

## **Australian Energy Regulator**

### **Remote Services Price Review**

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# **1 Background and Scope**

## **1.1 Background**

Remote metering services that are facilitated by the Victorian AMI rollout are to be regulated as excluded services under the ESCV's Electricity Industry Guideline 14 (Guideline 14).

The AER requested the Victorian DNSPs to submit statements proposing charges for remotely enabled AMI services, including but not limited to, remote energisation, remote de-energisation, remote meter configuration and remote special meter reading services. Citipower, Jemena, Powercor and United Energy Distribution (UED) have submitted proposed charges. SpAusNet have advised the AER that they will not be submitting prices.

## **1.2 Scope**

The AER has engaged Impaq Consulting to provide advice on the DNSPs' proposed prices, including:

- the need for manual intervention in providing the remote services
- appropriate hourly labour rates, where needed
- times taken by staff to perform the remote services, including estimated numbers and times for difficult cases
- any additional costs faced by the DNSPs in providing remote services, including any proposed additional IT systems, workplace systems or materials
- the need to charge different customers different prices.
- safety of remote energisation/de-energisation for live line workers and for householders undertaking internal work , etc
- the need to ensure customers on life support are not accidentally disconnected
- ability to remotely energise where AMI meters is serviced by satellite
- mandatory site visits for premises unoccupied for at least 12 months – as per ESCV requirement

The scope of this advice does not include the proposed price paths or cost escalators proposed by the DNSPs nor does it consider whether the costs of providing these services have been recovered by the DNSPs elsewhere.

## **1.3 Manual Alternative Control Services**

Impaq Consulting has previously reviewed the DNSPs' proposals for labour rates and times for manual Alternative Control Services (ACS) as part of the AER's distribution determination. The findings of that review have been drawn upon to inform this review of remote services.

## **2 Approach and report structure**

The steps taken in this brief project have been:

- Review the pricing proposals presented by the DNSPs;
- Provide questions in relation to issues identified in the proposals to the DNSPs;
- Meet with each of the DNSPs at the offices of the AER to discuss these questions and related matters;
- Responses to questions were received from DNSPs; and
- Completion of the analysis of the pricing submissions and production of this report

This report considers each of the four proposed remote services in order:

- Special Reads
- De-energisation
- Re-energisation
- Meter reconfiguration

For each of these the following is reviewed:

- The chargeout rates for the labour used in remote services. These are compared with the AER's allowable chargeout rates as given in the draft decision on Alternative Control Services (ACS).
- The process times proposed for each service
- Some of the issues as listed in section 1

There are some other issues which are considered in section 7.

### 3 Special Reads

In the development of the Victorian AMI functionality and services specifications there was considerable discussion around the need or otherwise for special read services. It was agreed that a special read functionality was required so that DNSPs could perform special reads on meters, apart from daily routine reading, so that, amongst other reasons, data missed on routine reading could be recovered.

In relation to special read services (ie a retailer requesting a special read of a meter) it was decided that there was little need for this service as routine daily reading provided the interval data for each day. Special reads for intra-day consumption was considered to be not of great value as the market settles on a daily basis, so a retailer is responsible for whole days of energy usage. Further the data retrieved by a special read of a meter would need to go through validation and substitution, which is typically a batch process rather than a continuous process. Hence the time to provide a special read service could be an extended period of time, which reduces its usefulness for intra-day consumption determination.

Based on the above it is therefore considered unlikely that this service will be required in large volumes.

Furthermore it is considered that a remote special read should be a fully automated process. The retailer would raise a special read service order which would be sent through the Australian Energy Market Operator's (AEMO) Business to Business (B2B) hub to the DNSP. After receipt of this at the DNSPs inbox, the service order would be checked for validity of data and then sent through the AMI system to perform the special read of the AMI meter nominated. On receipt of the special read from the AMI system, the DNSP would put the interval data through validation and substitution and forward the resultant data to the requesting retailer. It is difficult to see where there is a need for manual intervention.

The DNSPs have however advised that since all the AMI systems and processes are new and not fully proven yet, they consider it is prudent to allow for manual intervention to deal with unexpected exceptions or issues that may arise. Impaq Consulting is not unsympathetic to this view on the basis that for the first year or two of operation systems and processes will need bedding down. However after that there appears to be no reason for a need for manual intervention and hence the excluded service charge for special reads would be expected to become zero after the first year or two.

#### 3.1 Proposed charges of the DNSPs

Two of the DNSPs have proposed charges for special reads for 2011 (in \$ real 2010):

Jemena	\$1.93
UED	\$2.00

#### 3.2 Analysis of Jemena proposed charge

##### 3.2.1 Charge out rate

Jemena have proposed a time of 1.5 minutes, based on the assumption that 10% of cases will require 15 minutes of manual intervention in order to resolve issues with a

remote special read. This average time of 1.5 minutes being charged at \$1.93 is an equivalent chargeout rate of \$77.20. The AER's likely final decision on maximum allowed back office labour rate for Alternative Control Services (ACS) is \$60.83 per hour (in \$2010) for business hours. Hence the Jemena proposed charge needs to be reduced in line with this.

### 3.2.2 Times

Jemena's proposed time of 1.5 minutes is based on the assumption that 10% of cases will require 15 minutes of manual intervention in order to resolve issues with a remote special read. This proportion of special reads needing manual intervention does seem a little high as there has been so much industry work spent on detailed development of AMI processes for fully automated reading of meters. Nevertheless, it is our view that this time should be allowed.

### 3.2.3 Revised charge

The result of this is that the recommended charge for Jemena is \$1.52 for 2011 in \$2010.

## 3.3 Analysis of UED's proposed charge

### 3.3.1 Charge out rate

The chargeout rate assumed in UED's proposed price is \$60 per hour (\$2 for 2 min per special read on average). As noted in the discussion on the Jemena charges, the likely final AER determination on ACS back office charges is a maximum of \$60.83 per hour. UED's proposed charge out rate is therefore considered reasonable.

### 3.3.2 Times

In relation to labour times, UED have proposed a time of 2 minutes, based on the assumption that 10% of cases will require 20 minutes of manual intervention. It is hard to see why UED would need more time than Jemena in this regard. Hence it is our view that the 1.5 minutes on average assumed by Jemena should apply.

### 3.3.3 Revised charge

The result of this is that the recommended charge for UED should be the same as for Jemena, viz \$1.52 for 2011 in \$2010.

## 3.4 Summary of recommended charges

The summary of recommended charges is given in Table 1. It is expected that after the AMI rollout the business processes for remote services will be sufficiently bedded down to reduce these charges to much lower values, preferably zero.

DNISP	Proposed Charge (2011)
Jemena	\$1.52
UED	\$1.52

**Table 1 – Recommended charges for special reads**

## 4 De-energisation

In the development of the AMI functionality specification and services specification there was also considerable discussion about the processes that should apply to de-energisation (also called “disconnect”) and re-energisation (also called “connect”). The remote de-energisation functionality was conceived as a fully automated process like that for special reads.

There are three issues that DNSPs have raised as potential complications which might require manual attention to resolve.

The first of these potential complications is that life support customers should not be disconnected for non-payment (but presumably can have a disconnection on move out if they have requested it). Hence DNSPs have advised that manual checking is required to prevent life support customers being de-energised. However DNSPs already have a database for customers that are on life support and hence this should be able to be interrogated as part of the automated process before carrying out a remote disconnection.

The second relates to a customer move-out followed by a customer move-in. Concern was expressed that the re-energisation associated with the move-in might be acted upon first followed by the de-energisation associated with the move-out. This would result in the incoming customer experiencing an undesired de-energisation. However this circumstance should not occur because the retailer for the incoming customer should not be able to request a re-energisation until they become the retailer for that premise. The DNSP should reject a re-energisation service order for a meter (referenced by a National Meter Identifier (NMI)) from a retailer that is not the registered retailer for that NMI in the AEMO MSATS system.

The third relates to customer premises that have not been active for the last 12 months. It is quite rightly pointed out by DNSPs that if a premise is de-energised for a long period, perhaps 12 months, that re-energisation should not be done remotely because of potential issues around the safety of the electrical installation. This issue however does not affect remote de-energisation, because the site is already energised.

Hence a fully automated process for de-energisation should be achievable.

The process for a remote de-energisation should be that the retailer raises a de-energisation B2B service order which would be sent through the AEMO B2B hub to the DNSP. After receipt of this at the DNSPs inbox, the service order would be checked for validity and also checked that it was not a de-energisation for non-payment on a life support customer. Then the AMI Network Management System would send the disconnect command to the AMI meter at the NMI nominated. The AMI system would then confirm the de-energisation has occurred to the DNSPs back office systems which would then send the confirmation back through the B2B to the Retailer closing out the service order.

Hence there appears to be no need for any manual intervention. However as noted in relation to special reads, Impaq Consulting is not unsympathetic to the view that there may be a need for some manual interventions for exceptions due to process or systems issues in the first one or two years of the operation of AMI.



## 4.1 Proposed charges of the DNSPs

The proposed charge for the performance of this service by the DNSPs is given in Table 2.

DNISP	Proposed Charge (2011)
Citipower	\$6.23
Jemena	\$5.13
Powercor	\$6.23
UED	\$7.72

**Table 2 – DNSPs Remote de-energisation proposed charges**

## 4.2 Analysis of Citipower and Powercor proposed charges

### 4.2.1 Chargeout rate

The cost build up for this proposed charge from Citipower and Powercor uses back office labour for all tasks with a labour rate of \$45.34 per hour for 2011, which when converted to the equivalent chargeout rate is \$47.92. This rate is within the AER's likely final determination rate as explained in section 3.2.1.

### 4.2.2 Times

The proposed activities and times are:

- Prior to sending the command to the AMI meter to de-energise:
  - Manage meter data service activity queue cancellations – 3 min;
  - Manage B2B inbox – issue service order batches – 1.8 min;
  - Remote exception management – 1.8 minutes;
- After the AMI meter has performed the de-energisation:
  - Activity queue close out – 1.2 min.

The total time is 7.8 minutes (0.13 hours). This time is larger than what Citipower and Powercor proposed for the back office time for manual de-energisation (which was 0.11 hours). As noted previously it is understood that these processes are new and the DNSPs are understandably not exactly sure how much manual involvement is required. However it does not seem reasonable that for a process that should be fully automated that the back office times can be longer than for a fully manual process.

Hence it is our view that the times should be reduced to 0.11 hours in line with the manual de-energisation times.

### **4.2.3 Revised charge**

This results in a recommended charge of \$5.27 for 2011

## **4.3 Analysis of Jemena's proposed charges**

### **4.3.1 Chargeout rate**

The time Jemena proposed for this service is 6 minutes (see below) which equates to an effective chargeout rate of \$51.30. This is less than the likely final AER determination limit of \$60.83 per hour and is therefore acceptable.

### **4.3.2 Times**

The total time proposed is 6 minutes of back office time, made up of:

- Verifying that de-energisation should proceed – 5 min
- Average of times for exception management – 1 min

This 6 minutes is significantly less than the 25 minutes proposed for back office labour for manual de-energisations and is also less than the 6.6 minutes proposed for Citipower and Powercor. The 6 minutes is therefore considered reasonable.

### **4.3.3 Charge**

Based on the above the Jemena charge of \$5.13 is considered reasonable.

## **4.4 Analysis of UED's proposed charges**

### **4.4.1 Chargeout rate**

UED has provided information in relation to the number of de-energisations per annum, the estimated number of FTEs to do the work and the cost of those FTEs. From this it has been deduced that the effective charge out rate is \$60.17. This is less than the AER's likely limit rate of \$60.83 per hour.

### **4.4.2 Times**

UED have proposed that there is 7 minutes required for manual checking of remote de-energisation services orders to check life support, whether the correct meter has been specified, meter capabilities, and whether the site has been active in the last 12 months. They have also proposed that 10% of de-energisation service orders will need 7 minutes of manual exception handling. This totals to an average of 7.7 minutes for de-energisation. UED did not provide an analysis of back office times for manual de-energisations which can be used for comparison purposes. However based on the preceding analysis for Citipower, Powercor and Jemena, the largest time allowed for those is 6.6 minutes. Hence it is proposed to adopt this time.

### **4.4.3 Adjusted charge**

Based on the chargeout rate of \$60.17 per hour and the adjustment to the times to 6.6 minutes, the proposed charge is \$6.62

## 4.5 Summary of recommended charges

The summary of proposed revised charges is given in Table 3. It is expected that after the AMI rollout the business processes for remote services will be sufficiently bedded down to reduce these charges to much lower values, preferably zero.

DNSP	Proposed Charge (2011)
Citipower	\$5.27
Jemena	\$5.13
Powercor	\$5.27
UED	\$6.62

**Table 3 – Recommended charges for remote de-energisation**

## 5 Re-energisation

The remote re-energisation functionality was conceived during the development of the AMI specifications as a fully automated process like that for de-energisation and special reads.

There are two issues that DNSPs have raised as potential complications which might require manual attention to resolve.

The first of these complications is in relation to avoiding remotely energising a premise which perhaps has the main switch closed and has appliances turned on. The “pizza box on the stove” scenario is often mentioned. This is where a premise has been de-energised and subsequently a pizza box has been left on the stove, which was also left turned on. The main switch is also left turned on. On remote re-energisation the stove heats up the pizza box, which ignites and burns the house down. In the AMI functionality specification development workshops much time was given to dealing with this issue. Firstly it was determined that the customer service representative at the retailer being asked by the customer for a re-energisation should go through a script to obtain commitment from the customer that:

1. The main switch is in the off position
2. The premise is safe to re-energise

Before a re-energisation service order would be initiated.

In relation to this the DNSPs were to also present a safety management plan to Energy Safe Victoria (ESV) which also managed this risk. Options which have been considered include having the meter measure the load current flowing up re-energisation. If current is above a low threshold this would indicate that the main switch is not in the off position and as a result the meter would be programmed to turn the supply contactor off again.

The second relates to customer premises that have not been active for the last 12 months. It is quite rightly pointed out by DNSPs that if a premise is de-energised for a long period, perhaps 12 months, that re-energisation should not be done remotely because of potential issues around the safety of the electrical installation. This issue is also a matter to be dealt with in the DNSPs safety management plan. One method proposed is to require physical de-energisation (removal of service fuse) when a premise has been de-energised for an extended period of time. Nevertheless when a remote de-energisation service order is received by the DNSPs they should have sufficient data to make an automated decision to determine if the re-energisation needs to be done manually or can be done remotely.

Hence a fully automated process for re-energisation should be achievable.

The process for a remote re-energisation should be that the retailer raises a re-energisation B2B service order which would be sent through the AEMO B2B hub to the DNSP. After receipt of this at the DNSPs inbox, the service order would be checked for validity and also checked that a manual re-energisation was not required for the reasons above. Then the AMI Network Management System would send the connect command to the AMI meter at the NMI nominated. The AMI system would then confirm the re-energisation has occurred to the DNSPs back

office systems which would then send the confirmation back through the B2B to the Retailer closing out the service order.

Hence there appears to be no need for any manual intervention. However as noted in relation to special reads and for remote de-energisation, Impaq Consulting is not unsympathetic to the view that there may be a need for some manual interventions for exceptions due to process or systems issues in the first one or two years of the operation of AMI.

## **5.1 Proposed charges of the DNSPs**

The proposed charge for the performance of this service by the DNSPs is the same as for de-energisation as given in Table 2.

## **5.2 Recommended charges**

The analysis of re-energisation charges is the same as for de-energisation charges. The summary of recommended charges for re-energisation is in Table 3

## 6 Meter re-configuration

There is currently no meter reconfiguration service in the AMI services specification and it is not included in the Victorian AMI Process Model. Until the National Smart Metering Program (NSMP) completes its work including the development of specifications and business processes for remote re-configuration of smart meters, there is a need in the interim for remote meter re-configuration services in Victoria.

One DNSP has advised that in their view there are four circumstances that would apply in the current AMI rollout in Victoria where remote meter re-configuration would be required:

1. Changed switching times for the controlled circuit associated with Tariff Changes
2. Requests for re-assignment to a solar feed-in tariff, requiring bi-directional energy measurement and recording to be enabled in the meter
3. Requests for the cancellation of a controlled load Hot Water tariff, requiring the disabling of the second data stream within a 2 element meter.
4. Reconfiguration of the time of use (TOU) periods or maximum demand settings in a meter to align the meter with a tariff change

It is noted that the last of these four is contingent on a cessation of the TOU tariff moratorium.

Like the other three remote control services considered before there was the expectation during the AMI specifications development that meter re-configuration would be an automated process not requiring manual interventions.

In relation to 1 above, it was expected that DNSPs would provide a load control window of time (eg: from 10 pm to 7 am) during which retailers could chose when to turn controlled load on or off (eg: they might chose from 2 am to 6 am). It was envisaged that the DNSPs allowable window would be part of a network tariff and that a retailer request for a load control program within that window of time would be automatically sent to the meter without need of manual intervention by the DNSP.

In relation to 2 above, it was understood that when a customer installed solar PV and applied for a feed-in tariff from a retailer that the retailer would initiated a B2B service to the DNSP requesting that the import data channel for the customers meter be enabled and collected.

In relation to 3 above, it was again expected that when a customer changed their tariff such that they did not require a controlled load hot water tariff that the retailers would send a request through a B2B service order to the DNSP to disable the collection of that channel of data.

It is understood however that until the National Smart Metering Program completes its work and there are B2B service orders to support the above, that manual processing of meter configuration changes will be required.

## 6.1 Proposed charges of the DNSPs

The proposed charge for the performance of this service by the DNSPs is given in Table 4

DNISP	Proposed Charge (2011)
Citipower	\$27.95
Jemena	\$41.35
Powercor	\$27.95
UED	\$39.10

**Table 4– DNSPs Remote reconfiguration proposed charges**

## 6.2 Analysis of Chargeout rates

### 6.2.1 Citipower and Powercor

The cost build up for this proposed charge from Citipower and Powercor uses back office labour for all tasks with an effective chargeout rate of \$47.92. This rate is less than the AER's likely limit as explained in section 3.2.1.

### 6.2.2 Jemena

Jemena's proposed time for this service is 32 minutes which equates to a chargeout rate of \$77.53 (in 2010 \$). This is in excess of the AER determined limit of \$60.83 per hour and the proposed charge in Table 5 includes the associated adjustment.

### 6.2.3 UED

UED has indicated that the expected number of meter reconfigurations per annum is 232. From the estimated number of FTEs to do the work and the cost of those FTEs it has been deduced that the effective charge out rate is \$60.15. This is within the AER limit rate of \$60.83 per hour in 2010 \$ and hence the chargeout rate is considered reasonable.

## 6.3 Analysis of times to provide the service

The following discusses the times to provide a meter reconfiguration. It is noted that all four DNSPs have times that are relative similar; between 32 minutes to 39 minutes. These times are higher than what Impaq Consulting would have expected based on the relative simplicity of the task to edit the image of the meters configuration and send the edited configuration to the meter.

There is no prior experience on which to draw to give a more definitive determination on times, and it is early days in the operation of AMI with business processes and systems that are not yet bedded down. Hence although Impaq Consulting considers the times excessive, it nevertheless accepts them on the basis that they should only apply for one or two years.

### **6.3.1 Citipower and Powercor**

The proposed activities and times are:

- Prior to sending the command to the AMI meter to change configuration:
  - Paperwork received by back office – 6 min;
  - Admin locates account check details and raises CIS work order – 4.8 min;
  - Admin raises SO for ACC to complete work– 3.2 minutes;
  - ACC creates and sends update file to meter – 15 minutes
- After the AMI meter has performed the de-energisation:
  - Admin receives paper work from ACC and confirms the detail of information provided – 1.6 min.
  - Admin inputs information into CIS system – 3.2 min
  - Admin files hard copy of information – 1.2 min

The total time is 35 minutes (0.58 hours).

### **6.3.2 Jemena**

The total time proposed is 32 minutes of back office time, made up of:

- Customer Service - New Connections (100% require manual intervention) – 15 min
- Comms analyst to execute remote configuration – 15 min
- Customer Service - AMI Comms Analyst (the average time of 2 minutes takes into account that 20% of the cases require 10 minutes manual intervention in order to undertake the remote meter reconfiguration)

### **6.3.3 UED**

UED have proposed that there is a total of 39 minutes required:

- 100% manual review by New Connections Officer to determine which meter program ID should be applied – 20 min
- 100% execution by comms analyst through remote instruction – 15 min
- Exception handling – 20% require 20 minutes manual intervention – 4 min



## 6.4 Summary of recommended charges

The summary of recommended charges is given in Table 5. It is expected that after the AMI rollout the business processes for remote services will be sufficiently bedded down to reduce these charges to much lower values, preferably zero.

DNSP	Proposed Charge (2011)
Citipower	\$27.95
Jemena	\$32.44
Powercor	\$27.95
UED	\$39.10

**Table 5– Recommended charges for meter re-configuration**

## **7 Other issues**

In the preceding analysis of each of the proposed remote services not all issues included in the scope of this review were dealt with. The remaining issues are:

- estimated numbers and times for difficult cases
- any additional costs faced by the DNSPs in providing remote services, including any proposed additional IT systems, workplace systems or materials
- the need to charge different customers different prices.
- ability to remotely energise where AMI meters is serviced by satellite

### **7.1 Estimated numbers and times for difficult cases**

All four of the DNSPs have identified a proportion of remote services as being exceptions and requiring additional manual attention to resolve them. The DNSPs have identified between 10% and 20% as being exceptions. Given that this is still early times in the implementation of AMI services, Impaq Consulting considers that these percentages, although higher than expected, are not unreasonable. It would however be expected that after a year or two of operation of AMI that the percentage of exceptions would decline below 5% and more likely around the 1% level.

### **7.2 Additional costs faced by the DNSPs**

The DNSPs have not flagged the need for additional costs, such as IT systems, workplace systems or materials. This is in accord with the fact that all these services were contemplated in the development of the AMI specifications and fall within the scope of services detailed in the AMI cost recovery Order in Council.

### **7.3 The need to charge different customers different prices**

The DNSPs have not proposed different charges for different customers. This is in accord with the AMI specifications where performance levels and service levels are not differentiated by customer or by the location of the customer (eg: urban or rural).

### **7.4 Ability to remotely energise where AMI meters is serviced by satellite**

The DNSPs have not identified this as an issue in their pricing proposals for remote services. It would not be expected that there should be an issue with remote services for rural customers that are connected via satellite as satellite communications would be expected to also provide AMI remote services (although perhaps in some cases with longer times than those for urban customers).