# AusNet Electricity Services Pty Ltd

## Contingent Project Application 3
## Attachment 20 – Unit Rate Comparison

**Submitted: 31 May 2019**

## 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:

An electricity transmission network that services all electricity consumers across Victoria. We do this via 55 terminal stations, 13,000 transmission towers and 6,600 kilometres of high-voltage transmission powerlines.;

An electricity distribution network delivering electricity to more than 740,000 customers in eastern Victoria. We do this via more than 45,000 kilometres of overhead and underground powerlines and 335,000 power poles; and

A gas distribution network delivering gas to approximately 690,000 customer supply points in central and western Victoria. We do this via 11,400 kilometres of underground gas pipelines.

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

## Contact

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# 1 Capex Unit Rate Comparison

AusNet Services has benchmarked its Tranche 3 unit rates against the unit rates in its Tranche 2 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 3 application.

AusNet Services completed the commissioning of its Tranche 1 sites in April 2019 and this has provided significant additional experience on which to base this Tranche 3 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 2 and Tranche 3.

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

| | Tranche 2 ($k real 2015) | Tranche 3 ($k real 2015) | Variation | Explanation |
|---|---|---|---|---|
| Station service transformer (500 kVA) | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on quotes and learnings received from Tranche 2. |
| Station service transformer (750 kVA) | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on quotes and learnings received from Tranche 2. |
| Capacitance reducing isolation substation (10 MVA) | [C-I-C] | [C-I-C] | [C-I-C] | New Item for T3. |
| AC changeover board - Station | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on quotes and learnings received from Tranche 2. |
| AC changeover board - REFCL | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on quotes and learnings received from Tranche 2. |
| Arc Suppression Coil | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on quotes and learnings received from Tranche 2. The rate was last updated in AST's estimating system in March 2019. |
| ASC footing | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on quotes and learnings received from Tranche 2. |
| 22kV switchboard - Metro | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on quotes and learnings received from Tranche 2. The rate was last updated in AST's estimating system in March 2019. |
| 22kV switchboard (no building) - Rural | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| 22kV Capacitor Banks | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| 22kV Capacitor Bank (3x3 MVAr) | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on quotes and learnings received from Tranche 2. This cost also includes the footings. The rate was last updated in AST's estimating system in July 2018. |

| | | | | |
|---|---|---|---|---|
| 22kV Capacitor Bank (2x3 MVAr) | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on quotes and learnings received from Tranche 2. This cost also includes the footings. The rate was last updated in AST's estimating system in July 2018. |
| 22kV Capacitor Bank (4 x3 MVAr) | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on quotes and learnings received from Tranche 2. This cost also includes the footings. The rate was updated in AST's estimating system in July 2018. |
| 22kV Capacitor Bank - Modify | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| 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 3 is based on quotes and learnings received from Tranche 2. |
| 22kV U/S Isolator | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on quotes and learnings received from Tranche 2. |
| 22kV Voltage Transformer | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on quotes and learnings received from Tranche 2. |
| 22kV Current Transformer | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on quotes and learnings received from Tranche 2. |
| 22kV Zero Sequence CTs | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on quotes and learnings received from Tranche 2. |
| 22KV Surge Arrestor | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on quotes and learnings received from Tranche 2. |
| Neutral Bus | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on quotes and learnings received from Tranche 2. |
| REFCL control room | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| 2 REFCL control room | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| Battery Room (single battery set) | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on quotes and learnings received from Tranche 2. |
| New Control Building | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on quotes and learnings received from Tranche 2. |
| Primary Cables - 22kV | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |

| | | | | |
|---|---|---|---|---|
| Feeder Exit Cables - 22kV | [C-I-C] | [C-I-C] | [C-I-C] | New item for Tranche 3. This price is based on quotes and learnings received from feeder exit cable replacement in Tranche 1 and 2. |
| Primary Cable Testing | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| One Tilt Slab control room | [C-I-C] | [C-I-C] | [C-I-C] | New Item for T3. Based on bottom-up build of costs. |
| **SCADA / Protection & Control/Comms** | | | | |
| Neutral Bus controller - 1 GFN | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| Neutral Bus controller - 2 GFNs | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| Protection – GFN panels | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| GFN interface relay | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| Power Quality/Switchgear Interface | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| Power Quality Non Std | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| Switchgear Interface Non Std | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| Capacitor Bank Prot & Cntl (3x3MVAr) | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| Capacitor Bank Prot & Cntl (2x3MVAr) | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |

| | | | | |
|---|---|---|---|---|
| Remote Terminal Unit | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| SCIMS system - small | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| **Network Balancing Unit Rates** | | | | |
| Design Labour - internal / external | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| Third conductor installation | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| Unbonding cable | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on actual costs and learnings received from Tranche 2. |
| Phase rotation | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on actual costs and learnings received from Tranche 2. |
| Balancing capacitors | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| Inherent works - various feeder based works | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| Phase plate correction | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| Fuse review & removal, install solid link | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| **Line Hardening Unit Rates** | | | | |
| Surge Arrestor Replacement | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| Cable On-Line Testing | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| Cable Off-Line Testing | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| Cable - Replace Fitting | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |

| | | | | |
|---|---|---|---|---|
| Cable - Replace Cable Section - per m | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on actual costs of the removal of pre 1986 steamed cured XLPE cable experienced in Tranche 1 and 2. VicRoads and Council reinstatement requirements has increased the unit rate per/m along with standard rate increases. |
| **Compatible Equipment Unit Rates** | | | | |
| ACR upgrade | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on actual costs and learnings received from Tranche 1 and 2. |
| ACR replacement | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| Voltage regulator replacement | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| **Code Compliance Unit Rates** | | | | |
| Residual Costs | [C-I-C] | [C-I-C] | [C-I-C] | Blended unit rate based on customer composition and work required at each site. Key cost relates to installing an ACR at customer boundary. |
| **Reliability maintained Unit Rates** | | | | |
| Remote control switch | [C-I-C] | [C-I-C] | [C-I-C] | Tranche 3 is based on actual costs and learnings received from Tranche 1 and 2. |
| **Live Line Equipment Purchases Unit Rates** | | | | |
| Mid-span Isolator units | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| Rigid Hoppers | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| Line cut-out tools | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |
| New Line Hoses | [C-I-C] | [C-I-C] | [C-I-C] | Unchanged estimating basis |

*Source: AusNet Services,*