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Provision of advice in relation to Alternative Control Services – PUBLIC VERSION

Advice prepared for the Australian Energy Regulator

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DECLARATION OF PRIOR ENGAGEMENT WITH DSD

Prior to commencing this consultancy for the Australian Energy Regulator, Marsden Jacob had been engaged by the Department of State Development (DSD) (previously Department for Manufacturing, Innovation, Trade Resources and Energy) to provide advice relating to public street lighting assets which are classified as Alternative Control Services for this NSW/ACT regulatory determination period.

The advice provided to DSD regarding public street lighting related to prior determinations and proposes possible amendments to the National Electricity Rules. For this engagement with the AER, advice is being made only with reference to the current National Electricity Rules provisions and in relation to models and methods included in current regulator determination proposals.

Further this engagement with the AER commenced in early-August 2014 and after completion of the engagement with DSD.

Due to the scope and the timing differences, Marsden Jacob does not consider the engagements represent a conflict of interest. However, in the interest of full disclosure, Marsden Jacob sought approval from the AER prior to submitting a proposal for the DSD consultancy and provided information on the AER engagement to DSD in our proposal.

With the support of the two agencies, we include the aforementioned paragraphs to ensure transparency to all stakeholders on Marsden Jacob's involvement in the two engagements.

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1. Ancillary Network Services

Marsden Jacob Associates (Marsden Jacob) has been engaged by the Australian Energy Regulator (AER) to provide modelling services and advice in relation to Alternative Control Services for the NSW / ACT distribution network regulatory determinations.

In relation to Ancillary Network Services (a sub-group of Alternative Control Services), the AER requested Marsden Jacob provide a set of benchmarked labour rates and overheads which Marsden Jacob would recommend as indicative of costs reasonably encountered by an efficient business operating within the distribution electricity network business sector. The AER also requested Marsden Jacob review labour and material escalation rates used for Ancillary Network Services.

In addition, the AER requested that Marsden Jacob develop a method for benchmarking a selected number of Ancillary Network Services making use of the labour rates and overheads developed, taking into consideration the varied methodologies used by the distribution businesses in determining costs for these services. The AER also requested that Marsden Jacob provide recommendations in relation to the reasonable costs of these services.

1.1 Labour rates

Marsden Jacob has reviewed each of the labour rates by distribution businesses as inputs to determine cost reflective prices for ancillary network services. Although the businesses used differing category names and descriptions, the types of labour used to deliver these services broadly fell into one of five categories - Administration, Technical Services, Engineers, Field Workers and Senior Engineers.

Using these categories, Marsden Jacob developed benchmark labour rates based on Hays 2014 energy sector salary data against which the efficiency of proposed labour rates could be assessed.

In assessing the reasonableness of labour rates, Marsden Jacob has 'normalised' the rates provided by each business. The 'normalised' rates are all shown in $2014/15 and are separated into *'raw' labour rates* (presented in section1.1.1), *on-costs* (section 1.1.2) and *overheads* (section 1.1.3). Together these equate to the *total labour rates* (section 1.1.4) which may be applied to calculate cost reflective prices for Ancillary Network Services 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 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 to 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.

We note that the definitions for each category of cost may vary from those provided by the distribution businesses in some cases. Appendix 2 provides further detail on the specific labour rates proposed by the distribution businesses and the methods adopted by Marsden Jacob to normalise rates for comparison purposes. Appendix 3 also provides details on the various overhead rates and definitions proposed by distribution businesses which can be compared to the 'implied overhead rates' described above.

1.1.1 Raw labour rates

Table 1 summarises the raw labour rates (excluding basic leave entitlements, on-costs and overheads) for each of the distribution businesses by category.

Marsden Jacob has used professional judgement to propose a maximum rate that should be applied for each labour category based on consideration of the rates applied across the businesses and a comparison against the Hays benchmark salary rates. Labour rates that are higher than our proposed maximum have been identified in red.

The method of categorisation used for each business and sources of information used to develop reasonable expected wage rates are detailed in Appendix 2.

Table 1: Raw labour rates ($2014/15)

Category	Description	ActewAGL	Ausgrid	Endeavour	Essential	Hays benchmark	Marsden Jacob
		Rates exclude all on-costs and overheads					
Admin	Office Support service delivery	[redacted]				$18.27 to $38.46	Max. $39.00
	Administration Support		[redacted]				
	Administration Support			[redacted]*			
	Administration				[redacted]		
Technical	Electrical worker	[redacted]				$31.25 to $57.69	Max. $59.00
	Technical Specialist		[redacted]				
	Technical Specialist			[redacted]*			
	Indoor technical officer				[redacted]		
	Outdoor technical officer				[redacted]		
Engineer	Project Officer Design Section	[redacted]				$36.06 to $72.12	Max. $69.00
	EO 7/Engineer		[redacted]				
	Engineer			[redacted]*			
	Engineering Officer				[redacted]		
Field Worker	Electrical worker - labourer	[redacted]				$31.25 to $48.08	Max. $47.00
	Electrical Apprentice	[redacted]					
	Field Worker		[redacted]				
	Field Worker			[redacted]*			

	Field Worker				[redacted]		
	Line Worker 9				[redacted]		
Senior Engineer	Senior Technical officer / Engineer Design section	[redacted]				$48.08 to $81.73	Max. $82.00
	Senior Engineer		[redacted]				
	Senior Engineer			[redacted]*			

**Endeavour did not propose a set of standardised labour rates as part of their original proposal. As such, these rates have been developed at the request of the AER for the purposes of this comparison.*

Source: Marsden Jacob analysis of DNSP labour rates and on-costs

Marsden Jacob draft recommendations:

Marsden Jacob recommends that raw labour rates proposed by each of the businesses should be accepted, except:

- the maximum raw labour rate for administrative services should be $39.00 per hour (equivalent to a salary of $80,000 per year excluding superannuation), which is substantially lower than the businesses' proposed rates but more closely aligned with benchmark rates from Hays and the Victorian DNSPs[1] ([redacted]);
- the maximum raw labour rate for technical services should be $59.00 per hour (equivalent to a salary of $120,000 per year excluding superannuation), which is [redacted] comparable to the rates proposed by the other businesses and is at the higher end of the Hays salary benchmark rates;
- the maximum raw labour rate for an Engineering Officer should be $69.00 per hour (equivalent to a salary of $145,000 per year excluding superannuation), which is [redacted] comparable to the rates proposed by the other businesses and is at the higher end of the Hays salary benchmark rates;
- the maximum raw labour rate for a field worker should be $47.00 per hour (equivalent to a salary of $100,000 per year excluding superannuation) – this upper limit is above all of the proposed rates [redacted];
- the maximum raw labour rate for senior engineer should be $82.00 per hour (equivalent to a salary of $170,000 per year excluding superannuation), which is [redacted] the higher end of the Hays salary benchmark rates.

1.1.2 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.

[1] Distribution Network Service Provider

Table 2 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 superannuation level included in the Enterprise Bargaining Agreements for each DNSP;
- a conservative estimate of workers compensation premiums;
- standard payroll tax rates for NSW and ACT as set by State Governments;
- 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 2: Labour on-costs ($2014/15)

Description	ActewAGL	Ausgrid	Endeavour	Essential
Basic leave entitlements				
Standard leave (annual leave, sick leave, public holidays)	Rate of 18.18% assumed for all businesses			
Standard on-costs				
Superannuation	12.00%	14.00%	15.00%	15.00%
Workers Compensation	2.25%	2.25%	2.25%	2.25%
Payroll tax	6.85%	5.45%	5.45%	5.45%
Annual leave loading	1.35%	1.35%	1.35%	1.35%
Long Service leave allowance	2.50%	2.50%	2.50%	2.50%
Total on-costs (note percentages are compounded)				
Marsden Jacob on-costs	50.23%	50.91%	52.23%	52.23%
Proposed maximum	*52.23%*			
Business proposed on-costs	[redacted]	[redacted]	[redacted]	[redacted]

Marsden Jacob draft recommendations:

Marsden Jacob recommends that the maximum on-cost applied for ancillary network services should be 52.2% based on a 'bottom up' estimate of each of the factors that are included in the on-cost.

1.1.3 Overheads

The overheads applied by each of the distribution businesses varied substantially both in definition and in magnitude between businesses. "Direct" overheads varied between 16% and 61%, while "corporate" overheads varied between 4% and 90%. A complete list of the overhead rates and descriptions are provided in Appendix 3.

In order to benchmark the overhead rates on a comparable basis, 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.

In order to establish the reasonableness of the implied overheads, Marsden Jacob also examined the implied overheads approved for Victorian distribution businesses in their most recent revenue determinations.

Table 3 summarises the implied on-costs for each type of labour category as well as Marsden Jacob's proposed maximum overhead rate. We show in red those rates that exceed the proposed maximum.

Table 3: Implied overhead rates

Category	ActewAGL	Ausgrid	Endeavour	Essential	Marsden Jacob
Implied overhead rates					
Administration	[redacted]	[redacted]	[redacted]	44.8%	50.0%
Technical specialist	[redacted]	[redacted]	[redacted]	58.6%	59.0%
Engineer	[redacted]	[redacted]	[redacted]	68.9%	69.0%
Field Worker	[redacted]	[redacted]	[redacted]	86.1%	87.0%
Senior Engineer	[redacted]	[redacted]	[redacted]		69.0%
Average proposed overheads	[redacted]	[redacted]	[redacted]	**64.60%**	**Max. 65% (average)**

Note for comparison: Victorian DNSP's proposed overhead rates of between [redacted] and [redacted].

Marsden Jacob draft recommendations:

Marsden Jacob recommends that the average overhead applied for Ancillary Network Services be capped at 65%. The recommendation recognises the fact that ActewAGL and Essential have applied similar overheads rates (averaging [redacted] and [redacted] respectively) compared with the much higher rates applied by Ausgrid and Endeavour ([redacted] and [redacted] respectively). The higher rates appear particularly out of line with the rates applied by the Victorian businesses, although the magnitude of the difference appears to indicate a more fundamental difference in the approach to cost allocation. Therefore, our recommended cap of 65% reflects the benchmark established by the two NSW businesses with lower overhead rates.

Importantly, we note that the methodology for allocating overheads is provided in the AER's Cost Allocation Methodology. Therefore, while our benchmarking considers the overheads for Ancillary Network Services in isolation, capping the overhead rate `may have unintended consequences for the broader Cost Allocation Methodology. The appropriate method of addressing the overhead allocation should be tested with the AER staff responsible for developing and enforcing the Cost Allocation Methodology. On this basis, this recommendation should be considered preliminary until confirmed with the relevant AER staff.

1.1.4 Total labour rates (including on-costs and overheads)

Table 4 summarises the total labour rates (including all on-costs and overheads) for each of the distribution businesses by category as currently proposed.

A recommended maximum labour rate for each labour category has also been included. This rate has been built-up making use of Marsden Jacob's recommended maximum rates for each of raw labour rates, on-costs and overheads.

Marsden Jacob would expect labour rates within each category to, at a minimum, fall below our maximum efficient labour rate for the category. Labour rates which are higher than our calculated maximum, have been identified in red.

Table 4: Total labour rates – including on-costs and overheads ($2014/15)

Category	Description	ActewAGL	Ausgrid	Endeavour	Essential	Marsden Jacob
		Rates including all on-costs and overheads				
Admin	Office Support service delivery	[redacted]				Max. $89.06
	Administration Support		$132.73			
	Administration Support			[redacted]*		
	Administration				$117.50	
Revised Administration rate (by DNSP)		$87.59	$88.28	$88.98	$85.98	
Technical	Electrical worker	[redacted]				Max. $142.81
	Technical Specialist		$175.65			
	Technical Specialist			[redacted]*		
	Indoor technical officer				$149.02	
	Outdoor technical officer				$177.50	
Revised Technical rate (by DNSP)		$130.98	$131.46	$142.49	$130.06 $154.91	
Engineer	Project Officer Design Section	[redacted]				Max. $177.52
	EO 7/Engineer		$169.07			
	Engineer			[redacted]*		
	Engineering Officer				$199.67	
Revised Engineer rate (by DNSP)		$154.24	$167.64	$165.75	$177.39	
Field Worker	Electrical worker - labourer	[redacted]				Max. $133.80
	Electrical Apprentice	[redacted]				
	Field Worker		$134.49			
	Field Worker			[redacted]*		
	Field Worker				$134.93	
	Line Worker 9				$121.98	
Revised Field Worker rate (by DNSP)		$106.99 $98.31	$104.45	$112.65	$130.87 $118.31	
Senior Engineer	Senior Technical officer / Engineer Design section	[redacted]				Max. $210.96
	Senior Engineer		$234.91			
	Senior Engineer			[redacted]*		
Revised Senior Engineer rate (by DNSP)		$184.17	$206.47	$169.40		

**Endeavour did not propose a set of standardised labour rates as part of their original proposal. As such, these rates have been developed at the request of the AER for the purposes of this comparison.*

Source: Marsden Jacob analysis of DNSP labour rates and on-costs. Rates are based on values used in financial models. Rates may differ to values presented in regulatory proposals due values being presented in different $ terms.

Marsden Jacob draft recommendations:

Marsden Jacob recommends that the total labour rates shown in black in Table 4 be retained for calculating the cost of ancillary network services. The labour rates shown in red should be capped at the rate shown in the far right column labelled 'Marsden Jacob'.

1.2 Benchmarked services

Marsden Jacob reviewed the proposed costs for a number of Ancillary Network Services proposed by the distribution businesses. Specifically, we undertook analysis and benchmarking of the following services: special meter reading, meter tests, supply of conveyancing information (desk inquiry), supply of conveyancing information (field visit), off-peak conversion, disconnection visit, disconnection at meter box, disconnection at pole top / pillar box, reconnections, and access permits.

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.

In order to conduct benchmarking of both the total labour rates and time taken to deliver each service, Marsden Jacob reviewed each of the Ancillary Network Service proposed by the distribution businesses. A tailored approach was applied for each of the services which gave consideration to the unique methodology used by the business in developing the particular cost estimates.

In particular, where top-down approaches were used by the businesses Marsden Jacob typically made an assumption regarding the type of labour category that would be engaged to perform the service. By dividing the proposed top-down costs by the labour rate proposed by the business for that category of service, the implied time taken for the service could be deduced and subsequently benchmarked.

Similarly, where a combined approach was used or more than one type of labour category was used as an input, Marsden Jacob calculated an implied or blended labour rate.

The following tables summarise the benchmarking exercise undertaken by Marsden Jacob in relation to a number of Ancillary Network Services. Use of assumed labour rates, blended labour rates and data which has been implied are marked within the table.

Also included in the table are total labour rates developed by Marsden Jacob. These labour rates draw on the maximum recommended limits for each of element of the total labour rates - raw labour rate, on-costs and overheads. They are applied based on the specific labour categories typically used in delivery of each of the services. Also included in the far column are Marsden Jacob's recommendations regarding the maximum time taken for particular services.

Where the total labour rates and / or time taken proposed (or implied) by the distribution businesses is higher than Marsden Jacob's estimates, these rates appear in the table in red (underneath the distribution businesses rate). Using these recommended rates, we have recalculated efficient cost reflective prices for individual services. A list of Marsden Jacob's draft recommendations, which reflect our analysis, are summarised below each table.

Special Meter read

Current fee ($2014/15)
ex GST $45.10

	ActewAGL ✓		Ausgrid		Endeavour		Essential		CitiPower/ Powercor	Jemena
All in hourly rate	[redacted]	(assumed)	$134.49 $133.80	(assumed)	$135.08 $133.80	(blended rate)	$134.93 $133.80			
Time taken	[redacted]	(implied)	0.072	(implied)	0.25		0.62		[redacted]	[redacted]
Total cost	$35.55		$9.74 $9.69		$33.77 $33.45		$83.20 $82.51			
Proposed fee	$35.55		$9.74 $9.69	-0.5%	$33.77 $33.45	-0.9%	$83.20 $82.51	-0.8%		

Marsden Jacob draft recommendations:

- *ActewAGL and Essential:* Accept proposed charges.

Note: Time taken for Essential may be reasonable given additional distances likely to be covered for this network.

- *Ausgrid, Endeavour and Essential:* Adopt the hourly rates proposed in Table 4 (field worker).

Meter test (business hours)

Current fee ($2014/15)
ex GST $74.83

	ActwelAGL ✓		Ausgrid		Endeavour		Essential		CitiPower/ Powercor	Jemena
All in hourly rate	[redacted]	(assumed)	[redacted] $133.80	(assumed)	[redacted] $133.80	(blended rate)	$134.93 $133.80			
Time taken	[redacted]	[redacted]	[redacted] 3.00	(implied)	[redacted] 3.00		3.40		[redacted]	[redacted]
Total cost	$261.96		$607.33 $401.39		$607.33 $401.39		$458.76 $454.91			
Proposed fee	$350.00	(price path to 2018/19 applies)	$551.15 $401.39	-27.2%	$607.33 $401.39	-33.9%	$458.76 $454.91	-0.8%		

Marsden Jacob draft recommendations:

- *ActewAGL:* Accept proposed charges.
- *Ausgrid, Endeavour and Essential:* Adopt the hourly rates proposed in Table 4 (field worker).
- *Ausgrid and Endeavour:* Based on the benchmark efficient time taken by ActewAGL (2 hours) and Essential Energy (3.4 hours less an allowance of 0.4 hours for the difference in travel time), we recommend that the time taken to conduct meter tests during business hours be reduced to 3 hours for Ausgrid and Endeavour unless compelling justification is provided by the business (for example, if the technology employed by the business is more complex than the two benchmark businesses).

Note: Time taken for Essential may be reasonable given additional distances likely to be covered for this network.

Supply of conveyancing information (desk inquiry)

Current fee ($2014/15)
ex GST $37.00

	ActewAGL	Ausgrid		Endeavour		Essential	
All in hourly rate		[redacted]	(blended rated)	[redacted]		$127.43	(inc stationary costs)
		$118.54		$118.54		$118.54	
Time taken		[redacted]		[redacted]		0.50	
Total cost		$36.21		$76.52		$63.71	
		$29.64		$59.27		$59.27	
Proposed fee		$36.21		$76.52		$63.71	
		$29.64	-18.2%	$59.27	-22.5%	$59.27	-7.0%

Marsden Jacob draft recommendations:

- *Ausgrid, Endeavour and Essential:* Adopt the hourly rates proposed in Table 4 (blended rate consists of 67% administration and 33% engineer).

Supply of conveyancing information (field visit)

Only Ausgrid separately prices field visits

Current fee ($2014/15)

ex GST

	ActewAGL	Ausgrid		Endeavour	Essential
All in hourly rate		[redacted]	(blended rate)		
		$131.62			
Time taken		[redacted]			
Total cost		$289.82			
		$230.33			
Proposed fee		$289.82			
		$230.33	-20.5%		

Marsden Jacob draft recommendations:

- *Ausgrid:* Adopt the hourly rates proposed in Table 4 (blended rate consists of [redacted]% administration, [redacted]% engineer and [redacted]% field worker)

Off-peak conversion

Current fee ($2014/15)

ex GST $60.48

	ActewAGL	Ausgrid		Endeavour		Essential	
All in hourly rate		[redacted]	(assumed)	[redacted]	(implied rate)	$134.93	
		$133.80		$133.80		$133.80	
Time taken		[redacted]	(implied)	[redacted]		0.62	
		1.00					
Total cost		$199.42		$115.04		$82.18	
		$133.80		$111.50		$82.51	
Proposed fee		$199.42		$115.04		$82.17	
		$133.80	-32.9%	$111.50	-3.1%	$82.51	-0.8%

Marsden Jacob draft recommendations:

- *Ausgrid, Endeavour and Essential:* Adopt the hourly rates proposed in Table 4 (field worker). Note: Implied rate for Endeavour consists of [redacted]% EFM Service Lines and [redacted]% Market Ops Unit rates.
- *Ausgrid:* Based on benchmark time taken by Essential (0.62 hours) and Endeavour ([redacted] hours), reduce the time taken by Ausgrid to 1 hour unless compelling justification is provided by the business (for example, if the technology employed by the business is more complex than the two benchmark businesses).

Disconnection site visit

Current fee ($2014/15)
ex GST $45.10

	ActewAGL ✓		Ausgrid		Endeavour ✓	Essential	
All in hourly rate	[redacted]		[redacted]	(assumed)	[redacted]	$133.26 $133.80	
Time taken	[redacted]		[redacted]	(implied)	[redacted]	0.70	
Total cost	$65.49		$42.10 $41.89		$69.29	$94.45 $93.66	
Proposed fee	$49.59	(price path to 2018/19 applies)	$42.10 $41.89	-0.5%	$69.29	$94.45 $93.66	-0.8%

Marsden Jacob draft recommendations:

- *ActewAGL and Endeavour*: Accept proposed charges.
- *Ausgrid and Essential:* Adopt the hourly rates proposed in Table 4 (field worker).

Note: Time taken for Essential may be reasonable given additional distances likely to be covered for this network.

Disconnection at meter box

Current fee ($2014/15)
ex GST $90.20

ActewAGL does not distinguish between disconnection types

	ActewAGL ✓		Ausgrid		Endeavour		Essential	
All in hourly rate	[redacted]		[redacted] $133.80	(assumed)	[redacted]	(assumed)	$135.66 $133.80	(includes stores)
Time taken	[redacted]		[redacted] 0.50	(implied)	[redacted] 0.50	(implied)	0.93	
Total cost	$65.49		$139.10 $66.90		$208.68 $63.94		$126.05 $124.32	
Proposed fee	$49.59	(price path to 2018/19 applies)	$139.10 $66.90	-51.9%	$208.68 $63.94	-69.4%	$126.05 $124.32	-1.4%

Marsden Jacob draft recommendations:

- *ActewAGL*: Accept proposed charges.
- *Ausgrid and Essential:* Adopt the hourly rates proposed in Table 4 (field worker).

Note: The hourly rate proposed by Endeavour for this service consists of a [redacted] which does not align with the unit labour rates developed by either the business or Marsden Jacob.

- *Ausgrid:* Based on the benchmark time taken by ActewAGL ([redacted] hours) and Essential (0.93 hours) reduce the time taken for disconnection at the meter box for Ausgrid to 0.50 hours unless compelling justification is provided by the business (for example, if the technology employed by the business is more complex than the two benchmark businesses).

Note: Time taken for Essential may be reasonable given additional distances likely to be covered for this network.

Disconnection visit - Technical

Current fee ($2014/15)

ex GST $151.70

ActewAGL does not distinguish between disconnection types

	ActewAGL ✓		Ausgrid		Endeavour		Essential	
All in hourly rate	[redacted]		[redacted]	(assumed)	[redacted]	(assumed)	$135.17	
			$133.80				$133.80	
Time taken	[redacted]		[redacted]	(implied)	[redacted]	(implied)	0.93	
Total cost	$65.49		$243.03		$252.49		$126.05	
			$232.82		$241.68		$124.32	
Proposed fee	$49.59	(price path to 2018/19 applies)	$243.63		$252.49		$126.03	
			$232.82	-4.0%	$241.68	-4.3%	$124.32	-1.4%

Marsden Jacob draft recommendations:

- *ActewAGL:* Accept proposed charges.
- *Ausgrid, Endeavour and Essential:* Adopt the hourly rates proposed in Table 4 (field worker).
- *Ausgrid and Endeavour:* Based on the time taken for Disconnections at the meter box (outlined above) and with consideration of the additional times required to complete the technical elements of disconnections which fall into this service category, reduce the time take for Ausgrid to [redacted] hours and the time taken for Endeavour to [redacted] hours unless compelling justification is provided by the business.

Disconnection at pole top / pillar box

Current fee ($2014/15)

ex GST $151.70

ActewAGL does not distinguish between disconnection types

	ActewAGL ✓		Ausgrid		Endeavour		Essential	
All in hourly rate	[redacted]		[redacted]	(assumed)	[redacted]		$135.13	
			$133.80		$133.80		$133.80	
Time taken	[redacted]		[redacted]	(implied)	[redacted]	[redacted]	3.44	
			2.00					
Total cost	$65.49		$744.71		[redacted]	(actual cost)	$464.81	
			$267.59				$460.24	
Proposed fee	$49.59	(price path to 2018/19 applies)	$744.71		$430.78	(fee also covers reconnection costs)	$464.81	
			$267.59	-0.5%	$417.96		$460.24	-1.0%

Marsden Jacob draft recommendations:

- *ActewAGL:* Accept proposed charges.
- *Ausgrid, Endeavour and Essential:* Adopt the hourly rates proposed in Table 4 (field worker).
- *Ausgrid:* Based on the benchmark time taken by Essential (3.44 hours) and Endeavour ([redacted] hours) reduce the time taken for disconnection at pole top / pillar box for Ausgrid to 2 hours unless compelling justification is provided by the business (for example, if the technology employed by the business is more complex than the two benchmark businesses).

Note: Time taken for Essential may be reasonable given additional distances likely to be covered for this network.

- *Endeavour:* Disconnection fees proposed by Endeavour also cover costs associated with reconnections (which are not recovered in a separate charge). The proposed fee in blue ($417.96) takes into consideration estimated disconnection and reconnection volumes proposed by Endeavour.

Reconnections

Current fee ($2014/15)
ex GST

ActewAGL does not distinguish between reconnection types

Endeavour does not charge for reconnections

	ActewAGL ✓	Ausgrid	Endeavour	Essential
All in hourly rate	[redacted]			$133.98 (includes stores) $133.80
Time taken	[redacted]			0.93
Total cost	$65.49			$126.05 $124.32
Proposed fee	$49.59 (price path to 2018/19 applies)			$126.05 $124.32 -1.4 %

Marsden Jacob draft recommendations:

- *ActewAGL:* Query why ActewAGL does not distinguish between reconnection types and determine whether there are any additional (ad-hoc) charges which might apply to different types (suggestion for AER to consider only).
- *Endeavour:* Query recovery of reconnection charge by Endeavour as part of disconnection charges (suggestion for AER to consideration only).
- *Essential:* Adopt the hourly rates proposed in Table 4 (field worker).

Access permits

Current fee ($2014/15)
ex GST $1,181.00

	ActewAGL	Ausgrid	Endeavour	Essential
All in hourly rate		[redacted] (blended rate) $140.04	[redacted] $140.04	$199.65 $140.04
Time taken		[redacted]	[redacted] (implied)	14.00
Total cost		$2,118.75 $1,820.47	$3,294.07 $2,108.48	$2,795.15 $1,960.50
Proposed fee		$2,118.75 $1,820.47 -14.1%	$3,294.07 $2,108.48 -36.0%	$2,795.15 $1,960.50 -29.9%

Marsden Jacob draft recommendations:

- *Ausgrid, Endeavour and Essential:* Adopt the hourly rates proposed in Table 4 (blended rate 69% technical specialist, 31% field worker).

2. Metering Services (type 5 & 6)

Marsden Jacob Associates (Marsden Jacob) has been engaged by the Australian Energy Regulator (AER) to provide modelling services and advice in relation to Alternative Control Services for the NSW / ACT distribution network regulatory determinations.

In relation to type 5 and 6 Metering Services (a sub-group of Alternative Control Services), the AER requested Marsden Jacob undertake:

- A review of elements of new metering capital expenditure, specifically:
  - benchmarking of meter hardware costs; and
  - non-material components of new meter capital expenditure; as well as,
- A review of the reasonableness of administration components of exit fees proposed by businesses.

The maximum size of load for metering installation types 5 and 6 is determined by each jurisdiction under Schedule 7.2.3 of the National Electricity Rules and is outlined in the NEM metrology procedure, but must not exceed 750 MWh[2]. These types of metering installations are generally used in residential and small businesses consumers.

Type 5 meters are interval meters which record consumption on a near real time interval basis (generally every half hour). Type 6 meters are accumulation meters which record consumption on an accumulation basis. These types of meters are distinguished from smart meters as they are required to be manually read whereas smart meters have additional functionality allowing data recorded to be retrieved remotely.

2.1 New metering capital expenditure fees

The total cost for new meters is comprised of a number of elements:

- *Meter hardware costs;*
- *Non-material capital costs* which includes meter handling and issuance costs as well as meter testing but not meter installation costs; and
- *Regulated rate of return* (or WACC[3]) on capital expenditure components.

In additional to these costs, in NSW the provision of type 5 and 6 meter installation services for new and upgraded connections is performed by Accredited Service Providers the costs for which are paid directly by the customer to the Accredited Service Provider.

In this section, Marsden Jacob has reviewed and made recommendations in relation to the meter hardware costs and the non-material capital cost components proposed by distribution business for type 5 and 6 meters.

A full summary of the new metering capital expenditure fees is provided in Appendix 4. This includes the proposed WACC application and total proposed fees, however Marsden Jacob was not requested to review either the WACC application or the total proposed fees.

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2 Australian Energy Market Commission (17 April 2014) *Consultation Paper: National Electricity Amendment (Expanding Competition in Metering and Related Services) Rule 2014*

3 Weighted Average Cost of Capital

2.1.1 Meter hardware costs

Table 1 summarises the meter hardware rates proposed by each of the distribution businesses by meter category and description in $2014/15.

Ausgrid and Essential proposed meter hardware costs based on historical supply costs, evidence for which included rates from several different suppliers for a number of the different meter types and categories. ActewAGL provided evidence of undertaking a competitive tender process for the procurement of type 5 meters, the contracts for which underpinned the proposed hardware costs for this period.

Marsden Jacob has used professional judgement to propose a maximum rate that should be applied for each meter hardware category based on consideration of the rates applied across the businesses and a comparison against current market rates. The maximum recommended rates appear in the far right-hand column in Table 5. Market rate data used to inform maximum recommended rates was sourced from online advertised prices and through discussions with a number of the major suppliers of type 5 and 6 meters to Australian network businesses. Market rate prices listed in Table 5 take into consideration volume discounts which would reasonably be expected to apply to meter hardware purchases made by network businesses.

Meter hardware rates that are higher than our proposed maximum have been identified in red.

Table 5: Meter hardware costs ($2014/15)

Category	Description	ActewAGL	Ausgrid	Endeavour	Essential	Market rates	Marsden Jacob
Type 6	Single phase, direct connected, accumulation meter		$23.06			$18.69 to $23.00	Max. $23.00
	Single phase accumulation meter			$18.69			
	Single phase accumulation meter				$22.90		
Type 6	NEW Type 6 meters	[redacted]*					See footnote[4]
	Single phase accumulation combination meter			$153.73			Insufficient information
Type 6	Three phase, direct connected, accumulation meter		$96.09			$86.50 to $100.00	Max. $100.00
	Three phase accumulation meter			$88.51			
	Thee phase accumulation meter				$86.50		
Type 5	Single phase, single element, type 5, direct connected	[redacted]				$63.72 to $100.00	Max. $100.00
	Single phase, dual connected interval meter		$88.06				
	Single phase interval (TOU capable) meter			$302.38			
	Single phase TOU meter				$63.72		

[4] For type 6 meters, ActewAGL advised that the weighted average cost of single phase and three phase accumulation meters was $[redacted] ($2013/14). ActewAGL also proposed new type 6 meter cost $[redacted] ($2013/14). As Marsden Jacob recommends costs of single phase accumulation meters should not exceed $23.50 and costs of three phase accumulation meters should not exceed $100, we recommend that the AER do not accept ActewAGL's proposed type 6 meter hardware costs.

Type 5	Single phase, twin element, type 5, direct connected	[redacted]				$126.00 to $150.00	Max. $150.00
	Single phase, dual element, direct connected interval meter		$147.26				
	Single phase interval (TOU capable) combination meter			$346.45			
	Single phase 2 element (TOU)				$149.86		
Type 5	Three phase, single element, type 5	[redacted]				$189.27 to $220.00	Max. $220.00
	Three phase, direct connected interval meter		$202.00				
	Three phase interval (TOU capable) meter			$421.28			
	Three phase TOU meter				$209.84		
Type 5	Three phase, current transformer connected interval meter		$519.00			$200 for Class 1 or $400 for Class 0.5 or better**	Insufficient information
	Three phase CT meter				$298.78		

**ActewAGL type 6 meter hardware cost of $[redacted] is a weighted average cost of single and three phase meters.*

***Marsden Jacob was unable to establish a clear market price range for Three phase CT meters classified as Type 5. These price points were derived from a very limited sample and may not be representative of all available products or circumstances.*

Marsden Jacob draft recommendations:

Marsden Jacob recommends that metering hardware costs proposed by each of the businesses should be accepted where the proposed costs are below Marsden Jacob's recommended maximum. Where the rates are above the current market rates and Marsden Jacob's maximum proposed rates, we recommend the allowable costs be capped at Marsden Jacob's recommended rate for the particular category and type of meter.

Meter hardware proposed by Endeavour for a number of the meters appear to be significantly beyond the benchmark rates. As such Marsden Jacob recommends confirming the technical specifications of each of these meters and clarifying that the proposed costs refer only to the meter hardware costs (and do not include any labour installation or other contracted services). In the absence of further clarifying information we recommend meter hardware costs proposed by Endeavour which exceed the applicable maximum benchmark rate be capped at the maximum recommended rates provided in the far right column of Table 5.

2.1.2 Non-material components of capex

Marsden Jacob conducted a review of the non-material components of metering capital expenditure for each of the distribution businesses. Non-material costs comprise of meter issuance, acceptance testing and other meter handling costs.[5]

Non-material cost estimates were derived differently by each of the distribution businesses.

ActewAGL proposed non-material costs for new type 6 meters which included a small proportion of miscellaneous material (such as cables, brackets, screws etc.) and a larger proportion of 'other' costs.

[5] For clarity, it should be noted that From 1 July 2015, costs associated with Accredited Services Providers employed to install new meters will be charged directly to customers. As such, the installation costs for new meters do not form part of the proposals put forward by the NSW distribution businesses (either as a non-material component of capex or in metering operating expenditure).

AcewAGL did not propose any non-material components for type 5 meters, however in correspondence with the AER it noted that installation and field services related to new meter installation was provided by external contractors.[6]

Ausgrid used a 'top-down' methodology to derive a proposed non-material cost on a per meter basis. This involved estimating expected non-material costs for each year of the regulatory period and dividing this estimate by the estimated volume of new meters. As part of the benchmarking exercise, Marsden Jacob made use of an assumed labour rate to estimate the likely time taken to perform non-material costs related tasks given the proposed cost per meter.

Endeavour used a 'bottom-up' approach to estimating the costs per meter based on 2013/14 values. The number of labour hours need to undertake meter handling activities and the annual labour rate associated with providing these services was estimated. These annual costs were then divided by the number of new meters to determine the proposed cost on a per meter basis.

Both Ausgrid and Endeavour's methodologies result in a standard cost per meter which is independent of the underlying cost of type of meter hardware.

Essential adopted a methodology whereby a percentage rate for 'stores on-costs' and 'overheads' was applied to the underlying meter hardware cost to derive the total non-material capital expenditure for new meters. This methodology resulted in variable non-material cost. The magnitude of non-material costs proposed increased (in dollar terms) as the cost of the meter increased. Essential proposed a rate of 7.25% to cover 'stores on-costs' and a rate of 41.47% to cover 'overheads', which resulted in a total non-material cost component inflator of 52.0%.

In order to benchmark Essential's costs against other distribution businesses non-material costs, Marsden Jacob examined the estimated number of new meters in each meter category which Essential expected to procure during the regulatory period. By applying the proportion of meters in each category to the estimated non-material costs, Marsden Jacob estimated the average weighted material costs on a per unit basis. This value appears in Table 6 for comparative purposes along with an assumed labour rate and implied time taken, however it should be recognised that the weighted average cost is not the cost which Essential would charge for any individual new meter installation.

A summary of the values underpinning each of the businesses proposals is provided in Table 6. In addition, a benchmarked total labour rate for the service and time taken recommended by Marsden Jacob appear in the far left-hand column.

6 Correspondence between ActewAGL and the AER dated 21 July 2014.

Table 6: Non-material components of metering capital expenditure ($2014/15)

Category	ActewAGL	Ausgrid	Endeavour	Essential	Marsden Jacob
Non-material components of metering capex					
Estimated annual costs		$1,577,944.67	$269,153.44	[redacted]	
Estimated number of new meters		69,557 (annual average)	25,138 (2013/14)	32,366 (annual average)	
Hourly labour rate (includes all on-costs and overhead charges)	[redacted] (assumed)	[redacted] (assumed)	$119.87	[redacted] (assumed)	$133.80
Time taken (hours per meter)	[redacted] (implied)	[redacted] (implied)	0.18	[redacted] (implied)	0.18
Proposed fee (per meter)	[redacted] (type 6 only)	**$22.69**	**$22.49**	[redacted] (weighted average)	**$24.09**
Revised non-material component (average per meter)	**$25.00**			**$25.00**	**Max. $25.00**

Marsden Jacob draft recommendations:

Marsden Jacob recommends accepting the non-material metering capital expenditure costs proposed by Ausgrid and Endeavour for new meters. The likely labour rate and time taken, when combined result in a cost per meter which falls below Marsden Jacob's benchmark rate of $25.00 per meter.

ActewAGL's proposed non-material costs for new type 6 meters appears very high in relation to costs proposed by the NSW distribution businesses and Marsden Jacob's recommended maximum per unit cost. Marsden Jacob recommends further clarification be sought from ActewAGL to ensure proposed costs include only standard meter handling, meter testing and meter issuance costs (and does not include meter installation costs for example). Standard meter handling costs should be capped at an average of $25.00 per meter for new meters and any non-standard costs would require separate review.

Essential's methodology for pricing new meters incorporated the application of a percentage rate to meter hardware costs to cover non-material costs. Marsden Jacob has not considered the reasonableness of applying of a percentage rate rather than a flat dollar fee and as such, we do not recommend any changes to the methodology adopted by Essential in proposing non-material costs for new meters. However, we recommend the average weighted per meter fees should equate to a maximum of $25.00 per meter.

We note that Essential's proposed non-material costs include provision for overheads. In adopting a recommended averaged weighted cost of $25.00 per meter, we also recommend the treatment of overheads for this service provision should first be reviewed for consistency with Essential's Cost Allocation Methodology and the finding of that investigation be considered.

2.2 Metering exit administration costs

The Australian Energy Market Commission is currently consulting on a number of amendments to the National Electricity Rules which seek to increase competition in metering and related services.[7] The proposed Rule amendments would, amongst other changes, allow contestability in provision of type 5 and 6 metering installations.

[7] Refer to Australian Energy Market Commission webpage for further information: http://www.aemc.gov.au/Rule-Changes/Expanding-competition-in-metering-and-related-serv

In anticipation of the Rule amendments being made and consistent with the AER's framework paper, Ausgrid, Endeavour and Essential have proposed meter exit fees which would apply where a customer chooses to replace a type 5 or type 6 meter with another type of meter.

As the AER has requested Marsden Jacob to focus on only the administration exit fee component of the exit charge, a recommended rate relating to stranded assets for each of the businesses has not been developed. However, we note that the combined exit fee (stranded asset + administration fee) will provide the incentive signals to customers making decisions about early replacement of existing meters.

Table 7 summarises the administration component of exit fees for each of the distribution businesses by category as currently proposed. Proposed fees are broken down into an hourly labour rate and an estimated time taken to process exits from an administration perspective.

Marsden Jacob has reviewed the labour rate and time taken separately in making a recommendation. Our recommended values as well as the total recommended administration fee appear in the far right column.

Labour rates and time taken which are higher than our proposed maximums have been identified in red.

Table 7: Administration exit fees ($2014/15)

Category	ActewAGL	Ausgrid	Endeavour	Essential	Marsden Jacob
Administration exit fee					
Hourly labour rate (includes all on-costs and overhead charges)		$89.99	$151.48	$112.79	$89.06
Time taken (hours)		0.40	0.33	0.50	0.40
Proposed fee		**$36.00**	**$50.49**	**$56.40**	**$35.62**
Revised Administration exit fee	**$36.00**		**$36.00**	**$36.00**	Max. $36.00

Note: time take is shown in hours, as such 0.33 hours is equal to 20 minutes. 0.4 hours is equal to 24 minutes and 0.5 hours is equal to 30 minutes.

Marsden Jacob draft recommendations:

Marsden Jacob recommends that the total labour rates which apply to administration processing of meter exits should be capped at $89.06. The total labour rate proposed is consistent with market salary rates for administration and processing positions and includes standard on-costs and overheads of 50%. This rate is consistent with the benchmarked labour rates proposed by Marsden Jacob for Ancillary Network Services (refer to 1.1.4).

We also recommend that the time taken to perform each exit should, on average, be capped at 0.40 hours. In making the recommendation, Marsden Jacob consider the time taken to perform other metering services including special meter reads, disconnection services and meter equipment tests. Times proposed by the NSW and ACT distribution businesses for the current determination process were considered as well as the accepted time taken for back-office aspects of services in the most recent Victorian regulatory determination. As the exit process is yet to be fully defined and the actual time needed to process changes is unknown, Marsden Jacob's recommendation is to accept the lower rate proposed by the two distribution businesses at this point.

Marsden Jacob notes that a SA Power Network's current exit fee for customers consuming above 100MWh transitioning from type 6 ACS metering service into the competitive market includes an administration component of around $60.00 ($2010)[8]. It was unclear from the determination the hourly labour rate or the time taken which underpins this administration component.

[8] AER (May 2010) *Final decision - South Australia distribution determination 2010–11 to 2014–15*, pp 255.

Appendix 1: Scope of engagement

Ancillary Network Service

The AER requested Marsden Jacob to provide advice on the efficiency of the labour rates and overheads applied by the businesses to determine ancillary network service charges. In particular, AER staff requested Marsden Jacob:

- Develop where necessary **equivalent charge out rates** from those provided by the DNSPs (to get all labour rates on the same basis – i.e. in 2014 dollars).
- Develop a **reference set of direct labour charge out rates** against which to compare the DNSPs proposed charge out rates.
- Identify any **on-costs or profit margins** that may be included in the labour rates by each of the DNSPs.
- Develop a **reference set of overheads** against which to compare the DNSPs overheads.
- Identify the **labour escalators** and **materials escalators** used by the businesses.
- Review a combination of time taken, labour inputs and total costs (as per attached spreadsheet example) for each of the following services.

  a) Special meter reading

  b) Meter test

  c) Supply of conveyancing information (desk inquiry)

  d) Supply of conveyancing information (field visit)

  e) Off-peak conversion

  f) Disconnection visit (acceptable payment received)

  g) Disconnection at meter box

  h) Disconnection at pole top / pillar box

  i) Reconnections

  j) Access permits

The AER may determine to use benchmarked labour rates and overheads as inputs elsewhere to examine the costs proposed by distribution network businesses.

Metering

The AER is required needs to determine if the metering charges proposed by the NSW/ACT distributors are appropriate. In order to make this determination, the AER needs to form a view on whether the costs built-in to these charges are reasonable, consistent with good industry practice and efficient.

With this in mind, the AER requests advice from Marsden Jacobs on the following areas:

- ***CAPEX:*** Advice in relation to the unit costs which have been used to develop these capex forecasts, with regard to:

  (a) Material components (unit hardware)

  (b) Non-material components (labour)

- ***Exit fees (administration component):*** Advice on the reasonableness of the costs built-in to the Administration Cost component of exit fees. Specifically:

  (a) Identification of any on-costs, profit margins, overheads that may be included in the administrative labour rates proposed by each distributor.

  (b) Review the time proposed and provide a reference time for the following service: the time for an administrative person to change records to reflect the changed status, and the processing costs of relaying this information when a customer exits.

Appendix 2: Summary of labour rates

ActewAGL

ActewAGL used a bottom-up approach in pricing the majority of their key Ancillary Network Services.

A standardised set of base labour rates were used as inputs into the model. These labour rates were escalated by 3.06% from the $2013/14 rate to bring into $2014/15. The composition of work 'crews' were established (e.g. one electrical worker and one non-electrical worker) in order to derive the labour rates to be applied for specific services.

To develop charges, the derived labour rate was multiplied by the estimated time taken to perform the service. Direct overheads of [redacted]% were then added and after this corporate overheads of [redacted]% were also added.

The following table summarises the labour rates and overheads proposed by ActewAGL in $2013/14 and the Marsden Jacob labour categories against which the rates were benchmarked.

Table 8: ActewAGL proposed labour rates ($2014/15)

Category	Description	Direct costs	Direct overhead	Corporate overhead	Total
		$ per hr $2014/15	[redacted]% of direct costs	[redacted]% direct costs and direct overheads	$2014/15
Admin	Office Support service delivery	[redacted]	[redacted]	[redacted]	[redacted]
Technical	Electrical worker	[redacted]	[redacted]	[redacted]	[redacted]
Engineer	Project Officer Design Section	[redacted]	[redacted]	[redacted]	[redacted]
Field Worker	Electrical worker - labourer	[redacted]	[redacted]	[redacted]	[redacted]
Field Worker	Electrical Apprentice	[redacted]	[redacted]	[redacted]	[redacted]
Senior Engineer	Senior Technical officer / Engineer Design section	[redacted]	[redacted]	[redacted]	[redacted]

Source: ActewAGL B21 Ancillary Services Costing Workbook and Marsden Jacob analysis

Ausgrid

In deriving the costs for Ancillary Network Services, Ausgrid used a combination of methods depending on information available for the specific service.

For existing services with an associated fee, historical costs incurred in providing the services and the numbers of services that historically have been provided were used to inform the modelling. In these instances, the 2012/13 (FY2013) volumes and costs or an average of a number of prior years' data have been used to estimate 2013/14 costs.

Labour rates were used as direct inputs for services where Ausgrid was able to reliably extract the data or the estimation of costs for newly proposed Ancillary Network Services.

The following table summarises the labour rates and overheads proposed by Ausgrid in $2014/15 and the Marsden Jacob labour categories against which the rates were benchmarked. We note that an escalation rate of 3.78% was applied to labour rates in $2013/14 to establish the $2014/15 values.

Table 9: Ausgrid proposed labour rates ($2014/15)

Category	Description	Direct costs	On-cost	Overhead	Corporate overhead	Total
		$ per hr $2014/15	Proportion varies	Proportion varies	[redacted]%	$2014/15
Admin	Admin Support	[redacted]	[redacted]	[redacted]	[redacted]	$132.73
Technical	Technical Specialist R2	[redacted]	[redacted]	[redacted]	[redacted]	$175.65
Engineer	EO 7/Engineer	[redacted]	[redacted]	[redacted]	[redacted]	$169.07
Field Worker	Field Worker R4	[redacted]	[redacted]	[redacted]	[redacted]	$134.49
Senior Engineer	Senior Engineer	[redacted]	[redacted]	[redacted]	[redacted]	$234.91

Source: Ausgrid 24_ASP_Investigations model and Ausgrid correspondence to the AER dated 10 September 2014 (AUSGRID 037) and Marsden Jacob analysis

Endeavour Energy

Endeavour Energy did not propose a standardised set of labour rates as part of their initial proposal. As such, they prepared a set of rates for the purpose of this comparison at the request of the AER.

Table 10: Endeavour Energy labour rates ($2014/15)

Category	Description	Direct costs	On-cost	Network Overheads	Corporate Overhead	Total
		$ per hr $2014/15	[redacted]%	[redacted]%	[redacted]%	$2014/15
Admin	Admin Support	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Technical	Technical Specialist	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineer	EO 7/Engineer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Worker	Field Worker R4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Senior Engineer	Senior Engineer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Source: Correspondence from Endeavour Energy to the AER dated 90 September 2014 [AER Reference: ENDEAVOUR 027]

Essential Energy

These labour rates provided by Essential were based on 2013/14 rates and subsequently escalated in in line with Essential Energy's forecast real wage movement over the regulatory period. However, for comparison purposes, an average rate for the 2015-2019 regulatory period was calculated (in $2013/14), to allow a single rate for pricing.

Marsden Jacob applied an escalation rate of 3.78% (consistent with rates applied to Ausgrid's labour) to develop a set of comparable rates in $2014/15.

Table 11: Essential Energy labour rates ($2014/15)

Category	Description	Direct costs	On-costs	Indirect costs	Finance charge	TOTAL
		$ per hr $2014/15	[redacted]% of direct costs	41.68% of direct costs	2.21% of direct and indirect costs	$2014/15
Admin	Administration	[redacted]	[redacted]	$33.82	$2.54	$117.50
Technical	Indoor technical officer	[redacted]	[redacted]	$42.89	$3.22	$149.02
Technical	Outdoor technical officer^	[redacted]	[redacted]	$71.37	$3.22	$177.50
Engineer	Engineering Officer^	[redacted]	[redacted]	$77.74	$3.69	$199.66
Field Worker	Field Worker^	[redacted]	[redacted]	$59.11	$2.30	$134.93
Field Worker	Line Worker^	[redacted]	[redacted]	$55.38	$2.02	$121.98

^Indirect costs for these categories include fleet recovery costs of $27.44 per labour hour

Source: Essential Energy Ancillary Network Service models (see 'Global inputs' tabs)

Labour rate and on-cost benchmark rates

Marsden Jacob developed benchmark rates from Hays 2014 Salary data applicable to the Energy sector.

The Hays 2014 Salary Reports draws on information from 2,500 companies across Australia and New Zealand. Relevant distribution network businesses which were listed as being included in the survey were ActewAGL, Jemena, and Citipower. The Hays rates provided both low and a high indicative labour rate (excluding superannuation) for a range of different job titles.

Marsden Jacob reviewed approximately 66 different job titles, 37 of which were found to be directly relevant to the benchmark labour categories used in this report. Minimum and maximum ranges were developed from this data for each category and combined with additional standard assumptions on on-costs (included in Table 12) to form benchmark rates used in assessments.

Table 12: Standard on-costs for NSW and ACT

Description	Rate as a percentage of base salary	
Superannuation	9.5% (statutory minimum) 12% to 13% (industry standard)	The low case is the Superannuation guarantee value of 9%. The high case at 12% makes allowance for the higher employer superannuation contributions associated with parts of the power industry
Worker compensation	2.25%	
Payroll tax[9]	5.45% (NSW) and 6.85% (ACT)	New South Wales and Australian Capital Territory Payroll Tax Rates
Annual leave loading[10]	1.34%	Based on 17.5% loading on 4 weeks annual leave
Long service leave loading	2.5%	Based on long service leave of 13 weeks after 15 years' service.
Total on-costs	25.66% (NSW) and 27.06% (ACT)	

9 Refer to: http://www.osr.nsw.gov.au/taxes/payroll

10 17.5% loading according to the Electronic and Communications Contracting Award 2010 (http://www.fairwork.gov.au/leave/annual-leave/payment-for-annual-leave#1802-1816-68-87)

Making use of the maximum recommended rates for each of the raw labour costs, the on-costs and overheads, the following Table summarises Marsden Jacob's recommended total labour rates. These rates were used in the benchmarking exercise for selected Ancillary Network Services.

Table 13: Marsden Jacob labour rates ($2014/15)

Category	Direct costs	On-cost	Overheads	Total
	$ per hr $2014/15		(includes direct and indirect overheads)	$2014/15
Admin	$39.00	*52.23%*	*50.0%*	$89.06
Technical Specialist	$59.00	*52.23%*	*59.0%*	$142.81
Engineer	$69.00	*52.23%*	*69.0%*	$177.52
Field Worker	$47.00	*52.23%*	*87.0%*	$133.80
Senior Engineer	$82.00	*52.23%*	*69.0%*	$210.96

Source: Marsden Jacob analysis

Appendix 3: Summary of overheads

Table 14 summarises the on-costs and overhead charges applied to labour rates for ancillary services.

Table 14: Summary of proposed on-costs and overheads

	Cost type	Rate	Description
ActewAGL	On-costs		The following on-costs have been included in the labour rates for fee based and quoted services, as per table 15.12 of ActewAGL Distribution's proposal. ▪ Long Service Leave Provision ▪ Worker Compensation ▪ Recreation Leave provision ▪ Income Protection ▪ Payroll Tax
	Direct Overhead	[redacted]%	Allocated as per CAM
	Corporate Overhead	[redacted]%	Allocated as per CAM
Ausgrid[11]	On-Costs	[redacted]	Labour on-costs relate to leave, superannuation, and Defined Benefits entitlements as well as workers compensation provision and payroll tax. The percentage on-costs applied to each labour category (R1 to R5) is also a reflection of the costs incurred by the functional groups that provide Ancillary Network Services (and not a global Ausgrid average).
	Direct overhead	[redacted]	Overheads relate to the divisional and branch management costs and include costs such as vehicles, computers, phones etc. We have followed the same process for determining overhead percentages as the process used to determine the labour rates and on-costs; that is the overheads reflection the costs incurred by the functional groups that provide Ancillary Network Services. The percentages of labour on-costs and overheads that we have applied to the base labour rate are shown in the worksheets provided as Attachments to this proposal. Some of our expenditure to provide Ancillary Network Services will be expensed (i.e. operating expenditure) and others will be capitalised, in accordance with our capitalisation policy. As a result, the overhead costs allocated to each Ancillary Network Service varies due to the correct application of the CAM. We provide relevant details regarding CAM allocation to each service, in the relevant worksheet (provided as Attachments to this proposal).
	Corporate overhead (indirect costs)	[redacted]%	The Cost Allocation Methodology (CAM), approved by the AER, requires us to allocate shared operating costs and shared non-system capital costs to all services, including Ancillary Network Services. These costs can be referred to as indirect overhead costs and include some IT costs, costs associated with Corporate functions such as HR, insurance, Property etc.
Endeavour[12]	Labour On-costs	[redacted]%	The average labour on-cost rate for 2012/13 in relation to the Network divisions was 52.10% and includes the following costs: ▪ Public holidays ▪ Annual leave, sick leave, long service leave and other leave ▪ Workers compensation ▪ Payroll tax ▪ Superannuation ▪ Maturing allowance ▪ Fringe Benefits Tax
	Overhead factor (corporate and	[redacted]%	The overhead rate applied to ANS is 105.4% which is made up of 15.6% related to Network overheads and 89.8% related to Corporate overheads.[13]

11 Refer to Ausgrid (2014) *Attachment 8.22 Ancillary network services proposal*, pp. 6-7

12 Refer Endeavour Energy (May 2014) *Attachment 0.07 Cost Allocation Methodology*, pp.10, 23, 24

13 Correspondence from Endeavour Energy to the AER dated 17 September 2014 (ENDEAVOUR 027)

	Cost type	Rate	Description
	network overheads)		The overhead factor represents the difference between Ancillary Network Services direct costs in the operating expenditure forecast and the total Ancillary Network Services costs following the allocation of network and corporate overheads through the CAM. ▪ *Network overheads*: Overheads incurred relating to distribution network activities. Reflects the relationship between overheads and overall business activity and performance. ▪ *Corporate overheads:* Overheads incurred as part of corporate activities (e.g. IT, Human Resources, Finance & Compliance). Reflects the relationship between overheads and overall business activity and performance.
Essential	Labour On-costs	[redacted]%	The Labour On-cost rate includes the recovery of: ▪ Annual Leave Long Service Leave Sick Leave (Non-vesting, Preserved) ▪ Other Leave (Public Holidays, Other Leave, Rostered Day Off, Time in Lieu, DIL, HIL, PEN, Voluntary Payments) ▪ Payroll Tax ▪ Superannuation Expense ▪ Workers Compensation Premium ▪ Workers Compensation Under Excess Claim Payments.
	Plant Recovery (Fleet Recovery)	[redacted] per labour hour	Essential Energy's costing methodology is to allocate fleet operating costs (Plant Recovery) to operating activities at a rate of [redacted] per labour hour (as set for the 2014/15 financial year). This amount represents the recovery of: ▪ Fuel ▪ Registration ▪ Insurance ▪ Depreciation ▪ Fleet administration costs
	Indirect Costs	41.68%	Indirect costs consist of forecasts division and corporate overheads, averaged for the regulatory period.
	Finance Charge	2.21%	Rate is applied to the total costs (includes both direct and indirect). The finance change represents financing cost over the time period between provision of the service and receipt of payment. The finance charge represents financing costs over the time period between provision of the service and receipt of payment.

Appendix 4: Summary of new meter costs

Table 15 provides a complete summary of fees proposed for new meters for each of the distribution businesses by meter type.

The summary distinguishes the various cost components (meter hardware, non-material components of meter capital expenditure and WACC application) which together make up the total new meter charge. Where Marsden Jacob has conducted benchmarking and made recommendations, these are listed in the far right columns.

Marsden Jacob was not requested to review the application of a half year (6-month) WACC or the total proposed meter costs. These elements have been included for completion purposes only.

Table 15: Summary of proposed new meter costs

Category	Description	ActewAGL	Ausgrid	Endeavour	Essential	Market rates	Marsden Jacob
Meter hardware costs							
Type 6	Single phase, single element		$23.06	$18.69	$22.90	$18.69 to $23.00	Max. $23.00
	NEW type 6 meters	[redacted]*					
	Single phase, dual element			$153.73			Insufficient information
	Three phase, single element		$96.09	$88.51	$86.50	$86.50 to $100.00	Max. $100.00
Type 5	Single phase, single element	[redacted]	$88.06	$302.38	$63.72	$63.72 to $100.00	Max. $100.00
	Single phase, dual element	[redacted]	$147.26	$346.45	$149.86	$126.00 to $150.00	Max. $150.00
	Three phase, single element	[redacted]	$202.00	$421.28	$209.84	$189.27 to $220.00	Max. $220.00
	Three phase, current transformer		$519.00		$298.78	$200 for Class 1 or $400 for Class 0.5 or better**	Insufficient information
Non-material cost components							
Type 6	Single phase, single element		$22.69	$22.49	$11.91		
	NEW type 6 meters	[redacted]					
	Single phase, dual element			$22.49			
	Three phase, single element		$22.69	$22.49	$45.00		
Type 5	Single phase, single element		$22.69	$22.49	$33.15		
	Single phase, dual element		$22.69	$22.49	$77.96		
	Three phase, single element		$22.69	$22.49	$109.16		
	Three phase, current transformer		$22.69	$22.49	$155.43		
Weighted average non-material cost inflator					**52.00%**		**Max. $25.00**
WACC (not benchmarked)							
6-month WACC			4.32%	3.62%	4.02%		

Category	Description	ActewAGL	Ausgrid	Endeavour	Essential	Market rates	Marsden Jacob
Total new meter costs (not-benchmarked)							
Type 6	Single phase, single element		$46.75	$41.85	$75.59		
	NEW type 6 meters						
	Single phase, dual element			$180.74			
	Three phase, single element		$122.93	$114.20	$176.16		
Type 5	Single phase, single element		$115.18	$335.80	$140.14		
	Single phase, dual element		$176.31	$381.47	$276.35		
	Three phase, single element		$238.69	$59.00	$371.20		
	Three phase, current transformer		$577.66		$511.83		

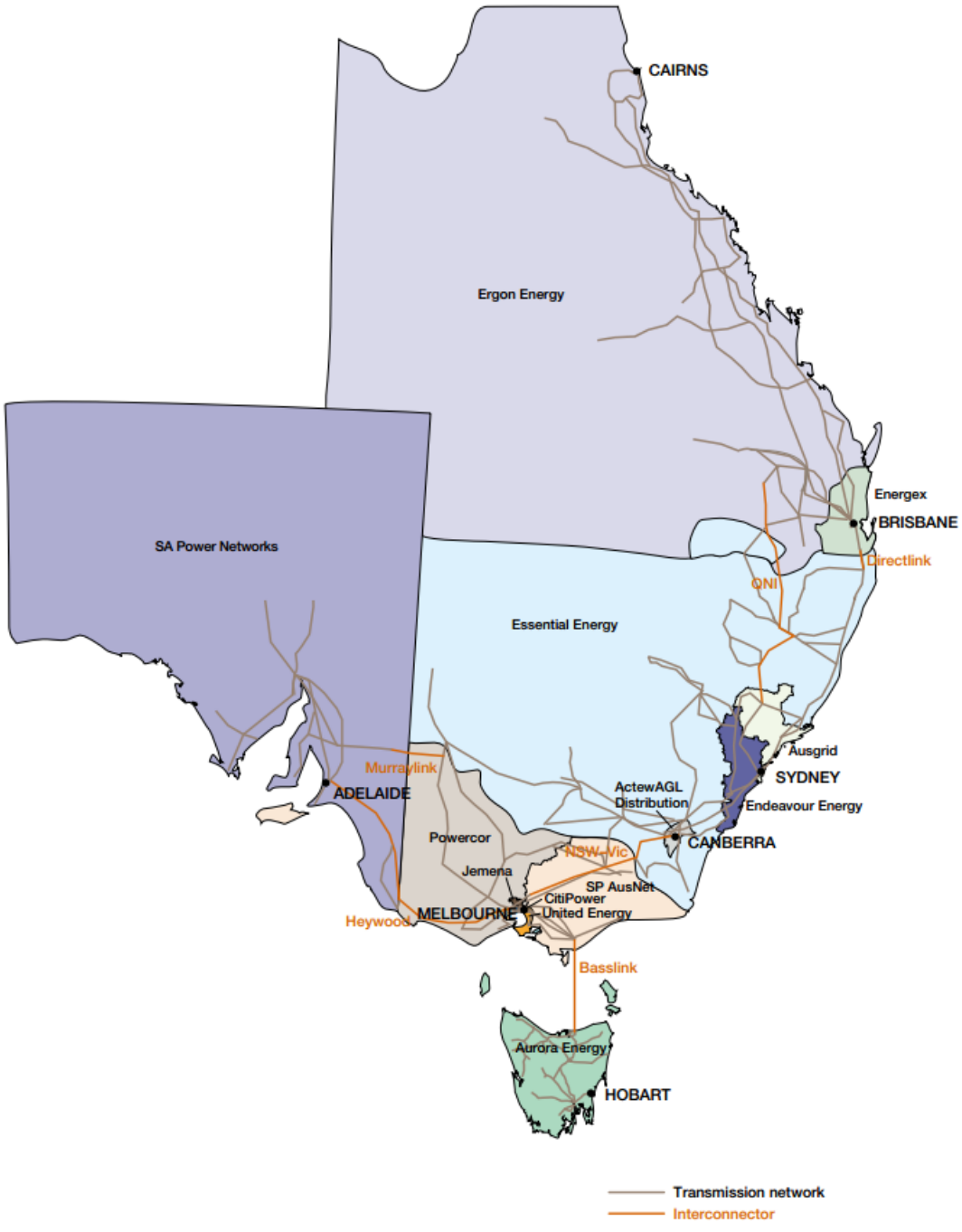
**ActewAGL type 6 meter hardware cost of $[redacted] is a weighted average cost of single and three phase meters.*

***Marsden Jacob was unable to establish a clear market price range for Three phase CT meters classified as Type 5. These price points were derived from a very limited sample and may not be representative of all available products or circumstances.*

Appendix 5: Map of DNSP areas

Figure 1 is a map of the distribution networks within the National Electricity Market. The map serves to highlight the relative geographic coverage of each network. In benchmarking the time taken to perform services, Marsden Jacob has given consideration to the likely difference in travel times which may influence service delivery costs for the NSW and ACT networks. Specifically, Essential's geographic coverage is much larger than that of the other NSW and ACT networks.

Figure 1: Electricity Networks in the National Electricity Market



QNI, Queensland–New South Wales Interconnector.

Source: Australian Energy Regulatory (2013) State of the Energy Market 2013, Figure 2.1, p. 61