

APPENDIX 24

**Unit rate review addendum
AECOM**

Energex Unit Rate Review

Addendum Only



Energex Unit Rate Review

Addendum Only

Client: Energex Ltd

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Quality Information

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Reviewed by N Sunman

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Addendum A

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To be advised

Energex Only

| DESCRIPTION | QTY | UNITS | RATE | AMOUNT | COMMENT | MATERIAL | LABOUR | PLANT | Sub-Contract |
|---|-------|-------|------|--------|------------------------------------|----------|--------|-------|--------------|
| Repl 4 x 33kV OD CBs | | | | | | | | | |
| STATION WORKS | | | | | | | | | |
| PRIMARY | | | | | | | | | |
| 33KV BAYS | | | | | | | | | |
| 1. 33kV Dead Tank CB (DTCB) | 4 | each | | | | | | | |
| 1. 33kV 2000A Underslung Disconnect, 3 Phase | 4 | each | | | | | | | |
| 3. 33kV Bus, Rigid Bus Section, 8m | 4 | each | | | | | | | |
| 1. 33kV HV Connections - 3 Phase Equipment to Equipment (No Insulators) | 8 | Set | | | | | | | |
| CIVIL INFRASTRUCTURE | | | | | | | | | |
| GENERAL EARTHWORKS | | | | | | | | | |
| 1. Dress Surface, Subsurface Prepared, per m2 | 640 | m2 | | | | | | | |
| SECONDARY WORKS | | | | | | | | | |
| 33KV PROTECTION & CONTROL | | | | | | | | | |
| Add Sel 351-6 to an existing panel for line protection | 4 | Each | | | | | | | |
| 33kV Protection & Control Modifications, Labour, 2 Man Gang | 40 | Day | | | | | | | |
| SCADA | | | | | | | | | |
| 4. Add an IED to an existing SCADA, incl Comms Module (per IED) | 1 | Lot | | | | | | | |
| 1. Add a hard-wired point to an existing SCADA, excl IO Module (30 point basis) | 10 | Lot | | | | | | | |
| SCADA Modifications, Labour, 2 Man Gang | 5 | Day | | | | | | | |
| OUTAGES | | | | | | | | | |
| 1. Distribution Switching, 22kV, no of outages | 0 | each | | | | | | | |
| 2. Terminal Station Switching, 66kV, no of outages | 4 | each | | | | | | | |
| SUBTOTAL, LABOUR & MATERIALS | | | | | | | | | |
| General Estimate | | | | | | | | | |
| Project Management | 8% | | | | | | | | |
| Design, incl protection review | 12.0% | | | | | | | | |
| Preliminaries | 200 | 5% | | | | | | | |
| Site Preliminaries (Mobilisation, amenities, safety, demobilisation, etc) | 30 | | | | Allow mobilisation only, small job | | | | |
| SUB-TOTAL - DIRECT COSTS | | | | | | | | | |

| DESCRIPTION | QTY | UNITS | RATE | AMOUNT | COMMENT | MATERIAL | LABOUR | PLANT | Sub-Contract |
|--|-------|-------|------|--------|---|----------|--------|-------|--------------|
| Repl 33/11kV TF | | | | | | | | | |
| STATION WORKS | | | | | | | | | |
| PRIMARY | | | | | | | | | |
| TRANSFORMERS | | | | | | | | | |
| 3. Transformer - 33/11kV 15/20MVA | 1 | Lot | | | | | | | |
| 2. Transformer Civils excl Firewall | 1 | Lot | | | | | | | |
| Neutral Earthing Reactor | 1 | each | | | | | | | |
| Demolition | 10 | Day | | | Scrap value pays for removal and transport to salvage | | | | |
| PRIMARY CONNECTIONS | | | | | | | | | |
| 1. 11kV Transformer Cable 30/50MVA, 25m | 1 | | | | | | | | |
| CIVIL INFRASTRUCTURE | | | | | | | | | |
| GENERAL EARTHWORKS | | | | | | | | | |
| 1. Dress Surface, Subsurface Prepared, per m2 | 300 | m2 | | | | | | | |
| 1. Spoil Disposal, Load, Cart 10km & Dispose, Spoil contains rock / concrete, per m3 | 30 | m3 | | | | | | | |
| SECONDARY WORKS | | | | | | | | | |
| 33KV PROTECTION & CONTROL | | | | | | | | | |
| 33V Protection & Control Modifications, Labour, 2 Man Gang | 10 | Day | | | | | | | |
| 33kV Protection & Control Modifications, Materials | 1 | Lot | | | | | | | |
| 11KV PROTECTION & CONTROL | | | | | | | | | |
| Transformer Protection & CB Control | 1 | Lot | | | | | | | |
| 11kV Protection & Control Modifications, Labour, 2 Man Gang | 10 | Day | | | | | | | |
| 11kV Protection & Control Modifications, Materials | 1 | Lot | | | | | | | |
| SCADA | | | | | | | | | |
| 4. Add an IED to an existing SCADA, incl Comms Module (per IED) | 2 | Lot | | | | | | | |
| 1. Add a hard-wired point to an existing SCADA, excl IO Module (30 point basis) | 10 | Lot | | | | | | | |
| SCADA Modifications, Labour, 2 Man Gang | 5 | Day | | | | | | | |
| OUTAGES | | | | | | | | | |
| 2. Terminal Station Switching, 66kV, no of outages | 1 | each | | | | | | | |
| SUBTOTAL, LABOUR & MATERIALS | | | | | | | | | |
| General Estimate | | | | | | | | | |
| Project Management | 8% | | | | | | | | |
| Design, incl protection review | 15.0% | | | | | | | | |
| Preliminaries | 300 | 4% | | | | | | | |
| Site Preliminaries (Mobilisation, amenities, safety, demobilisation, etc) | 180 | | | | Allow mobilisation only, small job | | | | |
| SUB-TOTAL - DIRECT COSTS | | | | | | | | | |

| DESCRIPTION | QTY | UNITS | RATE | AMOUNT | COMMENT | MATERIAL | LABOUR | PLANT | Sub-Contract |
|--|-------|-------|------|--------|---|----------|--------|-------|--------------|
| Repl NER with NEX | | | | | | | | | |
| STATION WORKS | | | | | | | | | |
| PRIMARY | | | | | | | | | |
| TRANSFORMERS | | | | | | | | | |
| Neutral Earthing Reactor, Complete with footing, conduits, HV cables, etc | 1 | each | | | | | | | |
| Demolition | 2 | Day | | | Scrap value pays for removal and transport to salvage | | | | |
| CIVIL INFRASTRUCTURE | | | | | | | | | |
| GENERAL EARTHWORKS | | | | | | | | | |
| 1. Dress Surface, Subsurface Prepared, per m2 | 30 | m2 | | | | | | | |
| 1. Spoil Disposal, Load, Cart 10km & Dispose, Spoil contains rock / concrete, per m3 | 5 | m3 | | | | | | | |
| SECONDARY WORKS | | | | | | | | | |
| 33KV PROTECTION & CONTROL | | | | | | | | | |
| 33V Protection & Control Modifications, Labour, 2 Man Gang | 1 | Day | | | | | | | |
| 11KV PROTECTION & CONTROL | | | | | | | | | |
| 11kV Protection & Control Modifications, Labour, 2 Man Gang | 3 | Day | | | | | | | |
| 11kV Protection & Control Modifications, Materials | 1 | Lot | | | | | | | |
| OUTAGES | | | | | | | | | |
| 1. Distribution Switching, 22kV, no of outages | 0 | each | | | | | | | |
| 2. Terminal Station Switching, 66kV, no of outages | 1 | each | | | | | | | |
| SUBTOTAL, LABOUR & MATERIALS | | | | | | | | | |
| General Estimate | | | | | | | | | |
| Project Management | 20% | | | | | | | | |
| Design, incl protection review | 45.0% | | | | | | | | |
| Preliminaries | 40 | 12% | | | | | | | |
| Site Preliminaries (Mobilisation, amenities, safety, demobilisation, etc) | 45 | | | | Allow mobilisation only, small job | | | | |
| SUB-TOTAL - DIRECT COSTS | | | | | | | | | |

| DESCRIPTION | QTY | UNITS | RATE | AMOUNT | COMMENT | MATERIAL | LABOUR | PLANT | Sub-Contract |
|---|-------|-------|------|--------|------------------------------------|----------|--------|-------|--------------|
| Repl 6 x 11kV ID CBs | | | | | | | | | |
| STATION WORKS | | | | | | | | | |
| PRIMARY | | | | | | | | | |
| 11KV INDOOR BAYS | | | | | | | | | |
| 1. 11/11kV Indoor Switchgear, Feeder, 1250A, 2500A Bus | 6 | Lot | | | Incl Sec Cabl and Commission | | | | |
| Demolition | 5 | Day | | | | | | | |
| Site Preliminaries (Mobilisation, amenities, safety, demobilisation, etc) | 30 | | | | Allow mobilisation only, small job | | | | |
| SECONDARY WORKS | | | | | | | | | |
| 11KV PROTECTION & CONTROL | | | | | | | | | |
| 1. 11kV Feeder Protection, Add Protection & Control Scheme to CB Panel | 6 | Lot | | | | | | | |
| 11kV Protection & Control Modifications, Labour, 2 Man Gang | 12 | Day | | | | | | | |
| 11kV Protection & Control Modifications, Materials | 1 | Lot | | | | | | | |
| SCADA | | | | | | | | | |
| 3. Add an IED to an existing SCADA, existing Comms Module (per IED) | 6 | Lot | | | | | | | |
| 1. Add a hard-wired point to an existing SCADA, excl IO Module (30 point basis) | 12 | Lot | | | | | | | |
| OUTAGES | | | | | | | | | |
| 1. Distribution Switching, 22kV, no of outages | 8 | each | | | | | | | |
| 2. Terminal Station Switching, 66kV, no of outages | 0 | each | | | | | | | |
| SUBTOTAL, LABOUR & MATERIALS | | | | | | | | | |
| General Estimate | | | | | | | | | |
| Project Management | 10% | | | | | | | | |
| Design, incl protection review | 12.0% | | | | | | | | |
| Preliminaries | 200 | 6% | | | | | | | |
| Site Preliminaries (Mobilisation, amenities, safety, demobilisation, etc) | 0 | | | | See above | | | | |
| SUB-TOTAL - DIRECT COSTS | | | | | | | | | |

| DESCRIPTION | QTY | UNITS | RATE | AMOUNT | COMMENT | MATERIAL | LABOUR | PLANT | Sub-Contract |
|---|-------|-------|------|--------|------------------------------------|----------|--------|-------|--------------|
| Repl 6 x 11kV ID CBs in CI Sub | | | | | | | | | |
| STATION WORKS | | | | | | | | | |
| PRIMARY | | | | | | | | | |
| 11KV INDOOR BAYS | | | | | | | | | |
| Install temp RMU | 1 | each | | | | | | | |
| Transfer 4 x fdrs to RMU | 4 | each | | | | | | | |
| Demolition of existing switchboard | 3 | Day | | | | | | | |
| 1. 11/11kV Indoor Switchgear, Feeder, 1250A, 2500A Bus | 5 | each | | | Incl Sec Cabl and Commission | | | | |
| Transfer 1 x bus tie to CB | 0.5 | Day | | | | | | | |
| Transfer 1 x tf to CB | 0.5 | Day | | | | | | | |
| Transfer 1 x capb to CB | 0 | Day | | | | | | | |
| Transfer 3 x fdrs to RMU | 1 | Day | | | | | | | |
| Demolition & Reinstatement | 2 | Day | | | | | | | |
| Site Preliminaries (Mobilisation, amenities, safety, demobilisation, etc) | 30 | | | | Allow mobilisation only, small job | | | | |
| CIVIL INFRASTRUCTURE | | | | | | | | | |
| GENERAL EARTHWORKS | | | | | | | | | |
| 2. Dress Surface, Subsurface Unprepared, per m2 | 100 | m2 | | | | | | | |
| SECONDARY WORKS | | | | | | | | | |
| 11KV PROTECTION & CONTROL | | | | | | | | | |
| 1. 11kV Feeder Protection, Add Protection & Control Scheme to CB Panel | 5 | Lot | | | | | | | |
| Set-up and commission RMUs, Labour, 2 Man Gang | 3 | Day | | | | | | | |
| 11kV Protection & Control Modifications, Labour, 2 Man Gang | 5 | Day | | | | | | | |
| 11kV Protection & Control Modifications, Materials | 0.5 | Lot | | | | | | | |
| SCADA | | | | | | | | | |
| 3. Add an IED to an existing SCADA, existing Comms Module (per IED) | 3 | Lot | | | | | | | |
| 1. Add a hard-wired point to an existing SCADA, excl IO Module (30 point basis) | 6 | Lot | | | | | | | |
| AC & DC POWER SUPPLIES | | | | | | | | | |
| DC SUPPLIES & DISTRIBUTION BOARDS | | | | | | | | | |
| 1. Batteries, Chargers & Isolator Cubicles, 100Ah, X or Y | 1 | | | | | | | | |
| OUTAGES | | | | | | | | | |
| 1. Distribution Switching, 22kV, no of outages | 5 | each | | | | | | | |
| SUBTOTAL, LABOUR & MATERIALS | | | | | | | | | |
| General Estimate | | | | | | | | | |
| Project Management | 25% | | | | | | | | |
| Design, incl protection review | 12.0% | | | | | | | | |
| Preliminaries | 75 | 2% | | | | | | | |
| Site Preliminaries (Mobilisation, amenities, safety, demobilisation, etc) | 0 | | | | See above | | | | |
| SUB-TOTAL - DIRECT COSTS | | | | | | | | | |

| DESCRIPTION | QTY | UNITS | RATE | AMOUNT | COMMENT | MATERIAL | LABOUR | PLANT | Sub-Contract |
|---|----------|-------|------|--------|--|----------|--------|-------|--------------|
| Reconductor 33kV OH Line | | | | | | | | | |
| LINE WORKS | | | | | | | | | |
| 33KV LINES | | | | | | | | | |
| 5. 33kV Single Cct Line Reconductor to Pluto incl Poles & Xarms, per km | 6 | km | | | | | | | |
| 0.415KV LINES | | | | | | | | | |
| 3. 0.415kV Services - Replace 2 x 1ph + 1 x 3ph Services on Existing Pole | 17 | Lot | | | | | | | |
| GENERAL | | | | | | | | | |
| 1. Traffic Control, Normal Rate | 10 | Day | | | | | | | |
| 2. Traffic Control, Penalty Rates | 10 | Day | | | | | | | |
| OUTAGES | | | | | | | | | |
| 1. Distribution Switching, 22kV, no of outages | 12 | each | | | | | | | |
| 2. Terminal Station Switching, 66kV, no of outages | 0 | each | | | | | | | |
| SUBTOTAL, LABOUR & MATERIALS | | | | | | | | | |
| General Estimate | | | | | | | | | |
| Project Management | 6% | | | | | | | | |
| Design, incl protection review | 10.0% | | | | | | | | |
| Preliminaries | 320 | 7% | | | | | | | |
| Survey | 432 | | | | Allow for two persons to survey plus time to document, etc | | | | |
| Documentation, QA Audit | 22.5 | | | | Allow up to 4 hours each | | | | |
| Asset Location | 30 | | | | Generally allow 4 hours | | | | |
| Site Preliminaries (Mobilisation, amenities, safety, demobilisation, etc) | 0 | | | | Mob only, see above | | | | |
| SUB-TOTAL - DIRECT COSTS | 6 | | | | | | | | |

| DESCRIPTION | QTY | UNITS | RATE | AMOUNT | COMMENT | MATERIAL | LABOUR | PLANT | Sub-Contract |
|--|-------|----------------|------|--------|--|----------|--------|-------|--------------|
| 33kV UG Feeder | | | | | | | | | |
| LINE WORKS | | | | | | | | | |
| 33KV LINES | | | | | | | | | |
| 33kV 630mm ² , 1 Core, Cu Conductor Underground Cable, 1400m, Direct Buried/Conduit Combination | 1400 | m | | | | | | | |
| 33kV XLPE Cable | 8,820 | m | | | | | | | |
| HV XLPE Cable - Add Pole Length | 8,820 | m | | | | | | | |
| Fibre Cable | 2,940 | m | | | | | | | |
| Bare Earth Cable | 2,940 | m | | | | | | | |
| HV Feeder Terminations | 2 | Set | | | | | | | |
| HV Equipment Terminations | 2 | Set | | | | | | | |
| HV Intermediate Cable Joints | 2 | Set | | | | | | | |
| Fibre Cable Joints, Intermediate | 0 | ea | | | | | | | |
| Misc Materials, per termination | 6 | ea | | | | | | | |
| Cut Pavement | 2,800 | m | | | | | | | |
| Cut Pavement Mobilisation | 1 | each | | | | | | | |
| Trench in Soil, L X 1.0 X 1.5M | 1,485 | m ³ | | | | | | | |
| Trench in Rock, L X 1.0 X 1.5M | 615 | m ³ | | | | | | | |
| Conduit Supply | 2,460 | m | | | | | | | |
| Conduit Accessories | 62 | ea | | | | | | | |
| Lay Bedding Sand | 330 | m ³ | | | | | | | |
| Backfill with Cable Sand | 1,199 | m ³ | | | | | | | |
| Disposal of Spoil | 1,199 | m ³ | | | | | | | |
| Cable Protection | 8,400 | m | | | | | | | |
| Surface Restoration | 0 | m ² | | | | | | | |
| Pavement Restoration | 1,400 | m ² | | | | | | | |
| Crew Cost, Conduit Instal | 246 | h | | | | | | | |
| Crew Cost, Cable Install | 1,323 | h | | | | | | | |
| Crew Cost, Terminations | 144 | h | | | | | | | |
| Crew Cost, Cable Test | 86 | h | | | | | | | |
| Fibre Cable Termination | 4 | lot | | | | | | | |
| Mobilisation | 120 | h | | | | | | | |
| GENERAL | | | | | | | | | |
| 1. Traffic Control, Normal Rate | 20 | Day | | | | | | | |
| OUTAGES | | | | | | | | | |
| 1. Distribution Switching, 22kV, no of outages | 2 | each | | | | | | | |
| SUBTOTAL, LABOUR & MATERIALS | | | | | | | | | |
| General Estimate | | | | | | | | | |
| Project Management | 6% | | | | | | | | |
| Design, incl protection review | 4.0% | | | | | | | | |
| Preliminaries | 400 | 3% | | | | | | | |
| Survey | 160 | | | | Allow for two persons to survey plus time to document, etc | | | | |
| Documentation, QA Audit | 8 | | | | Allow up to 4 hours each | | | | |
| Asset Location | 8 | | | | Generally allow 4 hours | | | | |
| SUB-TOTAL - DIRECT COSTS | | | | | | | | | |

| DESCRIPTION | QTY | UNITS | RATE | AMOUNT | COMMENT | MATERIAL | LABOUR | PLANT | Sub-Contract |
|---|----------|-------|------|--------|--|----------|--------|-------|--------------|
| Repl 33kV Pole | | | | | | | | | |
| LINE WORKS | | | | | | | | | |
| 33KV LINES | | | | | | | | | |
| 5. 33kV Replace 15.5m Wood Pole, Single Cct, Strain, incl HV | 1 | each | | | | | | | |
| GENERAL | | | | | | | | | |
| 1. Traffic Control, Normal Rate | 1 | Day | | | | | | | |
| OUTAGES | | | | | | | | | |
| 1. Distribution Switching, 22kV, no of outages | 1 | each | | | | | | | |
| SUBTOTAL, LABOUR & MATERIALS | | | | | | | | | |
| General Estimate | | | | | | | | | |
| Project Management | 0% | | | | | | | | |
| Design, incl protection review | 0.0% | | | | | | | | |
| Preliminaries | 2 | 2% | | | | | | | |
| Survey | 0 | | | | Allow for two persons to survey plus time to document, etc | | | | |
| Documentation, QA Audit | 2 | | | | Allow up to 4 hours each | | | | |
| Asset Location | 0 | | | | Generally allow 4 hours | | | | |
| Site Preliminaries (Mobilisation, amenities, safety, demobilisation, etc) | 0 | | | | Mob only, see above | | | | |
| SUB-TOTAL - DIRECT COSTS | 1 | | | | | | | | |

| DESCRIPTION | QTY | UNITS | RATE | AMOUNT | SITE FACTOR | COMMENT | REF | MATERIAL | LABOUR | PLANT | Sub-Contract |
|---|------------|-------|------|--------|-------------|--|------|----------|--------|-------|--------------|
| Reconductor 11kV OH Line | | | | | | | | | | | |
| LINE WORKS | | | | | | | | | | | |
| 11kV LINES | | | | | | | | | | | |
| 6. 11kV Pole, Replace, Intermediate, incl LV, incl services | 22 | each | | | | | L22 | | | | |
| 8. 11kV Pole, Replace, Strain, incl LV, incl services | 14 | each | | | | | L22 | | | | |
| 3. 11kV Replace X Arms, Single Cct, Intermediate | 14 | each | | | | | L22 | | | | |
| 1. 11kV Line Reconductor - 1-5 Bays, HV Only | 10 | Bay | | | | | L22 | | | | |
| 2. 11kV Line - Reconductor, HV Only (/km) | 2.4 | km | | | | | L22 | | | | |
| Site Preliminaries (Mobilisation, amenities, safety, demobilisation, etc) | 120 | | | | | Allow one day for 16 man team | L66 | | | | |
| 0.415kV LINES | | | | | | | | | | | |
| 3. 0.415kV Services - Replace 2 x 1ph + 1 x 3ph Services on Existing Pole | 12 | Lot | | | | | L00 | | | | |
| 1. Street Lighting, Install 250W HPS on Existing Wood Pole | 28 | each | | | | | L00 | | | | |
| GENERAL | | | | | | | | | | | |
| 1. Traffic Control, Normal Rate | 10 | Day | | | | | L66 | | | | |
| 2. Traffic Control, Penalty Rates | 10 | Day | | | | | L66 | | | | |
| OUTAGES | | | | | | | | | | | |
| 1. Distribution Switching, 22kV, no of outages | 8 | each | | | | | Swch | | | | |
| SUBTOTAL, LABOUR & MATERIALS | 2.8 | | | | | | | | | | |
| General Estimate | | | | | | | | | | | |
| Project Management | 4% | | | | | | PM | | | | |
| Design, incl protection review | 5.0% | | | | | | DES | | | | |
| Preliminaries | 120 | 4% | | | | | PRE | | | | |
| Survey | 70.2 | | | | | Allow for two persons to survey plus time to document, etc | | | | | |
| Documentation, QA Audit | 11.25 | | | | | Allow up to 4 hours each | | | | | |
| Asset Location | 15 | | | | | Generally allow 4 hours | | | | | |
| SUB-TOTAL - DIRECT COSTS | 2.8 | | | | | | | | | | |

| DESCRIPTION | QTY | UNITS | RATE | AMOUNT | COMMENT | MATERIAL | LABOUR | PLANT | Sub-Contract |
|--|------------|-------|------|--------|--|----------|--------|-------|--------------|
| 11kV UG Feeder | | | | | | | | | |
| LINE WORKS | | | | | | | | | |
| 11KV LINES | | | | | | | | | |
| 6. 11kV Pole, Replace, Intermediate, incl LV, incl services | 1 | each | | | | | | | |
| 8. 11kV Pole, Replace, Strain, incl LV, incl services | 1 | each | | | | | | | |
| 3. 11kV Replace X Arms, Single Cct, Intermediate | 1 | each | | | | | | | |
| 2. 11kV Line - Reconductor, HV Only (/km) | 0.2 | km | | | | | | | |
| Site Preliminaries (Mobilisation, amenities, safety, demobilisation, etc) | 120 | | | | Allow one day for 16 man team | | | | |
| 11KV SWITCHGEAR | | | | | | | | | |
| 1. Gas Switch, Manual, 22kV, 400A | 1 | Lot | | | | | | | |
| 5. 22kV U/G Switching Station, excl cable termination | 2 | Lot | | | | | | | |
| 11KV UNDERGROUND CABLE | | | | | | | | | |
| 11kV 400mm2, 3 Core, Al Conductor Underground Cable, 1000m, Installed in Conduit | 1 | each | | | | | | | |
| 11kV 400mm2, 3 Core, Al Conductor Underground Cable, 1400m, Installed in Conduit | 1 | each | | | | | | | |
| 11kV 240mm2, 3 Core, Al Conductor Underground Cable, 200m, Installed in Conduit incl Pole Termination | 1 | each | | | | | | | |
| 11kV 240mm2, 3 Core, Al Conductor Underground Cable, 200m, Installed in Conduit incl straight cable connection | 2 | each | | | | | | | |
| 1 x HV Cable Pit | 1 | each | | | | | | | |
| 0.415KV LINES | | | | | | | | | |
| 3. 0.415kV Services - Replace 2 x 1ph + 1 x 3ph Services on Existing Pole | 1 | Lot | | | | | | | |
| 1. Street Lighting, Install 250W HPS on Existing Wood Pole | 2 | each | | | | | | | |
| GENERAL | | | | | | | | | |
| 1. Temporary Generator / Week, 30kVA | 1 | Week | | | | | | | |
| 1. Traffic Control, Normal Rate | 20 | Day | | | | | | | |
| OUTAGES | | | | | | | | | |
| 1. Distribution Switching, 22kV, no of outages | 8 | each | | | | | | | |
| SUBTOTAL, LABOUR & MATERIALS | 2.4 | | | | | | | | |
| General Estimate | | | | | | | | | |
| Project Management | 4% | | | | | | | | |
| Design, incl protection review | 4.0% | | | | | | | | |
| Preliminaries | 120 | 2% | | | | | | | |
| Survey | 36 | | | | Allow for two persons to survey plus time to document, etc | | | | |
| Documentation, QA Audit | 11.25 | | | | Allow up to 4 hours each | | | | |
| Asset Location | 15 | | | | Generally allow 4 hours | | | | |
| SUB-TOTAL - DIRECT COSTS | 2.4 | | | | | | | | |

| DESCRIPTION | QTY | UNITS | RATE | AMOUNT | COMMENT | MATERIAL | LABOUR | PLANT | Sub-Contract |
|---|----------|-------|------|--------|--|----------|--------|-------|--------------|
| Replace HV Pole | | | | | | | | | |
| LINE WORKS | | | | | | | | | |
| 11KV LINES | | | | | | | | | |
| 8. 11kV Pole, Replace, Strain, incl LV, incl services | 1 | each | | | | | | | |
| Non-destructive hole boring | 1 | each | | | | | | | |
| 0.415KV LINES | | | | | | | | | |
| 3. 0.415kV Services - Replace 2 x 1ph + 1 x 3ph Services on Existing Pole | 1 | Lot | | | | | | | |
| GENERAL | | | | | | | | | |
| 1. Traffic Control, Normal Rate | 0.5 | Day | | | | | | | |
| OUTAGES | | | | | | | | | |
| 1. Distribution Switching, 22kV, no of outages | 1 | each | | | | | | | |
| SUBTOTAL, LABOUR & MATERIALS | 1 | | | | | | | | |
| General Estimate | | | | | | | | | |
| Project Management | 0% | | | | | | | | |
| Design, incl protection review | 0.0% | | | | | | | | |
| Preliminaries | 2 | 3% | | | | | | | |
| Survey | 0 | | | | Allow for two persons to survey plus time to document, etc | | | | |
| Documentation, QA Audit | 2 | | | | Allow up to 4 hours each | | | | |
| Asset Location | 0 | | | | Generally allow 4 hours | | | | |
| Site Preliminaries (Mobilisation, amenities, safety, demobilisation, etc) | 0 | | | | See above | | | | |
| SUB-TOTAL - DIRECT COSTS | 1 | | | | | | | | |

| DESCRIPTION | QTY | UNITS | RATE | AMOUNT | COMMENT | MATERIAL | LABOUR | PLANT | Sub-Contract |
|---|----------|-------|------|--------|--|----------|--------|-------|--------------|
| Manual Gas Sw | | | | | | | | | |
| LINE WORKS | | | | | | | | | |
| 11KV SWITCHGEAR | | | | | | | | | |
| 1. Gas Switch, Manual, 22kV, 400A | 1 | Lot | | | | | | | |
| Removal of existing air break | 4 | h | | | | | | | |
| GENERAL | | | | | | | | | |
| 1. Traffic Control, Normal Rate | 0.5 | Day | | | | | | | |
| SUBTOTAL, LABOUR & MATERIALS | 1 | | | | | | | | |
| General Estimate | | | | | | | | | |
| Project Management | 0% | | | | | | | | |
| Design, incl protection review | 0.0% | | | | | | | | |
| Preliminaries | 2 | 3% | | | | | | | |
| Survey | 0 | | | | Allow for two persons to survey plus time to document, etc | | | | |
| Documentation, QA Audit | 2 | | | | Allow up to 4 hours each | | | | |
| Asset Location | 0 | | | | Generally allow 4 hours | | | | |
| Site Preliminaries (Mobilisation, amenities, safety, demobilisation, etc) | 0 | | | | See above | | | | |
| SUB-TOTAL - DIRECT COSTS | 1 | | | | | | | | |

| DESCRIPTION | QTY | UNITS | RATE | AMOUNT | COMMENT | MATERIAL | LABOUR | PLANT | Sub-Contract |
|---|----------|-------|------|--------|--|----------|--------|-------|--------------|
| Replace 100kVA TF | | | | | | | | | |
| LINE WORKS | | | | | | | | | |
| SUBSTATIONS | | | | | | | | | |
| 3. 22/11/0.415kV 100kVA Transformer, Pole Mounted, Supply & Install | 1 | Lot | | | | | | | |
| GENERAL | | | | | | | | | |
| 1. Traffic Control, Normal Rate | 1 | Day | | | | | | | |
| SUBTOTAL, LABOUR & MATERIALS | 1 | | | | | | | | |
| General Estimate | | | | | | | | | |
| Project Management | 0% | | | | | | | | |
| Design, incl protection review | 0.0% | | | | | | | | |
| Preliminaries | 2 | 2% | | | | | | | |
| Survey | 0 | | | | Allow for two persons to survey plus time to document, etc | | | | |
| Documentation, QA Audit | 2 | | | | Allow up to 4 hours each | | | | |
| Asset Location | 0 | | | | Generally allow 4 hours | | | | |
| Site Preliminaries (Mobilisation, amenities, safety, demobilisation, etc) | 0 | | | | See above | | | | |
| SUB-TOTAL - DIRECT COSTS | 1 | | | | | | | | |

| DESCRIPTION | QTY | UNITS | RATE | AMOUNT | COMMENT | MATERIAL | LABOUR | PLANT | Sub-Contract |
|---|----------|-------|------|--------|--|----------|--------|-------|--------------|
| Reconductor LV as LVABC | | | | | | | | | |
| LINE WORKS | | | | | | | | | |
| 0.415KV LINES | | | | | | | | | |
| LV Fuse Switches and Metering Replacement | 1 | each | | | | | | | |
| 5. 0.415kV Line, Reconductor to LVABC | 1 | km | | | | | | | |
| 1. 0.415kV Service - Single Phase Std | 7 | each | | | | | | | |
| 1. Street Lighting, Install 250W HPS on Existing Wood Pole | 2 | each | | | | | | | |
| Reinstate open wire service to LVABC | 75 | each | | | | | | | |
| GENERAL | | | | | | | | | |
| 4. Vegetation Clearing, Light MV/LV, per km | 1 | km | | | | | | | |
| 1. Temporary Generator / Week, 30kVA | 2 | Week | | | | | | | |
| 1. Traffic Control, Normal Rate | 10 | Day | | | | | | | |
| SUBTOTAL, LABOUR & MATERIALS | 1 | | | | | | | | |
| General Estimate | | | | | | | | | |
| Project Management | 5% | | | | | | | | |
| Design, incl protection review | 5.0% | | | | | | | | |
| Preliminaries | 7.5 | 1% | | | | | | | |
| Survey | 36 | | | | Allow for two persons to survey plus time to document, etc | | | | |
| Documentation, QA Audit | 2 | | | | Allow up to 4 hours each | | | | |
| Asset Location | 2 | | | | Generally allow 4 hours | | | | |
| Site Preliminaries (Mobilisation, amenities, safety, demobilisation, etc) | 0 | | | | See above | | | | |
| SUB-TOTAL - DIRECT COSTS | 1 | | | | | | | | |

| DESCRIPTION | QTY | UNITS | RATE | AMOUNT | COMMENT | MATERIAL | LABOUR | PLANT | Sub-Contract |
|--|----------|-------|------|--------|--|----------|--------|-------|--------------|
| Repl LV Fuse incl Smart Meter | | | | | | | | | |
| LINE WORKS | | | | | | | | | |
| 11KV SWITCHGEAR | | | | | | | | | |
| HV fuses, supply only, installation time in LV works | 3 | | | | | | | | |
| 0.415KV LINES | | | | | | | | | |
| LV Fuse Switches and Metering Replacement | 1 | each | | | | | | | |
| Demolition | 2 | h | | | | | | | |
| SUBTOTAL, LABOUR & MATERIALS | 1 | | | | | | | | |
| General Estimate | | | | | | | | | |
| Project Management | 0% | | | | | | | | |
| Design, incl protection review | 0.0% | | | | | | | | |
| Preliminaries | 1 | 2% | | | | | | | |
| Survey | 0 | | | | Allow for two persons to survey plus time to document, etc | | | | |
| Documentation, QA Audit | 1 | | | | Allow up to 4 hours each | | | | |
| Asset Location | 0 | | | | Generally allow 4 hours | | | | |
| SUB-TOTAL - DIRECT COSTS | 1 | | | | | | | | |

| DESCRIPTION | QTY | UNITS | RATE | AMOUNT | COMMENT | MATERIAL | LABOUR | PLANT | Sub-Contract |
|---|----------|-------|------|--------|--|----------|--------|-------|--------------|
| Replace LV Pole | | | | | | | | | |
| LINE WORKS | | | | | | | | | |
| 0.415KV LINES | | | | | | | | | |
| 4. 0.415kV Replace Existing Pole with Wood, Each (Includes Dressing, etc) | 1 | each | | | | | | | |
| Non-destructive hole boring | 1 | each | | | | | | | |
| 3. 0.415kV Services - Replace 2 x 1ph + 1 x 3ph Services on Existing Pole | 1 | Lot | | | | | | | |
| GENERAL | | | | | | | | | |
| 1. Traffic Control, Normal Rate | 0.5 | Day | | | | | | | |
| SUBTOTAL, LABOUR & MATERIALS | 1 | | | | | | | | |
| General Estimate | | | | | | | | | |
| Project Management | 0% | | | | | | | | |
| Design, incl protection review | 0.0% | | | | | | | | |
| Preliminaries | 2 | 4% | | | | | | | |
| Survey | 0 | | | | Allow for two persons to survey plus time to document, etc | | | | |
| Documentation, QA Audit | 2 | | | | Allow up to 4 hours each | | | | |
| Asset Location | 0 | | | | Generally allow 4 hours | | | | |
| Site Preliminaries (Mobilisation, amenities, safety, demobilisation, etc) | 0 | | | | See above | | | | |
| SUB-TOTAL - DIRECT COSTS | 1 | | | | | | | | |

| DESCRIPTION | QTY | UNITS | RATE | AMOUNT | COMMENT | MATERIAL | LABOUR | PLANT | Sub-Contract |
|---|----------|-------|------|--------|--|----------|--------|-------|--------------|
| Repl LV Service | | | | | | | | | |
| LINE WORKS | | | | | | | | | |
| 0.415KV LINES | | | | | | | | | |
| 1. 0.415kV Service - Single Phase Std | 1 | each | | | | | | | |
| SUBTOTAL, LABOUR & MATERIALS | 1 | | | | | | | | |
| General Estimate | | | | | | | | | |
| Project Management | 0% | | | | | | | | |
| Design, incl protection review | 0.0% | | | | | | | | |
| Preliminaries | 0.2 | 5% | | | | | | | |
| Survey | 0 | | | | Allow for two persons to survey plus time to document, etc | | | | |
| Documentation, QA Audit | 0.2 | | | | Allow up to 4 hours each | | | | |
| Asset Location | 0 | | | | Generally allow 4 hours | | | | |
| Site Preliminaries (Mobilisation, amenities, safety, demobilisation, etc) | 0 | | | | See above | | | | |
| SUB-TOTAL - DIRECT COSTS | 1 | | | | | | | | |

| DESCRIPTION | QTY | UNITS | RATE | AMOUNT | COMMENT | MATERIAL | LABOUR | PLANT | Sub-Contract |
|---|------------|-------|------|--------|--|----------|--------|-------|--------------|
| Optical Fibre Infill | | | | | | | | | |
| LINE WORKS | | | | | | | | | |
| OVERHEAD FIBRE CABLE | | | | | | | | | |
| 2. Fibre, Overhead, Installed on existing poles, per km | 4 | km | | | | | | | |
| Install 1.5km of fibre in existing conduit | 1.5 | km | | | | | | | |
| Install 75m of ADSS across a rail Xing | 1 | each | | | | | | | |
| Install 2 x 50m substation entries, less terminations | 100 | m | | | | | | | |
| Allow 2 x cable pits at substations | 2 | each | | | | | | | |
| Fibre Termination, 72 core | 7 | each | | | Includes two joins & 50m of fibre cabl | | | | |
| Misc Labour | 5 | day | | | | | | | |
| 150 core FOBOT, in existing cabinet | 2 | each | | | | | | | |
| | | | | | | | | | |
| GENERAL | | | | | | | | | |
| 1. Traffic Control, Normal Rate | 20 | Day | | | | | | | |
| | | | | | | | | | |
| OUTAGES | | | | | | | | | |
| 1. Distribution Switching, 22kV, no of outages | 0 | each | | | | | | | |
| 2. Terminal Station Switching, 66kV, no of outages | 0 | each | | | | | | | |
| | | | | | | | | | |
| SUBTOTAL, LABOUR & MATERIALS | 5.5 | | | | | | | | |
| | | | | | | | | | |
| General Estimate | | | | | | | | | |
| Project Management | 8% | | | | | | | | |
| Design, incl protection review | 12.0% | | | | | | | | |
| Preliminaries | 80 | 3% | | | | | | | |
| Survey | 80 | | | | Allow for two persons to survey plus time to document, etc | | | | |
| Documentation, QA Audit | 7.5 | | | | Allow up to 4 hours each | | | | |
| Asset Location | 4 | | | | Generally allow 4 hours | | | | |
| Site Preliminaries (Mobilisation, amenities, safety, demobilisation, etc) | 30 | | | | Allow one day for 16 man team | | | | |
| SUB-TOTAL - DIRECT COSTS | 5.5 | | | | | | | | |