

LOT 6 ISILOLO

SCHEDULE NO. 1 - PLANT AND MANDATORY SPARE PARTS SUPPLIED FROM ABROAD

| Item | Description | Quantity and capacity of single unit ² | Code ³ | Unit ⁴ | Qty | CIP Unit Price ¹ | CIP Total Price ¹ |
|---|---|---|-------------------|-------------------|-----|-----------------------------|------------------------------|
| | | | | | (1) | (2) | (1) x (2) |
| ERAS HA BORU 160 kWp (160 kW AC) SOLAR PV MINI GRID | | | | | | | |
| A | Solar Power Generation Plant (SPGP) | | | | | | |
| A1 | SPV Modules & Inverters | | | | | | |
| | 160 kWp (DC) Standard monocrystalline silicon SPV modules | | | Lot | 1 | | |
| 2 | Fixed-tilt racking structure(s) for above SPV modules including all necessary nuts and bolts as well as necessary clamps, foundation bolts etc. | | | Lot | 1 | | |
| 3 | 160 kW (AC) Solar PV Inverters | | | Lot | 1 | | |
| 4 | 100 kW Solar Battery Inverter Charger | | | Lot | 1 | | |
| A2 | Battery Energy Storage System | | | | | | |
| 5 | 400 kWh Usable Battery Energy Storage System (BESS) | | | Lot | 1 | | |
| 6 | Battery Management system | | | Lot | | | |
| 7 | Supply of SCADA along with associated equipment, data acquisition, data logger and display units and Industrial type PC with remote monitoring. | | | Lot | 1 | | |
| A3 | Diesel Generator | | | | | | |
| 8 | 100 kVA Prime Rated Diesel Generator(s) (DG) 415 V, 3-phase installed with a common genset controller capable of parallel operation with shunt-trip breakers for auto-start capability | | | Lot | 1 | | |
| 9 | 2000Litres Fuel Storage Tank | | | Lot | 1 | | |
| A4 | Other SPGP Items | | | | | | |
| 10 | Metering system consisting of check and main meters for Import / export of energy from solar plant as per grid code | | | No. | 1 | | |
| 11 | Auxiliary power supply as per specifications | | | Lot | 1 | | |
| 12 | Air conditioners for the control room as per specifications. | | | Lot | 1 | | |
| 13 | All balance of system components for interconnecting the battery and solar array with their inverters and the wider 415V three-phase 50 Hz AC distribution system, including but not limited to: AC & DC wiring, breakers, fuses, combiner boxes, recombiner boxes, panelboards, conduits, cables and cable trays, relays, transformers, enclosures, foundations, trenches, poles, support structures, cabinets, grounding electrodes, grounding conductors, lighting arrestors, lightning rods, insulators, surge protection, meters, sensors, and any other fixtures required for safety, reliability, and compliance with all relevant local and | | | Lot | 1 | | |

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|-----------|--|--|--|-----|-----------|--|--|
| | international codes and standards at the time of installation. | | | | | | |
| | ERAS HA BORU SUBTOTAL A | | | | | | |
| B | Power Distribution Network (PDN) | | | | | | |
| B1 | 3-phase and single-phase LV Distribution Line | | | | | | |
| 14 | 10M LV Concrete Pole (TSP/03/005-1) | | | No | 428 | | |
| 15 | LV Concrete Pole fittings- (Multipurpose/universal clamps, bolts,nuts,stays, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/003), (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/02/003-2), (TSP/02/002), (TSP/06/036-1), (TSP/07/001), (TSP/03/022) | | | Set | 428 | | |
| 16 | 50sqmm AA bare conductor for length of LV (2-wire) line (TSP/06/020-2) | | | Km | 16.9 5 | | |
| 17 | Complete Earthing- Protective Multiple Earthing (PME) (TSP/06/031-1) | | | No | 188 | | |
| 18 | LV Concrete stays- (Stay wire, stay block, stay rod) | | | No | 407 | | |
| 19 | LV Concrete strut pole- (Concrete strut pole, heavy duty clamps) | | | No | 99 | | |
| B2 | Other PDN Items | | | | | | |
| 20 | Service Cable (25mm2 PVC Insulated three phase, 4 core Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004) | | | M | 60 | | |
| 21 | Service Cable (16mm2 PVC Insulated Single Phase Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004) | | | M | 14.9 | | |
| 22 | 10mm dropper cable Red and Black; 1m each for single phase meters ² (TSP/05/016) | | | M | 596. 4 | | |
| 23 | Service cable concrete fittings (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/03/003), (TSP/06/035) | | | No. | 497 | | |
| 24 | Service Cable fittings for wall mounting including Angle Iron (TSP/02/003-3), (TSP/04/011), (TSP/03/003), (TSP/02/003-1) | | | No. | 497 | | |
| 25 | Ready Boards complete with mounting accessories (TSP/14/051) | | | No. | 497 | | |

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| 26 | 1ftX1ftX3/4ft metallic meter boards (galvanized gauge 30 plain iron sheet) with wall mounting accessories and suitable for meter & MCB mounting, Service cable entry and Earthing . | | | No | 497 | | |
| 27 | Other Items not Mentioned above but required for installation and commissioning of the single and three phase Distribution line for Mini Grid and end user installation such as insulators, binding wires, fittings including nuts, bolts, Danger Plates, Name Plates, anti-climbing Barbed wire and accessories etc. on turn-key basis | | | Lot | 1 | | |
| B3 | 11KV MV Distribution line | | | | | | |
| 28 | 12M MV Concrete Pole (TSP/03/005-1) | | | No | 0 | | |
| 29 | 14M MV Concrete Pole (TSP/03/005-1) | | | No | 0 | | |
| 30 | MV Concrete Pole fittings- (Cross arms, Tie straps, insulator composites, Universal clamps, bolts, nuts, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/003), (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/02/003-2), (TSP/02/002), (TSP/06/036-1), (TSP/07/001), (TSP/03/022) | | | Set | 0 | | |
| 31 | 75sqmm Aluminium Conductor Steel Reinforced (ACSR) conductor for length of three phase (3 - wire) line (TSP/06/020-2) | | | Km | 0 | | |
| 32 | MV Concrete Pole stays - (Stay wire, stay rod, stay block, shackle insulator) | | | No | 0 | | |
| 33 | MV Concrete Pole flying stays - (Concrete pole, Stay wire, stay rod, stay block, shackle insulator) | | | No | 0 | | |
| 34 | MV Concrete Pole strut pole – (Concrete strut pole, heavy duty clamps) | | | No | 0 | | |
| B4 | 11KV Distribution Transformer | | | | | | |
| 35 | 11KV 50KVA transformer | | | No | 0 | | |
| 36 | 11KV 50 - 200KVA transformer substation structure and fittings (Earthing & lightning Protection and associated material requirement, Expulsion Fuses, Surge diverters, Overhead fuse carriers, 10M Concrete poles, 11KV Steel channel and clamps etc. Danger plates, phase plates, circuit plates, number plates, anti-climbing devices and other safety requirements) | | | Set | 0 | | |
| | ERAS HA BORU SUBTOTAL B | | | | | | |
| C | Mandatory spares | | | | | | |
| 37 | Mandatory spares including at least 1 spare inverter, 5% of total solar PV panel capacity, fuses, cabling and hardware for 7 years including all consumable parts. | | | Lot | 1 | | |
| | ERAS HA BORU SUBTOTAL C | | | | | | |

| Item | Description | Quantity and capacity of single unit ² | Code ₃ | Unit ⁴ | Qty | CIP Unit Price ¹ | CIP Total Price ¹ |
|---|--|---|-------------------|-------------------|-----|-----------------------------|------------------------------|
| | | | | | (1) | (2) | (1) x (2) |
| GARFASA 160kWp (160 kW AC) SOLAR PV MINI GRID | | | | | | | |
| A | Solar Power Generation Plant (SPGP) | | | | | | |
| A1 | SPV Modules & Inverters | | | | | | |
| 1 | 160 kWp (DC) Standard monocrystalline or polycrystalline silicon SPV modules | | | Lot | 1 | | |
| 2 | Fixed-tilt racking structure(s) for above SPV modules including all necessary nuts and bolts as well as necessary clamps, foundation bolts etc. | | | Lot | 1 | | |
| 3 | 160 kW (AC) Solar PV Inverters | | | Lot | 1 | | |
| 4 | 100 kW Solar Battery Inverter Charger | | | Lot | 1 | | |
| A2 | Battery Energy Storage System | | | | | | |
| 5 | 400 kWh Usable Battery Energy Storage System (BESS) | | | Lot | 1 | | |
| 6 | Battery Management system | | | Lot | 1 | | |
| 7 | Supply of SCADA along with associated equipment, data acquisition, data logger and display units and Industrial type PC with remote monitoring. | | | Lot | 1 | | |
| A3 | Diesel Generator | | | | | | |
| 8 | 100 kVA Prime Rated Diesel Generator(s) (DG) 415 V, 3-phase installed with a common genset controller capable of parallel operation with shunt-trip breakers for auto-start capability | | | Lot | 1 | | |
| 9 | 2000Litres Fuel Storage Tank | | | | | | |
| A4 | Other SPGP Items | | | | | | |
| 10 | Metering system consisting of check and main meters for Import / export of energy from solar plant as per grid code | | | No. | 1 | | |
| 11 | Auxiliary power supply as per specifications | | | Lot | 1 | | |
| 12 | Air conditioners for the control room as per specifications. | | | Lot | 1 | | |
| 13 | All balance of system components for interconnecting the battery and solar array with their inverters and the wider 415V three-phase 50 Hz AC distribution system, including but not limited to: AC & DC wiring, breakers, fuses, combiner boxes, recombiner boxes, panelboards, conduits, cables and cable trays, relays, transformers, enclosures, foundations, trenches, poles, support structures, cabinets, grounding electrodes, grounding conductors, lighting arrestors, lightning rods, insulators, surge protection, meters, sensors, and any other fixtures required for a safety, reliability, and compliance with all relevant local and international codes and standards at the time of installation. | | | Lot | 1 | | |
| | GARFASA SUBTOTAL A | | | | | | |

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|-----------|---|--|--|-----|--------|--|--|
| B | Power Distribution Network (PDN) | | | | | | |
| B1 | 3-phase and single-phase LV Distribution Line | | | | | | |
| 14 | 10M LV Concrete Pole (TSP/03/005-1) | | | No | 486 | | |
| 15 | LV Concrete Pole fittings- (Multipurpose/universal clamps, bolts,nuts,stays, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/003), (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/02/003-2), (TSP/02/002), (TSP/06/036-1), (TSP/07/001), (TSP/03/022) | | | Set | 486 | | |
| 16 | 50sqmm AA bare conductor for length of LV (2-wire) line (TSP/06/020-2) | | | Km | 22.41 | | |
| 17 | Complete Earthing- Protective Multiple Earthing (PME) (TSP/06/031-1) | | | No | 309 | | |
| 18 | LV Concrete stays- (Stay wire, stay block, stay rod) | | | No | 262 | | |
| 19 | LV Concrete strut pole- (Concrete strut pole, heavy duty clamps) | | | No | 18 | | |
| B2 | Other PDN Items | | | | | | |
| 20 | Service Cable (25mm ² PVC Insulated three phase, 4 core Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004) | | | M | 240 | | |
| 21 | Service Cable (16mm ² PVC Insulated Single Phase Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004) | | | M | 19,230 | | |
| 22 | 10mm dropper cable Red and Black; 1m each for single phase meters ² (TSP/05/016) | | | M | 778.8 | | |
| 23 | Service cable concrete fittings (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/03/003), (TSP/06/035) | | | No. | 649 | | |
| 24 | Service Cable fittings for wall mounting including Angle Iron (TSP/02/003-3), (TSP/04/011), (TSP/03/003), (TSP/02/003-1) | | | No. | 649 | | |
| 25 | Ready Boards complete with mounting accessories (TSP/14/051) | | | No. | 649 | | |
| 26 | 1ftX1ftX3/4ft metallic meter boards (galvanized gauge 30 plain iron sheet) with wall mounting accessories and suitable for meter & MCB mounting, Service cable entry and Earthing . | | | No | 649 | | |
| 27 | Other Items not Mentioned above but required for installation and commissioning of the single and three phase Distribution line for Mini Grid and end user installation such as insulators, binding wires, fittings including nuts, bolts, Danger Plates, Name Plates, anti-climbing Barbed wire and accessories etc. on turn-key basis | | | Lot | 1 | | |
| B3 | 11KV MV Distribution line | | | | | | |

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|-----------|--|--|--|-----|-----|--|--|
| 28 | 12M MV Concrete Pole (TSP/03/005-1) | | | No | 39 | | |
| 29 | 14M MV Concrete Pole (TSP/03/005-1) | | | No | 4 | | |
| 30 | MV Concrete Pole fittings- (Cross arms, Tie straps, insulator composites, Universal clamps, bolts, nuts, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/003), (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/02/003-2), (TSP/02/002), (TSP/06/036-1), (TSP/07/001), (TSP/03/022) | | | Set | 43 | | |
| 31 | 75sqmm Aluminium Conductor Steel Reinforced (ACSR) conductor for length of three phase (3 - wire) line (TSP/06/020-2) | | | Km | 3.3 | | |
| 32 | MV Concrete Pole stays - (Stay wire, stay rod, stay block, shackle insulator) | | | No | 15 | | |
| 33 | MV Concrete Pole flying stays - (Concrete pole, Stay wire, stay rod, stay block, shackle insulator) | | | No | 0 | | |
| 34 | MV Concrete Pole strut pole – (Concrete strut pole, heavy duty clamps) | | | No | 0 | | |
| B4 | 11KV Distribution Transformer | | | | | | |
| 35 | 11KV 50KVA transformer | | | No | 3 | | |
| 36 | 11KV 50 - 200KVA transformer substation structure and fittings (Earthing & lightning Protection and associated material requirement, Expulsion Fuses, Surge diverters, Overhead fuse carriers, 10M Concrete poles, 11KV Steel channel and clamps etc. Danger plates, phase plates, circuit plates, number plates, anti-climbing devices and other safety requirements) | | | Set | 3 | | |
| B5 | Step up Transformer | | | | | | |
| 37 | 415V/11KV 150KVA transformer | | | No | 1 | | |
| 38 | All system components for interconnecting the inverters and the 11kV distribution transformers, including but not limited to: panelboards, bus bars, switchgears, air break switch and structure, 11kv solid links, surge diverters, mounting structures for the surge diverters, underground cabling, conduits, cables and cable trays, grounding electrodes, grounding conductors, lightning arrestors, lightning mast galvanized steel structure and associated earthing, insulators, meters, sensors, concrete plinth, circuit breaker complete with its accessories, mounting structures for the HT neutral bushing and any other fixtures required for safety, reliability, and compliance with all relevant local and international codes and standards at the time of installation | | | Set | 1 | | |
| | GARFASA SUBTOTAL B | | | | | | |
| C | Mandatory spares | | | | | | |

| | | | | | | | |
|----|--|--|--|-----|---|--|--|
| 39 | Mandatory spares including at least 1 spare inverter, 5% of total solar PV panel capacity, fuses, cabling and hardware for 7 years including all consumable parts. | | | Lot | 1 | | |
| | GARFASA SUBTOTAL C | | | | | | |

| Item | Description | Quantity and capacity of single unit ² | Code ³ | Unit ⁴ | Qty | CIP Unit Price ¹ | CIP Total Price ¹ |
|--|--|---|-------------------|-------------------|-----|-----------------------------|------------------------------|
| | | | | | (1) | (2) | (1) x (2) |
| KIPSING 100 kWp (100 kW AC) SOLAR PV MINI GRID | | | | | | | |
| A | Solar Power Generation Plant (SPGP) | | | | | | |
| A1 | SPV Modules & Inverters | | | | | | |
| 1 | 100 kWp (DC) Standard monocrystalline silicon SPV modules | | | Lot | 1 | | |
| 2 | Fixed-tilt racking structure(s) for above SPV modules including all necessary nuts and bolts as well as necessary clamps, foundation bolts etc. | | | Lot | 1 | | |
| 3 | 100kW (AC) Solar PV Inverters | | | Lot | 1 | | |
| 4 | 60 kW Solar Battery Inverter Charger | | | Lot | 1 | | |
| A2 | Battery Energy Storage System | | | | | | |
| 5 | 250 kWh Usable Battery Energy Storage System (BESS) | | | Lot | 1 | | |
| 6 | Battery Management system | | | Lot | 1 | | |
| 7 | Supply of SCADA along with associated equipment, data acquisition, data logger and display units and Industrial type PC with remote monitoring. | | | Lot | 1 | | |
| A3 | Diesel Generator | | | | | | |
| 8 | 60 kVA Prime Rated Diesel Generator(s) (DG) 415 V, 3-phase installed with a common genset controller capable of parallel operation with shunt-trip breakers for auto-start capability | | | Lot | 1 | | |
| 9 | 2000Litres Fuel Storage Tank | | | Lot | 1 | | |
| A4 | Other SPGP Items | | | | | | |
| 10 | Metering system consisting of check and main meters for Import / export of energy from solar plant as per grid code | | | No. | 1 | | |
| 11 | Auxiliary power supply as per specifications | | | Lot | 1 | | |
| 12 | Air conditioners for the control room as per specifications. | | | Lot | 1 | | |
| 13 | All balance of system components for interconnecting the battery and solar array with their inverters and the wider 415V three-phase 50 Hz AC distribution system, including but not limited to: AC & DC wiring, breakers, fuses, combiner boxes, recombiner boxes, panelboards, conduits, cables and cable trays, relays, transformers, enclosures, foundations, trenches, poles, support structures, cabinets, grounding electrodes, grounding conductors, lighting arrestors, lightning rods, insulators, surge protection, meters, sensors, and any other fixtures required for a safety, reliability, and compliance with all relevant local and international codes and standards at the time of installation. | | | Lot | 1 | | |
| | KIPSING SUBTOTAL A | | | | | | |

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|-----------|---|--|--|-----|-------|--|--|
| B | Power Distribution Network (PDN) | | | | | | |
| B1 | 3-phase and single-phase LV Distribution Line | | | | | | |
| 14 | 10M LV Concrete Pole (TSP/03/005-1) | | | No | 196 | | |
| 15 | LV Concrete Pole fittings- (Multipurpose/universal clamps, bolts,nuts,stays, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/003), (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/02/003-2), (TSP/02/002), (TSP/06/036-1), (TSP/07/001), (TSP/03/022) | | | Set | 196 | | |
| 16 | 50sqmm AA bare conductor for length of LV (2-wire) line (TSP/06/020-2) | | | Km | 11.95 | | |
| 17 | Complete Earthing- Protective Multiple Earthing (PME) (TSP/06/031-1) | | | No | 129 | | |
| 18 | LV Concrete stays- (Stay wire, stay block, stay rod) | | | No | 133 | | |
| 19 | LV Concrete strut pole- (Concrete strut pole, heavy duty clamps) | | | No | 2 | | |
| B2 | Other PDN Items | | | | | | |
| 20 | Service Cable (25mm2 PVC Insulated three phase, 4 core Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004) | | | M | 0 | | |
| 21 | Service Cable (16mm2 PVC Insulated Single Phase Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004) | | | M | 5940 | | |
| 22 | 10mm dropper cable Red and Black; 1m each for single phase meters ² (TSP/05/016) | | | M | 237.6 | | |
| 23 | Service cable concrete fittings (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/03/003), (TSP/06/035) | | | No. | 198 | | |
| 24 | Service Cable fittings for wall mounting including Angle Iron (TSP/02/003-3), (TSP/04/011), (TSP/03/003), (TSP/02/003-1) | | | No. | 198 | | |
| 25 | Ready Boards complete with mounting accessories (TSP/14/051) | | | No. | 198 | | |
| 26 | 1ftX1ftX3/4ft metallic meter boards (galvanized gauge 30 plain iron sheet) with wall mounting accessories and suitable for meter & MCB mounting, Service cable entry and Earthing . | | | No | 198 | | |
| 27 | Other Items not Mentioned above but required for installation and commissioning of the single and three phase Distribution line for Mini Grid and end user installation such as insulators, binding wires, fittings including nuts, bolts, Danger Plates, Name Plates, anti-climbing Barbed wire and accessories etc. on turn-key basis | | | Lot | 1 | | |

| | | | | | | | |
|-----------|--|--|--|-----|---|--|--|
| B3 | 11KV MV Distribution line | | | | | | |
| 28 | 12M MV Concrete Pole (TSP/03/005-1) | | | No | 0 | | |
| 29 | 14M MV Concrete Pole (TSP/03/005-1) | | | No | 0 | | |
| 30 | MV Concrete Pole fittings- (Cross arms, Tie straps, insulator composites, Universal clamps, bolts, nuts, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/003), (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/02/003-2), (TSP/02/002), (TSP/06/036-1), (TSP/07/001), (TSP/03/022) | | | Set | 0 | | |
| 31 | 75sqmm Aluminium Conductor Steel Reinforced (ACSR) conductor for length of three phase (3 - wire) line (TSP/06/020-2) | | | Km | 0 | | |
| 32 | MV Concrete Pole stays - (Stay wire, stay rod, stay block, shackle insulator) | | | No | 0 | | |
| 33 | MV Concrete Pole flying stays - (Concrete pole, Stay wire, stay rod, stay block, shackle insulator) | | | No | 0 | | |
| 34 | MV Concrete Pole strut pole – (Concrete strut pole, heavy duty clamps) | | | No | 0 | | |
| B4 | 11KV Distribution Transformer | | | | | | |
| 35 | 11KV 50KVA transformer | | | No | 0 | | |
| 36 | 11KV 50 - 200KVA transformer substation structure and fittings (Earthing & lightning Protection and associated material requirement, Expulsion Fuses, Surge diverters, Overhead fuse carriers, 10M Concrete poles, 11KV Steel channel and clamps etc. Danger plates, phase plates, circuit plates, number plates, anti-climbing devices and other safety requirements) | | | Set | 0 | | |
| | KIPSING SUBTOTAL B | | | | | | |
| C | Mandatory spares | | | | | | |
| 37 | Mandatory spares including at least 1 spare inverter, 5% of total solar PV panel capacity, fuses, cabling and hardware for 7 years including all consumable parts. | | | Lot | 1 | | |
| | KIPSING SUBTOTAL C | | | | | | |

| Item | Description | Quantity and capacity of single unit ² | Code ₃ | Unit ⁴ | Qty | CIP Unit Price ¹ | CIP Total Price ¹ |
|---|--|---|-------------------|-------------------|-----|-----------------------------|------------------------------|
| | | | | | (1) | (2) | (1) x (2) |
| BASSA 135 kWp (135kW AC) SOLAR PV MINI GRID | | | | | | | |
| A | Solar Power Generation Plant (SPGP) | | | | | | |
| A1 | SPV Modules & Inverters | | | | | | |
| 1 | 135 kWp (DC) Standard monocrystalline silicon SPV modules | | | Lot | 1 | | |
| 2 | Fixed-tilt racking structure(s) for above SPV modules including all necessary nuts and bolts as well as necessary clamps, foundation bolts etc. | | | Lot | 1 | | |
| 3 | 135 kW (AC) Solar PV Inverters | | | Lot | 1 | | |
| 4 | 82 kW Solar Battery Inverter Charger | | | Lot | 1 | | |
| A2 | Battery Energy Storage System | | | | | | |
| 5 | 338 kWh Usable Battery Energy Storage System (BESS) | | | Lot | 1 | | |
| 6 | Battery Management system | | | Lot | 1 | | |
| 7 | Supply of SCADA along with associated equipment, data acquisition, data logger and display units and Industrial type PC with remote monitoring. | | | Lot | 1 | | |
| A3 | Diesel Generator | | | | | | |
| 8 | 82 kVA Prime Rated Diesel Generator(s) (DG) 415 V, 3-phase installed with a common genset controller capable of parallel operation with shunt-trip breakers for auto-start capability | | | Lot | 1 | | |
| 9 | 2000Litres Fuel Storage Tank | | | Lot | 1 | | |
| A4 | Other SPGP Items | | | | | | |
| 10 | Metering system consisting of check and main meters for Import / export of energy from solar plant as per grid code | | | No. | 1 | | |
| 11 | Auxiliary power supply as per specifications | | | Lot | 1 | | |
| 12 | Air conditioners for the control room as per specifications. | | | Lot | 1 | | |
| 13 | All balance of system components for interconnecting the battery and solar array with their inverters and the wider 415V three-phase 50 Hz AC distribution system, including but not limited to: AC & DC wiring, breakers, fuses, combiner boxes, recombiner boxes, panelboards, conduits, cables and cable trays, relays, transformers, enclosures, foundations, trenches, poles, support structures, cabinets, grounding electrodes, grounding conductors, lighting arrestors, lightning rods, insulators, surge protection, meters, sensors, and any other fixtures required for a safety, reliability, and compliance with all relevant local and international codes and standards at the time of installation. | | | Lot | 1 | | |
| BASSA SUBTOTAL A | | | | | | | |

| | | | | | | | |
|-----------|--|--|--|-----|-------|--|--|
| B | Power Distribution Network (PDN) | | | | | | |
| B1 | 3-phase and single-phase LV Distribution Line | | | | | | |
| 14 | 10M LV Concrete Pole (TSP/03/005-1) | | | No | 412 | | |
| 15 | LV Concrete Pole fittings- (Multipurpose/universal clamps, bolts,nuts,stays, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/003), (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/02/003-2), (TSP/02/002), (TSP/06/036-1), (TSP/07/001), (TSP/03/022) | | | Set | 412 | | |
| 16 | 50sqmm AA bare conductor for length of LV (2-wire) line (TSP/06/020-2) | | | Km | 20.14 | | |
| 17 | Complete Earthing- Protective Multiple Earthing (PME) (TSP/06/031-1) | | | No | 245 | | |
| 18 | LV Concrete stays- (Stay wire, stay block, stay rod) | | | No | 185 | | |
| 19 | LV Concrete strut pole- (Concrete strut pole, heavy duty clamps) | | | No | 32 | | |
| B2 | Other PDN Items | | | | | | |
| 20 | Service Cable (25mm ² PVC Insulated three phase, 4 core Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004) | | | M | 60 | | |
| 21 | Service Cable (16mm ² PVC Insulated Single Phase Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004) | | | M | 13710 | | |
| 22 | 10mm dropper cable Red and Black; 1m each for single phase meters ² (TSP/05/016) | | | M | 550.8 | | |
| 23 | Service cable concrete fittings (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/03/003), (TSP/06/035) | | | No. | 459 | | |
| 24 | Service Cable fittings for wall mounting including Angle Iron (TSP/02/003-3), (TSP/04/011), (TSP/03/003), (TSP/02/003-1) | | | No. | 459 | | |
| 25 | Ready Boards complete with mounting accessories (TSP/14/051) | | | No. | 459 | | |
| 26 | 1ftX1ftX3/4ft metallic meter boards (galvanized gauge 30 plain iron sheet) with wall mounting accessories and suitable for meter & MCB mounting, Service cable entry and Earthing . | | | No | 459 | | |
| 27 | Other Items not Mentioned above but required for installation and commissioning of the single and three phase Distribution line for Mini Grid and end user installation such as insulators, binding wires, fittings including nuts, bolts, Danger Plates, Name Plates, anti-climbing Barbed wire and accessories etc. on turn-key basis | | | Lot | 1 | | |

| | | | | | | | |
|-----------|--|--|--|-----|---|--|--|
| B3 | 11KV MV Distribution line | | | | | | |
| 28 | 12M MV Concrete Pole (TSP/03/005-1) | | | No | 0 | | |
| 29 | 14M MV Concrete Pole (TSP/03/005-1) | | | No | 0 | | |
| 30 | MV Concrete Pole fittings- (Cross arms, Tie straps, insulator composites, Universal clamps, bolts, nuts, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/003), (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/02/003-2), (TSP/02/002), (TSP/06/036-1), (TSP/07/001), (TSP/03/022) | | | Set | 0 | | |
| 31 | 75sqmm Aluminium Conductor Steel Reinforced (ACSR) conductor for length of three phase (3 - wire) line (TSP/06/020-2) | | | Km | 0 | | |
| 32 | MV Concrete Pole stays - (Stay wire, stay rod, stay block, shackle insulator) | | | No | 0 | | |
| 33 | MV Concrete Pole flying stays - (Concrete pole, Stay wire, stay rod, stay block, shackle insulator) | | | No | 0 | | |
| 34 | MV Concrete Pole strut pole – (Concrete strut pole, heavy duty clamps) | | | No | 0 | | |
| B4 | 11KV Distribution Transformer | | | | | | |
| 35 | 11KV 50KVA transformer | | | No | 0 | | |
| 36 | 11KV 50 - 200KVA transformer substation structure and fittings (Earthing & lightning Protection and associated material requirement, Expulsion Fuses, Surge diverters, Overhead fuse carriers, 10M Concrete poles, 11KV Steel channel and clamps etc. Danger plates, phase plates, circuit plates, number plates, anti-climbing devices and other safety requirements) | | | Set | 0 | | |
| | BASSA SUBTOTAL B | | | | | | |
| C | Mandatory spares | | | | | | |
| 37 | Mandatory spares including at least 1 spare inverter, 5% of total solar PV panel capacity, fuses, cabling and hardware for 7 years including all consumable parts. | | | Lot | 1 | | |
| | BASSA SUBTOTAL C | | | | | | |

| Item | Description | Quantity and capacity of single unit ² | Cod e ³ | Unit ⁴ | Qty | CIP Unit Price ¹ | CIP Total Price ¹ |
|---|--|---|--------------------|-------------------|-----|-----------------------------|------------------------------|
| | | | | | (1) | (2) | (1) x (2) |
| MALKADAKA 100 kWp (100kW AC) SOLAR PV MINI GRID | | | | | | | |
| A | Solar Power Generation Plant (SPGP) | | | | | | |
| A1 | SPV Modules & Inverters | | | | | | |
| 1 | 100 kWp (DC) Standard monocrystalline or polycrystalline silicon SPV modules | | | Lot | 1 | | |
| 2 | Fixed-tilt racking structure(s) for above SPV modules including all necessary nuts and bolts as well as necessary clamps, foundation bolts etc. | | | Lot | 1 | | |
| 3 | 100 kW (AC) Solar PV Inverters | | | Lot | 1 | | |
| 4 | 60 kW Solar Battery Inverter Charger | | | Lot | 1 | | |
| A2 | Battery Energy Storage System | | | | | | |
| 5 | 250 kWh Usable Battery Energy Storage System (BESS) | | | Lot | 1 | | |
| 6 | Battery Management system | | | Lot | 1 | | |
| 7 | Supply of SCADA along with associated equipment, data acquisition, data logger and display units and Industrial type PC with remote monitoring. | | | Lot | 1 | | |
| A3 | Diesel Generator | | | | | | |
| 8 | 60 kVA Prime Rated Diesel Generator(s) (DG) 415 V, 3-phase installed with a common genset controller capable of parallel operation with shunt-trip breakers for auto-start capability | | | Lot | 1 | | |
| 9 | 2000Litres Fuel Storage Tank | | | Lot | 1 | | |
| A4 | Other SPGP Items | | | | | | |
| 10 | Metering system consisting of check and main meters for Import / export of energy from solar plant as per grid code | | | No. | 1 | | |
| 11 | Auxiliary power supply as per specifications | | | Lot | 1 | | |
| 12 | Air conditioners for the control room as per specifications. | | | Lot | 1 | | |
| 13 | All balance of system components for interconnecting the battery and solar array with their inverters and the wider 415V three-phase 50 Hz AC distribution system, including but not limited to: AC & DC wiring, breakers, fuses, combiner boxes, recombiner boxes, panelboards, conduits, cables and cable trays, relays, transformers, enclosures, foundations, trenches, poles, support structures, cabinets, grounding electrodes, grounding conductors, lighting arrestors, lightning rods, insulators, surge protection, meters, sensors, and any other fixtures required for a safety, reliability, and compliance with all relevant local and international codes and standards at the time of installation. | | | Lot | 1 | | |
| | MALKADAKA SUBTOTAL A | | | | | | |

| | | | | | | | |
|-----------|--|--|--|-----|------|--|--|
| B | Power Distribution Network (PDN) | | | | | | |
| B1 | 3-phase and single-phase LV Distribution Line | | | | | | |
| 14 | 10M LV Concrete Pole (TSP/03/005-1) | | | No | 124 | | |
| 15 | LV Concrete Pole fittings- (Multipurpose/universal clamps, bolts,nuts,stays, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/003), (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/02/003-2), (TSP/02/002), (TSP/06/036-1), (TSP/07/001), (TSP/03/022) | | | Set | 124 | | |
| 16 | 50sqmm AA bare conductor for length of LV (2-wire) line (TSP/06/020-2) | | | Km | 9.14 | | |
| 17 | Complete Earthing- Protective Multiple Earthing (PME) (TSP/06/031-1) | | | No | 128 | | |
| 18 | LV Concrete stays- (Stay wire, stay block, stay rod) | | | No | 69 | | |
| 19 | LV Concrete strut pole- (Concrete strut pole, heavy duty clamps) | | | No | 3 | | |
| B2 | Other PDN Items | | | | | | |
| 20 | Service Cable (25mm ² PVC Insulated three phase, 4 core Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004) | | | M | 30 | | |
| 21 | Service Cable (16mm ² PVC Insulated Single Phase Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004) | | | M | 8820 | | |
| 22 | 10mm dropper cable Red and Black; 1m each for single phase meters ² (TSP/05/016) | | | M | 354 | | |
| 23 | Service cable concrete fittings (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/03/003), (TSP/06/035) | | | No. | 295 | | |
| 24 | Service Cable fittings for wall mounting including Angle Iron (TSP/02/003-3), (TSP/04/011), (TSP/03/003), (TSP/02/003-1) | | | No. | 295 | | |
| 25 | Ready Boards complete with mounting accessories (TSP/14/051) | | | No. | 295 | | |
| 26 | 1ftX1ftX3/4ft metallic meter boards (galvanized gauge 30 plain iron sheet) with wall mounting accessories and suitable for meter & MCB mounting, Service cable entry and Earthing . | | | No | 295 | | |
| 27 | Other Items not Mentioned above but required for installation and commissioning of the single and three phase Distribution line for Mini Grid and end user installation such as insulators, binding wires, fittings including nuts, bolts, Danger Plates, Name Plates, anti-climbing Barbed wire and accessories etc. on turn-key basis | | | Lot | 1 | | |

| | | | | | | | |
|-----------|--|--|--|-----|------|--|--|
| B3 | 11KV MV Distribution line | | | | | | |
| 28 | 12M MV Concrete Pole (TSP/03/005-1) | | | No | 50 | | |
| 29 | 14M MV Concrete Pole (TSP/03/005-1) | | | No | 7 | | |
| 30 | MV Concrete Pole fittings- (Cross arms, Tie straps, insulator composites, Universal clamps, bolts, nuts, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/003), (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/02/003-2), (TSP/02/002), (TSP/06/036-1), (TSP/07/001), (TSP/03/022) | | | Set | 57 | | |
| 31 | 75sqmm Aluminium Conductor Steel Reinforced (ACSR) conductor for length of three phase (3 - wire) line (TSP/06/020-2) | | | Km | 4.97 | | |
| 32 | MV Concrete Pole stays - (Stay wire, stay rod, stay block, shackle insulator) | | | No | 21 | | |
| 33 | MV Concrete Pole flying stays - (Concrete pole, Stay wire, stay rod, stay block, shackle insulator) | | | No | 3 | | |
| 34 | MV Concrete Pole strut pole – (Concrete strut pole, heavy duty clamps) | | | No | 0 | | |
| B4 | 11KV Distribution Transformer | | | | | | |
| 35 | 11KV 50KVA transformer | | | No | 2 | | |
| 36 | 11KV 50 - 200KVA transformer substation structure and fittings (Earthing & lightning Protection and associated material requirement, Expulsion Fuses, Surge diverters, Overhead fuse carriers, 10M Concrete poles, 11KV Steel channel and clamps etc. Danger plates, phase plates, circuit plates, number plates, anti-climbing devices and other safety requirements) | | | Set | 2 | | |
| B5 | Step up Transformer | | | | | | |
| 37 | 415V/11KV 100KVA transformer | | | No | 1 | | |
| 38 | All system components for interconnecting the inverters and the 11kV distribution transformers, including but not limited to: panelboards, bus bars, switchgears, air break switch and structure, 11kv solid links, surge diverters, mounting structures for the surge diverters, underground cabling, conduits, cables and cable trays, grounding electrodes, grounding conductors, lightning arrestors, lightning mast galvanized steel structure and associated earthing, insulators, meters, sensors, concrete plinth, circuit breaker complete with its accessories, mounting structures for the HT neutral bushing and any other fixtures required for safety, reliability, and compliance with all relevant local and international codes and standards at the time of installation | | | Set | 1 | | |
| | MALKADAKA SUBTOTAL B | | | | | | |

| | | | | | | | |
|---|---|--|--|-----|---|--|--|
| C | Mandatory spares | | | | | | |
| 39 | Mandatory spares including at least 1 spare inverter, 5% of total solar PV panel capacity, fuses, cabling and hardware for 7 years including all consumable parts. | | | Lot | 1 | | |
| | MALKADAKA SUBTOTAL C | | | | | | |
| TOTAL (to Schedule No. 7. Grand Summary) | | | | | | | |
| | Name of Bidder | | | | | | |
| | Signature of Bidder | | | | | | |
| | ¹ Specify currency. Create and use as many columns for Unit Price and Total Price as there are currencies. | | | | | | |
| | ² Bidder to provide further breakdown of items quoted for i.e. the exact number of single units that make up the item as well as the size/capacity of a single unit. | | | | | | |
| | ³ Bidders shall enter a code representing the country of origin of all imported plant and equipment. | | | | | | |
| | ⁴ Lot per km - Bidders are advised to assume a span length of 100m for Medium Voltage network (11kV) and 50m for Low Voltage network. | | | | | | |
| | NB – Refer to Employer's Requirements & Technical Specifications for details of each item (Bidding Documents Volumes II and IV) | | | | | | |

SCHEDULE NO. 2 - PLANT AND MANDATORY SPARE PARTS FROM WITHIN THE EMPLOYER'S COUNTRY

| Item | Description | Quantity and capacity of single unit ² | Code ³ | Unit ⁴ | Qty | EXW Unit Price ¹ | EXW Total Price ¹ |
|---|--|---|-------------------|-------------------|-----|-----------------------------|------------------------------|
| | | | | | (1) | (2) | (1) x (2) |
| ERAS HA BORU 160 kWp (160 kW AC) SOLAR PV MINI GRID | | | | | | | |
| A | Solar Power Generation Plant (SPGP) | | | | | | |
| A1 | SPV Modules & Inverters | | | | | | |
| | 160 kWp (DC) Standard monocrystalline silicon SPV modules | | | Lot | 1 | | |
| 2 | Fixed-tilt racking structure(s) for above SPV modules including all necessary nuts and bolts as well as necessary clamps, foundation bolts etc. | | | Lot | 1 | | |
| 3 | 160 kW (AC) Solar PV Inverters | | | Lot | 1 | | |
| 4 | 100 kW Solar Battery Inverter Charger | | | Lot | 1 | | |
| A2 | Battery Energy Storage System | | | | | | |
| 5 | 400 kWh Usable Battery Energy Storage System (BESS) | | | Lot | 1 | | |
| 6 | Battery Management system | | | Lot | | | |
| 7 | Supply of SCADA along with associated equipment, data acquisition, data logger and display units and Industrial type PC with remote monitoring. | | | Lot | 1 | | |
| A3 | Diesel Generator | | | | | | |
| 8 | 100 kVA Prime Rated Diesel Generator(s) (DG) 415 V, 3-phase installed with a common genset controller capable of parallel operation with shunt-trip breakers for auto-start capability | | | Lot | 1 | | |
| 9 | 2000Litres Fuel Storage Tank | | | Lot | 1 | | |
| A4 | Other SPGP Items | | | | | | |
| 10 | Metering system consisting of check and main meters for Import / export of energy from solar plant as per grid code | | | No. | 1 | | |
| 11 | Auxiliary power supply as per specifications | | | Lot | 1 | | |
| 12 | Air conditioners for the control room as per specifications. | | | Lot | 1 | | |
| 13 | All balance of system components for interconnecting the battery and solar array with their inverters and the wider 415V three-phase 50 Hz AC distribution system, including but not limited to: AC & DC wiring, breakers, fuses, combiner boxes, recombiner boxes, panelboards, conduits, cables and cable trays, relays, transformers, enclosures, foundations, trenches, poles, support structures, cabinets, grounding electrodes, grounding conductors, lighting arrestors, lightning rods, insulators, surge protection, meters, sensors, and any other fixtures required for safety, reliability, | | | Lot | 1 | | |

| | | | | | | | |
|-----------|--|--|--|-----|-------|--|--|
| | and compliance with all relevant local and international codes and standards at the time of installation. | | | | | | |
| | ERAS HA BORU SUBTOTAL A | | | | | | |
| B | Power Distribution Network (PDN) | | | | | | |
| B1 | 3-phase and single-phase LV Distribution Line | | | | | | |
| 14 | 10M LV Concrete Pole (TSP/03/005-1) | | | No | 428 | | |
| 15 | LV Concrete Pole fittings- (Multipurpose/universal clamps, bolts,nuts,stays, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/003), (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/02/003-2), (TSP/02/002), (TSP/06/036-1), (TSP/07/001), (TSP/03/022) | | | Set | 428 | | |
| 16 | 50sqmm AA bare conductor for length of LV (2-wire) line (TSP/06/020-2) | | | Km | 16.95 | | |
| 17 | Complete Earthing- Protective Multiple Earthing (PME) (TSP/06/031-1) | | | No | 188 | | |
| 18 | LV Concrete stays- (Stay wire, stay block, stay rod) | | | No | 407 | | |
| 19 | LV Concrete strut pole- (Concrete strut pole, heavy duty clamps) | | | No | 99 | | |
| B2 | Other PDN Items | | | | | | |
| 20 | Service Cable (25mm2 PVC Insulated three phase, 4 core Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004) | | | M | 60 | | |
| 21 | Service Cable (16mm2 PVC Insulated Single Phase Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004) | | | M | 14.9 | | |
| 22 | 10mm dropper cable Red and Black; 1m each for single phase meters ² (TSP/05/016) | | | M | 596.4 | | |
| 23 | Service cable concrete fittings (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/03/003), (TSP/06/035) | | | No. | 497 | | |
| 24 | Service Cable fittings for wall mounting including Angle Iron (TSP/02/003-3), (TSP/04/011), (TSP/03/003), (TSP/02/003-1) | | | No. | 497 | | |
| 25 | Ready Boards complete with mounting accessories (TSP/14/051) | | | No. | 497 | | |

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|-----------|--|--|--|-----|-----|--|--|
| 26 | 1ftX1ftX3/4ft metallic meter boards (galvanized gauge 30 plain iron sheet) with wall mounting accessories and suitable for meter & MCB mounting, Service cable entry and Earthing . | | | No | 497 | | |
| 27 | Other Items not Mentioned above but required for installation and commissioning of the single and three phase Distribution line for Mini Grid and end user installation such as insulators, binding wires, fittings including nuts, bolts, Danger Plates, Name Plates, anti-climbing Barbed wire and accessories etc. on turn-key basis | | | Lot | 1 | | |
| B3 | 11KV MV Distribution line | | | | | | |
| 28 | 12M MV Concrete Pole (TSP/03/005-1) | | | No | 0 | | |
| 29 | 14M MV Concrete Pole (TSP/03/005-1) | | | No | 0 | | |
| 30 | MV Concrete Pole fittings- (Cross arms, Tie straps, insulator composites, Universal clamps, bolts, nuts, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/003), (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/02/003-2), (TSP/02/002), (TSP/06/036-1), (TSP/07/001), (TSP/03/022) | | | Set | 0 | | |
| 31 | 75sqmm Aluminium Conductor Steel Reinforced (ACSR) conductor for length of three phase (3 - wire) line (TSP/06/020-2) | | | Km | 0 | | |
| 32 | MV Concrete Pole stays - (Stay wire, stay rod, stay block, shackle insulator) | | | No | 0 | | |
| 33 | MV Concrete Pole flying stays - (Concrete pole, Stay wire, stay rod, stay block, shackle insulator) | | | No | 0 | | |
| 34 | MV Concrete Pole strut pole – (Concrete strut pole, heavy duty clamps) | | | No | 0 | | |
| B4 | 11KV Distribution Transformer | | | | | | |
| 35 | 11KV 50KVA transformer | | | No | 0 | | |
| 36 | 11KV 50 - 200KVA transformer substation structure and fittings (Earthing & lightning Protection and associated material requirement, Expulsion Fuses, Surge diverters, Overhead fuse carriers, 10M Concrete poles, 11KV Steel channel and clamps etc. Danger plates, phase plates, circuit plates, number plates, anti-climbing devices and other safety requirements) | | | Set | 0 | | |
| | ERAS HA BORU SUBTOTAL B | | | | | | |
| C | Mandatory spares | | | | | | |
| 37 | Mandatory spares including at least 1 spare inverter, 5% of total solar PV panel capacity, fuses, cabling and hardware for 7 years including all consumable parts. | | | Lot | 1 | | |
| | ERAS HA BORU SUBTOTAL C | | | | | | |

| Item | Description | Quantity and capacity of single unit ² | Code ³ | Unit ⁴ | Qty | EXW Unit Price ¹ | EXW Total Price ¹ |
|---|---|---|-------------------|-------------------|-----|-----------------------------|------------------------------|
| | | | | | (1) | (2) | (1) x (2) |
| GARFASA 160kWp (160 kW AC) SOLAR PV MINI GRID | | | | | | | |
| A | Solar Power Generation Plant (SPGP) | | | | | | |
| A1 | SPV Modules & Inverters | | | | | | |
| 1 | 160 kWp (DC) Standard monocrystalline or polycrystalline silicon SPV modules | | | Lot | 1 | | |
| 2 | Fixed-tilt racking structure(s) for above SPV modules including all necessary nuts and bolts as well as necessary clamps, foundation bolts etc. | | | Lot | 1 | | |
| 3 | 160 kW (AC) Solar PV Inverters | | | Lot | 1 | | |
| 4 | 100 kW Solar Battery Inverter Charger | | | Lot | 1 | | |
| A2 | Battery Energy Storage System | | | | | | |
| 5 | 400 kWh Usable Battery Energy Storage System (BESS) | | | Lot | 1 | | |
| 6 | Battery Management system | | | Lot | 1 | | |
| 7 | Supply of SCADA along with associated equipment, data acquisition, data logger and display units and Industrial type PC with remote monitoring. | | | Lot | 1 | | |
| A3 | Diesel Generator | | | | | | |
| 8 | 100 kVA Prime Rated Diesel Generator(s) (DG) 415 V, 3-phase installed with a common genset controller capable of parallel operation with shunt-trip breakers for auto-start capability | | | Lot | 1 | | |
| 9 | 2000Litres Fuel Storage Tank | | | | | | |
| A4 | Other SPGP Items | | | | | | |
| 10 | Metering system consisting of check and main meters for Import / export of energy from solar plant as per grid code | | | No. | 1 | | |
| 11 | Auxiliary power supply as per specifications | | | Lot | 1 | | |
| 12 | Air conditioners for the control room as per specifications. | | | Lot | 1 | | |
| 13 | All balance of system components for interconnecting the battery and solar array with their inverters and the wider 415V three-phase 50 Hz AC distribution system, including but not limited to: AC & DC wiring, breakers, fuses, combiner boxes, recombiner boxes, panelboards, conduits, cables and cable trays, relays, transformers, enclosures, foundations, trenches, poles, support structures, cabinets, grounding electrodes, grounding conductors, lighting arrestors, lightning rods, insulators, surge protection, meters, sensors, and any other fixtures required for a safety, reliability, and compliance with all relevant local and | | | Lot | 1 | | |

| | | | | | | | |
|-----------|--|--------------------|--|-----|--------|--|--|
| | international codes and standards at the time of installation. | | | | | | |
| | | GARFASA SUBTOTAL A | | | | | |
| B | Power Distribution Network (PDN) | | | | | | |
| B1 | 3-phase and single-phase LV Distribution Line | | | | | | |
| 14 | 10M LV Concrete Pole (TSP/03/005-1) | | | No | 486 | | |
| 15 | LV Concrete Pole fittings- (Multipurpose/universal clamps, bolts,nuts,stays, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/003), (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/02/003-2), (TSP/02/002), (TSP/06/036-1), (TSP/07/001), (TSP/03/022) | | | Set | 486 | | |
| 16 | 50sqmm AA bare conductor for length of LV (2-wire) line (TSP/06/020-2) | | | Km | 22.41 | | |
| 17 | Complete Earthing- Protective Multiple Earthing (PME) (TSP/06/031-1) | | | No | 309 | | |
| 18 | LV Concrete stays- (Stay wire, stay block, stay rod) | | | No | 262 | | |
| 19 | LV Concrete strut pole- (Concrete strut pole, heavy duty clamps) | | | No | 18 | | |
| B2 | Other PDN Items | | | | | | |
| 20 | Service Cable (25mm2 PVC Insulated three phase, 4 core Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004) | | | M | 240 | | |
| 21 | Service Cable (16mm2 PVC Insulated Single Phase Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004) | | | M | 19,230 | | |
| 22 | 10mm dropper cable Red and Black; 1m each for single phase meters ² (TSP/05/016) | | | M | 778.8 | | |
| 23 | Service cable concrete fittings (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/03/003), (TSP/06/035) | | | No. | 649 | | |
| 24 | Service Cable fittings for wall mounting including Angle Iron (TSP/02/003-3), (TSP/04/011), (TSP/03/003), (TSP/02/003-1) | | | No. | 649 | | |
| 25 | Ready Boards complete with mounting accessories (TSP/14/051) | | | No. | 649 | | |

| | | | | | | | |
|-----------|--|--|--|-----|-----|--|--|
| 26 | 1ftX1ftX3/4ft metallic meter boards (galvanized gauge 30 plain iron sheet) with wall mounting accessories and suitable for meter & MCB mounting, Service cable entry and Earthing . | | | No | 649 | | |
| 27 | Other Items not Mentioned above but required for installation and commissioning of the single and three phase Distribution line for Mini Grid and end user installation such as insulators, binding wires, fittings including nuts, bolts, Danger Plates, Name Plates, anti-climbing Barbed wire and accessories etc. on turn-key basis | | | Lot | 1 | | |
| B3 | 11KV MV Distribution line | | | | | | |
| 28 | 12M MV Concrete Pole (TSP/03/005-1) | | | No | 39 | | |
| 29 | 14M MV Concrete Pole (TSP/03/005-1) | | | No | 4 | | |
| 30 | MV Concrete Pole fittings- (Cross arms, Tie straps, insulator composites, Universal clamps, bolts, nuts, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/003), (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/02/003-2), (TSP/02/002), (TSP/06/036-1), (TSP/07/001), (TSP/03/022) | | | Set | 43 | | |
| 31 | 75sqmm Aluminium Conductor Steel Reinforced (ACSR) conductor for length of three phase (3 - wire) line (TSP/06/020-2) | | | Km | 3.3 | | |
| 32 | MV Concrete Pole stays - (Stay wire, stay rod, stay block, shackle insulator) | | | No | 15 | | |
| 33 | MV Concrete Pole flying stays - (Concrete pole, Stay wire, stay rod, stay block, shackle insulator) | | | No | 0 | | |
| 34 | MV Concrete Pole strut pole – (Concrete strut pole, heavy duty clamps) | | | No | 0 | | |
| B4 | 11KV Distribution Transformer | | | | | | |
| 35 | 11KV 50KVA transformer | | | No | 3 | | |
| 36 | 11KV 50 - 200KVA transformer substation structure and fittings (Earthing & lightning Protection and associated material requirement, Expulsion Fuses, Surge diverters, Overhead fuse carriers, 10M Concrete poles, 11KV Steel channel and clamps etc. Danger plates, phase plates, circuit plates, number plates, anti-climbing devices and other safety requirements) | | | Set | 3 | | |
| B5 | Step up Transformer | | | | | | |
| 37 | 415V/11KV 150KVA transformer | | | No | 1 | | |

| | | | | | | | |
|----------|---|--|--|-----|---|--|--|
| 38 | All system components for interconnecting the inverters and the 11kV distribution transformers, including but not limited to: panelboards, bus bars, switchgears, air break switch and structure, 11kv solid links, surge diverters, mounting structures for the surge diverters, underground cabling, conduits, cables and cable trays, grounding electrodes, grounding conductors, lightning arrestors, lightning mast galvanized steel structure and associated earthing, insulators, meters, sensors, concrete plinth, circuit breaker complete with its accessories, mounting structures for the HT neutral bushing and any other fixtures required for safety, reliability, and compliance with all relevant local and international codes and standards at the time of installation. | | | Set | 1 | | |
| | GARFASA SUBTOTAL B | | | | | | |
| C | Mandatory spares | | | | | | |
| 39 | Mandatory spares including at least 1 spare inverter, 5% of total solar PV panel capacity, fuses, cabling and hardware for 7 years including all consumable parts. | | | Lot | 1 | | |
| | GARFASA SUBTOTAL C | | | | | | |

| Item | Description | Quantity and capacity of single unit ² | Code ³ | Unit ⁴ | Qty | EXW Unit Price ¹ | EXW Total Price ¹ |
|--|---|---|-------------------|-------------------|-----|-----------------------------|------------------------------|
| | | | | | (1) | (2) | (1) x (2) |
| KIPSING 100 kWp (100 kW AC) SOLAR PV MINI GRID | | | | | | | |
| A | Solar Power Generation Plant (SPGP) | | | | | | |
| A1 | SPV Modules & Inverters | | | | | | |
| 1 | 100 kWp (DC) Standard monocrystalline silicon SPV modules | | | Lot | 1 | | |
| 2 | Fixed-tilt racking structure(s) for above SPV modules including all necessary nuts and bolts as well as necessary clamps, foundation bolts etc. | | | Lot | 1 | | |
| 3 | 100kW (AC) Solar PV Inverters | | | Lot | 1 | | |
| 4 | 60 kW Solar Battery Inverter Charger | | | Lot | 1 | | |
| A2 | Battery Energy Storage System | | | | | | |
| 5 | 250 kWh Usable Battery Energy Storage System (BESS) | | | Lot | 1 | | |
| 6 | Battery Management system | | | Lot | 1 | | |
| 7 | Supply of SCADA along with associated equipment, data acquisition, data logger and display units and Industrial type PC with remote monitoring. | | | Lot | 1 | | |
| A3 | Diesel Generator | | | | | | |
| 8 | 60 kVA Prime Rated Diesel Generator(s) (DG) 415 V, 3-phase installed with a common genset controller capable of parallel operation with shunt-trip breakers for auto-start capability | | | Lot | 1 | | |
| 9 | 2000Litres Fuel Storage Tank | | | Lot | 1 | | |
| A4 | Other SPGP Items | | | | | | |
| 10 | Metering system consisting of check and main meters for Import / export of energy from solar plant as per grid code | | | No. | 1 | | |
| 11 | Auxiliary power supply as per specifications | | | Lot | 1 | | |
| 12 | Air conditioners for the control room as per specifications. | | | Lot | 1 | | |
| 13 | All balance of system components for interconnecting the battery and solar array with their inverters and the wider 415V three-phase 50 Hz AC distribution system, including but not limited to: AC & DC wiring, breakers, fuses, combiner boxes, recombiner boxes, panelboards, conduits, cables and cable trays, relays, transformers, enclosures, foundations, trenches, poles, support structures, cabinets, grounding electrodes, grounding conductors, lighting arrestors, lightning rods, insulators, surge protection, meters, sensors, and any other fixtures required for a safety, reliability, and compliance with all relevant local and | | | Lot | 1 | | |

| | | | | | | | |
|-----------|--|--|--|-----|-------|--|--|
| | international codes and standards at the time of installation. | | | | | | |
| | KIPSING SUBTOTAL A | | | | | | |
| B | Power Distribution Network (PDN) | | | | | | |
| B1 | 3-phase and single-phase LV Distribution Line | | | | | | |
| 14 | 10M LV Concrete Pole (TSP/03/005-1) | | | No | 196 | | |
| 15 | LV Concrete Pole fittings- (Multipurpose/universal clamps, bolts,nuts,stays, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/003), (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/02/003-2), (TSP/02/002), (TSP/06/036-1), (TSP/07/001), (TSP/03/022) | | | Set | 196 | | |
| 16 | 50sqmm AA bare conductor for length of LV (2-wire) line (TSP/06/020-2) | | | Km | 11.95 | | |
| 17 | Complete Earthing- Protective Multiple Earthing (PME) (TSP/06/031-1) | | | No | 129 | | |
| 18 | LV Concrete stays- (Stay wire, stay block, stay rod) | | | No | 133 | | |
| 19 | LV Concrete strut pole- (Concrete strut pole, heavy duty clamps) | | | No | 2 | | |
| B2 | Other PDN Items | | | | | | |
| 20 | Service Cable (25mm2 PVC Insulated three phase, 4 core Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004) | | | M | 0 | | |
| 21 | Service Cable (16mm2 PVC Insulated Single Phase Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004) | | | M | 5940 | | |
| 22 | 10mm dropper cable Red and Black; 1m each for single phase meters ² (TSP/05/016) | | | M | 237.6 | | |
| 23 | Service cable concrete fittings (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/03/003), (TSP/06/035) | | | No. | 198 | | |
| 24 | Service Cable fittings for wall mounting including Angle Iron (TSP/02/003-3), (TSP/04/011), (TSP/03/003), (TSP/02/003-1) | | | No. | 198 | | |
| 25 | Ready Boards complete with mounting accessories (TSP/14/051) | | | No. | 198 | | |
| 26 | 1ftX1ftX3/4ft metallic meter boards (galvanized gauge 30 plain iron sheet) with wall mounting accessories and suitable for meter & MCB mounting, Service cable entry and Earthing . | | | No | 198 | | |

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|-----------|--|--|--|-----|---|--|--|
| 27 | Other Items not Mentioned above but required for installation and commissioning of the single and three phase Distribution line for Mini Grid and end user installation such as insulators, binding wires, fittings including nuts, bolts, Danger Plates, Name Plates, anti-climbing Barbed wire and accessories etc. on turn-key basis | | | Lot | 1 | | |
| B3 | 11KV MV Distribution line | | | | | | |
| 28 | 12M MV Concrete Pole (TSP/03/005-1) | | | No | 0 | | |
| 29 | 14M MV Concrete Pole (TSP/03/005-1) | | | No | 0 | | |
| 30 | MV Concrete Pole fittings- (Cross arms, Tie straps, insulator composites, Universal clamps, bolts, nuts, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/003), (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/02/003-2), (TSP/02/002), (TSP/06/036-1), (TSP/07/001), (TSP/03/022) | | | Set | 0 | | |
| 31 | 75sqmm Aluminium Conductor Steel Reinforced (ACSR) conductor for length of three phase (3 - wire) line (TSP/06/020-2) | | | Km | 0 | | |
| 32 | MV Concrete Pole stays - (Stay wire, stay rod, stay block, shackle insulator) | | | No | 0 | | |
| 33 | MV Concrete Pole flying stays - (Concrete pole, Stay wire, stay rod, stay block, shackle insulator) | | | No | 0 | | |
| 34 | MV Concrete Pole strut pole – (Concrete strut pole, heavy duty clamps) | | | No | 0 | | |
| B4 | 11KV Distribution Transformer | | | | | | |
| 35 | 11KV 50KVA transformer | | | No | 0 | | |
| 36 | 11KV 50 - 200KVA transformer substation structure and fittings (Earthing & lightning Protection and associated material requirement, Expulsion Fuses, Surge diverters, Overhead fuse carriers, 10M Concrete poles, 11KV Steel channel and clamps etc. Danger plates, phase plates, circuit plates, number plates, anti-climbing devices and other safety requirements) | | | Set | 0 | | |
| | KIPSING SUBTOTAL B | | | | | | |
| C | Mandatory spares | | | | | | |
| 37 | Mandatory spares including at least 1 spare inverter, 5% of total solar PV panel capacity, fuses, cabling and hardware for 7 years including all consumable parts. | | | Lot | 1 | | |
| | KIPSING SUBTOTAL C | | | | | | |

| Item | Description | Quantity and capacity of single unit ² | Code ³ | Unit ⁴ | Qty | EXW Unit Price ¹ | EXW Total Price ¹ |
|---|---|---|-------------------|-------------------|-----|-----------------------------|------------------------------|
| | | | | | (1) | (2) | (1) x (2) |
| BASSA 135 kWp (135kW AC) SOLAR PV MINI GRID | | | | | | | |
| A | Solar Power Generation Plant (SPGP) | | | | | | |
| A1 | SPV Modules & Inverters | | | | | | |
| 1 | 135 kWp (DC) Standard monocrystalline silicon SPV modules | | | Lot | 1 | | |
| 2 | Fixed-tilt racking structure(s) for above SPV modules including all necessary nuts and bolts as well as necessary clamps, foundation bolts etc. | | | Lot | 1 | | |
| 3 | 135 kW (AC) Solar PV Inverters | | | Lot | 1 | | |
| 4 | 82 kW Solar Battery Inverter Charger | | | Lot | 1 | | |
| A2 | Battery Energy Storage System | | | | | | |
| 5 | 338 kWh Usable Battery Energy Storage System (BESS) | | | Lot | 1 | | |
| 6 | Battery Management system | | | Lot | 1 | | |
| 7 | Supply of SCADA along with associated equipment, data acquisition, data logger and display units and Industrial type PC with remote monitoring. | | | Lot | 1 | | |
| A3 | Diesel Generator | | | | | | |
| 8 | 82 kVA Prime Rated Diesel Generator(s) (DG) 415 V, 3-phase installed with a common genset controller capable of parallel operation with shunt-trip breakers for auto-start capability | | | Lot | 1 | | |
| 9 | 2000Litres Fuel Storage Tank | | | Lot | 1 | | |
| A4 | Other SPGP Items | | | | | | |
| 10 | Metering system consisting of check and main meters for Import / export of energy from solar plant as per grid code | | | No. | 1 | | |
| 11 | Auxiliary power supply as per specifications | | | Lot | 1 | | |
| 12 | Air conditioners for the control room as per specifications. | | | Lot | 1 | | |
| 13 | All balance of system components for interconnecting the battery and solar array with their inverters and the wider 415V three-phase 50 Hz AC distribution system, including but not limited to: AC & DC wiring, breakers, fuses, combiner boxes, recombiner boxes, panelboards, conduits, cables and cable trays, relays, transformers, enclosures, foundations, trenches, poles, support structures, cabinets, grounding electrodes, grounding conductors, lighting arrestors, lightning rods, insulators, surge protection, meters, sensors, and any other fixtures required for a safety, reliability, and compliance with all relevant local and | | | Lot | 1 | | |

| | | | | | | | |
|-------------------------|--|--|--|-----|-------|--|--|
| | international codes and standards at the time of installation. | | | | | | |
| BASSA SUBTOTAL A | | | | | | | |
| B | Power Distribution Network (PDN) | | | | | | |
| B1 | 3-phase and single-phase LV Distribution Line | | | | | | |
| 14 | 10M LV Concrete Pole (TSP/03/005-1) | | | No | 412 | | |
| 15 | LV Concrete Pole fittings- (Multipurpose/universal clamps, bolts,nuts,stays, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/003), (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/02/003-2), (TSP/02/002), (TSP/06/036-1), (TSP/07/001), (TSP/03/022) | | | Set | 412 | | |
| 16 | 50sqmm AA bare conductor for length of LV (2-wire) line (TSP/06/020-2) | | | Km | 20.14 | | |
| 17 | Complete Earthing- Protective Multiple Earthing (PME) (TSP/06/031-1) | | | No | 245 | | |
| 18 | LV Concrete stays- (Stay wire, stay block, stay rod) | | | No | 185 | | |
| 19 | LV Concrete strut pole- (Concrete strut pole, heavy duty clamps) | | | No | 32 | | |
| B2 | Other PDN Items | | | | | | |
| 20 | Service Cable (25mm2 PVC Insulated three phase, 4 core Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004) | | | M | 60 | | |
| 21 | Service Cable (16mm2 PVC Insulated Single Phase Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004) | | | M | 13710 | | |
| 22 | 10mm dropper cable Red and Black; 1m each for single phase meters ² (TSP/05/016) | | | M | 550.8 | | |
| 23 | Service cable concrete fittings (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/03/003), (TSP/06/035) | | | No. | 459 | | |
| 24 | Service Cable fittings for wall mounting including Angle Iron (TSP/02/003-3), (TSP/04/011), (TSP/03/003), (TSP/02/003-1) | | | No. | 459 | | |
| 25 | Ready Boards complete with mounting accessories (TSP/14/051) | | | No. | 459 | | |

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|-----------|--|--|--|-----|-----|--|--|
| 26 | 1ftX1ftX3/4ft metallic meter boards (galvanized gauge 30 plain iron sheet) with wall mounting accessories and suitable for meter & MCB mounting, Service cable entry and Earthing . | | | No | 459 | | |
| 27 | Other Items not Mentioned above but required for installation and commissioning of the single and three phase Distribution line for Mini Grid and end user installation such as insulators, binding wires, fittings including nuts, bolts, Danger Plates, Name Plates, anti-climbing Barbed wire and accessories etc. on turn-key basis | | | Lot | 1 | | |
| B3 | 11KV MV Distribution line | | | | | | |
| 28 | 12M MV Concrete Pole (TSP/03/005-1) | | | No | 0 | | |
| 29 | 14M MV Concrete Pole (TSP/03/005-1) | | | No | 0 | | |
| 30 | MV Concrete Pole fittings- (Cross arms, Tie straps, insulator composites, Universal clamps, bolts, nuts, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/003), (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/02/003-2), (TSP/02/002), (TSP/06/036-1), (TSP/07/001), (TSP/03/022) | | | Set | 0 | | |
| 31 | 75sqmm Aluminium Conductor Steel Reinforced (ACSR) conductor for length of three phase (3 - wire) line (TSP/06/020-2) | | | Km | 0 | | |
| 32 | MV Concrete Pole stays - (Stay wire, stay rod, stay block, shackle insulator) | | | No | 0 | | |
| 33 | MV Concrete Pole flying stays - (Concrete pole, Stay wire, stay rod, stay block, shackle insulator) | | | No | 0 | | |
| 34 | MV Concrete Pole strut pole – (Concrete strut pole, heavy duty clamps) | | | No | 0 | | |
| B4 | 11KV Distribution Transformer | | | | | | |
| 35 | 11KV 50KVA transformer | | | No | 0 | | |
| 36 | 11KV 50 - 200KVA transformer substation structure and fittings (Earthing & lightning Protection and associated material requirement, Expulsion Fuses, Surge diverters, Overhead fuse carriers, 10M Concrete poles, 11KV Steel channel and clamps etc. Danger plates, phase plates, circuit plates, number plates, anti-climbing devices and other safety requirements) | | | Set | 0 | | |
| | BASSA SUBTOTAL B | | | | | | |
| C | Mandatory spares | | | | | | |
| 37 | Mandatory spares including at least 1 spare inverter, 5% of total solar PV panel capacity, fuses, cabling and hardware for 7 years including all consumable parts. | | | Lot | 1 | | |
| | BASSA SUBTOTAL C | | | | | | |

| Item | Description | Quantity and capacity of single unit ² | Code ³ | Unit ⁴ | Qty | EXW Unit Price ¹ | EXW Total Price ¹ |
|---|---|---|-------------------|-------------------|-----|-----------------------------|------------------------------|
| | | | | | (1) | (2) | (1) x (2) |
| MALKADAKA 100 kWp (100kW AC) SOLAR PV MINI GRID | | | | | | | |
| A | Solar Power Generation Plant (SPGP) | | | | | | |
| A1 | SPV Modules & Inverters | | | | | | |
| 1 | 100 kWp (DC) Standard monocrystalline or polycrystalline silicon SPV modules | | | Lot | 1 | | |
| 2 | Fixed-tilt racking structure(s) for above SPV modules including all necessary nuts and bolts as well as necessary clamps, foundation bolts etc. | | | Lot | 1 | | |
| 3 | 100 kW (AC) Solar PV Inverters | | | Lot | 1 | | |
| 4 | 60 kW Solar Battery Inverter Charger | | | Lot | 1 | | |
| A2 | Battery Energy Storage System | | | | | | |
| 5 | 250 kWh Usable Battery Energy Storage System (BESS) | | | Lot | 1 | | |
| 6 | Battery Management system | | | Lot | 1 | | |
| 7 | Supply of SCADA along with associated equipment, data acquisition, data logger and display units and Industrial type PC with remote monitoring. | | | Lot | 1 | | |
| A3 | Diesel Generator | | | | | | |
| 8 | 60 kVA Prime Rated Diesel Generator(s) (DG) 415 V, 3-phase installed with a common genset controller capable of parallel operation with shunt-trip breakers for auto-start capability | | | Lot | 1 | | |
| 9 | 2000Litres Fuel Storage Tank | | | Lot | 1 | | |
| A4 | Other SPGP Items | | | | | | |
| 10 | Metering system consisting of check and main meters for Import / export of energy from solar plant as per grid code | | | No. | 1 | | |
| 11 | Auxiliary power supply as per specifications | | | Lot | 1 | | |
| 12 | Air conditioners for the control room as per specifications. | | | Lot | 1 | | |
| 13 | All balance of system components for interconnecting the battery and solar array with their inverters and the wider 415V three-phase 50 Hz AC distribution system, including but not limited to: AC & DC wiring, breakers, fuses, combiner boxes, recombiner boxes, panelboards, conduits, cables and cable trays, relays, transformers, enclosures, foundations, trenches, poles, support structures, cabinets, grounding electrodes, grounding conductors, lighting arrestors, lightning rods, insulators, surge protection, meters, sensors, and any other fixtures required for a safety, reliability, and compliance | | | Lot | 1 | | |

| | | | | | | | |
|-----------|---|--|--|-----|------|--|--|
| | with all relevant local and international codes and standards at the time of installation. | | | | | | |
| | MALKADAKA SUBTOTAL A | | | | | | |
| B | Power Distribution Network (PDN) | | | | | | |
| B1 | 3-phase and single-phase LV Distribution Line | | | | | | |
| 14 | 10M LV Concrete Pole (TSP/03/005-1) | | | No | 124 | | |
| 15 | LV Concrete Pole fittings- (Multipurpose /universal clamps, bolts,nuts,stays, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/003), (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/02/003-2), (TSP/02/002), (TSP/06/036-1), (TSP/07/001), (TSP/03/022) | | | Set | 124 | | |
| 16 | 50sqmm AA bare conductor for length of LV (2-wire) line (TSP/06/020-2) | | | Km | 9.14 | | |
| 17 | Complete Earthing- Protective Multiple Earthing (PME) (TSP/06/031-1) | | | No | 128 | | |
| 18 | LV Concrete stays- (Stay wire, stay block, stay rod) | | | No | 69 | | |
| 19 | LV Concrete strut pole- (Concrete strut pole, heavy duty clamps) | | | No | 3 | | |
| B2 | Other PDN Items | | | | | | |
| 20 | Service Cable (25mm ² PVC Insulated three phase, 4 core Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004) | | | M | 30 | | |
| 21 | Service Cable (16mm ² PVC Insulated Single Phase Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004) | | | M | 8820 | | |
| 22 | 10mm dropper cable Red and Black; 1m each for single phase meters ² (TSP/05/016) | | | M | 354 | | |
| 23 | Service cable concrete fittings (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/03/003), (TSP/06/035) | | | No. | 295 | | |
| 24 | Service Cable fittings for wall mounting including Angle Iron (TSP/02/003-3), (TSP/04/011), (TSP/03/003), (TSP/02/003-1) | | | No. | 295 | | |
| 25 | Ready Boards complete with mounting accessories (TSP/14/051) | | | No. | 295 | | |
| 26 | 1ftX1ftX3/4ft metallic meter boards (galvanized gauge 30 plain iron sheet) with wall mounting accessories and suitable for meter & MCB mounting, Service cable entry and Earthing. | | | No | 295 | | |
| 27 | Other Items not Mentioned above but required for installation and commissioning of the single and three phase Distribution line for Mini Grid and end user installation such as insulators, binding wires, fittings including nuts, bolts, Danger Plates, Name Plates, anti-climbing Barbed wire and accessories etc. on turn-key basis | | | Lot | 1 | | |

| | | | | | | | |
|-----------|--|--|--|-----|------|--|--|
| B3 | 11KV MV Distribution line | | | | | | |
| 28 | 12M MV Concrete Pole (TSP/03/005-1) | | | No | 50 | | |
| 29 | 14M MV Concrete Pole (TSP/03/005-1) | | | No | 7 | | |
| 30 | MV Concrete Pole fittings- (Cross arms, Tie straps, insulator composites, Universal clamps, bolts, nuts, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/003), (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/02/003-2), (TSP/02/002), (TSP/06/036-1), (TSP/07/001), (TSP/03/022) | | | Set | 57 | | |
| 31 | 75sqmm Aluminium Conductor Steel Reinforced (ACSR) conductor for length of three phase (3 - wire) line (TSP/06/020-2) | | | Km | 4.97 | | |
| 32 | MV Concrete Pole stays - (Stay wire, stay rod, stay block, shackle insulator) | | | No | 21 | | |
| 33 | MV Concrete Pole flying stays - (Concrete pole, Stay wire, stay rod, stay block, shackle insulator) | | | No | 3 | | |
| 34 | MV Concrete Pole strut pole – (Concrete strut pole, heavy duty clamps) | | | No | 0 | | |
| B4 | 11KV Distribution Transformer | | | | | | |
| 35 | 11KV 50KVA transformer | | | No | 2 | | |
| 36 | 11KV 50 - 200KVA transformer substation structure and fittings (Earthing & lightning Protection and associated material requirement, Expulsion Fuses, Surge diverters, Overhead fuse carriers, 10M Concrete poles, 11KV Steel channel and clamps etc. Danger plates, phase plates, circuit plates, number plates, anti-climbing devices and other safety requirements) | | | Set | 2 | | |
| B5 | Step up Transformer | | | | | | |
| 37 | 415V/11KV 100KVA transformer | | | No | 1 | | |
| 38 | All system components for interconnecting the inverters and the 11kV distribution transformers, including but not limited to: panelboards, bus bars, switchgears, air break switch and structure, 11kv solid links, surge diverters, mounting structures for the surge diverters, underground cabling, conduits, cables and cable trays, grounding electrodes, grounding conductors, lightning arrestors, lightning mast galvanized steel structure and associated earthing, insulators, meters, sensors, concrete plinth, circuit breaker complete with its accessories, mounting structures for the HT neutral bushing and any other fixtures required for safety, reliability, and compliance with all relevant local and international codes and standards at the time of installation | | | Set | 1 | | |
| | MALKADAKA SUBTOTAL B | | | | | | |
| C | Mandatory spares | | | | | | |
| 39 | Mandatory spares including at least 1 spare inverter, 5% of total solar PV panel capacity, | | | Lot | 1 | | |

| | | | | | | |
|--|---|--|--|--|--|--|
| | fuses, cabling and hardware for 7 years including all consumable parts. | | | | | |
| | MALKADAKA SUBTOTAL C | | | | | |
| | TOTAL (to Schedule No. 7. Grand Summary) | | | | | |
| | Name of Bidder | | | | | |
| | Signature of Bidder | | | | | |
| | ¹ Specify currency. Create and use as many columns for Unit Price and Total Price as there are currencies. | | | | | |
| | ² Bidder to provide further breakdown of items quoted for i.e. the exact number of single units that make up the item as well as the size/capacity of a single unit. | | | | | |
| | ³ Lot per km - Bidders are advised to assume a span length of 100m for Medium Voltage network (11kV) and 50m for Low Voltage network. | | | | | |
| | NB – Refer to Employer’s Requirements & Technical Specifications for details of each item (Bidding Documents Volumes II and IV) | | | | | |

| SCHEDULE NO. 3 - SURVEY & DESIGN SERVICES | | | | | |
|--|--|-------------|------------|--------------------------------|---------------------------------|
| LOT 6 SOLAR PV MINIGRIDS | | | | | |
| Item | Description | Unit | Qty | Unit Price ¹ | Total Price ¹ |
| | | | (1) | (2) | (1) x (2) |
| 1 | Survey and Design of SPV Modules & Inverters including structures | Lot | 5 | | |
| 2 | Design of Battery Energy Storage System, including Inverter/Charger | Lot | 5 | | |
| 3 | SCADA system design | Lot | 5 | | |
| 4 | Diesel Generator Design | Lot | 5 | | |
| 5 | Design of other SPGP items | Lot | 5 | | |
| 6 | Survey and Design of Power Distribution Network | Lot | 5 | | |
| 7 | Design of other PDN items | Lot | 5 | | |
| 8 | Design of Civil/Structural works and associated works | Lot | 5 | | |
| | Lot 6 SUBTOTAL | | | | |
| | | | | | |
| | TOTAL (to Schedule No. 7. Grand Summary) | | | | |
| | Name of Bidder | | | | |
| | Signature of Bidder | | | | |
| | ¹ Specify currency in accordance with specifications in Bid Data Sheet under ITB 18.1 | | | | |
| | NB – Refer to Employer’s Requirements & Technical Specifications for details of each item (Bidding Documents Volumes II and IV) | | | | |
| | The design costs should include Survey (including picking distance of the solar plant from the existing KPLC grid), premises picking, customer sensitization, customer data collection, transformer positioning/picking, LV line wayleaves consent acquisition, and detailed design including design proposals/information updating on the KPLC Facility Data Base (FDB), preparation and submission of drawings. The civil and structural works design shall include Geotechnical Survey, Topographical Survey, hydrogeological survey and all Designs and drawings submission and all statutory approvals. | | | | |

SCHEDULE NO. 4 - INSTALLATION, TESTING, COMMISSIONING AND OTHER SERVICES

| Item | Description | Unit ² | Quantity | Unit Price ¹ | Total Price ¹ |
|---|--|-------------------|----------|-------------------------|--------------------------|
| | | | (1) | (2) | (1) x (2) |
| ERAS HA BORU 160 kWp (160 kW AC) SOLAR PV MINI GRID | | | | | |
| A | Solar Power Generation Plant (SPGP) | | | | |
| 1 | Installation, Erection, Testing and Commissioning of SPV Modules & Inverters including Mounting structures | Lot | 1 | | |
| 2 | Installation, Erection, Testing and Commissioning of Battery Energy Storage System, including Inverter/Charger | Lot | 1 | | |
| 3 | Installation, Erection, Testing and Commissioning of SCADA system | Lot | 1 | | |
| 4 | Installation, Erection, Testing and Commissioning of Diesel Generator | | | | |
| 5 | Installation of all balance of system components to complete erection of the SPGP | Lot | 1 | | |
| 6 | Testing & commissioning of all supplied equipment including DG. Test running of Solar Power Plant as well as load trials at site, prior to handover and implementation of maintenance contract | Lot | 1 | | |
| | ERAS HA BORU SUBTOTAL A | | | | |
| B | Power Distribution Network | | | | |
| B-1 | Pegging, Erection, dressing and stringing of LV lines- 3 phase lines and Single phase lines | | | | |
| 7 | Pole Erection and dressing- Concrete | No | 428 | | |
| 8 | Conductor Stringing including trace clearance as per KPLC standard | Km | 16.95 | | |
| 9 | PME installation | No | 188 | | |
| 10 | LV Stay hole digging, making & Erection | No | 407 | | |
| 11 | LV Strut hole digging, making & Erection | No | 99 | | |
| B-2 | Service cable | | | | |
| 12 | Service cable installation complete with terminations on both the pole and angle iron on the wall, pole mounted meter box, Prepaid meter and MCB installation | No. | 497 | | |
| 13 | Installation of Ready Boards, Earthing and Testing | No. | 497 | | |
| 14 | Installation of wall mounted metallic customer meter boards complete with MCB and service cable termination | No. | 497 | | |
| 15 | Class C-2 ERC Wiring Certificates | No | 497 | | |
| B-3 | Pegging, Erection, dressing and stringing of 11KV MV Distribution line | | | | |
| 16 | Pole Erection and dressing- Concrete | No | 0 | | |
| 17 | Conductor Stringing including trace clearance as per KPLC standard | Km | 0 | | |
| 18 | MV Stay hole digging, making & Erection | No | 0 | | |
| 19 | MV Flying Stay hole digging, making & Erection | No | 0 | | |
| 20 | MV Strut hole digging, making & Erection | No | 0 | | |
| B-4 | Mounting, Dressing, Welding and Earthing 11KV Distribution Transformer | | | | |

| | | | | | |
|----------|---|-----|---|--|--|
| 21 | Transformer Mounting, Dressing, Welding and Earthing | No | 0 | | |
| | ERAS HA BORU SUBTOTAL B | | | | |
| C | Civil works | | | | |
| 22 | Platform Works-Earthworks and slope protection, site clearing and disposal, Galvanised Boundary chain link fence with steel posts for the entire Mini grid developed area, Gates, SPGP area barricade fence. Solar panels reinforced concrete foundations/helical anchor foundations, Generator Equipment Plinth, 2000L underground fuel storage tank, Access Road, SPGP Internal road, Storm water drainage. | Lot | 1 | | |
| 23 | Cable network and conduits | Lot | 1 | | |
| 24 | Containerized technology solution for Office Building and Control Room, Air conditioners. | Lot | 1 | | |
| 25 | Galvanized Steel Structures- solar panels steel support structurers. | Lot | 1 | | |
| 26 | Masonry guard house | Lot | 1 | | |
| 27 | Masonry twin VIP Pit Latrine | Lot | 1 | | |
| 28 | Security Systems, SPGP Outdoor Lighting and Perimeter Lighting, Control room and office building security lighting, Guard House Alarm System and danger and warning plate. | Lot | 1 | | |
| 29 | Rainwater harvesting and Storage | Lot | 1 | | |
| 30 | Fire Prevention System-Fire Extinguishers, and Fire Suppression System at the BESS Section. | Lot | 1 | | |
| | ERAS HA BORU SUBTOTAL C | | | | |

| Item | Description | Unit ² | Quantity | Unit Price ¹ | Total Price ¹ |
|--|--|-------------------|----------|-------------------------|--------------------------|
| | | | (1) | (2) | (1) x (2) |
| GARFASA 160 kWp (160 kW AC) SOLAR PV MINI GRID | | | | | |
| A | Solar Power Generation Plant (SPGP) | | | | |
| 1 | Installation, Erection, Testing and Commissioning of SPV Modules & Inverters including Mounting structures | Lot | 1 | | |
| 2 | Installation, Erection, Testing and Commissioning of Battery Energy Storage System, including Inverter/Charger | Lot | 1 | | |
| 3 | Installation, Erection, Testing and Commissioning of SCADA system | Lot | 1 | | |
| 4 | Installation, Erection, Testing and Commissioning of Diesel Generator | | | | |
| 5 | Installation of all balance of system components to complete erection of the SPGP | Lot | 1 | | |
| 6 | Testing & commissioning of all supplied equipment including DG. Test running of Solar Power Plant as well as load trials at site, prior to handover and implementation of maintenance contract | Lot | 1 | | |
| | GARFASA SUBTOTAL A | | | | |
| B-1 | Pegging, Erection, dressing and stringing of LV lines- 3 phase lines and Single phase lines | | | | |
| 7 | Pole Erection and dressing- Concrete | No | 486 | | |
| 8 | Conductor Stringing including trace clearance as per KPLC standard | Km | 22.41 | | |
| 9 | PME installation | No | 309 | | |
| 10 | LV Stay hole digging, making & Erection | No | 262 | | |
| 11 | LV Strut hole digging, making & Erection | No | 18 | | |
| B-2 | Service cable | | | | |
| 12 | Service cable installation complete with terminations on both the pole and angle iron on the wall, pole mounted meter box, Prepaid meter and MCB installation | No. | 649 | | |
| 13 | Installation of Ready Boards, Earthing and Testing | No. | 649 | | |
| 14 | Installation of wall mounted metallic customer meter boards complete with MCB and service cable termination | No. | 649 | | |
| 15 | Class C-2 ERC Wiring Certificates | No | 649 | | |
| B-3 | Pegging, Erection, dressing and stringing of 11KV MV Distribution line | | | | |
| 16 | Pole Erection and dressing- Concrete | No | 43 | | |
| 17 | Conductor Stringing including trace clearance as per KPLC standard | Km | 3.3 | | |
| 18 | MV Stay hole digging, making & Erection | No | 15 | | |
| 19 | MV Flying Stay hole digging, making & Erection | No | 0 | | |
| 20 | MV Strut hole digging, making & Erection | No | 0 | | |
| B-4 | Mounting, Dressing, Welding and Earthing 11KV Distribution Transformer | | | | |
| 21 | Transformer Mounting, Dressing, Welding and Earthing | No | 3 | | |
| B-5 | Mounting, Dressing, Welding and Earthing Step up Transformer | | | | |

| | | | | | |
|---------------------------|---|-----|---|--|--|
| 22 | Transformer Mounting, Dressing, Welding and Earthing | No | 1 | | |
| GARFASA SUBTOTAL B | | | | | |
| C | Civil works | | | | |
| 23 | Platform Works-Earthworks and slope protection, site clearing and disposal, Galvanised Boundary chain link fence with steel posts for the entire Mini grid developed area, Gates, SPGP area barricade fence. Solar panels reinforced concrete foundations/helical anchor foundations, Generator Equipment Plinth, 2000L underground fuel storage tank, Access Road, SPGP Internal road, Storm water drainage. | Lot | 1 | | |
| 24 | Cable network and conduits | Lot | 1 | | |
| 25 | Containerized technology solution for Office Building and Control Room, Air conditioners. | Lot | 1 | | |
| 26 | Galvanized Steel Structures- solar panels steel support structurers. | Lot | 1 | | |
| 27 | Masonry guard house | Lot | 1 | | |
| 28 | Masonry twin VIP Pit Latrine | Lot | 1 | | |
| 29 | Security Systems, SPGP Outdoor Lighting and Perimeter Lighting, Control room and office building security lighting, Guard House Alarm System and danger and warning plate. | Lot | 1 | | |
| 30 | Rainwater harvesting and Storage | Lot | 1 | | |
| 31 | Fire Prevention System-Fire Extinguishers, and Fire Suppression System at the BESS Section. | Lot | 1 | | |
| GARFASA SUBTOTAL C | | | | | |

| Item | Description | Unit ² | Quantity | Unit Price ¹ | Total Price ¹ |
|--|--|-------------------|----------|-------------------------|--------------------------|
| | | | (1) | (2) | (1) x (2) |
| KIPSING 100 kWp (100 kW AC) SOLAR PV MINI GRID | | | | | |
| A | Solar Power Generation Plant (SPGP) | | | | |
| 1 | Installation, Erection, Testing and Commissioning of SPV Modules & Inverters including Mounting structures | Lot | 1 | | |
| 2 | Installation, Erection, Testing and Commissioning of Battery Energy Storage System, including Inverter/Charger | Lot | 1 | | |
| 3 | Installation, Erection, Testing and Commissioning of SCADA system | Lot | 1 | | |
| 4 | Installation, Erection, Testing and Commissioning of Diesel Generator | | | | |
| 5 | Installation of all balance of system components to complete erection of the SPGP | Lot | 1 | | |
| 6 | Testing & commissioning of all supplied equipment including DG. Test running of Solar Power Plant as well as load trials at site, prior to handover and implementation of maintenance contract | Lot | 1 | | |
| | KIPSING SUBTOTAL A | | | | |
| B | Power Distribution Network | | | | |
| B-1 | Pegging, Erection, dressing and stringing of LV lines- 3 phase lines and Single phase lines | | | | |
| 7 | Pole Erection and dressing- Concrete | No | 196 | | |
| 8 | Conductor Stringing including trace clearance as per KPLC standard | Km | 11.95 | | |
| 9 | PME installation | No | 129 | | |
| 10 | LV Stay hole digging, making & Erection | No | 133 | | |
| 11 | LV Strut hole digging, making & Erection | No | 2 | | |
| B-2 | Service cable | | | | |
| 12 | Service cable installation complete with terminations on both the pole and angle iron on the wall, pole mounted meter box, Prepaid meter and MCB installation | No. | 198 | | |
| 13 | Installation of Ready Boards, Earthing and Testing | No. | 198 | | |
| 14 | Installation of wall mounted metallic customer meter boards complete with MCB and service cable termination | No. | 198 | | |
| 15 | Class C-2 ERC Wiring Certificates | No | 198 | | |
| B-3 | Pegging, Erection, dressing and stringing of 11KV MV Distribution line | | | | |
| 16 | Pole Erection and dressing- Concrete | No | 0 | | |
| 17 | Conductor Stringing including trace clearance as per KPLC standard | Km | 0 | | |
| 18 | MV Stay hole digging, making & Erection | No | 0 | | |
| 19 | MV Flying Stay hole digging, making & Erection | No | 0 | | |
| 20 | MV Strut hole digging, making & Erection | No | 0 | | |
| B-4 | Mounting, Dressing, Welding and Earthing 11KV Distribution Transformer | | | | |
| 21 | Transformer Mounting, Dressing, Welding and Earthing | No | 0 | | |
| | KIPSING SUBTOTAL B | | | | |

| | | | | | |
|----------|---|-----|---|--|--|
| C | Civil works | | | | |
| 22 | Platform Works-Earthworks and slope protection, site clearing and disposal, Galvanised Boundary chain link fence with steel posts for the entire Mini grid developed area, Gates, SPGP area barricade fence. Solar panels reinforced concrete foundations/helical anchor foundations, Generator Equipment Plinth, 2000L underground fuel storage tank, Access Road, SPGP Internal Road, Storm water drainage. | Lot | 1 | | |
| 23 | Cable network and conduits | Lot | 1 | | |
| 24 | Containerized technology solution for Office Building and Control Room, Air conditioners. | Lot | 1 | | |
| 25 | Galvanized Steel Structures- solar panels steel support structurers. | Lot | 1 | | |
| 26 | Masonry guard house | Lot | 1 | | |
| 27 | Masonry twin VIP Pit Latrine | Lot | 1 | | |
| 28 | Security Systems, SPGP Outdoor Lighting and Perimeter Lighting, Control room and office building security lighting, Guard House Alarm System and danger and warning plate. | Lot | 1 | | |
| 29 | Rainwater harvesting and Storage | Lot | 1 | | |
| 30 | Fire Prevention System-Fire Extinguishers, and Fire Suppression System at the BESS Section. | Lot | 1 | | |
| | KIPSING SUBTOTAL C | | | | |

| Item | Description | Unit ² | Quantity | Unit Price ¹ | Total Price ¹ |
|---|--|-------------------|----------|-------------------------|--------------------------|
| | | | (1) | (2) | (1) x (2) |
| BASSA 135 kWp (135kW AC) SOLAR PV MINI GRID | | | | | |
| A | Solar Power Generation Plant (SPGP) | | | | |
| 1 | Installation, Erection, Testing and Commissioning of SPV Modules & Inverters including Mounting structures | Lot | 1 | | |
| 2 | Installation, Erection, Testing and Commissioning of Battery Energy Storage System, including Inverter/Charger | Lot | 1 | | |
| 3 | Installation, Erection, Testing and Commissioning of SCADA system | Lot | 1 | | |
| 4 | Installation, Erection, Testing and Commissioning of Diesel Generator | | | | |
| 5 | Installation of all balance of system components to complete erection of the SPGP | Lot | 1 | | |
| 6 | Testing & commissioning of all supplied equipment including DG. Test running of Solar Power Plant as well as load trials at site, prior to handover and implementation of maintenance contract | Lot | 1 | | |
| | BASSA SUBTOTAL A | | | | |
| B | Power Distribution Network | | | | |
| B-1 | Pegging, Erection, dressing and stringing of LV lines- 3 phase lines and Single phase lines | | | | |
| 7 | Pole Erection and dressing- Concrete | No | 412 | | |
| 8 | Conductor Stringing including trace clearance as per KPLC standard | Km | 20.14 | | |
| 9 | PME installation | No | 245 | | |
| 10 | LV Stay hole digging, making & Erection | No | 185 | | |
| 11 | LV Strut hole digging, making & Erection | No | 32 | | |
| B-2 | Service cable | | | | |
| 12 | Service cable installation complete with terminations on both the pole and angle iron on the wall, pole mounted meter box, Prepaid meter and MCB installation | No. | 459 | | |
| 13 | Installation of Ready Boards, Earthing and Testing | No. | 459 | | |
| 14 | Installation of wall mounted metallic customer meter boards complete with MCB and service cable termination | No. | 459 | | |
| 15 | Class C-2 ERC Wiring Certificates | No | 459 | | |
| B-3 | Pegging, Erection, dressing and stringing of 11KV MV Distribution line | | | | |
| 16 | Pole Erection and dressing- Concrete | No | 0 | | |
| 17 | Conductor Stringing including trace clearance as per KPLC standard | Km | 0 | | |
| 18 | MV Stay hole digging, making & Erection | No | 0 | | |
| 19 | MV Flying Stay hole digging, making & Erection | No | 0 | | |
| 20 | MV Strut hole digging, making & Erection | No | 0 | | |
| B-4 | Mounting, Dressing, Welding and Earthing 11KV Distribution Transformer | | | | |
| 21 | Transformer Mounting, Dressing, Welding and Earthing | No | 0 | | |
| | BASSA SUBTOTAL B | | | | |

| | | | | | |
|----------|---|-----|---|--|--|
| C | Civil works | | | | |
| 22 | Platform Works-Earthworks and slope protection, site clearing and disposal, Galvanised Boundary chain link fence with steel posts for the entire Mini grid developed area, Gates, SPGP area barricade fence. Solar panels reinforced concrete foundations/helical anchor foundations, Generator Equipment Plinth, 2000L underground fuel storage tank, Access Road, SPGP Internal Road, Storm water drainage. | Lot | 1 | | |
| 23 | Cable network and conduits | Lot | 1 | | |
| 24 | Containerized technology solution for Office Building and Control Room, Air conditioners. | Lot | 1 | | |
| 25 | Galvanized Steel Structures- solar panels steel support structurers. | Lot | 1 | | |
| 26 | Masonry guard house | Lot | 1 | | |
| 27 | Masonry twin VIP Pit Latrine | Lot | 1 | | |
| 28 | Security Systems, SPGP Outdoor Lighting and Perimeter Lighting, Control room and office building security lighting, Guard House Alarm System and danger and warning plate. | Lot | 1 | | |
| 29 | Rainwater harvesting and Storage | Lot | 1 | | |
| 30 | Fire Prevention System-Fire Extinguishers, and Fire Suppression System at the BESS Section. | Lot | 1 | | |
| | BASSA SUBTOTAL C | | | | |

| Item | Description | Unit ² | Quantity | Unit Price ¹ | Total Price ¹ |
|---|--|-------------------|----------|-------------------------|--------------------------|
| | | | (1) | (2) | (1) x (2) |
| MALKADAKA 100 kWp (100kW AC) SOLAR PV MINI GRID | | | | | |
| A | Solar Power Generation Plant (SPGP) | | | | |
| 1 | Installation, Erection, Testing and Commissioning of SPV Modules & Inverters including Mounting structures | Lot | 1 | | |
| 2 | Installation, Erection, Testing and Commissioning of Battery Energy Storage System, including Inverter/Charger | Lot | 1 | | |
| 3 | Installation, Erection, Testing and Commissioning of SCADA system | Lot | 1 | | |
| 4 | Installation, Erection, Testing and Commissioning of Diesel Generator | | | | |
| 5 | Installation of all balance of system components to complete erection of the SPGP | Lot | 1 | | |
| 6 | Testing & commissioning of all supplied equipment including DG. Test running of Solar Power Plant as well as load trials at site, prior to handover and implementation of maintenance contract | Lot | 1 | | |
| | MALKADAKA SUBTOTAL A | | | | |
| B | Power Distribution Network | | | | |
| B-1 | Pegging, Erection, dressing and stringing of LV lines- 3 phase lines and Single phase lines | | | | |
| 7 | Pole Erection and dressing- Concrete | No | 124 | | |
| 8 | Conductor Stringing including trace clearance as per KPLC standard | Km | 9.14 | | |
| 9 | PME installation | No | 128 | | |
| 10 | LV Stay hole digging, making & Erection | No | 69 | | |
| 11 | LV Strut hole digging, making & Erection | No | 3 | | |
| B-2 | Service cable | | | | |
| 12 | Service cable installation complete with terminations on both the pole and angle iron on the wall, pole mounted meter box, Prepaid meter and MCB installation | No. | 295 | | |
| 13 | Installation of Ready Boards, Earthing and Testing | No. | 295 | | |
| 14 | Installation of wall mounted metallic customer meter boards complete with MCB and service cable termination | No. | 295 | | |
| 15 | Class C-2 ERC Wiring Certificates | No | 295 | | |
| B-3 | Pegging, Erection, dressing and stringing of 11KV MV Distribution line | | | | |
| 16 | Pole Erection and dressing- Concrete | No | 57 | | |
| 17 | Conductor Stringing including trace clearance as per KPLC standard | Km | 4.97 | | |
| 18 | MV Stay hole digging, making & Erection | No | 21 | | |
| 19 | MV Flying Stay hole digging, making & Erection | No | 3 | | |
| 20 | MV Strut hole digging, making & Erection | No | 0 | | |
| B-4 | Mounting, Dressing, Welding and Earthing 11KV Distribution Transformer | | | | |
| 21 | Transformer Mounting, Dressing, Welding and Earthing | No | 2 | | |
| B-5 | Mounting, Dressing, Welding and Earthing | | | | |

| | | | | | |
|--|---|--------------------------|--------|-------------------|-------------------|
| | Step up Transformer | | | | |
| 22 | Transformer Mounting, Dressing, Welding and Earthing | No | 1 | | |
| | MALKADAKA SUBTOTAL B | | | | |
| C | Civil works | | | | |
| 23 | Platform Works-Earthworks and slope protection, site clearing and disposal, Galvanised Boundary chain link fence with steel posts for the entire Mini grid developed area, Gates, SPGP area barricade fence. Solar panels reinforced concrete foundations/helical anchor foundations, Generator Equipment Plinth, 2000L underground fuel storage tank, Access Road, SPGP Internal Road, Storm water drainage. | Lot | 1 | | |
| 24 | Cable network and conduits | Lot | 1 | | |
| 25 | Containerized technology solution for Office Building and Control Room, Air conditioners. | Lot | 1 | | |
| 26 | Galvanized Steel Structures- solar panels steel support structurers. | Lot | 1 | | |
| 27 | Masonry guard house | Lot | 1 | | |
| 28 | Masonry twin VIP Pit Latrine | Lot | 1 | | |
| 29 | Security Systems, SPGP Outdoor Lighting and Perimeter Lighting, Control room and office building security lighting, Guard House Alarm System and danger and warning plate. | Lot | 1 | | |
| 30 | Rainwater harvesting and Storage | Lot | 1 | | |
| 31 | Fire Prevention System-Fire Extinguishers, and Fire Suppression System at the BESS Section. | Lot | 1 | | |
| | MALKADAKA SUBTOTAL C | | | | |
| D | | | Others | | |
| 32 | Cost allocation for end-of-life (EOL) plan for all batteries and other potentially hazardous e-waste at the end of its useful life | Lot | 1 | | |
| 33 | Offices facilities : Provide a furnished site office complete with communication facilities(Laptop, internet, printer and stationery) | Site | 5 | | |
| 34 | Provision of communication facilities for the employer | Lot | 1 | | |
| 35 | Provision of Transport: Provide fuel and maintain with driver transport for exclusive use of the REREC project engineer for project supervision and coordination services (1 No. 4X4) | Vehicle/ Months | 12 | | |
| 36 | Factory Acceptance Tests for Major Items | Lumpsum | 1 | | |
| 37 | Provisional sum for Community Project for compensation in kind for land acquisition (The project to be decided after land value is determined) | Fixed amount | 5 | KSh. 1,000,000 | KSh. 5,000,000 |
| | SUBTOTAL D | | | | |
| | | | | | |
| TOTAL (To Schedule No. 7. Grand Summary) | | | | | |
| | | | | | |
| | | Name of Bidder_____ | | | |
| | | Signature of Bidder_____ | | | |
| ¹ Specify currency in accordance with ITB 18. Create and use as many columns for Unit Price and Total Price as there are currencies. | | | | | |

² Lot per km - Bidders are advised to assume a span length of 100m for Medium Voltage network (11kV) and 50m for Low Voltage network.

| SCHEDULE NO. 5 - ENVIRONMENTAL, SOCIAL, HEALTH AND SAFETY (ESHS) SERVICES | | | | | | | |
|---|--|------|---------|--------------------------|------------------------|--------------------------|-----------|
| Item | Description | Unit | Qty | Unit Price ¹ | | Total Price ¹ | |
| | | | (Sites) | Foreign Currency Portion | Local Currency Portion | Foreign | Local |
| | | | (1) | (2) | (3) | (1) X (2) | (1) X (3) |
| | Air Quality: Dust and exhaust emissions | | | | | | |
| 1 | Sprinkle water to minimize dust generation | Lot | 5 | | | | |
| 2 | Enclose/ cover/ water stockpiles of excavated soil during dry or windy conditions | Lot | 5 | | | | |
| 3 | Conduct air quality measurements on a monthly basis | Lot | 5 | | | | |
| | Solid Waste generation | | | | | | |
| 4 | Provide proper facilities for holding, separating and storing waste to reduce exposure and damage by elements of weather | Lot | 5 | | | | |
| 5 | Contract NEMA registered waste handlers to dispose, hazardous, obsolete and E-waste and contaminated soil | Lot | 5 | | | | |
| 6 | Store hazardous products and wastes separately in well labelled containers | Lot | 5 | | | | |
| | Noise and Vibration | | | | | | |
| 7 | Conduct noise measurements on a monthly basis | Lot | 5 | | | | |
| | Vegetation disturbance | | | | | | |
| 8 | Plant and nurture (200) indigenous trees in selected areas in public/community institutions | Lot | 5 | | | | |
| | Fire hazards | | | | | | |
| 9 | Designate smoking zone, fire assembly point and provide appropriate firefighting equipment | Lot | 5 | | | | |
| 10 | Provide trained fire marshals | Lot | 5 | | | | |
| | Traffic congestion & damage to roads and other existing infrastructure | | | | | | |
| 11 | Provide traffic marshals and signages | Lot | 5 | | | | |
| | Occupational safety and Health risks | | | | | | |
| 12 | Awareness creation and training of staff on occupation health and safety issues | Lot | 5 | | | | |
| 13 | Provide appropriate PPEs including Helmets, Safety Boots, Overalls, Dust Coats, Ear Muffs, Safety Harness, Gloves, Safety Glasses, etc | Lot | 5 | | | | |
| 14 | Provide fully stocked first aid kit | Lot | 5 | | | | |

| | | | | | | | |
|--|--|-----|---|---------------------------|--|--|--|
| 15 | Provide insurance to the workers as per Work Injury and Benefits Act (WIBA) requirements | Lot | 5 | | | | |
| 16 | Proper barricading and hazard communication and signage | Lot | 5 | | | | |
| Training and Sensitization on Labour influx related impacts (Gender based violence)-Sexual abuse and exploitation and sexual harassment, HIV/AIDs, Alcohol and drugs abuse and crime | | | | | | | |
| 17 | Awareness creation to the workers and members of public on Abstinence, Being Faithful and Use of Condoms to prevent HIV/AIDs spread. | Lot | 5 | | | | |
| 18 | Install information on the site billboard - 'Beware of HIV/AIDs, it's real, it kills' and other posters around site | Lot | 5 | | | | |
| 19 | Provide adequate condoms at convenient locations | Lot | 5 | | | | |
| Risks related to spread of COVID-19 to workers and locals | | | | | | | |
| 20 | Install hand washing facilities with adequate running water and soap | Lot | 5 | | | | |
| 21 | Use thermal guns for everyone entering the site for monitoring temperatures levels | Lot | 5 | | | | |
| Stakeholder Engagement | | | | | | | |
| 22 | Conduct stakeholder engagement forums in a culturally appropriate manner | Lot | 5 | | | | |
| 23 | Conduct separate adequate public consultation for the VMGs where applicable | Lot | 5 | | | | |
| TOTAL (To Schedule No. 7. Grand Summary) | | | | | | | |
| | | | | Name of Bidder _____ | | | |
| | | | | Signature of Bidder _____ | | | |
| ¹ Specify currency in accordance with ITB 18. Create and use as many columns for Unit Price and Total Price as there are currencies. NB – For details of each item, refer to the Environmental, Social, Health and Safety Management Plan for proposed solar mini-grid for community facilities, enterprises, and households - Component 1 of the Kenya Off-grid Solar Access Project (Bidding Document Volume I) | | | | | | | |

SCHEDULE NO. 6 - OPERATION & MAINTENANCE

| Item | Description | Unit | Qty | % of O&M Contract Price | Unit Price ¹ | | Total Price ¹ |
|------|---|------|-----|-------------------------|-------------------------|--------------------------|--------------------------|
| | | | | | Local Currency Portion | Foreign Currency Portion | |
| | | | | | | (optional) | |
| | ERAS HA BORU 160 kWp (160 kW AC) SOLAR PV MINI GRID | | | | | | |
| 1 | Operation and Maintenance of the Distribution Network and Plant Facility for FIRST YEAR | Year | 1 | 11.5 | | | |
| 2 | Operation and Maintenance of the Distribution Network and Plant Facility for SECOND YEAR | Year | 1 | 11.5 | | | |
| 3 | Operation and Maintenance of the Distribution Network and Plant Facility for THIRD YEAR | Year | 1 | 11.5 | | | |
| 4 | Operation and Maintenance of the Distribution Network and Plant Facility for FOURTH YEAR | Year | 1 | 11.5 | | | |
| 5 | Operation and Maintenance of the Distribution Network and Plant Facility for FIFTH YEAR | Year | 1 | 18 | | | |
| 6 | Operation and Maintenance of the Distribution Network and Plant Facility for SIXTH YEAR | Year | 1 | 18 | | | |
| 7 | Operation and Maintenance of the Distribution Network and Plant Facility for SEVENTH YEAR | Year | 1 | 18 | | | |
| | SUBTOTAL A | | | | | | |
| | GARFASA 160kWp (160 kW AC) SOLAR PV MINI GRID | | | | | | |
| 1 | Operation and Maintenance of the Distribution Network and Plant Facility for FIRST YEAR | Year | 1 | 11.5 | | | |
| 2 | Operation and Maintenance of the Distribution Network and Plant Facility for SECOND YEAR | Year | 1 | 11.5 | | | |
| 3 | Operation and Maintenance of the Distribution Network and Plant Facility for THIRD YEAR | Year | 1 | 11.5 | | | |
| 4 | Operation and Maintenance of the Distribution Network and Plant Facility for FOURTH YEAR | Year | 1 | 11.5 | | | |
| 5 | Operation and Maintenance of the Distribution Network and Plant Facility for FIFTH YEAR | Year | 1 | 18 | | | |
| 6 | Operation and Maintenance of the Distribution Network and Plant Facility for SIXTH YEAR | Year | 1 | 18 | | | |
| 7 | Operation and Maintenance of the Distribution Network and Plant Facility for SEVENTH YEAR | Year | 1 | 18 | | | |
| | SUBTOTAL B | | | | | | |

| KIPSING 100 kWp (100 kW AC) SOLAR PV MINI GRID | | | | | | | |
|--|---|------|---|------|--|--|--|
| 1 | Operation and Maintenance of the Distribution Network and Plant Facility for FIRST YEAR | Year | 1 | 11.5 | | | |
| 2 | Operation and Maintenance of the Distribution Network and Plant Facility for SECOND YEAR | Year | 1 | 11.5 | | | |
| 3 | Operation and Maintenance of the Distribution Network and Plant Facility for THIRD YEAR | Year | 1 | 11.5 | | | |
| 4 | Operation and Maintenance of the Distribution Network and Plant Facility for FOURTH YEAR | Year | 1 | 11.5 | | | |
| 5 | Operation and Maintenance of the Distribution Network and Plant Facility for FIFTH YEAR | Year | 1 | 18 | | | |
| 6 | Operation and Maintenance of the Distribution Network and Plant Facility for SIXTH YEAR | Year | 1 | 18 | | | |
| 7 | Operation and Maintenance of the Distribution Network and Plant Facility for SEVENTH YEAR | Year | 1 | 18 | | | |
| SUBTOTAL C | | | | | | | |
| BASSA 135 kWp (135 kW AC) SOLAR PV MINI GRID | | | | | | | |
| 1 | Operation and Maintenance of the Distribution Network and Plant Facility for FIRST YEAR | Year | 1 | 11.5 | | | |
| 2 | Operation and Maintenance of the Distribution Network and Plant Facility for SECOND YEAR | Year | 1 | 11.5 | | | |
| 3 | Operation and Maintenance of the Distribution Network and Plant Facility for THIRD YEAR | Year | 1 | 11.5 | | | |
| 4 | Operation and Maintenance of the Distribution Network and Plant Facility for FOURTH YEAR | Year | 1 | 11.5 | | | |
| 5 | Operation and Maintenance of the Distribution Network and Plant Facility for FIFTH YEAR | Year | 1 | 18 | | | |
| 6 | Operation and Maintenance of the Distribution Network and Plant Facility for SIXTH YEAR | Year | 1 | 18 | | | |
| 7 | Operation and Maintenance of the Distribution Network and Plant Facility for SEVENTH YEAR | Year | 1 | 18 | | | |
| SUBTOTAL D | | | | | | | |
| MALKADAKA 100 kWp (100 kW AC) SOLAR PV MINI GRID | | | | | | | |
| 1 | Operation and Maintenance of the Distribution Network and Plant Facility for FIRST YEAR | Year | 1 | 11.5 | | | |
| 2 | Operation and Maintenance of the Distribution Network and Plant Facility for SECOND YEAR | Year | 1 | 11.5 | | | |
| 3 | Operation and Maintenance of the Distribution Network and Plant Facility for THIRD YEAR | Year | 1 | 11.5 | | | |
| 4 | Operation and Maintenance of the Distribution Network and Plant Facility for FOURTH YEAR | Year | 1 | 11.5 | | | |
| 5 | Operation and Maintenance of the Distribution Network and Plant Facility for FIFTH YEAR | Year | 1 | 18 | | | |
| 6 | Operation and Maintenance of the Distribution Network and Plant Facility for SIXTH YEAR | Year | 1 | 18 | | | |
| 7 | Operation and Maintenance of the Distribution Network and Plant Facility for SEVENTH YEAR | Year | 1 | 18 | | | |

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| | SUBTOTAL E | | | | |
| | | | | | |
| TOTAL (to Schedule No. 7. Grand Summary) | | | | | |
| | | <i>Name of Bidder</i> _____ | | | |
| | | <i>Signature of Bidder</i> _____ | | | |
| ' Specify currency in accordance with specifications in Bid Data Sheet under ITB 18.1 | | | | | |
| | | | | | |

SCHEDULE NO. 7 - GRAND SUMMARY

| Item | Description | Total Price ¹ | |
|------|--|----------------------------|--------------|
| | | <i>Foreign</i> | <i>Local</i> |
| | Phase 1 - Supply and Installation | | |
| 1 | Total Price of Schedule No 1 : Plant and Mandatory Spare Parts Supplied from Abroad | | |
| 2 | Total Price of Schedule No 2 : Plant and Mandatory Spare Parts Supplied from Within the Employer's Country | | |
| 3 | Total Price of Schedule No 3 : Survey & Design Services | | |
| 4 | Total Price of Schedule No 4 : Installation, Testing, Commissioning, and Other Services | | |
| 5 | Total Price of Schedule No 5 : Environmental, Social, Health And Safety (ESHS) Services | | |
| | Phase 2 - Operations and Maintenance | | |
| 6 | Total Price of Schedule No 6 : Operation & Maintenance | | |
| | TOTAL (to Letter of Bid) | | |
| | | <i>Name of Bidder</i> | |
| | | <i>Signature of Bidder</i> | |
| | | | |

| SCHEDULE NO. 8 - RECOMMENDED SPARE PARTS (NOT BE CONSIDERED FOR EVALUATION, BUT ONLY FOR INFORMATION) | | | | | | |
|---|-------------|------|------------------------|-------------------------|------------|--------------------------|
| Item | Description | Unit | Qty | Unit Price ¹ | | Total Price ¹ |
| | | | | | | |
| | | | | <i>CIF or CIP</i> | <i>EXW</i> | (1) x (2) or (3) |
| | | | <i>(foreign parts)</i> | <i>(local parts)</i> | | |
| | | | (1) | (2) | (3) | |
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