6.0%	Corporate**	14.97%	Corporate**	9.14%
TOTAL	56.6%	TOTAL	111.98%	TOTAL	95.64%

* Note that SA PN include a margin in the last stage of their price calculations but do not refer to it as an overhead in their pricing models. It is included here because we consider margins within the overall overhead allowance - see our recommendation below.

** Corporate costs, revenue on Non-network capital costs, Market Transaction Centre and Call Centre costs

Marsden Jacob recommendations:

Overheads include a wide range of costs, including anything other than the direct labour cost of providing a service, including (but not limited to) supervisory and management costs, customer service and billing, communications and information technology, fleet costs, and corporate costs such as finance and planning.

We have also accepted the inclusion of an explicit profit margin. Where these are explicitly identified, however, this allocation is to be recovered – and therefore benchmarked – **within the overall overhead allowance**.

Very little information is publicly available to benchmark the DNSPs proposed overhead rates with other industries, because this level of breakdown does not need to be provided in statutory financial reports. Self-published information and industry information published for specific purposes is often not suitable as a benchmark because of inconsistent and/or unclear definitions.

In our experience reviewing commercially confidential information in other capital intensive industries such as water and gas, overhead rates for non-retail businesses in the order of 45-65% are not unreasonable. In retail businesses, the rates can be as high as 100% of (purely) direct costs due to the higher level of customer engagement.

Based on the benchmarking we have previously conducted for other Australian DNSPs, we recommend a maximum overhead rate of 61% across all labour categories, plus a \$20 per hour vehicle allowance for Field Workers.

While the overheads for Ergon Energy and Energex appear high compared with the benchmark rate, we note that their ‘raw’ labour rates were substantially below the benchmark rates. Consequently, many of their total or ‘all-in’ labour rates are below our recommended maximum (see Section 1.3.4 for details).

Importantly, we note that the methodology for allocating overheads is provided in the AER’s Cost Allocation Method. Therefore, while our benchmarking considers the overheads for ACS services in isolation, capping the overhead rate may have unintended consequences for the broader Cost Allocation Method. On this basis, this recommendation should be considered preliminary until confirmed by the AER.

1.3.4 Maximum hourly rates, DNSPs with general overheads

It is possible to compare the ‘all-in’ hourly rate provided by the DNSPs against Marsden Jacob’s built-up benchmark rate, i.e. the Hays base rate plus standard on-costs plus the benchmark overhead rate. Based

on the aggregate of these elements, the maximum total (all-in) rates recommended by Marsden Jacob are shown in Table 6.

It is important to reiterate that the maximum hourly rates in Table 6 include the *highest* of the Hays salary rates for each labour category. While we consider these to be reasonable maximum rates, they are not necessarily efficient rates. In the next review, we recommend the AER consider whether it is appropriate to reduce the maximum rates to reflect more efficient benchmarks.

As noted above, Ergon Energy and Energex have used different labour classifications. We have used our benchmark classifications to determine if the service rates are appropriate. For individual labour costs, the table below shows the allocation of Ergon Energy/Energex labour classifications mapped to Marsden Jacob’s classifications. Note that consistent with previous analyses, the rate for para-professionals is set at the Admin rate.

Table 5 provides a translation of the classifications used by Ergon Energy and Energex to a notionally equivalent Marsden Jacob classification. The translation should not be taken to imply that we have always applied the same (translated) labour category as the DNSP when benchmarking individual services. In particular, Ergon Energy and Energex have used the rate associated with Technical Service Person for most of the services examined in this report. In many cases, other DNSPs have used the equivalent of Field Workers for those services, and hence we have applied the lower Field Worker rate in the benchmarking of those services instead.

Table 5: Classification of Ergon Energy / Energex labour rates

Ergon / Energex classification	Marsden Jacob classification
Admin Employee	Admin
Professional Managerial	Project Manager
Power Worker	Field Worker
Technical Service Person	Technical Specialist
Electrical System Designer	Engineer
Supervisor	Project Manager
Para-Professional	Admin
Apprentice	Field Worker
System Operator	Senior Engineer

Table 6: Maximum total hourly rates (base plus on-costs plus overheads), \$ 2019/20

	SA PN	Ergon Energy / Energex
Administrative Officer	\$81.45	\$77.18
Project Manager	\$174.54	\$201.86
Field Worker	\$147.99	\$174.36
Technical Specialist	\$174.54	\$189.98
Engineer	\$151.26	\$178.11
Senior Engineer	\$180.35	\$225.61

Note that the Field Worker rate includes an allowance for a vehicle as an additional overhead.

Table 7 and Table 8 summarise the all-in labour rates (including all overheads) proposed by each of the distribution businesses by category. Labour rates that are higher than our proposed maximum have been identified in red, with our recommended rate shown in black beneath.

Note that the rates shown in Table 7 and Table 8 have been constructed by Marsden Jacob and are not explicitly shown by the DNSPs. In particular, the rates provided by the DNSPs do not typically include overheads. A comparable rate can be obtained by dividing the rates in Table 7 and Table 8 by one plus the DNSP's proposed overhead rate (Table 4).

Table 7: SA PN proposed total hourly rate (base plus on-costs plus overheads), \$ 2019/20*

	SA PN
Administrative Officer	\$95.34 \$81.45
Project Manager	\$165.65
Field Worker	\$131.87
Technical Specialist	\$171.14
Engineer	\$159.87 \$151.26
Senior Engineer	\$193.30 \$180.35

* Recommended rates shown in black.

Table 8: Ergon Energy and Energex proposed total hourly rate (base plus on-costs plus overheads), \$ 2019/20*

	Ergon Energy	Energex
Admin Employee	\$131.73 \$77.18	\$128.15 \$77.18
Professional Managerial	\$206.36 \$201.86	\$190.53
Power Worker	\$143.08	\$117.84
Technical Service Person	\$174.70	\$149.23
Electrical System Designer	\$162.08	\$139.87
Supervisor	\$193.44	\$174.27
Para-Professional	\$189.22 \$77.18	\$164.37 \$77.18
Apprentice	\$106.85	\$96.07
System Operator	\$231.83 \$225.61	\$205.75

* Recommended rates shown in black.

Marsden Jacob recommendations:

Marsden Jacob recommends that the DNSP's total hourly rate for Administration be reduced to \$81.45 per hour for SA PN and to \$77.18 per hour for Ergon Energy and Energex. This applies to both the Administration and Para-Professional categories.

For SA PN, Marsden Jacob recommends that the rate for Engineers be reduced to \$151.26 per hour and for Senior Engineers to \$180.35 per hour.

For Ergon Energy, Marsden Jacob recommends that the rate for Professional Manager be reduced to \$201.86 per hour and the rate for System Operator be reduced to \$225.61 per hour.

For any services not benchmarked in this report, the AER may choose to multiply the rates in Table 7 for SA PN and in Table 8 for Ergon Energy and Energex by the time taken to provide that service to arrive at a maximum price.

1.3.5 Overtime rates

This analysis has focussed on normal time rates. The DNSPs also provide after hours services which are based on an overtime rate. All above on-costs and overheads would still apply to these rates. We consider that without specific evidence on the split of after hours work, that the average overtime rate would lie between the main categories of time and a half and double time.

In the Electricity supply sector, *Average weekly total hours paid for* (38.6 hours) exceeded *Average ordinary time hours paid for* (36.8 hours) by less than 2 hours in 2016.⁶ As this is less than the minimum daily time typically required before double time applies, it is likely that most overtime incurs time and half.

For the purposes of this analysis, a simple average suggests the average overtime rate would not exceed 1.75 times the standard rate. This mark-up is applied for overtime hours in the service analysis.

1.4 Benchmarked services

Marsden Jacob reviewed the proposed charges for a number of ACS services. In the previous report some 10 services were broadly common across the four reviewed distribution businesses and were reviewed. In the current report, the number of common services across the businesses reviewed is far fewer. As a result, we looked at a broader range of services to ensure that the analysis covered the majority of expected revenues for the businesses.

In general, we have included services that individually accounted for at least 3% of revenue or where a common calculation base was used that meant it represented a number of services. The services examined were:

- Special meter read;
- Meter testing;
- Abolish supply and decommission NMI (Qld) / Permanent abolishment of LV service (SA);
- Change tariff (Qld only);
- Disconnection at meter box (including after hours for SA, includes for non payment in Qld);
- Reseal meter after customer initiated work (Qld);
- Disconnection at pole top/pillar box (includes non payment in Qld);
- Reconnections;
- Access permits (SA only);
- Re-activation – credit issue;

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⁶ *Employee earnings and hours, Australia, May 2016* (ABS Cat No 6306.0)

- Embedded generation offer (SA only);
- Temporary disconnection – truck (SA only);
- Visual inspection upon re-energisation (Qld only);
- Overhead service charge (Qld only); and
- Penalty charges.

The list of services included and how they aligned with each other is shown in Appendix 4.

In developing cost forecasts for these services, the distribution businesses made use of a number of approaches, which can be largely categorised as either:

- *Top-down* where the costs associated with running a particular department or unit responsible for providing the service (as well as other services) was estimated, and then the costs associated with the individual service were proportioned based on historic estimates, time data or volume data to deduce the total cost per unit for the service;
- *Bottom-up* where a labour rate cost and a time estimate were multiplied to deduce the direct cost of providing the services and overhead rates were applied to cover estimated indirect costs; or
- *Combined approach* incorporating both top-down and bottom-up elements dependent on the type of data available to the businesses.

Given the disparity in the approaches to labour rates, Marsden Jacob has focussed on the three key measures:

- the time the DNSP has estimated it takes to perform the service;
- the average all-in average rate for that service; and
- the total fee.

It is important to note that a number of common services for Ergon Energy and Energex are covered under Queensland regulations:

- Special meter reading by DNSP
- Testing of a meter by a distribution entity
- Disconnection of supply of electricity to premises
- Reconnection of supply of electricity to a customer's premises after disconnection if reconnection is made during ordinary business hours (2.2)
- Reconnection of supply of electricity to a customer's premises after disconnection if reconnection is made outside ordinary business hours at customer's request (2.2)
- Reconnection of supply of electricity to a customers premises other than in 2.2 - business hours
- Reconnection of supply of electricity to a customers premises other than in 2.2 - outside business hours
- Temp connection of a supply of electricity by Energex during ordinary business hours (CT or no CT)

Where services meeting these descriptions have also fallen within the scope of our analysis, we have reviewed the prices independently of any analysis undertaken through the Queensland regulatory process.

The following tables summarise the benchmarking exercise undertaken by Marsden Jacob.

Where the rates proposed (or implied) by the distribution businesses is higher than Marsden Jacob's estimates, the rates appear in the table in red, followed by Marsden Jacob's recommended rate in black font. Analysis and recommendations immediately follow each table.

Table 9: Number of hours to perform service*

Service	SA PN	Ergon Energy	Energex	Other DNSPs
Special Meter read	0.04 + contractor	(Contractor only)	(Contractor only)	0.07-0.25 + contractor
Meter test (business hours)	1	2.38	2.55	3.0-3.4
Abolish supply and decommission NMI		2.66	2.5	Insufficient comparators
Permanent abolishment of LV service	5			Insufficient comparators
Change tariff		2.16	2	Insufficient comparators
Disconnection/reconnection at meter box	0.04 + contractor			0.30-0.50
Disconnection/reconnection at meter box after hours (AH)	0.04 + contractor			1.00
Reseal meter after customer initiated work		0.58	0.75	Insufficient comparators
Disconnection at pole top / pillar box		0.66 ¹	0.83 ¹	1.00-1.75
Temporary disconnection & reconnection – truck	5.8 + 2.0 5.8 ²			1.00-3.12
Visual inspection upon re-energisation		0.83	1.0	Insufficient comparators
Access permits	3			Insufficient comparators
Re-energisation - credit issue		0.58 ¹	0.75 ¹	0.93-1.00
Embedded generation offer	24			1 - 5 (receive) 8 - 80 (assess)
Service upgrade – overhead wires		4.66	5	2.67-4.00
Special meter read - cancellation	0.04 + contractor			See special meter read

* Recommended rates shown in black.

1 Other DNSPs used Field workers for these tasks rather than Technical Service Persons. While we have not adjusted hours, we do compare the total cost with that obtained using a Field Worker.

2 SA PNs proposal includes 5.8 hours at the Field Worker rate and 2 hours at the Admin rate. We are advised that South Australian safety regulations require two Field Workers for this task and so consider 5.8 hours to be reasonable, despite the maximum benchmark rate being 3.12 hours (see comments below). We have not included the 2 hours of Admin time as no similar value was included in the benchmark rates provided by other DNSPs.

Marsden Jacob recommendations:

In reviewing the time taken, we compared SA PN, Ergon and Energex against other Australian DNSPs we have reviewed previously. In comparing the time taken, we considered which DNSPs were outliers, with times greater than 30% of the next highest provider(s). The choice of a 30% threshold was based on professional judgement, providing a balance between the natural variation in times between jurisdictions and variations we considered excessive.

Our recommendations are detailed below.

In general, most of the times proposed by SAPN, Ergon and Energex are either within the benchmarked ranges of other DNSPs or have insufficient comparators to form a robust benchmark. The time taken for overhead service changes is higher than other comparators, but is within the 30% threshold allowance.

One issue that became evident during our analysis was the significant cost allocated to Ergon Energy's Long Rural and Isolated services. Two extra hours of travel time is allocated for these services, which increases the cost considerably. However, because Long Rural feeders are defined to be at least 200km long, *prima facie* the additional time allowance is not unreasonable.

We recommend the following change to the number of hours taken to perform SA PN's "*Temporary disconnection & reconnection – truck*". SA PN's proposal includes 5.8 hours at the Field Worker rate and 2 hours at the Administration rate. The maximum benchmarked time for disconnection and reconnection at the pole top, which we have been advised is the comparable service in other jurisdictions, is 3.12 hours. However, we are advised that South Australian safety regulations require two workers for this task. It was not clear whether other benchmarked DNSPs required one or two workers, so we have erred in favour of the proponent by allowing the full 5.8 hours of Field Worker time. We have not included the two hours of administration time in SAPN's proposal, as no similar value was included in the benchmark rates provided by other DNSPs.

SA PN has a number of services that are similar to "*Temporary disconnection & reconnection – truck*", but with variations such as single person crews or no requirement for a truck (e.g. NDS330, NDS430 and NDS431). While these services do not generate sufficient revenue to be considered in detail in this report, we recommend that AER also exclude administration time from these further services.

In the cases for Ergon Energy and Energex for "*Re-energisation – credit issue*" we have allocated a maximum time of one hour of Field Worker time rather than 0.58 hours and 0.75 hours, respectively, of Technical Services Person time, consistent with benchmarks from other DNSPs.

While penalty charges did not generate sufficient revenue to be considered in detail in this report, we do note that many (but not all) of Ergon Energy's penalty charges for a "wasted" trip include only the travel time to the job and not time on-site, because the job itself was not required. By contrast, Energex has included time on-site for a number of similar penalty services (EGX194 to EGX199) and has included a significant component for "wasted time" – in addition to travel time – for others (EGX186 to EGX193). AER should consider whether the on-site time is warranted for these services.

Table 10: Average total rate per hour (including overheads, contract payments, etc)*

Service	SA PN	Ergon Energy	Energex
Special Meter read	n/a	n/a	n/a
Meter test (business hours)	\$122.89	\$172.19	\$146.80
Abolish supply and decommission NMI		\$169.56	\$144.84
Permanent abolishment of LV service	\$126.35 \$121.38		
Change tariff		\$172.49	\$147.37
Disconnection/reconnection at meter box	n/a		
Disconnection/reconnection at meter box after hours (AH)	n/a		
Reseal meter after customer initiated work		\$180.45	\$137.92
Disconnection at pole top / pillar box		\$169.57	\$144.84
Temporary disconnection & reconnection – truck	\$147.99 ¹		
Visual inspection upon re-energisation		\$169.57	\$144.84
Access permits	\$169.39		
Re-energisation - credit issue		\$169.57	\$144.84
Embedded generation offer	\$155.97		
Service upgrade – overhead service		\$169.56	\$144.84
Special meter read - cancellation	n/a		

* Recommended rates shown in black.

¹ Note, proposed rate includes Administration costs which were removed from hours in previous section. As a result, the average rate did not reduce.

Note that for all reviewed services, both Ergon Energy and Energex only use Technical Service Persons.

Marsden Jacob recommendations:

In reviewing the average rate per hour, we have considered our recommendations from sections 1.3, in addition to reviewing outlier rates for individual services.

These have the effect of reducing of the average rate for SAPN - “Permanent abolishment of LV service”, which uses a mixture of Field Worker (60%) and Administrative (40%) time. The hourly rate reflects a weighted average of the two. The reduction results from our recommendation to reduce the Administration rate.

Table 11: Total fees*

Service	SA PN	Ergon Energy	Energex	Other DNSP***
Special meter read	\$12.39	\$7.69	\$7.18	\$11.11-\$43.09
Meter test (business hours)	\$122.89	\$415.06	\$379.58	\$258.86 - \$517.00
Abolish supply and decommission NMI		\$451.04	\$362.11	Insufficient comparators
Permanent abolishment of LV service	\$631.74 \$606.88			Insufficient comparators
Change tariff		\$377.76	\$299.92	Insufficient comparators
Disconnection / reconnection at meter box	\$39.24			\$46.45 - \$78.22
Disconnection/reconnection at meter box after hours (AH)	\$86.75 \$77.48			n/a
Reseal meter after customer initiated work		\$109.85	\$108.63	Insufficient comparators
Disconnection at pole top / pillar box		\$112.48	\$120.70	\$71.81 - \$264.52
Temporary disconnection & reconnection – truck	\$1,047.51 \$858.36			\$175.58 - \$480.28
Visual inspection upon reenergisation		\$140.74	\$144.84	Insufficient comparators
Access permits	\$508.18			Insufficient comparators
Re-energisation - credit issue		\$98.35	\$108.63	\$52.41 - \$156.44
Embedded generation offer	\$3,743.37			\$469 - \$1,056 plus \$1,878 - \$18,775
Service upgrade – overhead wires		\$790.16	\$724.22	\$522.73 – \$739.62
Special meter read - cancellation	\$11.36			See special meter read

* Recommended rates shown in black.

*** Other DNSP rates were for 2018/19 and are inflated by 2.25%.

Marsden Jacob recommendations:

Our recommendations for each ACS charge, based on the two previous tables, is shown in Table 11. Charges shown in black are our recommended charges. Where we have recommended a reduction, the DSNP's original proposed charge is shown in red, followed by the recommended rate in black font.

The reductions proposed in Table 11 are due to lower recommended hourly rates ("*Permanent abolishment of LV service*" and "*Reconnection at meter box AH*") or reduced hours ("*Temporary disconnection & reconnection truck*"). As noted earlier, there are a number of similar services to *Temporary disconnection & reconnection - truck* (e.g. NDS330, NDS430 and NDS431) which may also require reduction if the administration component is removed.

For a number of SA PN services, contractor costs are allocated lower overhead charges, which are often lower than provided under Marsden Jacob's calculation. However, for the after hours charge for *Disconnection at meter box*, the Marsden Jacob estimated labour rate (including our higher overhead rate) is lower than the equivalent from SA PN. With the higher overhead allowance, our recommended charge for *Disconnection at meter box – after hours* is slightly higher than the business hours charge increased by 75% (our usual allowance for after hours services).

For special meter reads, the services are undertaken by contractors, so there are no time or labour rate components for analysis. However, the final prices for special meter reads were well within the benchmarked rates of other DNSPs, so no changes are recommended.

For "*Special meter read cancellations*" SA PN charges only slightly less than for a "*Special meter read*". It is unclear why the charge is greater than the SA PN administration component alone (0.04 hours), but we have not recommended any reduction as it is possible cancellation fees may also be charged by the contractor. This recommendation should be revisited if further information becomes available in future reviews

As the rates in Table 11 were derived by multiplying the recommended labour hourly rate by the time taken from the previous tables, they can be applied to the benchmark services without further adjustment.

Appendix 1 Scope of engagement

Broadly the requirement of the services is to:

- provide input cost assessment services in relation to regulatory determinations for SA Power Networks (SA), Energex (Qld) and Ergon Energy (Qld).

Specifically, the AER will require the consultant to:

- assist AER staff to evaluate the reasonableness of forecast cost inputs that generate revenues/prices for alternative control services. This includes:
 - o proposed labour rates;
 - o materials costs; and
 - o the times taken to perform fixed fee and quoted services.
- provide written report on findings.

Appendix 2 DNSP labour categories

Table 12: DNSP and Marsden Jacob labour categories

Marsden Jacob	SA PN	Ergon	Energex
Admin	Administrative officer	Admin employee, Para-professional	Admin employee, Para-professional
Technical specialist	Technical specialist	Technical service person	Technical service person
Engineer	Engineer	Electrical system designer	Electrical system designer
Field worker	Field worker	Power worker, Apprentice	Power worker, Apprentice
Senior engineer	Senior engineer	System operator	System operator
Project manager	Project manager	Supervisor, Professional managerial	Supervisor, Professional managerial

Note that Ergon Energy and Energex provided rates for nine labour types (and two combined categories)

- Admin Employee
- Professional Managerial
- Power Worker
- Technical Service Person
- Electrical System Designer
- Supervisor
- Para-Professional
- Apprentice
- System Operator

Combined

- Tech/PW
- Tech/PW/Admin

Appendix 3 Summary of Hays labour rates

Table 13 shows the job descriptions included against each labour category from the Hays 2018 report. The table also shows the rates used. For a number of Office support categories, Hays provides both metropolitan and rest of State figures. For the purposes of this analysis, we have only used the metropolitan figures.

Following the table, we provide an example of how these translate into the overhead included rates.

Table 13: Hays categories included in analysis

Benchmark inclusion	Category	Title	Low/High	Sydney	Melbourne	Brisbane	Perth	Adelaide	Darwin	Canberra
ENERGY SECTOR										
Engineer	T&DG	Design engineer	Low	70	75	80	75	80	85	0
Engineer	T&DG	Design engineer	High	90	100	100	100	100	115	0
Senior engineer	T&DG	Senior design engineer	Low	100	100	100	100	100	115	0
Senior engineer	T&DG	Senior design engineer	High	120	130	140	135	130	150	0
Senior engineer	T&DG	Principal design engineer	Low	130	130	140	140	135	120	0
Senior engineer	T&DG	Principal design engineer	High	165	150	180	170	155	170	0
	T&DG	Engineering manager	Low	160	130	150	160	150	145	0
	T&DG	Engineering manager	High	200	160	190	200	185	190	0
	T&DG	Design manager	Low	130	110	110	130	130	130	0
	T&DG	Design manager	High	150	160	160	160	155	170	0

Benchmark inclusion	Category	Title	Low/High	Sydney	Melbourne	Brisbane	Perth	Adelaide	Darwin	Canberra
	T&DG	Design drafter	Low	50	50	60	65	55	65	0
	T&DG	Design drafter	High	80	80	80	85	75	85	0
	T&DG	Senior design drafter	Low	70	70	80	85	75	80	0
	T&DG	Senior design drafter	High	100	90	100	100	95	110	0
Engineer	T&DG	Project engineer (EPCM)	Low	80	90	90	100	80	115	0
Engineer	T&DG	Project engineer (EPCM)	High	115	130	140	125	115	140	0
Senior engineer	T&DG	Senior project engineer (EPCM)	Low	130	130	140	125	125	125	0
Senior engineer	T&DG	Senior project engineer (EPCM)	High	150	175	190	160	150	170	0
Engineer	T&DG	Power systems engineer	Low	80	70	80	90	85	95	0
Engineer	T&DG	Power systems engineer	High	120	120	110	130	115	140	0
Engineer	T&DG	Protection engineer	Low	75	75	110	100	85	100	0
Engineer	T&DG	Protection engineer	High	110	125	150	120	125	130	0
Engineer	T&DG	Transmission line design engineer	Low	110	100	80	95	90	90	0
Engineer	T&DG	Transmission line design engineer	High	150	125	150	145	130	140	0
Project manager	T&DG	Project manager	Low	120	100	120	120	120	135	0
Project manager	T&DG	Project manager	High	160	140	160	160	150	180	0
	REN	Wind farm engineer	Low	95	95	95	100	100	-	0
	REN	Wind farm engineer	High	135	130	125	130	130	-	0
	REN	Solar engineer	Low	80	95	75	100	100	105	0

Benchmark inclusion	Category	Title	Low/High	Sydney	Melbourne	Brisbane	Perth	Adelaide	Darwin	Canberra
	REN	Solar engineer	High	125	120	115	120	120	125	0
	REN	Geothermal engineer	Low	80	80	90	100	90	95	0
	REN	Geothermal engineer	High	110	110	135	130	120	125	0
Technical specialist	REN	Technician	Low	65	65	65	80	70	75	0
Technical specialist	REN	Technician	High	80	95	95	100	90	110	0
Technical specialist	O&M	Control room operator	Low	75	80	75	80	80	85	0
Technical specialist	O&M	Control room operator	High	100	95	100	110	110	95	0
Technical specialist	O&M	Control room manager	Low	85	95	95	100	95	95	0
Technical specialist	O&M	Control room manager	High	120	120	125	120	125	125	0
	O&M	Maintenance superintendent	Low	85	85	110	120	95	105	0
	O&M	Maintenance superintendent	High	100	100	140	160	125	140	0
	O&M	Maintenance planning / scheduler	Low	80	80	100	90	95	100	0
	O&M	Maintenance planning / scheduler	High	105	105	120	125	130	130	0
	O&M	Operations manager	Low	140	120	150	160	120	160	0
	O&M	Operations manager	High	170	160	200	200	150	220	0
Engineer	O&M	Asset engineer (3-7 years)	Low	85	85	80	80	95	90	0
Engineer	O&M	Asset engineer (3-7 years)	High	110	130	115	120	120	130	0
Field worker	O&M	Leading hand	Low	65	70	85	95	75	90	0

Benchmark inclusion	Category	Title	Low/High	Sydney	Melbourne	Brisbane	Perth	Adelaide	Darwin	Canberra
Field worker	O&M	Leading hand	High	80	90	120	125	100	125	0
Field worker	O&M	Electrician	Low	65	60	70	90	80	85	0
Field worker	O&M	Electrician	High	75	80	100	110	100	110	0
Field worker	O&M	Mechanical fitter	Low	65	60	70	90	70	85	0
Field worker	O&M	Mechanical fitter	High	75	80	100	110	90	110	0
Technical specialist	O&M	E&I technician	Low	65	70	80	110	75	90	0
Technical specialist	O&M	E&I technician	High	85	95	140	130	100	120	0
Field worker	O&M	Line worker	Low	70	60	75	75	70	80	0
Field worker	O&M	Line worker	High	100	75	100	95	100	120	0
Field worker	O&M	G&B linesworker	Low	-	85	90	85	85	85	0
Field worker	O&M	G&B linesworker	High	-	130	130	120	110	120	0
	O&M	Switching operator	Low	65	80	85	95	85	95	0
	O&M	Switching operator	High	85	110	120	140	120	140	0
Technical specialist	O&M	Protection technician	Low	70	95	120	90	110	90	0
Technical specialist	O&M	Protection technician	High	85	120	160	135	150	135	0
Technical specialist	O&M	Generator technician	Low	70	80	90	80	85	80	0
Technical specialist	O&M	Generator technician	High	85	100	140	120	130	120	0
	O&M	Directional driller	Low	-	70	110	60	80	70	0

Benchmark inclusion	Category	Title	Low/High	Sydney	Melbourne	Brisbane	Perth	Adelaide	Darwin	Canberra
	O&M	Directional driller	High	-	100	140	90	110	95	0
Field worker	O&M	Cable jointer	Low	75	80	85	80	85	80	0
Field worker	O&M	Cable jointer	High	100	100	110	120	110	120	0
Field worker	O&M	Cable layer	Low	65	70	85	60	85	60	0
Field worker	O&M	Cable layer	High	90	90	110	85	110	85	0
Technical specialist	O&M	Operator / maintainer	Low	75	80	120	120	120	120	0
Technical specialist	O&M	Operator / maintainer	High	95	95	150	150	150	150	0
	PRO DEL	Project manager	Low	140	110	120	150	120	120	0
	PRO DEL	Project manager	High	175	150	170	180	140	160	0
Engineer	PRO DEL	Project engineer (EPCM)	Low	80	80	90	90	85	110	0
Engineer	PRO DEL	Project engineer (EPCM)	High	120	120	125	130	125	140	0
	PRO DEL	Construction manager	Low	140	130	140	140	130	120	0
	PRO DEL	Construction manager	High	175	150	170	170	160	160	0
	PRO DEL	Site superintendent	Low	110	100	95	120	110	95	0
	PRO DEL	Site superintendent	High	140	120	130	160	135	140	0
Technical specialist	PRO DEL	Site engineer	Low	65	80	75	100	75	80	0
Technical specialist	PRO DEL	Site engineer	High	95	120	110	140	100	120	0
Senior engineer	PRO DEL	Commissioning engineer	Low	110	120	115	120	120	100	0

Benchmark inclusion	Category	Title	Low/High	Sydney	Melbourne	Brisbane	Perth	Adelaide	Darwin	Canberra
Senior engineer	PRO DEL	Commissioning engineer	High	135	140	160	150	150	150	0
	PRO DEL	Commissioning manager	Low	140	150	130	140	150	140	0
	PRO DEL	Commissioning manager	High	180	180	170	180	180	170	0
	PRO SERV	Estimator	Low	90	100	85	90	100	85	0
	PRO SERV	Estimator	High	130	120	130	130	120	120	0
	PRO SERV	Senior estimator	Low	140	140	135	110	120	115	0
	PRO SERV	Senior estimator	High	180	170	180	135	140	150	0
	Technical specialist	PRO SERV	Planner / scheduler	Low	80	80	70	90	120	100
Technical specialist	PRO SERV	Planner / scheduler	High	120	110	120	120	140	135	0
	PRO SERV	Planning manager	Low	120	100	120	120	130	95	0
	PRO SERV	Planning manager	High	160	150	155	150	160	150	0
	PRO SERV	Contracts administrator	Low	80	80	80	80	80	85	0
	PRO SERV	Contracts administrator	High	110	100	115	100	110	115	0
	PRO SERV	Contracts manager	Low	110	110	110	120	110	120	0
	PRO SERV	Contracts manager	High	140	140	150	140	145	150	0
Technical specialist	PRO SERV	OHS supervisor	Low	90	80	90	90	90	100	0
	PRO SERV	OHS supervisor	High	115	110	120	115	110	130	0
Technical specialist	PRO SERV	OHS manager	Low	140	110	115	115	100	100	0
	PRO SERV	OHS manager	High	180	140	135	135	120	150	0

Benchmark inclusion	Category	Title	Low/High	Sydney	Melbourne	Brisbane	Perth	Adelaide	Darwin	Canberra
OFFICE SUPPORT										
	ADMIN	Administration assistant (6-12 years)	Low	38	40	40	37	38	45	40
	ADMIN	Administration assistant (6-12 years)	High	45	45	43	38	42	55	45
Admin	ADMIN	Administration assistant (12+ years)	Low	45	44	45	39	40	50	50
Admin	ADMIN	Administration assistant (12+ years)	High	60	50	55	50	46	60	65
Admin	ADMIN	Project admin assistant (3+ years)	Low	55	50	55	50	50	60	60
Admin	ADMIN	Project admin assistant (3+ years)	High	75	65	65	65	60	65	75
	ADMIN	Office manager	Low	65	60	60	60	55	65	65
	ADMIN	Office manager	High	90	75	75	75	70	85	80
Admin	ADMIN	Project coordinator	Low	55	50	55	55	50	60	55
Admin	ADMIN	Project coordinator	High	80	80	65	80	70	75	75
Admin	ADMIN SP	Data entry operator	Low	39	39	40	40	40	45	40
Admin	ADMIN SP	Data entry operator	High	45	45	50	45	45	50	50
	ADMIN SP	Sales coordinator	Low	45	45	45	40	50	45	45
	ADMIN SP	Sales coordinator	High	65	60	55	55	55	55	55
Admin	ADMIN SP	Records officer	Low	55	35	40	45	40	50	40
Admin	ADMIN SP	Records officer	High	70	50	50	65	50	55	55
	ADMIN SP	Medical secretary	Low	50	45	45	50	42	48	50
	ADMIN SP	Medical secretary	High	65	55	55	65	50	55	60
	P&C Support	Document controller	Low	60	55	50	60	50	60	65

Benchmark inclusion	Category	Title	Low/High	Sydney	Melbourne	Brisbane	Perth	Adelaide	Darwin	Canberra
	P&C Support	Document controller	High	85	70	80	100	65	80	85
Admin	P&C Support	Project secretary / administrator	Low	55	55	55	58	50	55	65
Admin	P&C Support	Project secretary / administrator	High	80	70	65	70	65	65	85
	P&C Support	Site secretary / administrator	Low	55	50	50	60	50	60	60
	P&C Support	Site secretary / administrator	High	75	60	60	100	60	85	70
	P&C Support	Facilities administrator	Low	40	45	35	38	43	55	65
	P&C Support	Facilities administrator	High	55	55	45	50	50	60	75
	P&C Support	Contracts administrator (residential)	Low	55	45	38	50	45	70	75
	P&C Support	Contracts administrator (residential)	High	75	65	55	70	60	80	85
Admin	P&C Support	Client liaison (residential)	Low	60	45	47	45	42	55	50
Admin	P&C Support	Client liaison (residential)	High	75	65	56	65	55	60	60

Categories:

T&DG;	Transmission and Distribution/Generation
REN	Renewable
O&M	Operations and Maintenance
PRO DEL	Project delivery
PRO SERVICES	Project Services
ADMIN	Administration
ADMIN SP	Administration Specialists
P&C Support	Property and Construction Support

Example translation of Hays annual salary rates to maximum hourly rates

Marsden Jacob labour category: SA PN Field Worker

Location: Adelaide

Highest equivalent Hays labour category: G&B Linesworker

Highest annual salary rate for Line Worker, Adelaide, 2018: \$110,000 per annum (Table 1 rate)

SA on-cost rate: 42.82%

General overhead rate: 61%

Vehicle allowance for Field Worker: \$20/hour

Table 2 rate

Base ('raw') hourly rate 2018 = $\$110,000 / 52 \text{ weeks} / 40 \text{ hours per week}$
= \$52.88/hour

Base rate inflated to 2019/20 = $\$52.88 \times (1 + 2.5\%) \times (1 + 2.7\%)$
= \$55.66/hour

Table 5 rate

Total ('all-in') rate 2017 = Base rate x (1+ SA on-cost rate) x (1 + General overhead rate) + vehicle
= $\$55.66 \times (1 + 42.82\%) \times (1 + 61\%) + \20.00
= \$147.99/hour

Appendix 4 Services included in comparison

Broad service	SA PN	Ergon Energy ¹	Energex
Special Meter read	NDS386	EE425 ² , EE426	EGX181 ²
Meter test (business hours)	NDS356, NDS358	EE377, EE378	EGX155
Abolish supply and decommission NMI		EE144	EGX66
Permanent abolishment of LV service	NDS301		
Disconnection at meter box	NDS403, NDS404	EE17, EE18	EGX9, EGX17, ^{3,4} EGX23 ⁴
Disconnection at meter box AH	NDS405		
Reseal meter after customer initiated work		EE431	EGX184
Disconnection at pole top / pillar box		EE1, EE2, EE13, ³ EE14 ³	EGX1, EGX7 ³
Temporary disconnection & reconnection – truck	NDS302		
Visual inspection upon reenergisation		EE67, EE68	EGX31
Access permits	NDS381		
Change tariff		EE401, EE402	EGX169
Replace or relocate overhead service		EE260	EGX126
Re-energisation - credit issue		EE39	EGX17
Embedded generation offer	NDS427		
Service upgrade – overhead		EE212	EGX102, EGX104
Special meter read - cancellation	NDS388		

Sources: SAPN - 14.4 - Fixed Fee and Quoted Services Pricing Model - March 2019 - Confidential_V2.xlsx and ERG AER IRO26_EGX ERG 15.009 Fee-based and quoted services model - ACS MAY19 CONFID.xlsx

1 Ergon Energy provide separate rates for Urban and Remote/Isolated services. The figures shown in the main analysis are for Urban services. Remote/Isolated Services have the same inputs for undertaking the service but longer travel times. These Remote/Isolated Services are shown below in *italics*.

2 Service regulated under Queensland Natural Resources, Mines and Energy Legislation (Fees) Amendment Regulation, Subordinate Legislation (Part 5 Amendment of Electricity Regulation 2006 - Schedule 8)

3 Provider charges the same rate where disconnection is due to non payment.

4 Re-energisation service. Provider charges same rate for re-energisation and de-energisation