



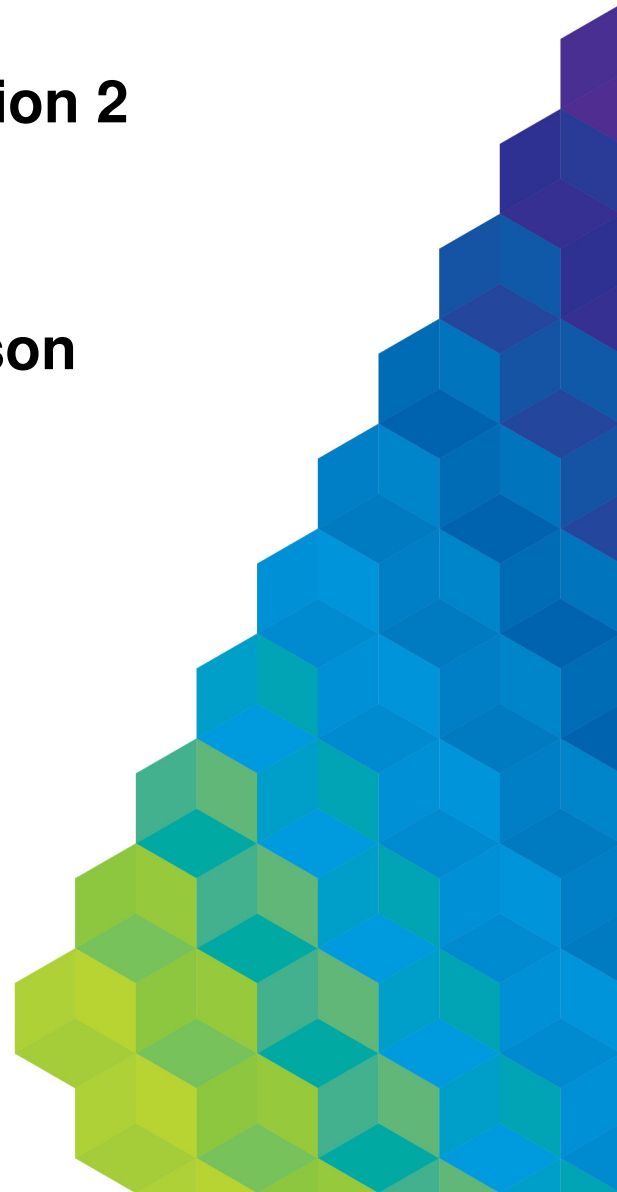
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# AusNet Electricity Services Pty Ltd

## Contingent Project Application 2

## Capex – Unit Rate Comparison

Submitted: 20 April 2018



## 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 730,000 customers in an area of more than 80,000 square kilometres of eastern Victoria; and
- A gas distribution network delivering gas to approximately 572,000 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.' The AusNet Services company values are:

- We work safely
- We do what's right
- We're one team
- We deliver

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

## Contact

This document is the responsibility of the Regulated Energy Services business of AusNet Services. Please contact the indicated owner of the document below with any inquiries.

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## 1 Capex Unit Rate Comparison

AusNet Services has benchmarked its Tranche 2 unit rates against the unit rates in its tranche 1 Contingent Project Application (Table 1 below). We note that there are some components where the unit rate has decreased and others where it has increased, this is the result of AusNet Services incorporating additional or more recent information into its tranche 2 application.

Learnings from tranche 1 are also incorporated into the volumes and work programs, however these are incorporated at the detailed planning stage and differ for each substation.

Table 1 below sets out a comparison off all unit rate changes between tranche 1 and tranche 2.

Table 1: Comparison of unit rates (\$k real 2015)

	Tranche 1 (\$k real 2015)	Tranche 2 (\$k real 2015)	Variation	Explanation
<b>Primary Plant</b>				
Station service transformer (500 kVA)	[C-I-C]	[C-I-C]	[C-I-C]	Tranche 1 was based on Budget Estimates. Tranche 2 is based on Quotes received for Tranche 1
Station service transformer (750 kVA)	[C-I-C]	[C-I-C]	[C-I-C]	Tranche 1 was based on Budget Estimates. Tranche 2 is based on Quotes received for Tranche 1
AC changeover board	[C-I-C]	[C-I-C]	[C-I-C]	Not used in T2 replaced by 2 Items below
AC changeover board - Station	[C-I-C]	[C-I-C]	[C-I-C]	Tranche 2 is based on Quotes received for Tranche 1
AC changeover board - REFCL	[C-I-C]	[C-I-C]	[C-I-C]	Tranche 2 is based on Quotes received for Tranche 1
Arc Suppression Coil	[C-I-C]	[C-I-C]	[C-I-C]	Tranche 2 is based on quotes received from Swedish Neutral and update Foreign Exchange forecast
ASC footing	[C-I-C]	[C-I-C]	[C-I-C]	Unchanged estimating basis
22kV Capacitor Banks	[C-I-C]	[C-I-C]	[C-I-C]	For the Tranche 1 application we considered this item could be reused. Cannot be reused, so now replaced with the three items below.
22kV Capacitor Bank (3x3 MVar)	[C-I-C]	[C-I-C]	[C-I-C]	Tranche 1 was based on Budget Estimates. Tranche 2 is based on Quotes received for Tranche 1
22kV Capacitor Bank (2x3 MVar)	[C-I-C]	[C-I-C]	[C-I-C]	Tranche 1 was based on Budget Estimates. Tranche 2 is based on Quotes received for Tranche 1
22kV Capacitor Bank - Modify	[C-I-C]	[C-I-C]	[C-I-C]	Tranche 1 was based on Budget Estimates. Tranche 2 is based on Quotes received for Tranche 1
Cap Bank footing	[C-I-C]	[C-I-C]	[C-I-C]	Unchanged estimating basis
22kV Dead Tank Circuit Breaker	[C-I-C]	[C-I-C]	[C-I-C]	Tranche 1 was based on Budget Estimates. Tranche 2 is based on Quotes received for Tranche 1

22kV Zero Sequence CTs	[C-I-C]	[C-I-C]	[C-I-C]	Need not identified in Tranche 1, now considered necessary and - Tranche 2 costs are based on Quotes received for Tranche 1
22kV Voltage Transformer	[C-I-C]	[C-I-C]	[C-I-C]	Tranche 1 was based on Budget Estimates. Tranche 2 is based on Quotes received for Tranche 1
22KV Surge Arrestor	[C-I-C]	[C-I-C]	[C-I-C]	Tranche 1 was based on Budget Estimates. Tranche 2 is based on Quotes received for Tranche 1
Neutral Bus	[C-I-C]	[C-I-C]	[C-I-C]	Tranche 1 was based on Budget Estimates. Tranche 2 is based on Quotes received for Tranche 1
REFCL control room	[C-I-C]	[C-I-C]	[C-I-C]	Based on site specific designs
2 REFCL control room	[C-I-C]	[C-I-C]	[C-I-C]	New Item for T2 - Based on site specific designs
New Control Building	[C-I-C]	[C-I-C]	[C-I-C]	Based on site specific designs
Primary Cables - 22kV	[C-I-C]	[C-I-C]	[C-I-C]	Bottom-up build of costs

<b>SCADA / Protection &amp; Control/ Comms</b>				
Neutral Bus controller - 1 GFN	[C-I-C]	[C-I-C]	[C-I-C]	Tranche 1 based on high level assumptions. A detailed design has now been completed and costed.
Neutral Bus controller - 2 GFNs	[C-I-C]	[C-I-C]	[C-I-C]	New item for T2 - A detailed design has been completed and costed.
Protection – GFN panels	[C-I-C]	[C-I-C]	[C-I-C]	No longer a separate panel. Unit rate now represents installation cost only.
GFN interface relay	[C-I-C]	[C-I-C]	[C-I-C]	GFN interface relay is now issued to Swedish Neutral and incorporated into their panel. Unit rate now represents
Power Quality/Switchgear Interface	[C-I-C]	[C-I-C]	[C-I-C]	New Item for T2 - Based on site specific designs
Power Quality Non Std	[C-I-C]	[C-I-C]	[C-I-C]	New Item for T2 - Based on site specific designs
Switchgear Interface Non Std	[C-I-C]	[C-I-C]	[C-I-C]	New Item for T2 - Based on site specific designs
Capacitor Bank Prot & Cntl (3x3MVAR)	[C-I-C]	[C-I-C]	[C-I-C]	New Item for T2 - Based on site specific designs
Capacitor Bank Prot & Cntl (2x3MVAR)	[C-I-C]	[C-I-C]	[C-I-C]	New Item for T2 - Based on site specific designs
22kV Line Protection - Modular 4 Feeders	[C-I-C]	[C-I-C]	[C-I-C]	
SCIMS system - small	[C-I-C]	[C-I-C]	[C-I-C]	Site Specific costing
<b>Network Balancing Unit Rates</b>				
Design Labour - internal / external	[C-I-C]	[C-I-C]	[C-I-C]	Benchmarked costs against similar programs. Unchanged for Tranche 2
Third conductor installation	[C-I-C]	[C-I-C]	[C-I-C]	Benchmarked costs against similar programs. Unchanged for Tranche 2
Unbonding cable	[C-I-C]	[C-I-C]	[C-I-C]	Benchmarked costs against similar programs. Unchanged for Tranche 2

Phase rotation	[C-I-C]	[C-I-C]	[C-I-C]	Benchmarked costs against similar programs. Unchanged for Tranche 2
Balancing capacitors	[C-I-C]	[C-I-C]	[C-I-C]	Benchmarked costs against similar programs. Unchanged for Tranche 2
Inherent works - various feeder based works	[C-I-C]	[C-I-C]	[C-I-C]	Benchmarked costs against similar programs. Unchanged for Tranche 2
Phase plate correction	[C-I-C]	[C-I-C]	[C-I-C]	Benchmarked costs against similar programs. Unchanged for Tranche 2
Fuse review & removal, install solid link	[C-I-C]	[C-I-C]	[C-I-C]	Benchmarked costs against similar programs. Unchanged for Tranche 2
<b>Line Hardening Unit Rates</b>				
Surge Arrestor Replacement	[C-I-C]	[C-I-C]	[C-I-C]	Benchmarked costs against similar programs
Cable On-Line Testing	[C-I-C]	[C-I-C]	[C-I-C]	New Item for T2 – Need not identified for Tranche 1 application
Cable Off-Line Testing	[C-I-C]	[C-I-C]	[C-I-C]	New Item for T2 – Need not identified for Tranche 1 application
Cable - Replace Fitting	[C-I-C]	[C-I-C]	[C-I-C]	New Item for T2 – Need not identified for Tranche 1 application
Cable - Replace Cable Section - per m	[C-I-C]	[C-I-C]	[C-I-C]	New Item for T2 – Need not identified for Tranche 1 application
CERA Removal and Replacement with 900kVAR Pole Top Capacitor	[C-I-C]	[C-I-C]	[C-I-C]	New Item for T2



<b>Compatible Equipment Unit Rates</b>				
ACR upgrade	[C-I-C]	[C-I-C]	[C-I-C]	Benchmarked costs against similar programs
ACR replacement	[C-I-C]	[C-I-C]	[C-I-C]	Benchmarked costs against similar programs
<b>Code Compliance Unit Rates</b>				
HV customers isolation substation (10.0 MVA)	[C-I-C]	[C-I-C]	[C-I-C]	Not used in T2
HV customers isolation substation (3.0 MVA)	[C-I-C]	[C-I-C]	[C-I-C]	New Item for T2
HV customers isolation substation (5.0 MVA)	[C-I-C]	[C-I-C]	[C-I-C]	New Item for T2
HV customers isolation substation (7.5 MVA)	[C-I-C]	[C-I-C]	[C-I-C]	New Item for T2
Line Hardening (ACR replacement)	[C-I-C]	[C-I-C]	[C-I-C]	New Item for T2

Source: AusNet Services,