Jemena Electricity Networks (JEN)

Remote AMI service charges for approval by the AER

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Commercial in confidence

Contact Person

Anton Murashev

Manager Asset Regulation and Strategy

(03) 8544 9036

anton.murashev@jemena.com.au

Jemena Electricity Networks (Vic) Ltd

ABN 82 064 651 083

321 Ferntree Gully Road
Mt Waverley VIC 3149

Postal Address:

Locked Bag 7000
Mt Waverley VIC 3149

Ph: (03) 8544 9000

Fax: (03) 8544 9888

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1   Summary

In summary:

- Remote Advanced Metering Infrastructure (AMI) services are new services made possible due to the AMI roll-out mandated by the Victorian government

- JEN has undertaken a comprehensive bottom-up costing exercise to determine the costs of providing remote AMI services

2   Background

The Australian Energy Regulator (AER) in its 2011-15 Victorian electricity distribution draft decision[1] released on 4 June 2010 indicated that remotely enabled AMI services will be regulated as excluded services under the framework provided by the Essential Services Commission of Victoria (ESCV) Electricity Industry Guideline 14 (Guideline 14) and the Victorian distribution licences.

In a letter dated 11 June 2010, the AER requested Jemena Electricity Networks (VIC) Ltd (JEN) submit a statement to the AER proposing charges and terms and conditions for remotely enabled AMI services, including but not limited to, remote energisation, remote de-energisation, remote meter configuration and remote special meter reading services.

JEN considers both Appendix 1 and Appendix 2 to be commercially sensitive and requests that the AER keeps these files confidential. JEN has also identified certain information in this document as commercially sensitive. This information is marked by **{c-i-c}** tags at the beginning and at the end of each confidential passage.

3   Overarching cost build up method for remote AMI services

JEN has adopted a bottom up approach to develop the proposed remote AMI service prices. In deriving the proposed prices for remote AMI services, JEN has followed an overarching method of passing on JEN's best estimates of its actual costs of providing the service to the customer. JEN's actual costs incurred in providing the service are the charges it pays to Jemena Asset Management (JAM) for providing the service, which comprise:

- JAM's direct costs of providing the service

- an allocation of JAM's indirect costs of providing the service

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[1] AER, *Draft decision, Victorian electricity distribution network service providers: Distribution determination 2011–2015, 4 June 2010*

- JAM's margin charged under the Asset Management Agreement (AMA).

JEN's proposed prices do not recover any other costs than those mentioned above. The prices do not include a recovery of JEN's indirect costs, nor do the prices include a profit margin for JEN.

3.1 JAM direct costs

Direct costs are built up using a managerial assessment of:

- the number of people involved in delivering the service

- average time taken to deliver the service

- the labour rates applicable for the JAM staff undertaking the work (for in house resources) or the labour rates for the relevant external sub-contractor (as some of these services are expected to be outsourced to external parties)

Detailed calculations and assumptions on direct costs (as well as all other costs) for each routine remote AMI service prices are provided in Appendix 1. The figures in Appendix 1 are in $2008. Those figures are then escalated to arrive at real $2010 indicative charges provided in the following sections. The escalation calculation can be found in Appendix 2 - JEN Remote AMI Services Pricing Model – CONFIDENTIAL.xls.

3.2 JAM indirect costs

As no specific causation-based allocation by service category is available from JEN's business systems, a revenue-based allocator has been used. The allocator estimates indirect costs for remote AMI services to be equal to {c-i-c} of direct costs.

3.3 JAM margin

The remote AMI services costing is consistent with the AMA between JEN and JAM, under which JEN pay JAM a commercial margin of {c-i-c}

3.4 Terms and conditions

JEN proposes that terms and conditions for providing remote AMI services upon request by a customer or a retailer on behalf of a customer should be the same as the terms and conditions in section 4.2 of the Use of System Agreement between JEN and the relevant retailer.

3.5 Proposed Charges

JEN's proposed charges reflect an approach whereby:

- as at 1 January 2011, charges will be set to reflect the estimate of actual costs of providing the relevant service

- each year, charges are adjusted by (1+CPI)(1-X), where X reflects the escalation of cost inputs to the service in real terms.

JEN has calculated X factors by breaking down the costs of the service into individual labour components and applying the escalators forecast by independent experts BIS Shrapnel and KPMG Econtech. The escalator and inflation forecasts adopted herein are consistent with JEN's revised regulatory proposal submitted to the AER on 20 July 2010 as part of the Victorian Electricity Distribution Price Review (EDPR).

3.5.1 Price calculations

JEN proposes to estimate indicative prices for its remote AMI services over 2011-2015 by using the following two step method:

- *Step one: estimate the base charges for each service*—as at 1 January 2011, charges are set to reflect the estimated actual costs of providing the relevant service. These base charges are calculated and provided in Appendices 1 and 2.

- *Step two: escalate the base charges in each year after 2011*—for each year after 2011, charges from the previous year are multiplied by (1+CPI)(1-X) to determine the current charge. Here, 'X' reflects the escalation of cost inputs to the service in real terms and 'CPI' reflects forecast inflation.

To estimate indicative prices, JEN calculated X factors under step two by first breaking down the costs of each service into internal and external labour components under step one.[2] JEN then applied two factors to each component:

- real labour cost escalators forecast by independent experts—BIS Shrapnel and KPMG Econtech

- forecast inflation, consistent with the AER's EDPR draft decision.[3]

JEN discusses both factors below. The application of these factors and the resulting indicative prices for each service are shown in Appendix 2.

3.5.2 Real labour cost escalation

JEN uses both internal and external labour escalators to calculate the X factors for each remote service. In particular, JEN uses an internal labour escalator for

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[2]   Given the nature of its remote AMI services, JEN considers that there are no 'material' or 'other' components for these services

[3]   AER, *Draft decision, Victorian electricity distribution network service providers: Distribution determination 2011–2015, 4 June 2010* p 524

remote special meter read and remote meter reconfiguration services and an external labour escalator for the remote re-energisation and de-energisation services for existing premises. The escalator is adopted based on the input for the cost build-up. So where internal labour is used in the cost build-up, the internal labour escalator has been used. The same applies for the external escalator and external labour services.

To determine these escalators, JEN averages the latest BIS Shrapnel and KPMG Econtech labour cost forecasts, being the most recent forecasts available:[4]

- BIS Shrapnel: *Wages Outlook for the Electricity Distribution Sector in Victoria - Prepared by BIS Shrapnel for the Victorian Electricity Distributors*, July 2010

- KPMG Econtech: *Labour Cost Forecasts for Powercor and CitiPower*, 13 July 2010

JEN considers that the BIS Shrapnel and KPMG Econtech forecasts are more accurate than the Access Economics forecasts used by the AER in its EDPR draft decision, for the reasons set out in JEN's revised regulatory proposal.[5]

JEN's internal and external labour escalators are explained further below and are consistent with JEN's revised regulatory proposal.[6]

Internal labour

This is calculated as a simple average of Average weekly Ordinary Time Earnings (AWOTE) Electricity, Gas and Water (EGW) wages (taken from table 1.1 of the BIS Shrapnel report) and EGW average weekly earnings (taken from table 2 of the KPMG Econtech report). From BIS Shrapnel's report, JEN used the real escalator in table 1.1. From KPMG Econtech's report, JEN used the nominal escalator in table 2, and converted it to real using JEN's inflation forecast.

External labour

This was calculated as the average of:

BIS Shrapnel's Outsourced Services Wage Escalator (real) taken from table 1.1 of the BIS Shrapnel report; and a combined escalator comprising:

- construction average weekly earnings (taken from table 3 of the KPMG Econtech report)

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[4]   JEN, 20 July 2010, *Revised regulatory proposal*, appendices 8.5 and 8.7

[5]   JEN, 20 July 2010, *Revised regulatory proposal*, ss. 7.5.1and 8.11 and appendices 8.4 to 8.7

[6]   JEN, 20 July 2010, *Revised regulatory proposal*

- administration and support services average weekly earnings (taken from table 5 of the KPMG Econtech report).

JEN converted KPMG Econtech's nominal escalators to real, using the same method as for internal labour.

JEN has set out all the above calculations in Appendix 2.

The resulting labour escalators

Table 3.1 shows JEN's forecast real labour cost escalators.

Table 3.1: JEN real labour cost escalators (per cent)

Escalator	2010	2011	2012	2013	2014	2015
Internal labour	6.05	2.54	3.29	3.37	2.89	2.68
External labour	4.12	1.79	2.21	2.35	2.09	1.89

3.5.3   Inflation escalation

JEN escalated its charges using forecast inflation for 2010 to 2015, consistent with the AER's draft decision.[7] JEN applied forecast inflation as set out in Table 3.2.

Table 3.2: Forecast inflation (per cent)

Details	2010	2011	2012	2013	2014	2015
Inflation forecast	1.26	2.57	2.57	2.57	2.57	2.57

This forecast relies on the Reserve Bank of Australia's (**RBA**'s) May 2010 monetary policy statement, the Australian Bureau of Statistics (**ABS**) release of actual inflation to September 2009, and the inflation forecast extrapolation outlined below.[8]

Forecast inflation

The inflation forecast for 2010 of 1.26 per cent is calculated by comparing the actual September CPI number as published by the ABS in September 2008 and September 2009.

The proposed inflation forecast from 2011 onwards of 2.57 per cent is calculated as the geometric average of the forecast annual inflation for each of the ten years from 2011 to 2020:

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7   AER, *Draft decision, Victorian electricity distribution network service providers: Distribution determination 2011–2015, 4 June 2010*

8   RBA, *Reserve Bank of Australia, Statement on Monetary Policy*, 6 May 2010, Table 14, p. 56

Table 3.3: Forecast inflation (per cent per year)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Inflation Forecast	2.75	3.00	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Geometric Average										**2.57**

Note: Inflation forecasts are for the year to June.

Source: Reserve Bank of Australia, Statement on Monetary Policy, 6 May 2010, page 56, table 14.

JEN's explanation for the ten annual inflation forecasts above is as follows:

- *first two years*–the forecasts are the expected inflation outcomes stated in the Reserve Bank of Australia's (RBA's) May 2010 Statement on Monetary Policy

- *subsequent eight years*–the forecasts are the midpoint of the RBA's long term inflation target range. The forecast range is 2 to 3 per cent, so the midpoint is 2.50 per cent.

JEN recognises that this inflation forecast may update for the AER's decision on JEN's remote AMI services with the release of more up to date Monetary Policy Statements by the RBA.

4   Remote AMI services

4.1   Remote special meter reading

4.1.1   Service description

Remote special meter reading has become possible due to the AMI roll-out mandated by the Victorian government. This functionality will become gradually available to an increasing number of sites as the AMI program continues. The service provided is identical to a manual special meter read. However, the underlying costs of the services are different, as the service will be provided remotely rather than through a site visit from a meter reader. The remote special meter read charge will be applied where the service is provided remotely, with the manual special meter read charge (to be approved by the AER in the Electricity Distribution Price Review process) applying where the special meter read is provided manually.

4.1.2   Proposed control mechanism and charges

JEN proposes that, consistent with the current treatment of the manual provision of this service, the charges be controlled by way of price cap on the actual charge to the customer.

Table 4-1, below provides indicative prices and X factors in accordance with the proposed control mechanism. The indicative prices for this service are substantively lower than the prices for the equivalent manually-provided service.

Table 4-1: Proposed remote special meter reading prices for the forthcoming regulatory control period

Year	2011	2012	2013	2014	2015
Price - bus hrs ($ real 2010)	1.93	2.00	2.06	2.12	2.18
X (per cent)	-2.54%	-3.29%	-3.37%	-2.89%	-2.68%

The detailed assumptions and unit cost inputs used to build up the underlying costs for the proposed charges are provided in Appendix 1, and the calculations for this table is provided in Appendix 2.

The cost build up allows an average of 1.5 minutes for the Customer Service team to process a B2B service order. During this B2B end-to-end process exceptions will occur. It is expected that for approximately 10 per cent of meter reconfigurations an additional 15 minutes of effort will be required. This can be due to:

- correct paperwork not being provided

- inappropriate meter configuration being selected and therefore further clarification being required

- a temporary lack of communication with the AMI meter

- an automated confirmation from the AMI meter not arriving in a timely manner.

4.2 Remote re-energisation

4.2.1 Service description

Remote re-energisation will become possible due to the AMI roll-out. If safety approval for new operating modes is provided by Energy Safe Victoria, this functionality will become gradually available to an increasing number of sites as the AMI program continues. The functionality provided is identical to a manual re-energisation. However, the underlying costs of the service are different, as the service will be provided remotely rather than through a site visit from a meter reader. The remote re-energisation charge will be applied where the service is provided remotely, with the manual re-energisation charge applying where the re-energisation is provided manually.

4.2.2 Proposed control mechanism and charges

JEN proposes that, consistent with the current treatment of the manual provision of this service, the charges be controlled by way of price cap on the actual charge to the customer.

Table 4-2, below provides indicative prices and X factors in accordance with the proposed control mechanism. The indicative prices for this service are substantively lower than the prices for the equivalent manually-provided service.

Table 4-2: Proposed prices for remote energisation for the forthcoming regulatory control period

Year	2011	2012	2013	2014	2015
Price - bus hrs ($ real 2010)	5.13	5.25	5.37	5.48	5.59
Price - after hrs ($ real 2010)	5.13	5.25	5.37	5.48	5.59
X (per cent)	-1.79%	-2.21%	-2.35%	-2.09%	-1.89%

The detailed assumptions and unit cost inputs used to build up the underlying costs for the proposed charges are provided in Appendix 1, and the calculations for this table are provided in Appendix 2.

The cost build up allows five minutes for the Customer Service team to process a B2B service order. Additionally, JEN has allowed an average of one minute to address exceptions during the B2B end-to-end process. Further explanation supporting the time allowed for the back office function is provided in the section 4.3 below.

4.3 Remote de-energisation

4.3.1 Service description

Remote de-energisation has become possible due to AMI roll-out. This functionality will become gradually available to an increasing number of sites as the AMI program continues. The functionality provided is identical to a manual de-energisation. However, the underlying costs of the service are different, as the service will be provided remotely rather than through a site visit from a meter reader. The remote de-energisation charge will be applied where the service is provided remotely, with the manual de-energisation charge applying where the de-energisation is provided manually.

4.3.2 Proposed control mechanism and charges

JEN proposes that, consistent with the current treatment of the manual provision of this service, the charges be controlled by way of price cap on the actual charge to the customer.

Table 4-3, below provides indicative prices and X factors in accordance with the proposed control mechanism. The indicative prices for this service are substantively lower than the prices for the equivalent manually-provided service.

Table 4-3: Proposed prices for remote de-energisation for the forthcoming regulatory control period

Year	2011	2012	2013	2014	2015
Price - bus hrs ($ real 2010)	5.13	5.25	5.37	5.48	5.59
Price - after hrs ($ real 2010)	5.13	5.25	5.37	5.48	5.59
X (per cent)	-1.79%	-2.21%	-2.35%	-2.09%	-1.89%

The detailed assumptions and unit cost inputs used to build up the underlying costs for the proposed charges are provided in Appendix 1, and the calculations for this table are provided in Appendix 2.

The back office functions in relation to remote re-energisation and de-energisation are performed by the same back office staff. The activity volume of re-energisation and de-energisation are generally the same, given that re-energisation generally follows de-energisation for a move in/move out. The effort required to process a de-energisation B2B request is slightly higher than that for energisation. This is because there is an additional step to verify if remote de-energisation should proceed, that is, to ensure life support customers are not disconnected. Moreover, the staff also verify if there is a corresponding B2B re-energisation request, in which case the de-energisation will not proceed. Such multiple B2B requests occur when a customer moves out and a new customer moves in to the same property.

JEN has averaged the expected time taken to process B2B requests across both remote re-energisation and de-energisation, which is estimated to be five minutes. The cost build up allows an average five minutes for the Customer Service Desk (AEGIS) to process a B2B service order.

Additionally, JEN has allowed an average of one minute to address exceptions during the B2B end-to-end process. It is expected that for approximately 20 per cent of meter reconfigurations an additional 5 minutes of effort will be required. This can be due to:

- correct paperwork not being provided

- inappropriate meter configuration being selected and therefore further clarification being required

- a temporary lack of communication with the AMI meter

- an automated confirmation from the AMI meter not arriving in a timely manner.

4.4   Remote meter reconfiguration

4.4.1   Service description

The remote meter reconfiguration service has become possible due to AMI roll-out. This functionality will become gradually available to an increasing number of sites as the AMI program continues. The service will be provided to a customer through a retailer acting on behalf of a customer, who has requested the re-configuration of an advanced interval meter. Examples of meter configuration include, but are not limited to:

- reconfiguration of the time of use periods or maximum demand settings in a meter, to align the meter with a tariff change

- reconfiguration following the installation of a solar installation in order to measure import and export of energy flows

- reconfiguration of load control turn-on/turn-off times.

4.4.2   Proposed control mechanism and charges

JEN proposes that the charges for this service be controlled by way of a price cap on the actual charge to the customer. Table 4-4, below provides indicative prices and X factors in accordance with the proposed control mechanism.

Table 4-4: Proposed prices for remote meter reconfiguration for the forthcoming regulatory control period

Year	2011	2012	2013	2014	2015
Price - bus hrs ($ real 2010)	41.35	42.72	44.16	45.43	46.65
X (per cent)	-2.54%	-3.29%	-3.37%	-2.89%	-2.68%

The detailed assumptions and unit cost inputs used to build up the underlying costs for the proposed charges are provided in Appendix 1, and the calculations for this table are provided in Appendix 2.

The cost build up allows 15 minutes for the New Connections team to complete the end-to-end process upon receipt of a B2B request for remote meter reconfiguration. The New Connections team require 15 minutes to assess each meter reconfiguration request to:

- determine whether the correct paperwork has been provided

- acknowledge the B2B service order

- determine the correct meter configuration to be set up

- change the network tariff in the CIS system so that it correlates with that shown in the B2B service request

- raise an internal meter reconfiguration SAP service order (which is sent to the AMI Network Operations team)

- monitor for completion of the internal meter reconfiguration service order, and subsequently complete the B2B service order

The next step in the process involves the AMI Network Operations team, who are trained to operate the remote functionality of the AMI system. The AMI Network Operations team require 15 minutes to:

- open SAP service order and review the request

- check whether the meter configuration is appropriate for the meter type

- check whether the meter is communicating

- remotely collect any remaining interval data (final read) from the AMI meter

- remotely update the meter configuration (which removes all previous reads on the AMI meter)

- verify that the meter configuration has been successful

- complete details in the meter reconfiguration service order in SAP

During this B2B end-to-end process exceptions will occur. It is expected that for approximately 20 per cent of meter reconfigurations an additional 10 minutes of effort will be required. This can be due to:

- correct paperwork not being provided

- inappropriate meter configuration being selected and therefore further clarification being required

- a temporary lack of communication with the AMI meter

- an automated confirmation from the AMI meter not arriving in a timely manner.