AusNet Electricity Services Pty Ltd

Electricity Distribution Price Review 2016-20

Revised Regulatory Proposal

Addendum to Metering Asset Management Strategy (EDM AMS) 2016-20

Public Version

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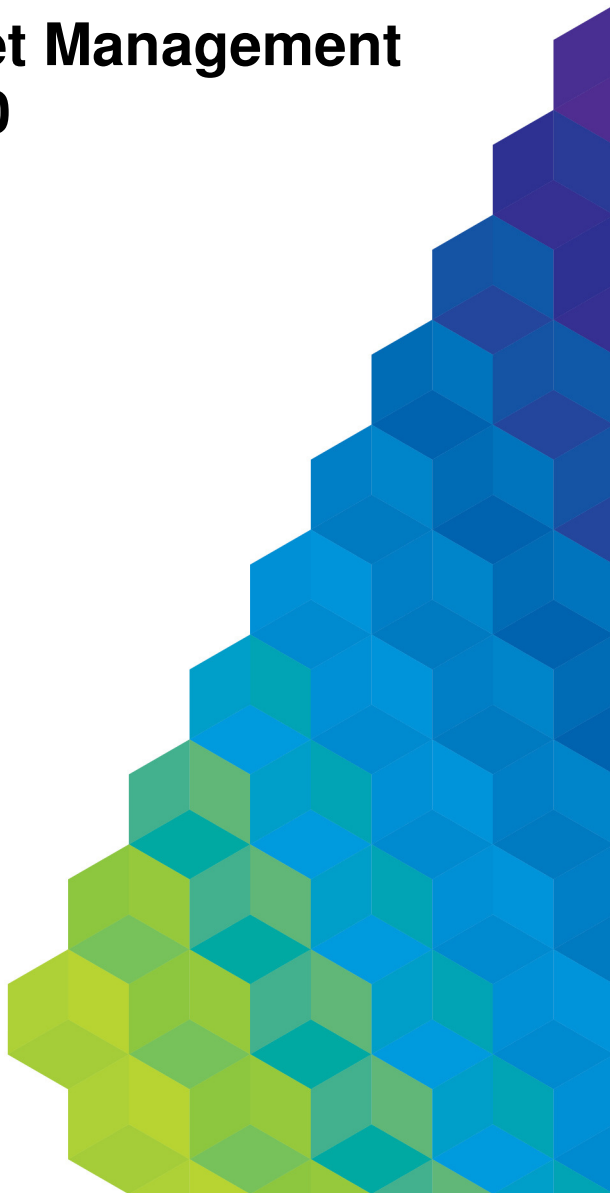


Purpose/Background

This Addendum is to accompany AusNet Services' Metering Asset Management Strategy (EDM AMS) 2016-20 that was submitted to the AER as part of the initial proposal.

In the event of inconsistency between information contained in this Addendum and AusNet Services' Initial Regulatory Proposal, the information contained in this Addendum prevails.

1.1 Introduction

In the initial proposal, AusNet Services proposed to progressively replace the obsolete existing communication technology in an orderly and efficient manner throughout the 2016 to 2020 regulatory period. This proposal was rejected by the AER in the Preliminary Decision on the basis that AusNet Services is switching technologies. Although AusNet Services disagrees with the AER's conclusion, AusNet Services has revised its position and will now continue to use the existing communication technology throughout the regulatory period where possible. However, should any element of the communication technology fail during the regulatory period, AusNet Services will need to replace the communication technology with an alternative technology.

Now that AusNet Services is forecasting not to systematically and efficiently replace the existing communication technology, additional capex and opex is projected to be required for the continuous costs associated with running the communication technology throughout the regulatory period. In addition, opex efficiencies proposed in AusNet Services' Initial Regulatory Proposal will no longer be achievable as the existing communication technology is still being used throughout the regulatory period. Furthermore, AusNet Services now has new and updated information available which impacts the proposed costs in the initial proposal.

The following sections provide further details regarding these revised costs.

1.2 Capex impact

This section provides a summary of the proposed revised capex as compared to AusNet Services' initial proposal.

1.2.1 New connections forecast

The Victorian Government's residential (household) growth forecasts have increased from 1.75% per annum to 1.99% per annum in the period 2016 to 2021. Accordingly, AusNet Services has increased the forecast for new connections as shown in Table 1.1 below.

Table 1.1: Revised new connections forecast

Volume	2016	2017	2018	2019	2020
Revised new connections	17,088	16,826	17,240	16,367	16,269
Initial new connections	14,051	15,314	15,162	14,557	14,464
Difference	3,037	1,512	2,078	1,810	1,805

Source: AusNet Services

As a result of the updated Victorian Government forecast, AusNet Services has revised its capex requirements for new connections. AusNet Services also proposes to remove the new connection installation costs from its meter capex as customers will be charged separately for this service. The increase in the volume of new connections proposed by AusNet Services has a corresponding increase to the number of meters and communication modules (communication cards and antennas) required during the regulatory period.

1.2.2 Communication modules replacement

In the initial proposal, AusNet Services proposed to replace the installed communication modules at the same time of a meter failure event. Therefore, the number of communication modules to be replaced and the number of meters to be replaced is the same.

However, as the existing communication technology will continue to be utilised throughout the regulatory period, there will be a need to replace an increased amount of communication modules during the regulatory period as compared to the number of meters. This is due to the historical fault rate of the communication modules which is higher than the fault rate of meters as shown in Table 1.2 below.

Table 1.2: Historical communication modules fault rate

	2014	2015
Volume	22,025	27,339
Highest fault rate in a month (annualised)	8.9%	15.5%
Average annual fault rate	5.4%	6.4%

Source: AusNet Services

These communication modules have a design life of seven years and it is expected that the fault rate of these communication modules will progressively increase during the regulatory period as these communication modules reach or approach end of life. This increase in fault rate is supported by AusNet Services' historical communication modules fault rate which shows that the fault rate will continually increase with the age of the communication module. As AusNet Services already has an approved forecast for the replacement of these communication modules at the same time of a meter replacement, AusNet Services is therefore only proposing the step change difference. The total volume of these communication modules faults is shown in Table 1.3 below.

Table 1.3: Forecast of additional communication modules (existing communication technology)

	2016	2017	2018	2019	2020
Fault rate of existing communication modules	6.00%	6.50%	8.00%	9.50%	11.50%
Volume	26,400	26,884	30,937	33,799	37,028
Additional new communication modules (step change)	21,495	22,078	26,229	29,186	32,415

Source: AusNet Services

The new communication modules will be installed by the end of 2016. These communication modules are also susceptible to faults and failures, albeit at a relatively low rate. Therefore, AusNet Services forecasts that replacements will be required and these are shown in Table 1.4.

Table 1.4: Forecast of additional communication modules (new communication technology)

	2017	2018	2019	2020
Fault rate of new communication modules	0.50%	0.75%	1.00%	1.00%
Volume	1,816	3,086	4,616	5,149

Source: AusNet Services

There will also be a corresponding increase in the installation costs of these communication modules as field officers are required to go to customers' premises on an ad hoc basis to replace the faulty communication modules. Due to the geographic disparity of these faults across AusNet Services' network, the installation costs will be higher due to the longer travel time between premises. Therefore, it is forecast that the cost per installation is 75 per cent of the installation cost of a meter replacement.

The impact of the proposed increase in communication modules is shown in Table 1.5 below.

Table 1.5: Impact of additional communication modules

Real $2015 ($M)	2016	2017	2018	2019	2020
Additional communication modules	6.9	7.7	9.4	10.8	12.1

Source: AusNet Services

1.2.3 Revised capex forecast

Based on the above, AusNet Services proposes the following revised metering capex:

Table 1.6: Proposed metering capex

Real $2015 ($M)	2016	2017	2018	2019	2020	Total
Meters (including communication modules)	13.1	13.7	15.5	16.7	17.9	76.9
Communication infrastructure	4.6	0.2	0.2	0.2	0.2	5.4
IT (MMS)	-	-	0.3	0.3	0.3	0.9
Total	**17.7**	**13.9**	**16.0**	**17.2**	**18.4**	**83.2**

Source: AusNet Services

1.3 Opex impact

This section provides a summary of the proposed revised opex as compared to AusNet Services' initial proposal.

1.3.1 IT (non-MMS) and communication infrastructure opex

AusNet Services proposes an increase to IT (non-MMS) and communication infrastructure opex primarily due to two factors:

- Signed contracts post the Initial Regulatory Proposal; and
- Continued use of the existing communication technology for a longer period.

1.3.1.1 Signed [C-I-C] contract

[

C-I-C]

The signed contract with [C-I-C] totals $11.0 million (real $2015) over the 2016 to 2020 regulatory period whereas the Initial Regulatory Proposal included a forecast cost of $4.7 million (real $2015).

The increase in the revised forecast cost compared to the Initial Regulatory Proposal is due to the following reasons as shown in Table 1.6:

Table 1.6: Increase in [C-I-C] cost

Real $2015 ($M)	2016	2017	2018	2019	2020
Price increase	0.1	0.4	0.4	-	-
Exchange rate difference	0.4	0.4	0.4	0.4	0.5
Continued use of existing communication technology	-	-	-	1.5	1.8
Total	**0.5**	**0.8**	**0.8**	**1.9**	**2.3**

Source: AusNet Services

Price increase

[

C-I-C

]

AusNet Services has rigorously reviewed the services to be provided by [C-I-C] to ensure that only the required services based on AusNet Services' requirements are contracted.

Exchange rate differences

The contract with [C-I-C] is denominated in US dollars. To minimise foreign exchange fluctuations and therefore costs, AusNet Services as a prudent and efficient business has hedged the foreign exchange rate in relation to the [C-I-C] contract. For the contract up to 31 July 2015, the hedged exchange rate was A$1 = US$0.88 whereas the contract from 1 August 2015 had a hedged foreign exchange rate of A$1 = US$0.7113.

Costs in 2019 and 2020

As mentioned above, the signed contract in May 2015 is for services to be provided by NewNet up to 31 July 2020. [

C-I-C

] Therefore, costs will still be incurred regardless throughout the regulatory period.

1.3.1.2 Continued use of the existing communication technology

As AusNet Services will continue to use the existing communication technology throughout the regulatory period, associated communication costs are forecast to increase as opposed to reduce as per AusNet Services' Initial Regulatory Proposal. The following table summarises the proposed cost increases:

Table 1.7: Increase in costs associated with the existing communication technology

Real $2015 ($M)	2016	2017	2018	2019	2020
Radio licences	-	-	-	0.1	0.4
Communication charges	0.6	1.0	1.3	1.5	1.5
Tower site lease and maintenance	-	-	-	0.8	1.0
Firewall costs	0.03	0.03	0.03	0.3	0.4
Specialised labour	-	-	(0.1)	0.5	0.7
Total	**0.63**	**1.03**	**1.23**	**3.2**	**4.0**

Source: AusNet Services

Radio licences, tower site lease and maintenance

The primary meter communication network provides the ability for meters to deliver data to a centralised access point (tower) using radio spectrum. This method requires Spectrum Licences whereas the communication backhaul from these towers to the data centres uses Apparatus Licences. To continue to operate the spectrum and backhaul communication network, the same amounts of Apparatus Licences are required throughout the regulatory period in order to obtain data

from customers' premises to fulfil AusNet Services' metering obligations. In April and July 2015, the Spectrum Licences were renewed for a further period to ensure that AusNet Services still has access to this spectrum.

Similarly, leases of the communication towered sites are required to be retained. These sites and towers will need to be repaired and maintained throughout the regulatory period. These towers are required components of the communication technology, without which meters cannot be remotely read.

Communication charges

External communication charges are an essential component of AusNet Services' communication technology.

In September 2014 the AusNet Services Board approved an alternative communication approach. This approach required the use of 3G services but did not require the use of 3G equipped communication cards as a part of the communications solution. As part of this process, AusNet Services assessed the operating costs under several operational scenarios including 3G costs.

Commercial negotiations with the preferred communication technology vendor occurred between December 2014 and April 2015. During this time, AusNet Services also assessed the residual risks to compliance of the existing communication technology. As a result of this risk assessment, AusNet Services considered the feasibility of utilising 3G equipped micro access points (APs).

In May 2015 the AusNet Services Board approved the alternative approach, in which comprehensive project cost modelling had been completed and 3G cost estimates were prepared. This estimate was then used to facilitate a commercial arrangement with Telstra. The forecast cost in the Initial Regulatory Proposal was found to be insufficient as the detailed analysis and vendor negotiations were yet to be completed.

Firewall costs

As privacy of customer data is of utmost importance, it is vital that AusNet Services protects this sensitive information from being accessed by hackers via adequately maintaining the firewalls protecting AusNet Services' communication infrastructure. Since the Initial Regulatory Proposal, AusNet Services has received the latest invoice from the supplier indicating that the actual cost for 2015 has increased and therefore, forecast costs need to be increased accordingly.

Specialised labour

With the decision to continue using the existing communication technology, there will be a need for the retention of a number of communication network engineers and analysts throughout the regulatory period. The specific and specialised nature of the existing technology requires specific and specialised resources to support and maintain the services. Historical recruitment for these roles has meant recruiting, at a premium, from outside of Australia in order to obtain the correct and necessary skill sets. Detailed knowledge of the inter-operability of the existing technology allows for these resources to support the continued delivery of data in accordance to our obligations.

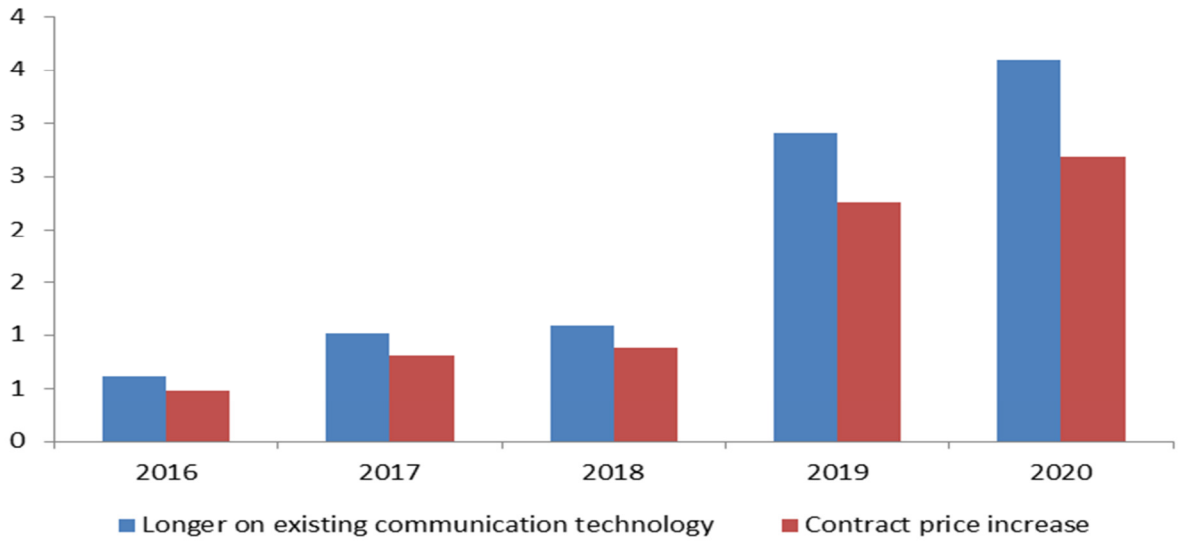
Summary

The increase in IT (non-MMS) and communication infrastructure opex described above increases the opex in standard control services as the IT systems impacted are related to the distribution network. As mentioned in the Initial Regulatory Proposal, the AMI communication network provides numerous

network management services with many additional services identified for future implementation. These network services would be utilised in the future, independent of the existence of a metering service.

A summary of the proposed increase in IT (non-MMS) and communication infrastructure opex is shown in the chart below:

Figure 1.1: Increase in IT (non-MMS) and communication infrastructure opex ($M, real $2015)



Source: AusNet Services

1.3.2 Meter maintenance opex

As noted in section 1.2.2 above, the communications modules are expected to experience a progressive increase in fault rate during the regulatory period. Therefore, to ensure that the communication modules are maintained and repaired within the specified time frame to minimise any data disruptions, additional resources are required throughout the regulatory period. As a result, AusNet Services forecasts that up to an [C-I-C] are required progressively over the regulatory period.

This additional meter maintenance opex increases the metering alternative control services opex.

1.3.3 Revised opex forecast

Based on the above, AusNet Services proposes the following metering opex, allocated across both standard control services and alternative control services:

Table 1.8: Proposed metering opex (standard control services and alternative control services)

Real $2015 ($M)	2016	2017	2018	2019	2020	Total
Meter reading	1.4	1.4	0.8	0.8	0.8	**5.2**
Meter data management	4.2	3.4	3.6	3.8	3.9	**18.9**
Meter maintenance	2.5	2.4	2.2	2.3	2.5	**11.9**
Metering management	0.3	0.3	0.3	0.3	0.3	**1.5**
IT (MMS) and communication infrastructure maintenance and support	3.4	3.5	3.5	3.5	3.5	**17.4**
IT (non-MMS) and communication infrastructure maintenance and support[1]	18.0	18.0	17.9	17.3	17.1	**88.3**
Overheads[2]	2.7	2.7	2.7	2.8	2.8	**13.7**
Total	**32.5**	**31.7**	**31.0**	**30.8**	**30.9**	**156.9**

Source: AusNet Services

[1] Allocated to standard control services.

[2] Allocated to standard control services.