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# **AusNet Electricity Services Pty Ltd**

**Advanced Metering Infrastructure**

**Submission on Transition Charges  
Application Draft Decision**

Submitted: 2 November 2016



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## Submission on Transition Charges Application Draft Decision

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### About AusNet Services

AusNet Services is a major energy network business that owns and operates key regulated electricity transmission and electricity and gas distribution assets located in Victoria, Australia. These assets include:

- A 6,574 kilometre electricity transmission network that services all electricity consumers across Victoria;
- An electricity distribution network delivering electricity to approximately 690,000 customer connection points in an area of more than 80,000 square kilometres of eastern Victoria; and
- A gas distribution network delivering gas to approximately 660,000 customer supply points in an area of more than 60,000 square kilometres in central and western Victoria.

AusNet Services' purpose is 'to provide our customers with superior network and energy solutions.'

For more information visit: [www.ausnetservices.com.au](http://www.ausnetservices.com.au)



### Contact

This document is the responsibility of the Asset Management Division, AusNet Services. Please contact the officer below with any inquiries.

Adrian Hill  
Asset Management  
AusNet Services  
Level 31, 2 Southbank Boulevard  
Melbourne Victoria 3006  
Ph: (03) 9695 6286

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### Executive Summary

The Cost Recovery Order in Council (**OIC**) permits a Distribution Network Service Provider who incurs expenditure in 2014 and 2015 in excess of its approved budgets for those years to submit to the AER an application to recover that expenditure through transition charges.<sup>1</sup> AusNet Services submitted its application on 31 May 2016 (**Application**) and the AER made its draft determination on 20 September 2016 (**Draft Decision**). The Draft Decision disallowed \$53.9 million of the expenditure excess proposed in the Application. As part of the consultation process required by the OIC<sup>2</sup>, AusNet Services makes this submission in response to the Draft Decision.

This submission makes certain amendments to the Application (**Amended Application**). AusNet Services submits that the AER should determine that \$92.4 million of AusNet Services' expenditure excess is eligible to be recovered through a transition charge. If that expenditure excess is approved, it will result in a negative revenue adjustment of \$23.4 million. A negative revenue adjustment means AusNet Services will return the amount of the adjustment – \$23.4 million – to consumers through transition charges.

AusNet Services' Application applied for \$103 million expenditure excess based on a review against the prudence and efficiency criteria set out in the OIC. In addition, AusNet Services engaged Deloitte Access Economics (**Deloitte**) to undertake an ex-post review of the 2014 and 2015 expenditure excess. Deloitte reviewed AusNet Services' expenditure excess and considered the drivers of the overspend in the context of the broader AMI roll-out and the challenges faced by AusNet Services since 2012. Deloitte also considered the AER's previous decisions on AusNet Services' AMI expenditure, including metering costs in the EDPR 2016-20 Final Decision.

The Draft Decision approved 48% of the \$103 million expenditure excess AusNet Services proposed in the Application, resulting in a negative revenue adjustment of \$62.1 million. In making the Draft Decision, the AER has relied on the review undertaken by its consultant, Energeia, *Review of the Victorian Distribution Network Service Providers' 2017 Advanced Metering Infrastructure Transition Applications*.<sup>3</sup>

AusNet Services has considered the AER's reasoning in its Draft Decision and the results of Energeia's review. AusNet Services no longer presses its claim for approval of \$10.6 million of the expenditure excess in its Application, which relates to a portion of the 3G infill required in its network. AusNet Services maintains that \$92.4 million of the expenditure excess is efficient and prudent.

AusNet Services again emphasises that the expenditure excess which is the subject of the Application does not include expenditure relating to AusNet Services' choice of communications technology, or expenditure which may not otherwise satisfy the prudence and efficiency tests in the OIC. AusNet Services is not applying for the approval of \$83.7 million of its expenditure excess in 2014 and 2015, which comprises:

- \$75.4 million of costs which AusNet Services attributes to past decisions on the selection of the WiMAX communications technology; and
- \$8.3 million of expenditure which is above the efficient 2016 business-as-usual costs determined by the AER in the EDPR 2016-20 Final Decision.

The following figure summarises AusNet Services' actual costs in 2014 and 2015 compared to the expenditure excess it seeks to recover through transition charges.

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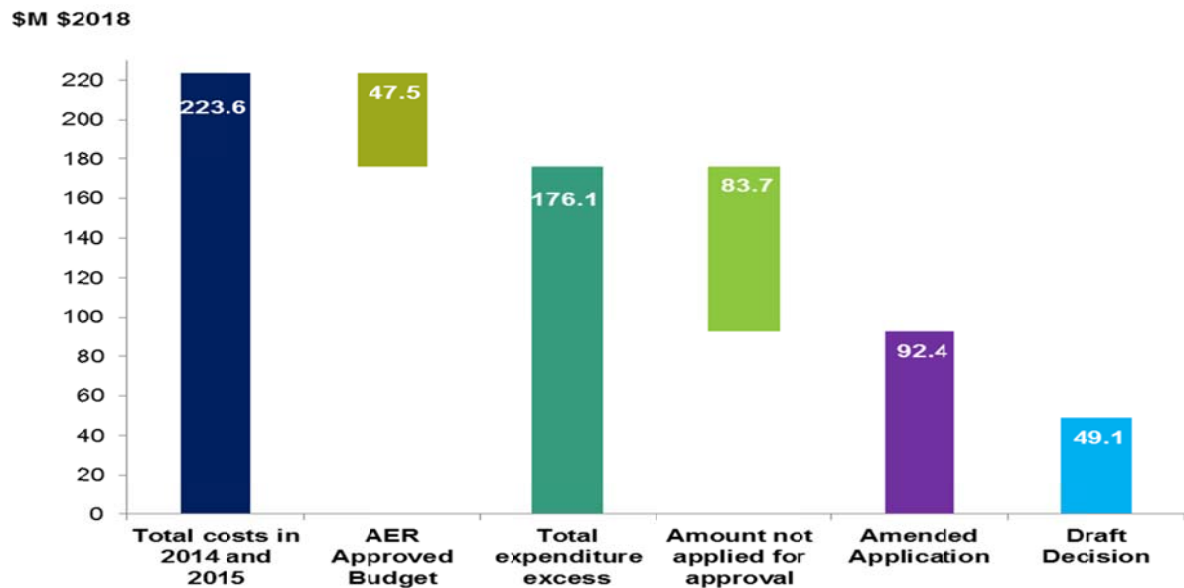
<sup>1</sup> Cost Recovery Order in Council, clause 5L.1.

<sup>2</sup> Cost Recovery Order in Council, clause 10.1A(e).

<sup>3</sup> Energeia, *Review of Victorian Distribution Network Services Provider's 2017 Advanced Metering Infrastructure Transition Applications*, September 2016.

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Figure 1: Analysis of expenditure excess (2014 and 2015)



It shows that AusNet Services is absorbing a large proportion of the actual expenditure excess it incurred in 2014 and 2015. Of an actual expenditure excess of \$176.1 million, AusNet Services seeks approval to recover \$92.4 million (or 52%) of the total excess through transition charges. The AER's Draft Decision determined that AusNet Services may recover \$49.1 million, which is equivalent to only 28% of AusNet Services' total expenditure excess.

AusNet Services considers that the expenditure excess of \$92.4 million was driven by:

- various external factors that have impacted on AusNet Services' ability to deliver the AMI Program within the Approved Budget; and
- the inadequacy of the budgets approved by the AER.

AusNet Services highlights that despite the need to install the communications modules in 2014, the average installation cost for the entirety of the roll-out period is 9% below the efficient benchmark determined by the AER in its Final Decision for the 2013 Expenditure Excess Application.<sup>4</sup>

AusNet Services also notes that the inadequacy of the Approved Budget has also been the result of previous regulatory decisions, which inappropriately benchmarked AusNet Services to other Victorian distribution networks and failed to make adequate allowance for obvious environmental differences in customer density and difficulty of terrain. The AER has recognised that its initial budget for the 2012-15 period was based on a set of assumptions that have not materialised. The AER has acknowledged that the budget set in October 2011 needs to be adjusted for actual costs.<sup>5</sup>

AusNet Services considers that customers should not bear these costs. It regrets the inconvenience to customers from the challenges experienced in its AMI Program. AusNet Services is committed to its remediation program and continues to work towards delivering the full benefits of smart metering to all customers. AusNet Services is spending up to \$219 million (nominal) to stabilise the existing end-to-end metering systems and to improve the communications network coverage. AusNet Services' Application does not attempt to recover the remediation costs incurred during 2014 and 2015.

<sup>4</sup> Energeia, *Review of Victorian Distribution Network Service Provider's Advanced Metering Infrastructure 2015 Charges Revision Application*, December 2014, p.25.

<sup>5</sup> AER, *Determination Advanced Metering Infrastructure 2015 revised charges*, December 2014.

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Taking into consideration this remediation expenditure, along with the \$22 million (nominal) of 2013 expenditure excess not approved by the AER previously, AusNet Services will have incurred up to \$241 million (nominal) of direct costs on the AMI Program which it will not recover and on which it will not achieve a return.

AusNet Services has fully considered the impact to customers and therefore, is applying for the approval of efficient and prudent costs, being 52% of its actual expenditure excess in 2014 and 2015. AusNet Services considers that approving the Application, as modified by this submission, would deliver metering charges which are consistent with the other Victorian Distribution Network Service Providers, achieve an appropriate balance between the financial impact of metering charges on customers, achieve compliance with regulatory obligations and ensure customers have access to the benefits of smart meter technologies.

## 1 Introduction

This submission on the Transition Charges Application Draft Decision sets out AusNet Services' response to the Australian Energy Regulator's (AER's) Draft Decision with respect to AusNet Services' Transition Charges Application (**Application**). It also makes certain amendments to the Application.

The AER approved \$26.9 million of \$74.4 million in capital expenditure (**capex**), a reduction of \$47.5 million, or 64% of the excess set out in AusNet Services' Application. The major cut to capex comprises expenditure, which the AER characterised as not meeting the requirements in the Cost Recovery Order in Council (**OIC**) to be recovered through the transition charge.<sup>6</sup>

In relation to operating expenditure (**opex**), the AER approved \$22.2 million of the \$28.6 million expenditure excess, a reduction of \$6.4 million, or 22% of AusNet Services' Application.<sup>7</sup>

AusNet Services believes that \$92.4 million of the expenditure excess applied for in the Application is efficient and prudent. In addition, AusNet Services engaged Deloitte Access Economics (**Deloitte**) to undertake an ex-post review of the 2014 and 2015 expenditure excess. Deloitte reviewed AusNet Services' expenditure excess in 2014 and 2015 and considered the drivers of the overspend in the context of the broader AMI roll-out and the challenges faced by AusNet Services since 2012. Deloitte also considered the AER's previous decisions on AusNet Services' AMI expenditure, including metering costs in the EDPR 2016-20 Final Decision.

In light of these changes, AusNet Services proposes a negative revenue adjustment of \$23.4 million to be smoothed across 2018 to 2020.

The remainder of this Amended Application is structured as follows:

- Section 2 sets out AusNet Services' amended capex excess applied for;
- Section 3 sets out AusNet Services' position on the opex excess applied for;
- Section 4 sets out AusNet Services' amended revenue and costs true-up;
- Section 5 sets out AusNet Services' amended opening MAB value as at 1 January 2016; and
- Section 6 sets out AusNet Services' amended metering revenue adjustment.

All figures in this Amended Application are presented in Real 2018 dollars, unless otherwise stated.

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<sup>6</sup> AER, *Draft Decision Advanced Metering Infrastructure Transition Charges Application*, September 2016, p. 23.

<sup>7</sup> *Ibid.*

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**2 Capex excess**

**2.1 Draft Decision**

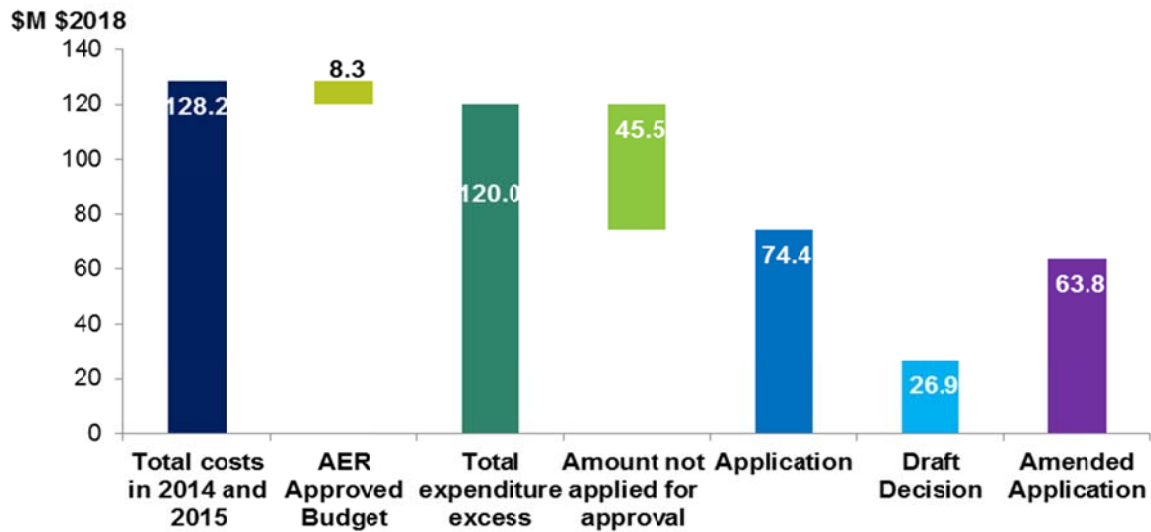
The AER approved \$26.9 million of \$74.4 million in capex, a reduction of \$47.5 million, or 64% of the capex excess set out in AusNet Services' Application.

The Draft Decision on the capex excess assumed:

- Volume of 3G communications modules based on an infill proportion of 3%;
- Costs to install the 3G communications modules in 2014 considered to be inefficient;
- Meter installation costs to replace faulty meters based on the efficient benchmark to roll-out smart meters; and
- IT costs based on the combined expenditure of CitiPower and Powercor approved in the EDPR 2016-20 Final Decision.

The following figure summarises AusNet Services' capex compared to the expenditure excess applied for in the Application, as modified by this submission:

**Figure 2: Analysis of capex excess (2014 and 2015)**



A breakdown of AusNet Services' capex excess by category is shown in the following table.



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**Table 1: Analysis of capex excess by category (2014 and 2015)**

\$M \$2018	Actual	Approved Budget	Application	Draft Decision	Amended Application
Meter supply (3G infill)	34.8	4.6	25.5	13.9	15.1
Meter installation (3G communications modules)	12.2	-	9.0	-	9.0
Meter installation (faulty meters)	1.8	-	1.8	1.2	1.6
Meter installation (meter roll-out)	4.8	-	4.8	6.1	4.8
Communications infrastructure	9.5	3.7	-	-	-
IT	65.1	-	33.3	5.7	33.3
<b>Total</b>	<b>128.2</b>	<b>8.3</b>	<b>74.4</b>	<b>26.9</b>	<b>63.8</b>

## 2.2 Response to Draft Decision

AusNet Services does not accept the following:

- 3G communications infill for AusNet Services' network being limited to 3%;
- Costs to install the 3G communications modules in 2014 considered to be inefficient;
- Meter installation cost to replace faulty meters in 2014 and 2015 set at the same unit cost as the standard installation cost to roll-out smart meters;<sup>8</sup> and
- The rejection of 83% of the proposed IT capex, which itself only represented 51% of the actual IT capex in 2014 and 2015.

### 2.2.1 3G infill percentage

The Draft Decision did not accept the technology mix upon which AusNet Services' 2014 meter supply capex excess was based. The Application was based on capex for 122,579 additional 3G communications modules, and 23,277 WiMAX modules. The Draft Decision, while accepting the total proposed additional metering units required, approved a capex excess based on 4,376 (3%) 3G communications modules and the equivalent 141,480 (97%) mesh radio modules.<sup>9</sup>

AusNet Services does not agree with the technology mix adopted by the AER in the Draft Decision for two reasons:

- The AER's technology mix assumes the efficient level of 3G communications infill for AusNet Services is 3%, which in turn reflects the AER's assumption that the infill requirements of AusNet Services' network are equivalent to those of Powercor; and
- AusNet Services provided evidence of the technical design in support of its proposed infill requirement of 6.9%.

### Using Powercor as the benchmark for infill requirements is inappropriate

AusNet Services has repeatedly and consistently stated that it is not appropriate to use Powercor as a benchmark for AusNet Services' performance as there are obvious and material environmental

<sup>8</sup> Energeia, *Review of Victorian Distribution Network Service Provider's 2017 Advanced Metering Infrastructure Transition Applications*, September 2016, p.33.

<sup>9</sup> AER, *Draft Decision Advanced Metering Infrastructure Transition Charges Application*, September 2016, p 25.

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differences between their respective distribution networks, including with respect to customer density and difficulty of terrain. Accordingly, AusNet Services maintains that its infill coverage requirements cannot be assumed to be the same as Powercor's.

In support of the Application, AusNet Services submitted a report by its specialist IT advisor, *We-do-IT* which compared the terrain roughness and property density of each of the five Distribution Network Service Providers (**DNSPs**) and rated the "serviceability" of the properties within each network (**GIS Report**).<sup>10</sup> An earlier version of the GIS Report was submitted to the AER in 2013 as part of AusNet Services' appeal to the Australian Competition Tribunal on the 2012-15 Budget Determination but Energeia rejected it "on the basis of the lack of evidence linking its 'serviceability index' to the likely performance of a mesh radio network."<sup>11</sup>

The GIS Report, updated to reflect new property density data and serviceability calculations, revealed that AusNet Services has the most challenging serviceability of all the electricity distributors in Victoria. It found AusNet Services has the:

- *Largest number of properties in the Slightly Rugged, Rugged and Highly Rugged categories (56% of the Rugged and 80% of the Highly Rugged number of total electricity distributor's properties).*
- *Highest proportion of Rugged to Highly Rugged properties, approximately 15% in the AusNet Services region, whereas it is less than 4% for each of the other regions.*
- *Highest proportion of properties with difficult serviceability. This is around 9% for AusNet Services, which is almost double that of the next highest proportion; 5% for Powercor.*<sup>12</sup>

The clear environmental differences between the Victorian distribution networks with respect to customer density and difficulty of terrain exogenously affect the cost per customer. For example, a metering or communications fault requiring a field visit will be more common and more costly on a network with a higher share of remote customers and with terrain that makes communications more difficult. The mountainous and isolated landscape in AusNet Services' network area also means it is more costly to service customers, independent of the communications solution chosen.

Neither Energeia's report nor the Draft Decision expressly consider the analysis provided in the GIS Report concerning the significance of the differences in terrain and population density between the AusNet Services network and those of the other DNSPs. However, AusNet Services again submits that the impact of the terrain and population density are such that it should not be benchmarked against Powercor without adjusting for them. To do otherwise will result in a comparison which is not like-for-like.

### **AusNet Services' infill requirement is not the same as Powercor's**

It follows that the differences in network topography and population density between AusNet Services and Powercor mean the infill requirements for their respective networks will also differ. However, Energeia and, in turn, the AER have applied Powercor's infill requirement of 3% for 3G communications modules to AusNet Services despite being provided with technical design documentation which indicates AusNet Services has a higher infill requirement.

Both AusNet Services and Powercor use Silver Spring Networks' technology for their respective mesh roll-outs. The mesh technology, however, has evolved and improved since 2012 when Powercor undertook its roll-out. AusNet Services' mesh roll-out uses micro access points (**MicroAPs**) which act as a 3G communications module in 3G coverage areas, a technology that was not available to Powercor during its roll-out.

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<sup>10</sup> We-do-IT, *Electricity Distributors Terrain Comparison*, version 1.1, December 2015, p 4.

<sup>11</sup> Energeia, *Review of Victorian Distribution Network Service Provider's 2017 Advanced Metering Infrastructure Transition Applications*, September 2016, p.33.

<sup>12</sup> We-do-IT, *Electricity Distributors Terrain Comparison*, version 1.1, December 2015, p.13.

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The MicroAP is a communications module designed to be installed in the smart meter. It combines two communications technologies, being mesh radio and 3G backhaul. The MicroAP uses each form of communications to establish a local mesh network and provide a means for those meters to communicate to the data centre.

MicroAPs are particularly useful in AusNet Services' network (which, as discussed above and in the GIS Report, has a challenging topography) to capture a small number of meters in a cost effective manner. Silver Spring Networks states that *the MicroAP cost-effectively addresses deployment conditions in environments such as rural communities and urban "hard to hear" locations*<sup>13</sup>, which are characteristics of AusNet Services' network. One MicroAP can serve up to 50 meters and in which 10% of these locations would need an antenna. In contrast, if the MicroAP technology were not utilised, 3G communications modules with a 3G antenna would need to be installed in every household. As noted by Silver Spring Networks, *because a MicroAP can host nearby devices on the mesh network, it sharply reduces operating costs compared with having a discrete cellular connection for each of the remote devices.*<sup>14</sup>

Therefore, the design provided by AusNet Services is a minimum 3G infill threshold and would have been much higher using the old technology.

As discussed in the next section, the Silver Spring Networks' design document infers that 16.3% 3G is appropriate for AusNet Services' mesh network, or 6.9% of AusNet Services' total network.<sup>15</sup> Despite this evidence, Energeia concludes that the Powercor network design remains the most reasonable design to assume<sup>16</sup> and that the appropriate 3G percentage for the benchmark efficient entity is 3%.

### **Silver Spring Networks states that 3G infill is needed for 6.9% of AusNet Services' network**

AusNet Services engaged Silver Spring Networks in 2015 to design and implement the mesh technology. This confidential system design document was provided to both the AER and Energeia on 15 July 2016. Silver Spring Networks' mesh design is evidence of actual 3G coverage required for AusNet Services' infill technology. It demonstrates that an infill of 16.3% for AusNet Services' mesh roll-out (or at least 6.9% of AusNet Services' total network) would have been appropriate for the notional 2012 mesh roll-out being used as the benchmark.

Despite being provided with the Silver Spring Networks design document, Energeia criticises AusNet Services for failing to commission a technical design based on the technology available in 2011.<sup>17</sup> It said:

*AusNet Services' latest mesh design called for 6.9% of meters with 3G capability. However, this design uses a MicroAP device that was not available in 2012.*<sup>18</sup>

Energeia concluded:

*Powercor remains the benchmark efficient entity for metering and communications capex. We therefore maintain the view, in the absence of a technical study by Silver Spring Networks based on technology available at the time, that the appropriate 3G percentage for the benchmark efficient entity is 3%.*<sup>19</sup>

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<sup>13</sup> Silver Spring Networks, *MicroAP*, 29 August 2013, p.1.

<sup>14</sup> Ibid.

<sup>15</sup> Silver Springs Network, *D-7 AMI System Design (Initial)*, August 2015.

<sup>16</sup> Energeia, *Review of Victorian Distribution Network Service Provider's 2017 Advanced Metering Infrastructure Transition Applications*, September 2016, p.33.

<sup>17</sup> Ibid, p 32.

<sup>18</sup> Ibid.

<sup>19</sup> Ibid, p.33.

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Due to the advancement in the mesh technology, there was no requirement or necessity for Silver Spring Networks to design a hypothetical mesh solution for AusNet Services using the older mesh technology utilised by Powercor. As the technology is superior to that available for the 'benchmark' 2012 roll-out, the infill percentage for the new design constitutes the minimum required in 2012 and in all likelihood would have been higher. This provides the information for Energeia to use in its assessment.

Being based on an actual, rather than a theoretical, assessment of AusNet Services' network characteristics, the 2015 design document is the best like-for-like comparison with the Powercor roll-out available to the AER. Silver Spring Networks' mesh design proves that higher 3G infill coverage is required in AusNet Services' network, being 6.9% as opposed to Powercor's 3%. The AER can have great confidence in this assessment because it has been implemented under a strong incentive to minimise costs due the lack of cost recovery certainty.

It should be noted that if AusNet Services were to have rolled out mesh in 2012 using the same technology as was then available to Powercor, AusNet Services would have required a proportion of standard 3G communications modules well in excess of 6.9% because each meter within the 3G coverage area would have required a 3G communications module with an antenna.

Therefore, it is not necessary to request design documents based on an older technology, especially if the newer technology is more cost effective. If Silver Spring Networks had to perform such an analysis, AusNet Services would have incurred more costs and would have experienced significant delays in rolling out mesh to its network, further impacting the realisation of AMI benefits and delaying AusNet Services in meeting its compliance obligations.

AusNet Services proposes that the allowance for the 6.9% 3G modules be based on *the previously determined 3G module price of \$273 and \$280 (nominal) for 2014 and 2015, respectively,*<sup>20</sup> consistent with Energeia's analysis. According to Energeia:

*we are dealing in a hypothetical benchmark efficient entity, and it would be inconsistent to use today's prices when the NICs are assumed to have already been rolled out in 2012.*<sup>21</sup>

In line with this reasoning, AusNet Services asserts that due to the topography of AusNet Services' network, at least 6.9% 3G coverage would have been required in 2012.

AusNet Services has reduced the meter supply capex excess it seeks to recover through transition charges by \$10.5 million, utilising 6.9% 3G infill instead of the actual 3G volume, resulting in capex excess of \$13.7 million.

### 2.2.2 Installation of 3G communications modules in 2014

As noted in AusNet Services' Application:

*delays in the roll-out due to customer concerns and government reviews impacted the rate of meter installation.*<sup>22</sup> *There was a delay in the delivery of the 3G communications modules in 2013 as a result of the impact of policy changes.*<sup>23</sup> *As a result of the delays due to government policy changes, AusNet Services ordered the 3G communications modules in 2013 but delivery did not occur until 2014.*<sup>24</sup>

AusNet Services continued to install smart meters in 2013 in order to meet the Victorian Government mandated requirements in line with the OIC obligations. AusNet Services believes that the costs to

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<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

<sup>22</sup> AusNet Services, *Advanced Metering Infrastructure Transition Charges Application*, 31 May 2016, p.29.

<sup>23</sup> Ibid.

<sup>24</sup> Ibid, p.24.

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install 3G communications modules in 2014 are efficient and prudent. This is particularly the case when compared to the expenditure of a benchmark efficient entity over the entirety, or any part of, the initial regulatory period.

The AER's Draft Decision relied on Energeia's review of the installation cost for communications modules. However, Energeia's review did not take account of the fact that AusNet Services' installation cost for the entirety of the roll-out period was \$138 (nominal) per meter. This unit cost is 9% below the efficient benchmark determined by the AER in its Final Decision for the 2013 Expenditure Excess Application<sup>25</sup> and therefore, represents prudent and efficient costs.

Energeia assumed that the installation cost to install the communications modules, roll-out smart meters, and replace faulty meters is the same. Although AusNet Services does not track these costs separately, the time and cost for each of these activities do differ.

In relation to installations which are straight forward in nature, the average time required is:

- 40 minutes to install a meter and a communications module;
- 30 minutes to install a meter without a communications module; and
- 15 minutes to install a standalone communications module.

From this, it is reasonable to infer that the costs of these activities also vary.

Deloitte's ex-post review of AusNet Services' meter installation capex concluded that:

*...while the challenges faced by AusNet Services in its communications technology and in the timely supply of 3G infill comms cards led to it revisiting some premises in 2014, despite the additional travel and installation time per site that this required, the total cost per completed installation is 9% below the AER's accepted benchmark cost of \$151 per installation.<sup>26</sup>*

Distributors were required to make a rebate payment to customers whose premises did not have an AMI meter installed as at 30 June 2014, and pay a second rebate to customers who did not have a remotely communicating AMI meter as at 31 March 2015. The prospect of the rebates was first flagged in November 2013.

The Victorian Government, in its submission on the Victorian distributors' applications, concurred with Jemena's view that the requirement to roll-out meters by 31 December on a best endeavours basis did not require a DNSP to select the option that best mitigates the risk of delay, in isolation of the costs associated with implementing that option.<sup>27</sup> While AusNet Services agrees with Jemena's view in principle, the circumstances in which the best endeavours obligation applied and the performance against the obligation was assessed necessitated a different approach in practice. There was no clarification or guidance from the Victorian Government prior to 31 December 2013 as to what would or would not be regarded as satisfying the best endeavours obligation. The Essential Services Commission audit findings on the Victorian distributors' best endeavours to comply with AMI obligations as at 31 December 2013 found that AusNet Services did not meet the roll-out target.<sup>28</sup> AusNet Services was also cognisant of increasing its liability for rebate payments under the OIC by delaying meter installations while it awaited delivery of the 3G communications modules. Therefore, taking these factors together, AusNet Services sought to maximise its compliance with its regulatory obligations and continue to install the communications modules throughout 2014.

Despite the need to install the communications modules in 2014, AusNet Services' average installation cost for the entirety of the roll-out period is 9% below the efficient benchmark determined

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<sup>25</sup> Energeia, *Review of Victorian Distribution Network Service Provider's Advanced Metering Infrastructure 2015 Charges Revision Application*, December 2014, p.25.

<sup>26</sup> Deloitte, *AusNet Services Ex-post Review of AMI Expenditure in 2014 and 2015*, 30 May 2015, p.34-35.

<sup>27</sup> Submission by the Department of Environment, Land, Water & Planning, 30 August 2016, p.2.

<sup>28</sup> Essential Services Commission, *Final Report Victorian Electricity Distributors Compliance with AMI Regulatory Obligations as at 31 December 2013*, p.12.



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by the AER in its Final Decision for the 2013 Expenditure Excess Application. It should be highlighted that AusNet Services' average installation cost was very low as compared to the other distributors. AusNet Services reiterates that the meter installation expenditure excess was due to government policy changes and was not the result of installing the 3G communications modules in 2014. Therefore, AusNet Services believes that the proposed expenditure excess in relation to meter installation cost is prudent and efficient.

### 2.2.3 Meter installation expenditure to replace faulty meters

The Draft Decision approved the volume of meter installation associated with faults at the efficient benchmark unit cost to roll-out smart meters. It should be noted that the efficient benchmark unit cost applied in the Draft Decision of \$154 and \$160 (\$ nominal) per meter in 2014 and 2015, respectively<sup>29</sup> relates to the targeted and planned mass roll-out of smart meters. During the roll-out, AusNet Services, along with the other Victorian distributors, were able to gain economies of scale and cost efficiencies by scheduling the workforce to target the roll-out of meters along each route in a day. This resulted in a lower installation cost per meter.

With meter replacements due to faults, field officers are required to go to the customers' premises on an ad hoc basis to replace the faulty meter. Due to the geographic disparity of these meter faults across AusNet Services' network, the installation costs will be higher due to the longer travel time between premises.

In the EDPR 2016-20 Final Decision, the AER approved a meter installation unit cost for the replacement of faulty meters, being \$322 (real \$2015). The AER concluded that AusNet Services' meter installation unit costs were relatively low compared to the amounts proposed by the other Victorian distributors.<sup>30</sup> It should also be noted that the other Victorian distributors also received approvals for a meter installation unit cost for replacements in the EDPR 2016-20 Final Decision, at a much higher unit cost compared to the unit cost to install a meter during the roll-out period.

As the AER has approved the meter installation unit cost for the replacement of faulty meters for the period 2016 to 2020 as efficient, AusNet Services proposes that this meter installation unit cost of \$322 is applied to the volume of faulty meters replaced in 2015. AusNet Services' installation cost per meter was \$132 (nominal) for the roll-out period up to 2014, and \$138 (nominal) per meter for the entirety of the roll-out period. This unit cost is 9% below the efficient benchmark determined by the AER in the Final Decision for the 2013 Expenditure Excess Application and therefore, reflects prudent and efficient costs. Therefore, AusNet Services maintains that the meter installation expenditure excess of \$14.4 million (nominal) in 2014 and 2015 is prudent and efficient.

AusNet Services reiterates that the efficient meter installation unit cost for the replacement of faulty meters is not the same and cannot be associated with the standard installation cost to roll-out smart meters.

### 2.2.4 IT Capex

AusNet Services incurred \$65.1 million in IT capex but only applied for the approval of \$33.3 million in expenditure excess in the Application. The Draft Decision approved \$5.7 million, representing the combined expenditure of CitiPower and Powercor approved in the EDPR 2016-20 Final Decision. AusNet Services believes that it is inappropriate to benchmark IT capex against CitiPower and Powercor. IT capex is too difficult and subjective to benchmark due to various factors including:

- Differences in hardware and software;
- Differences in technology and software obsolescence;
- Differences in business needs;

<sup>29</sup> Energeia, *Review of Victorian Distribution Network Service Provider's 2017 Advanced Metering Infrastructure Transition Applications*, September 2016, p.33.

<sup>30</sup> AER, *AusNet Services Preliminary Decision 2016-20, Attachment 16 – Alternative control services*, p.16-42.

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- Differences in asset age and IT capex lifecycle; and
- Differences in system capacity and functionality.

As noted in the Application, \$5.4 million of the \$9.0 million (nominal) IT capex excess incurred in 2014 related to the continuation of the activities commenced in 2013 that were previously found to be prudent and efficient.<sup>31</sup> Having been approved by the AER in the 2013 Expenditure Excess Application, it is counterintuitive for the AER to now disallow this expenditure.

AusNet Services also provided additional information to the AER and Energeia in July 2016 which explained that AusNet Services brought forward investment into the OIC period because the existing hardware platform was approaching end-of-life, and it was efficient to upgrade and migrate system applications at the same time as undertaking broader remediation activities.<sup>32</sup> AusNet Services explained that the new infrastructure platform implemented in 2015 is more robust, provides improved performance as well as more reliable backup and recovery systems. While regular replacement and upgrades are driven by technology and software obsolescence, other investments are made in accordance with the long-term lifecycle management objectives. These activities are driven by business needs and related to the migration of applications to a redefined infrastructure platform.

### Joint IT development program with Jemena

Energeia concluded that a joint IT development program with Jemena was an option for AusNet Services, and therefore within its control.<sup>33</sup>

The AER has previously stated:

*it is not necessarily convinced that SP AusNet [AusNet Services] is or would have been unable to share IT costs with Jemena because both companies share a common IT service provider (EBS). EBS is a wholly owned subsidiary of Singapore Power International (SP AusNet's majority shareholder and Jemena Group's ultimate owner). EBS was set up through the consolidation of the Jemena and SP AusNet IT divisions and provides IT services to JEN and SP AusNet. This suggests SP AusNet may have had the capacity to share costs with JEN and may have been able to access similar IT services and pricing as JEN.<sup>34</sup>*

AusNet Services does not agree with the conclusions of Energeia and the AER because their conclusions are not supported by operational considerations. It should not be assumed that cost savings can be achieved by virtue of the fact that Jemena and AusNet Services shared a common owner. Until 2 January 2014, Singapore Power International Pte Ltd had 51% ownership of AusNet Services and 100% ownership of Jemena. This is different to the ownership structure of CitiPower and Powercor where the shareholders are the same. It must also be noted that the arrangement for EBS to provide general shared IT services to Jemena and AusNet Services was terminated with effect from 31 March 2014 and AusNet Services transitioned its share of existing EBS activities into the core AusNet Services IT function commencing 1 April 2014. The shared arrangement had not delivered synergies due to different IT platforms.

AusNet Services notes that despite the AER's view that AusNet Services should be able to share IT costs with Jemena, the AER's Final Decision on the 2012-15 Budget and Charges Applications approved Jemena's IT capex<sup>35</sup> and did not suggest that Jemena's costs should be lower due to its ability to share costs with AusNet Services.

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<sup>31</sup> AER, *Determination Advanced Metering Infrastructure 2015 revised charges*, December 2014, p.29.

<sup>32</sup> AusNet Services, *Transition Charges Application – AER Information Request #1 – response 16 July 2016*, 15 July 2016, p7.

<sup>33</sup> Energeia, *Review of Victorian Distribution Network Service Provider's 2017 Advanced Metering Infrastructure Transition Applications*, September 2016, p.34.

<sup>34</sup> AER, *Final decision Advanced metering infrastructure review SPI Electricity Pty Ltd 2012–15 budget and charges applications, Amendments pursuant to the Australian Competition Tribunal's Orders*, February 2013, p.29-30.

<sup>35</sup> AER, *Final Decision Victorian Advanced Metering Infrastructure Review 2012–15 budget and charges applications*, October 2011, p.155-156.

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### Different AMI IT systems and platforms

Energeia concluded that AusNet Services had an option to enter into a joint IT development program with Jemena.<sup>36</sup> However, AusNet Services was unable to share IT costs with Jemena because each business used different AMI IT systems and platforms. Cost efficiencies cannot be achieved when businesses do not operate the same IT systems and platforms. Therefore, regardless of any overlap in ownership, it was not possible for AusNet Services to share AMI IT costs with Jemena.

### Issues with a shared arrangement

As noted above, Energeia concluded that a joint IT development program between AusNet Services and Jemena was an option.<sup>37</sup> AusNet Services does not agree with Energeia's conclusion for the reasons stated above.

Even if AusNet Services had been able to enter into a joint IT development program, a shared program has its difficulties as well. This is observable from the shared arrangement between Jemena and United Energy whereby United Energy terminated its arrangement with Jemena in 2013 and transitioned to deliver the program in-house and separately from Jemena.<sup>38</sup> This suggests that a joint program does not necessarily lead to the most efficient outcome.

Based on the points noted above, AusNet Services believes that the expenditure excess in relation to IT capex of \$33.3 million which it seeks to recover through transition charges is prudent and efficient.

## 2.2.5 Concerns raised by stakeholders

The Victorian Government's submission in response to the applications made by AusNet Services, United Energy and Jemena raised a number of concerns. AusNet Services responds to these concerns below.

### Meter installation capex

The Victorian Government stated that the installation cost of 3,319 meters in 2015 at a unit cost of \$138.15 is actually \$0.46 million, or \$0.44 million if a unit cost of \$132.66 is applied.<sup>39</sup> This calculation is incorrect as the replacement of these 3,319 meters were due to faults, which required more time and effort, hence were more costly than the average cost of \$138 (nominal) per meter. As noted in section 2.2.3, the EDPR 2016-20 Final Decision approved \$322 (real \$2015) as the meter installation unit cost for the replacement of faulty meters. This amount is significantly higher than the average unit cost to roll-out smart meters.

### IT Capex

The Victorian Government expressed concern about AusNet Services' proposal to recover costs associated with the Network Management System. The Victorian Government believes these costs should have been recovered through standard control services charges.<sup>40</sup>

In accordance with the OIC, the provision and operation of network management systems is an activity in scope required to comply with a metering regulatory obligation or requirement. The Network Management System is a key element of the AMI solution of the Victorian Distribution Businesses as it acts as the "head end" system regardless of the communications technology chosen. Its establishment, upgrade and maintenance is independent of the choice of

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<sup>36</sup> Energeia, *Review of Victorian Distribution Network Service Provider's 2017 Advanced Metering Infrastructure Transition Applications*, September 2016, p.34.

<sup>37</sup> Ibid.

<sup>38</sup> Energeia, *Review of Victorian Distribution Network Service Provider's Advanced Metering Infrastructure 2015 Charges Revision Applications*, December 2014, p.21.

<sup>39</sup> Submission by the Department of Environment, Land, Water & Planning, 30 August 2016, p.1.

<sup>40</sup> Ibid, p.3.



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communications technology. The Network Management System (comprising the Communications Network Management and Meter Management Systems) provides an interface between different environments which constitute the overall information systems. AusNet Services' Network Management System was implemented solely for metering services and thus, the cost is recovered via metering services charges set under the OIC.

Consistent with this, in the EDPR 2016-20 Final Decision, the AER determined that costs associated with the Network Management System is allocated to metering services charges.<sup>41</sup>

AusNet Services considers the Victorian Government's concern about double-recovery is unwarranted. The protections embedded within the regulatory regime mean it is not possible for AusNet Services to recover the expenditure from customers twice – once through metering services and once through standard control services. Every dollar incurred can only be allocated once in accordance with the Cost Allocation Methodology approved by the AER.<sup>42</sup> Furthermore, actual costs in both standard control services charges and metering service charges are independently audited on an annual basis. Therefore, there can be no cross subsidies or over recovery of costs between standard control services charges and metering service charges.

### 2.3 Amended Capex Application

In summary, AusNet Services' Amended Capex Application does not accept:

- the 3G infill percentage adopted by the AER for the reason that Energeia failed to reflect the evidence provided by Silver Spring Networks as to the mesh network design parameters;
- that AusNet Services' proposed meter installation expenditure excess is not prudent and efficient, for the reasons that:
- AusNet Services' installation cost for the entirety of the roll-out period was 9% below the efficient benchmark determined in the AER's Final Decision for the 2013 Expenditure Excess Application; and
- the installation cost for faulty meter is higher than the efficient benchmark unit cost to roll-out smart meters;
- that the combined CitiPower and Powercor is the appropriate benchmark for IT capex costs. AusNet Services is only applying for the prudent and efficient IT capex excess, being 51% of the IT capex costs. In addition, a joint program with Jemena may not have been the most prudent solution as evidenced by the issues faced in the Jemena and United Energy arrangement.

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<sup>41</sup> AER, *EDPR 2016-20 Final Decision*, Attachment 7-42.

<sup>42</sup> National Electricity Rules, clause 6.15.2(5).

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**3 Opex excess**

**3.1 Draft Decision**

AusNet Services' Application applied for approval of \$28.6 million opex excess but the AER approved only \$22.2 million on the basis that the expenditure excess does not reasonably reflect the efficient costs of a business providing AMI services, within the terms of the OIC.<sup>43</sup>

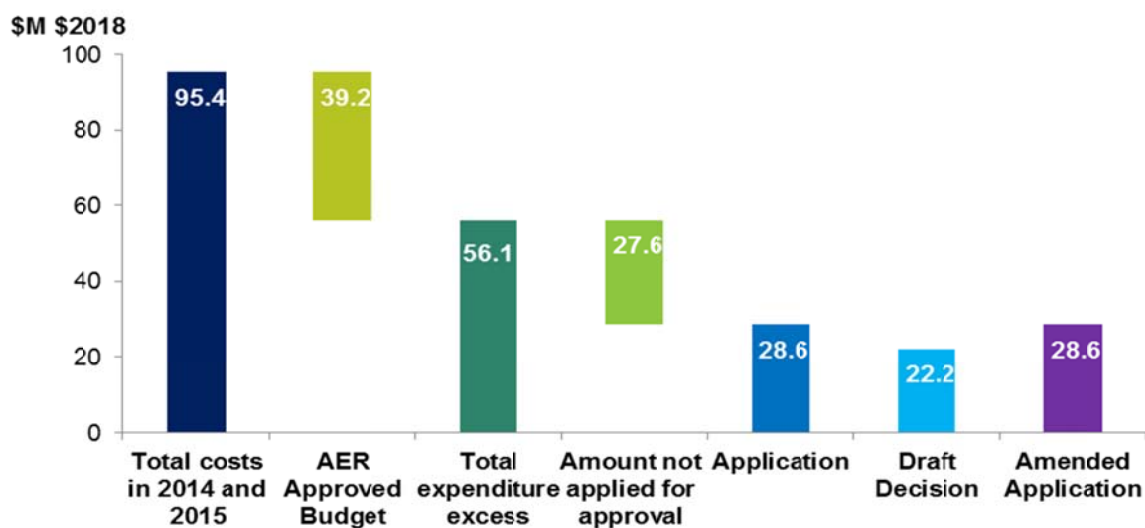
The AER approved:

- \$19.4 million for meter maintenance, overheads, meter data management, communications infrastructure maintenance and IT operating expenditure;
- \$1.7 million of the proposed \$3.4 million for meter reading; and
- \$1.1 million of the proposed \$5.8 million for customer service and project management costs.

The AER reduced AusNet Services' meter reading opex using the EDPR 2016-20 Final Decision meter reading allowance and reduced customer service and project management costs by applying the 2012-15 Approved Budget unit prices for 2013, adjusted for CPI and inflation.<sup>44</sup>

The following figure summarises AusNet Services' opex compared to the expenditure excess applied for in the Application, as modified by this submission:

**Figure 3: Analysis of opex excess (2014 and 2015)**



A breakdown of AusNet Services' opex excess by category is shown in the following table.

<sup>43</sup> AER, *Draft Decision Advanced Metering Infrastructure Transition Charges Application*, September 2016, p. 34.

<sup>44</sup> *Ibid.*

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**Table 2: Analysis of opex excess by category (2014 and 2015)**

\$M \$2018	Actual	Approved Budget	Application	Draft Decision	Amended Application
Meter Reading	10.3	1.1	3.4	1.7	3.4
Meter Maintenance, Overheads	7.7	5.6	2.0	2.0	2.0
Meter Data Management	10.7	5.7	4.8	4.8	4.8
Communications Infrastructure Maintenance	18.7	11.1	4.0	4.0	4.0
IT	31.5	15.0	8.6	8.6	8.6
Customer Service and Program Management	16.5	0.7	5.8	1.1	5.8
<b>Total</b>	<b>95.4</b>	<b>39.2</b>	<b>28.6</b>	<b>22.2</b>	<b>28.6</b>

### 3.2 Response to Draft Decision

AusNet Services does not accept the AER's draft decision to disallow:

- \$1.7 million for meter reading expenditure; and
- \$4.7 million for customer service and project management costs.

Neither the AER or Energeia provided robust reasoning for the AER's disallowance of these expenditure excess.

#### 3.2.1 Policy uncertainty and customer issues impacted program opex

As highlighted in AusNet Services' Application, the volume of customer refusals and no access issues as well as the uncertainties in the AMI Program resulted in the inability to close out meter reading routes in 2014. These factors resulted in higher meter reading expenditure since 2013 for many Victorian distributors including United Energy and Jemena. This has been recognised by the AER in its Final Decision for the 2013 Expenditure Excess Applications.<sup>45</sup>

Deloitte's ex-post review of AusNet Services' meter reading opex concluded that the excess expenditure was driven by:

- *The nature of the rollout obligation (clause 5l.8(c)): installation delays caused by policy instability and customer resistance to the AMI program decreased the density of meter reading routes and contributed to logical conversion delays.*
- *The state of the technology (clause 5l.8(d)): the technical problems with logical conversions.*
- *The inherent risks in the AMI project (clause 5l.8(e)): The issues relating to meter procurement, installation and technical issues are an inherent risk in projects such as the AMI Program.*<sup>46</sup>

The delays in the AMI Program caused by policy uncertainty also resulted in the need for AusNet Services to maintain its project management office (PMO) function in 2014 to ensure adequate staff with historical knowledge and experience were available to manage AusNet Services'

<sup>45</sup> AER, *Determination Advanced Metering Infrastructure 2015 revised charges*, December 2014, p.11.

<sup>46</sup> Deloitte, *AusNet Services Ex-post Review of AMI Expenditure in 2014 and 2015*, 30 May 2015, p.47.

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continued compliance with the roll-out obligations. The consequence of extending the obligation was that AusNet Services required its PMO function in 2014 to enable it to meet its regulatory obligations.

Deloitte's ex-post review of AusNet Services' PMO opex concluded that the excess expenditure was driven by:

- *The AMI PMO had to manage the delays which were caused by the policy uncertainty and customer issues. Costs associated with these delays were exacerbated by the mandatory nature of the rollout obligation to make best endeavours to complete AMI installations by the end of 2013.*
- *The AMI PMO required additional resources to manage the technical issues relating to the AMI Program.*
- *The issues relating to meter procurement, customer resistance, regulatory obligations and tight labour market conditions are inherent risks of projects such as the AMI rollout, particularly given the mandatory nature of the project timeline. Consequently, excess PMO costs are also an inherent risk in a project of this type.<sup>47</sup>*

AusNet Services believes that the PMO expenditure excess applied for approval of \$5.8 million is prudent because it represented the costs associated with AusNet Services' continued compliance with the roll-out obligations. It should be noted that AusNet Services is not applying for the approval of the total cost incurred, rather it only represents the PMO expenses for the first half of 2014.

AusNet Services considers these circumstances are matters which the AER may take into account in accordance with clause 51.8 of the OIC.

### 3.2.2 Concerns raised by stakeholders

The Victorian Government's submission in response to the applications made by AusNet Services, United Energy and Jemena raised concern regarding corporate overheads. AusNet Services responds to this concern below.

#### Corporate overheads

The Victorian Government expressed concern about AusNet Services' customers not getting a *fair and reasonable outcome*<sup>48</sup> due to the allocation and recovery of corporate overheads through both standard control services charges and metering service charges.

AusNet Services considers the Victorian Government's concern about double-recovery is unwarranted. It is not possible for AusNet Services to recover the expenditure from customers twice – once through metering services and once through standard control services. As noted in section 2.2.5, every dollar incurred can only be allocated once in accordance with the Cost Allocation Methodology approved by the AER. Furthermore, actual costs in both standard control services charges and metering service charges are independently audited on an annual basis. Therefore, no cross subsidies or over recovery of costs can exist between standard control services charges and metering service charges.

Further, the OIC does not permit or require the AER to review the prudence and efficiency of *all* corporate overheads (including those allocated to standard control services). Expenditure which is not related to the provision of a Regulated Service is out of scope and not within the OIC framework.

AusNet Services shares the Victorian Government's concerns that customers be afforded every opportunity to realise the benefits arising from the AMI roll-out but considers its concern in the present case is unfounded.

<sup>47</sup> Ibid, p.55.

<sup>48</sup> Submission by the Department of Environment, Land, Water & Planning, 30 August 2016, p.5.

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### 3.3 Amended Opex Application

In summary, AusNet Services' Amended Application does not accept the Draft Decision in relation to the meter reading, customer service and project management expenditure. AusNet Services considers there was material before the AER which evidenced the prudence and efficiency of the opex excess, and the Draft Decision does not provide robust analysis for disallowing \$6.4 million of the opex excess.

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**Submission on Transition Charges Application Draft Decision**


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## 4 Revenue and costs true-up

### 4.1 Draft Decision

The Draft Decision on the revenue and costs true-up approved the following:

- Revenue for the years 2009 to 2015 of \$449.6 million (NPV 2009); and
- Recoverable costs of \$429.1 million (NPV 2009) for the years 2009 to 2015.

### 4.2 Response to Draft Decision

AusNet Services does not accept the approved capex and opex excess as highlighted in sections 2.2 and 3.2 above.

### 4.3 Amended Application

AusNet Services' amended revenue and costs true-up is shown in the table below:

**Table 3: Revenue and costs true-up**

	<b>Draft Decision \$M</b>	<b>Amended Application \$M</b>
<b>Revenue (NPV 2009)</b>	449.6	449.6
<b>Approved costs (NPV 2009)</b>	429.1	432.4
<b>True-up (NPV 2009)</b>	(20.5)	(17.2)
<b>True-up (NPV 2018)</b>	<b>(42.0)</b>	<b>(35.2)</b>

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**5 Opening metering asset base value**
**5.1 Draft Decision**

The Draft Decision on the opening metering asset base (MAB) value as at 1 January 2016 approved capex excess of \$26.9 million for the years 2014 to 2015.

**5.2 Response to Draft Decision**

AusNet Services does not accept the approved capex excess as highlighted in section 2.2 above.

**5.3 Amended Application**

AusNet Services' amended opening MAB is shown in the table below:

**Table 4: Opening MAB value**

	<b>Draft Decision \$M</b>	<b>Amended Application \$M</b>
<b>Opening MAB (\$2015)</b>	345.2	376.7
<b>MAB revenue (\$Dec 2015)</b>	(17.1)	10.1
<b>MAB revenue (\$2018)</b>	(20.1)	11.8

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### 6 Revenue adjustment

#### 6.1 Draft Decision

The Draft Decision approved a negative revenue adjustment of \$62.1 million. According to the Draft Decision, the transition charges will apply in 2018, noting that this results in

*a large fall in metering prices in 2018 followed by an increase in the following year....The AER is open to consulting with stakeholders on taking steps to smooth this price path.*<sup>49</sup>

#### 6.2 Response to Draft Decision

AusNet Services' Amended Application results in a negative revenue adjustment of \$23.4 million. AusNet Services is cognisant of the fact that if the negative revenue adjustment is wholly applied in 2018, customers would experience a large increase in 2019. Smoothing this revenue adjustment over three years would be a better outcome for customers as price shocks can be avoided.

As such, AusNet Services proposes to smooth the revenue adjustment between 2018 and 2020 in a manner that will maintain metering charges at a relatively constant level. The EDPR 2016-20 Final Decision applies a revenue cap form of control to annual metering charges where annual metering charges revenues are capped for each year of the 2016–20 regulatory control period.<sup>50</sup> AusNet Services' annual metering charges revenue will therefore be adjusted annually to clear (or true-up) any under or over recovery of actual revenue collected. From 2017 to 2020, side constraints will apply, and the permissible percentage increase will be the greater of CPI-X plus 2 per cent or CPI plus 2 per cent.

#### 6.3 Impact to customers

The approval of AusNet Services' Amended Application would still result in lower metering charges to customers. Indicative average metering charges per customer<sup>51</sup> from 2016 to 2020 are shown below.

**Table 5: Indicative average metering charges per customer**

\$ nominal	2016	2017	2018	2019	2020
<b>Draft Decision</b>	131.55	122.71	21.62	79.14	73.29
<b>Amended Application</b>	131.55	122.71	82.07	79.14	73.40

The significant reduction in the average metering charge for AusNet Services customers is illustrated in Figure 4. AusNet Services' proposed smoothed revenue adjustment minimises the impact to customers.

<sup>49</sup> AER, *Draft Decision Advanced Metering Infrastructure Transition Charges Application*, September 2016, p. 7.

<sup>50</sup> AER, *EDPR 2016-20 Final Decision*, Attachment 16-20.

<sup>51</sup> Being total revenue for the respective year divided by the total forecast number of customers.

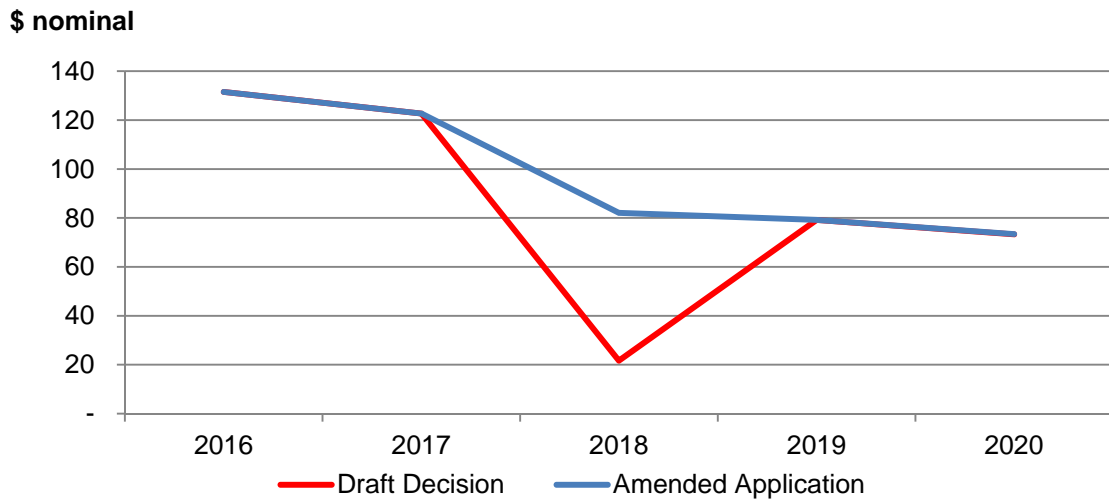


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**Figure 4: Comparison of average metering charge per customer (2016 – 2020)**



## 7 Supporting documentation

The following are provided with this Amended Application:

- AMI Transition Charges Amended Application Model: This model shows the total costs based on the Approved Budget plus the amount AusNet Services is applying for approval in this submission
- Amended Application Calculation Model (Confidential): This model shows the calculation supporting AusNet Services' Amended Application
- MicroAP Overview: This document describes the micro access point technology