LOT 6 ISIOLO

	SCHEDULE NO. 1 - PLANT AND MA	ANDATORY	SPARE P	ARTS SU	JPPLIED	FROM ABROAD	
Item	Description	Quantity and capacity of	Code 3	Unit⁴	Qty	CIP Unit Price ¹ (2)	CIP Total Price ¹ (1) x (2)
	EDACIJA DODIJ 140 I	single unit ²	AC) (O	I A D DV	(1)		(1) X (Z)
	ERAS HA BORU 160 k Solar Power Generation Plant (SPGP)	wp (100 kw	AC) 30	LAKPV	MINIC	ואוט	
A A1	SPV Modules & Inverters						
AI	160 kWp (DC) Standard monocrystalline						
	silicon SPV modules			Lot	1		
	Fixed-tilt racking structure(s) for above SPV						
2	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		

	international codes and standards at the time of installation.					
		ERAS H	A BORU	SUBTO	TAL A	
В	Power Distribution Network (PDN)					
B1	3-phase and single-phase LV Distribution Line				400	
14	10M LV Concrete Pole (TSP/03/005-1) LV Concrete Pole fittings-			No	428	
15	(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)			М	60	
21	Service Cable (16mm2 PVC Insulated Single Phase Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004)			М	14.9	
22	10mm dropper cable Red and Black; 1m each for single phase meters ² (TSP/05/016)			М	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/02/003-1)			No.	497	
25	Ready Boards complete with mounting accessories (TSP/14/051)			No.	497	

Other Items not Mentloned 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 33 11KV MV Distribution line 28 12M MV Concrete Pole (TSP/03/005-1) No 0 MV Concrete Pole (TSP/03/005-1) No 0 MV Concrete Pole (TSP/03/005-1) No 0 MV Concrete Pole intigns (Cross arms, Ite straps, insulator composites, Universal clamps, bolts, nuts, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/003-1), (TSP/03/021), (TSP/03/003), (TSP/03/021), (TSP/03/003-1), (TSP/02/004), (TSP/03/003-1), (TSP/02/004), (TSP/03/003-2), (TSP/03/001), (TSP/03/0002), (TSP/03/001), (TSP/03/0002), (TSP/03/001), (TSP/03/0002), (TSP/03/001), (TSP/03/0001), (TSP/03/0001)	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	
28 12M MV Concrete Pole (TSP/03/005-1) 29 14M MV Concrete Pole (TSP/03/005-1) MV Concrete Pole (Tisp/03/005-1) No 0 MV Concrete Pole (Tisp/03/005-1) No 0 MV Concrete Pole (Tisp/03/005-1) Set straps, insulator composites, Universal clamps, bolts, nuts, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/0031), (TSP/03/0031), (TSP/02/004), (TSP/02/003-1), (TSP/02/003-1), (TSP/02/002-1), (TSP/02/002-1), (TSP/03/022) 75sqmm Aluminium Conductor Steel Reinforced (ACSR) conductor for length of three phase (3 - wire) line (TSP/06/030-2) 32 MV Concrete Pole stays - (Stay wire, stay rod, stay block, shackle insulator) MV Concrete Pole flying stays - (Concrete pole, Stay wire, stay rod, stay block, shackle insulator) MV Concrete Pole strut pole - (Concrete pole, Stay wire, stay rod, stay block, shackle insulator) AM Concrete Pole strut pole - (Concrete strut pole, heavy duty clamps) B4 11KV Distribution Transformer 35 11KV SoKVA transformer 11KV SoV - 200KVA transformer 11KV SoV - 200KVA transformer substation structure and fittings (Earthing & Eightning 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) ERAS HA BORU SUBTOTAL B C Mandatory spares 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.	27	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			Lot	1	
14M MV Concrete Pole (TSP/03/005-1) No 0	В3	11KV MV Distribution line					
MV Concrete Pole fittings- (Cross arms, Tie straps, insulator composites, Universal clamps, bolts, nuts, preformed guv-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/021), (TSP/02/003-1), (TSP/02/003-1), (TSP/02/003), (TSP/02/002), (TSP/02/003-2), (TSP/02/002), (TSP/02/002), (TSP/02/003-2), (TSP/02/002), (TSP/02/002), (TSP/03/022) 75sqmm Aluminium Conductor Steel 31 Reinforced (ACSR) conductor for length of three phase (3 - wire) line (TSP/06/020-2) MV Concrete Pole stays - (Stay wire, stay rod, stay block, shackle insulator) MV Concrete Pole flying stays - (Concrete pole, Stay wire, stay rod, stay block, shackle insulator) 34 MV Concrete Pole flying stays - (Concrete strut pole, heavy duty clamps) B4 11KV Distribution Transformer 35 11KV 50KVA transformer 35 11KV 50KVA transformer 11KV 50 - 200KVA transformer substation structure and fittings (Earthing & Ightning 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) ERAS HA BORU SUBTOTAL B C Mandatory spares Mandatory spares 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.	28	12M MV Concrete Pole (TSP/03/005-1)			No	0	
straps, insulator composites, Universal clamps, bolts, nuts, preformed gury-grips, D-irons, insulators, etc) (TSP/03/035), (TSP/03/021), (TSP/03/0031), (TSP/02/004), (TSP/02/003-1), (TSP/02/001), (TSP/02/003-2), (TSP/02/002), (TSP/02/002), (TSP/06/036-1), (TSP/07/001), (TSP/03/022) 75sqmm Aluminium Conductor Steel Reinforced (ACSR) conductor for length of three phase (3 - wire) line (TSP/06/020-2) MV Concrete Pole stays - (Stay wire, stay rod, stay block, shackle insulator) MV Concrete Pole flying stays - (Concrete pole, Stay wire, stay rod, stay block, shackle insulator) MV Concrete Pole strut pole - (Concrete strut pole, heavy duty clamps) B4 11KV D50-200KVA transformer No 0 11KV 50-200KVA transformer No 0 11KV 50-200KVA transformer No 0 11KV S0-200KVA transformer substation structure and fittings (Earthing & Eightning Protection and associated material requirement, Expulsion Fuses, Surge diverters, 36 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) ERAS HA BORU SUBTOTAL B C Mandatory spares Mandatory spares 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.	29	14M MV Concrete Pole (TSP/03/005-1)			No	0	
31 Reinforced (ACSR) conductor for length of three phase (3 - wire) line (TSP/06/020-2) 32 MV Concrete Pole stays - (Stay wire, stay rod, stay block, shackle insulator) MV Concrete Pole flying stays - (Concrete pole, Stay wire, stay rod, stay block, shackle insulator) 34 MV Concrete Pole strut pole – (Concrete strut pole, heavy duty clamps) B4 11KV Distribution Transformer 35 11KV 50KVA 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) ERAS HA BORU SUBTOTAL B C 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.	30	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	
stay block, shackle insulator) MV Concrete Pole flying stays - (Concrete pole, Stay wire, stay rod, stay block, shackle insulator) MV Concrete Pole strut pole - (Concrete strut pole, heavy duty clamps) MV Concrete Pole strut pole - (Concrete strut pole, heavy duty clamps) No 0 B4 11KV Distribution Transformer 35 11KV 50 KVA transformer No 0 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) ERAS HA BORU SUBTOTAL B C Mandatory spares 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.	31	Reinforced (ACSR) conductor for length of			Km	0	
33 pole, Stay wire, stay rod, stay block, shackle insulator) 34 MV Concrete Pole strut pole – (Concrete strut pole, heavy duty clamps) 35 11KV Distribution Transformer	32	stay block, shackle insulator)			No	0	
pole, heavy duty clamps) B4 11KV Distribution Transformer 35 11KV 50KVA transformer 11KV 50 - 200KVA transformer substation structure and fittings (Earthing & lightning Protection and associated material requirement, Expulsion Fuses, Surge diverters, 36 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) ERAS HA BORU SUBTOTAL B C Mandatory spares 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.	33	pole, Stay wire, stay rod, stay block, shackle			No	0	
11KV 50KVA transformer 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) ERAS HA BORU SUBTOTAL B C Mandatory spares 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.	34				No	0	
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) ERAS HA BORU SUBTOTAL B C Mandatory spares Mandatory spares 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.	B4	11KV Distribution Transformer					
structure and fittings (Earthing & lightning Protection and associated material requirement, Expulsion Fuses, Surge diverters, 36 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) ERAS HA BORU SUBTOTAL B C Mandatory spares 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.	35				No	0	
C Mandatory spares 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	36	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				-	
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.			ERAS H	<u>a Boru</u>	SUBTC	TAL B	
inverter, 5% of total solar PV panel capacity, fuses, cabling and hardware for 7 years including all consumable parts.	С						
ERAS HA BORU SUBTOTAL C	37	inverter, 5% of total solar PV panel capacity, fuses, cabling and hardware for 7 years			Lot	1	
			ERAS H	A BORU	SUBTO	TAL C	

Item	Description	Quantity and capacity of	Code	Unit⁴	Qty	CIP Unit Price ¹	CIP Total Price ¹
		single unit ²			(1)	(2)	(1) x (2)
	GARFASA 160kWp	(160 kW AC) SOLAI	R PV MI	NI GRID		
Α	Solar Power Generation Plant (SPGP)						
A 1	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 Metering system consisting of check and main						
10	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.		GARFAS	Lot A SUBTO	1 OTAL A		
			JAKFASA	# 20RI	JIALA		

В	Power Distribution Network (PDN)			
B 1	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)	М	240	
21	Service Cable (16mm2 PVC Insulated Single Phase Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004)	М	19,23 0	
22	10mm dropper cable Red and Black; 1m each for single phase meters ² (TSP/05/016)	М	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	1 ftX1 ftX3/4ft 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 B3	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 11KV MV Distribution line	Lot	1	
		1	1	

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/02/004), (TSP/02/003-2), (TSP/02/002), (TSP/06/036-1), (TSP/07/001), (TSP/03/022) 75sqmm Aluminium Conductor Steel Reinforced (ACSR) conductor for length of three phase (3 - wire) line (TSP/06/020-2) MV Concrete Pole stays - (Stay wire, stay rod,			Set Km	3.3	
32	stay block, shackle insulator)			NO	13	
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	
		-	GARFAS.	A SUBT	OTAL B	
С	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					

Single unit ² (1) (2) (1) x (2)	Item	Description	Quantity and capacity of	Code	Unit⁴	Qty	CIP Unit Price ¹	CIP Total Price ¹
A Solar Power Generation Plant (SPGP) A1 SPV Modules & Inverters 1 100 kWp (DC) Standard monocrystalline silicon SPV modules including all necessary nuts and bolts as well as necessary clamps, foundation bolts etc. 3 100kW (AC) Solar PV Inverters 4 60 kW Solar Battery Inverter Charger A2 Battery Energy Storage System 5 250 kWh Utable Battery Energy Storage 5 System (BESS) 6 Battery Management system 5 Supply of SCADA along with associated equipment, data acquisition, data logger and display units and Industrial type PC with remote monitoring. A3 Diesel Generator 60 kW A Prime Rated Diesel Generator(s) (DC) 415 V, 3-phase installed with a common genset controller capable of parallel operation with shunt-trip breakers for auto-start capability 9 2000Litres Fuel Storage Tank Metering system consisting of check and main momers for Import / export of energy from solar plant as per grid code 11 Auxiliary power supply as per specifications AII 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 wring, breakers, fuses, combiner boxes, panelboards, conduits, cables and cable trays, relays, transformers, enclosures, foundations, trenches, poles, support structures, cabinets, grounding electrodes, grounding conductors, lighting arrestors, lighting arrestors, lighting arrestors, lighting arrestors, lighting arrestors, lighting rarestors, lighting rods, insulators,						(1)	(2)	(1) x (2)
A1 SPV Modules & Inverters 1 100 kWp (DC) Standard monocrystalline silicon SPV modules Lot 1 silicon SPV modules Fixed-tilt racking structure(s) for above SPV modules including all necessary nuts and bolts as well as necessary clamps, foundation bolts etc. 2 1 2 2 2 2 2 2 2 2		KIPSING 100 kWp	(100 kW AC) SOLAR	PV MIN	NI GRID		
1 100 kWp (DC) Standard monocrystalline Silicon SPV modules Fixed-tilt racking structure(s) for above SPV 2 2 2 3 3 4 5 5 5 5 5 5 5 5 5	Α	Solar Power Generation Plant (SPGP)						
Silicon SPV modules Lot 1	A 1	SPV Modules & Inverters						
2 as well as necessary clamps, foundation bolts etc. 3 100kW (AC) Solar PV Inverters 4 60 kW Solar Battery Inverter Charger 4 2 Battery Energy Storage System 5 250 kWh Usable Battery Energy Storage System (BESS) 6 Battery Management system 7 Supply of SCADA along with associated equipment, data acquisition, data logger and display units and Industrial type PC with remote monitoring. A3 Diesel Generator 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 9 2000Litres Fuel Storage Tank A4 Other SPGP Items Metering system consisting of check and main meters for Import / export of energy from solar plant as per grid code 11 Auxiliary power supply as per specifications AII 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 &t DC wiring, breakers, fuses, combiner 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,	1	silicon SPV modules			Lot	1		
4 60 kW Solar Battery Inverter Charger A2 Battery Energy Storage System 5 250 kWh Usable Battery Energy Storage System (BESS) 6 Battery Management system 5 Supply of SCADA along with associated equipment, data acquisition, data logger and display units and Industrial type PC with remote monitoring. A3 Diesel Generator 60 kVA Prime Rated Diesel Generator(s) (DG) 8 Best Generator 60 kVA Prime Rated Diesel Generator(s) (DG) 9 2000Litres Fuel Storage Tank A4 Other SPGP Items A4 Other SPGP items A5 Metering system consisting of check and main meters for Import / export of energy from solar plant as per grid code 11 Auxiliary power supply as per specifications AII Dalance of system components for interconnecting the battery and solar array with their inverters and the wider 415V three-phase S0 Hz AC distribution system, including but not limited to: AC &t DC wiring, breakers, fuses, combiner boxes, panelboards, conduits, cables and cable trays, relays, transformers, enclosures, foundations, trenches, poles, support structures, cabinets, grounding electrodes, grounding conductors, lighting arrestors, lighting arrestors, lighting rods, insulators,		modules including all necessary nuts and bolts as well as necessary clamps, foundation bolts etc.				1		
A2 Battery Energy Storage System 5 System (BESS) 6 Battery Management system Comply of SCADA along with associated equipment, data acquisition, data logger and display units and Industrial type PC with remote monitoring. A3 Diesel Generator 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 9 2000Litres Fuel Storage Tank A4 Other SPCP Items Metering system consisting of check and main meters for Import / export of energy from solar plant as per grid code 11 Auxiliary power supply as per specifications 12 Air conditioners for the control room as per specifications. AII 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, panelboards, conduits, cables and cable trays, relays, transformers, enclosures, foundations, trenches, poles, support structures, cablinets, grounding electrodes, grounding conductors, lighting arrestors, lightning rods, insulators,					Lot			
5 250 kWh Usable Battery Energy Storage System (BESS) 6 Battery Management system Supply of SCADA along with associated equipment, data acquisition, data logger and display units and Industrial type PC with remote monitoring. A3 Diesel Generator 60 kVA Prime Rated Diesel Generator(s) (DG) 8 2 50 kVA Prime Rated Diesel Generator(s) (DG) 8 415 V, 3-phase installed with a common genset controller capable of parallel operation with shunt-trip breakers for auto-start capability 9 2000Litres Fuel Storage Tank Lot 1 A4 Other SPGP Items Metering system consisting of check and main meters for Import / export of energy from solar plant as per grid code 11 Auxiliary power supply as per specifications 12 Air conditioners for the control room as per specifications. 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, lightning arrestors, lightning rods, insulators,	_	60 kW Solar Battery Inverter Charger			Lot	1		
System (BESS) 6 Battery Management system Supply of SCADA along with associated equipment, data acquisition, data logger and display units and Industrial type PC with remote monitoring. A3 Diesel Generator 60 kVA Prime Rated Diesel Generator(s) (DG) 8 15 V, 3-phase installed with a common genset controller capable of parallel operation with shunt-trip breakers for auto-start capability 9 2000Litres Fuel Storage Tank A4 Other SPGP Items Metering system consisting of check and main meters for Import / export of energy from solar plant as per grid code 11 Auxillary power supply as per specifications 12 Air conditioners for the control room as per specifications. 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, panelboards, conduits, cables and cable trays, relays, transformers, enclosures, foundations, trenches, poles, support structures, cabinets, grounding electrodes, grounding conductors, lightning arrestors, lightning rods, insulators,	A2							
Supply of SCADA along with associated equipment, data acquisition, data logger and display units and Industrial type PC with remote monitoring. A3 Diesel Generator 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 9 2000Litres Fuel Storage Tank A4 Other SPGP Items Metering system consisting of check and main meters for Import / export of energy from solar plant as per grid code 11 Auxiliary power supply as per specifications Lot 1 AIr conditioners for the control room as per specifications. AII 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, panelboards, conduits, cables and cable trays, relays, transformers, enclosures, foundations, trenches, poles, support structures, cabinets, grounding electrodes, grounding conductors, lighting arrestors, lightning rods, insulators,	5				Lot	1		
7 equipment, data acquisition, data logger and display units and Industrial type PC with remote monitoring. A3 Diesel Generator 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 9 2000Litres Fuel Storage Tank Lot 1 A4 Other SPGP Items Metering system consisting of check and main meters for Import / export of energy from solar plant as per grid code 11 Auxiliary power supply as per specifications Lot 1 Air conditioners for the control room as per specifications. AII 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,	6				Lot	1		
A3 Diesel Generator 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 9 2000Litres Fuel Storage Tank Lot 1 A4 Other SPGP Items Metering system consisting of check and main meters for Import / export of energy from solar plant as per grid code 11 Auxiliary power supply as per specifications 12 Air conditioners for the control room as per specifications. 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,	7	equipment, data acquisition, data logger and display units and Industrial type PC with remote			Lot	1		
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 9 2000Litres Fuel Storage Tank A4 Other SPGP Items Metering system consisting of check and main meters for Import / export of energy from solar plant as per grid code 11 Auxiliary power supply as per specifications 12 Air conditioners for the control room as per specifications. 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, panelboards, conduits, cables and cable trays, relays, transformers, enclosures, foundations, trenches, poles, support structures, cabinets, grounding electrodes, grounding conductors, lighting arrestors, lightning rods, insulators,	A3							
Metering system consisting of check and main meters for Import / export of energy from solar plant as per grid code 11 Auxiliary power supply as per specifications 12 Air conditioners for the control room as per specifications. All balance of system components for interconnecting the battery and solar array with their inverters and the wider 41 5V 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,	8	415 V, 3-phase installed with a common genset controller capable of parallel operation			Lot	1		
Metering system consisting of check and main meters for Import / export of energy from solar plant as per grid code 11 Auxiliary power supply as per specifications 12 Air conditioners for the control room as per specifications. 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,	9	2000Litres Fuel Storage Tank			Lot	1		
10 meters for Import / export of energy from solar plant as per grid code 11 Auxiliary power supply as per specifications 12 Air conditioners for the control room as per specifications. 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,	A4	Other SPGP Items						
11 Auxiliary power supply as per specifications Air conditioners for the control room as per specifications. 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,	10	meters for Import / export of energy from solar			No.	1		
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,	11				Lot	1		
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,	12	Air conditioners for the control room as per			Lot	1		
other fixtures required for a safety, reliability, and compliance with all relevant local and international codes and standards at the time of installation.	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				1		
KIPSING SUBTOTAL A				KIPSING	G SUBT	OTAL A		

В	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)	М	0	
21	Service Cable (16mm2 PVC Insulated Single Phase Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004)	М	5940	
22	10mm dropper cable Red and Black; 1m each for single phase meters ² (TSP/05/016)	М	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/02/003-1)	No.	198	
25	Ready Boards complete with mounting accessories (TSP/14/051)	No.	198	
26	1 ftX1 ftX3/4ft 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	

В3	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/03/0031), (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						
С	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 OTAL C			

Item	Description	Quantity and capacity of	Code	Unit⁴	Qty	CIP Unit Price ¹	CIP Total Price ¹
		single unit ²			(1)	(2)	(1) x (2)
	BASSA 135 kWp	(135kW AC)	SOLAR	PV MIN	GRID		
Α	Solar Power Generation Plant (SPGP)						
A 1	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		
			<u>B</u> ASS	A SUBT	A <u>JATC</u>		

В	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/02/003-1), (TSP/04/011), (TSP/02/003-2), (TSP/02/002), (TSP/02/003-1), (TSP/02/003), (TSP/02/001), (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)	М	60	
21	Service Cable (16mm2 PVC Insulated Single Phase Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004)	М	13710	
22	10mm dropper cable Red and Black; 1m each for single phase meters ² (TSP/05/016)	М	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	

В3	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)	Sei	. 0			
31	75sqmm Aluminium Conductor Steel Reinforced (ACSR) conductor for length of three phase (3 - wire) line (TSP/06/020-2)	Kn	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				
	BASSA SUBTOTAL B					
С	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.	Lo				
			BASSA	SUBTOTAL C		

Item	Description	Quantity and capacity of	Cod e ³	Unit⁴	Qty	CIP Unit Price ¹	CIP Total Price ¹		
		single unit ²	e		(1)	(2)	(1) x (2)		
	MALKADAKA 100 kWp (100kW AC) SOLAR PV MINI GRID								
Α	Solar Power Generation Plant (SPGP)								
A 1	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				
	Air conditioners for the control room as per				1				
12	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				
		MALK	(ADAK	A SUBTO	OTAL A				

В	Power Distribution Network (PDN)		<u> </u>	
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 (25mm2 PVC Insulated three phase, 4 core Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004)	М	30	
21	Service Cable (16mm2 PVC Insulated Single Phase Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004)	М	8820	
22	10mm dropper cable Red and Black; 1m each for single phase meters ² (TSP/05/016)	М	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/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	

В3	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			Set	2	
B5	requirements) 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	
		MAL	KADAK	A SUBT	OTAL B	

С	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			
		MALK	KADAKA	SUBT	OTAL C			
	TOTAL (to Schedule No. 7. Grand Summary)							
	Name of Bidder							
	Signature of Bidder							
	¹ Specify currency. Create and use as many colum	nns for Unit P	rice and '	Total Pr	ice as the	e are currencies	•	
	² Bidder to provide further breakdown of items queel as the size/capacity of a single unit.	uoted for i.e.	the exact	numbe	r of single	units that make	up the item as	
	³ Bidders shall enter a code representing the coun	try of origin o	of all impo	orted pl	ant and ed	quipment.		
	4 Lot per km - Bidders are advised to assume a sp	an length of 1	00m for	Mediu	m 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)							

	Country of Origin Declaration Form								
ltem	m Description Code Country								

	SCHEDULE NO. 2 - PLANT AND MANDATORY SPARE PARTS FROM WITHIN THE EMPLOYER'S COUNTRY							
Item	Description	Quantity and capacity of	Code 3	Unit	Qty	EXW Unit Price ¹	EXW Total Price ¹	
		single unit ²			(1)	(2)	(1) x (2)	
	ERAS HA BORU 160 k	Wp (160 kW /	AC) SOL	AR PV	MINI GR	ID		
Α	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			Lot	•			
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 BC	RU SUBTO	A JATC	
В	Power Distribution Network (PDN)			ı	
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)		М	60	
21	Service Cable (16mm2 PVC Insulated Single Phase Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004)		М	14.9	
22	10mm dropper cable Red and Black; 1m each for single phase meters ² (TSP/05/016)		М	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/03/003-1)		No.	497	
25	Ready Boards complete with mounting accessories (TSP/14/051)		No.	497	

Other tens not Mentioned above but required for installation and commissioning of the single and three phase Distribution line for Mini Grid and tend 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 33 11KV MV Distribution line 28 12M MV Concrete Pole (TSP/03/005-1) No 0 MV Concrete Pole (TSP/03/005-1) No 0 MV Concrete Pole (TISP/03/005-1) No 0 MV Concrete Pole (TISP/03/005-1) No 0 (TSP/03/021), (TSP/03/003-1), (TSP/02/003-1), (TSP/02/004), (TSP/02/003-1), (TSP/02/004), (TSP/02/003-1), (TSP/02/004), (TSP/02/003-1), (TSP/02/003-1), (TSP/02/0002), (TSP/03/03), (TSP/03/022) 75sqma Aluminium Conductor Steel Reinforced (ACSR) conductor for length of three phase (3 - wire) line (TSP/06/020-2) MV Concrete Pole stays - (Stay wire, stay rod, stay block, shackle insulator) MV Concrete Pole stays - (Stay wire, stay rod, stay block, shackle insulator) MV Concrete Pole strut pole - (Concrete pole, shackle insulator) 11KV SOKVA transformer 11KV	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	
28 12M MV Concrete Pole (TSP/03/005-1) No 0 MV Concrete Pole fittings (Cross arms, Tie straps, insulator composites, Universal clamps, bolts, nuts, preformed guy-grips, D-irons, insulators, etc) (TSP/03/003), (TSP/03/021), (TSP/03/0031), (TSP/03/021), (TSP/03/0031), (TSP/02/004), (TSP/02/003-2), (TSP/02/002), (TSP/02/002-2), (TSP/02/002), (TSP/03/021) 75sqmm Aluminium Conductor Steel Reinforced (ACSR) conductor for length of three phase (3 - wire) line (TSP/06/036-1), (TSP/03/021) 32 MV Concrete Pole stays - (Stay wire, stay rod, stay block, shackle insulator) MV Concrete Pole stays - (Stay wire, stay rod, stay block, shackle insulator) MV Concrete Pole strut pole – (Concrete pole, Stay wire, stay rod, stay block, shackle insulator) AM MV Concrete Pole strut pole – (Concrete pole, Stay wire, stay rod, stay block, shackle insulator) No 0 MV Concrete Pole strut pole – (Concrete strut pole, heavy duty clamps) B4 11KV Distribution Transformer 11KV 50 - 200KVA transformer substation structure and fittings (Earthing & Eightning 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) ERAS HA BORU SUBTOTAL B C Mandatory spares Mandatory spares 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.	27	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			Lot	1	
14M MV Concrete Pole (TSP/03/005-1)	В3	11KV MV Distribution line					
MV Concrete Pole fittings- (Cross arms, Tie straps, insulator composites, Universal clamps, bolts, nuts, preformed guv-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/02/004), (TSP/02/003-1), (TSP/02/004), (TSP/02/003-1), (TSP/02/002), (TSP/02/003-2), (TSP/02/002), (TSP/02/002), (TSP/06/036-1), (TSP/02/002), (TSP/06/036-1), (TSP/02/002), (TSP/06/036-1), (TSP/02/002), (TSP/06/036-1), (TSP/02/002), (TSP/06/036-1), (TSP/02/002), (TSP/06/036-1), (TSP/06/020-2) 32 Reinforced (ACSR) conductor for length of three phase (3 - wire) line (TSP/06/020-2) MV Concrete Pole stays - (Stay wire, stay rod, stay block, shackle insulator) MV Concrete Pole flying stays - (Concrete pole, Stay wire, stay rod, stay block, shackle insulator) 34 MV Concrete Pole strut pole – (Concrete strut pole, heavy duty clamps) B4 11KV Distribution Transformer 35 11KV 50KVA transformer 11KV 50 - 200KVA transformer substation structure and fittings (Earthing & Ilghtning 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) ERAS HA BORU SUBTOTAL B C Mandatory spares Mandatory spares Mandatory spares 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.	28	12M MV Concrete Pole (TSP/03/005-1)			No	0	
MV Concrete Pole fittings- (Cross arms, Tie straps, insulator composites, Universal clamps, bolts, nuts, preformed guv-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/02/004), (TSP/02/003-1), (TSP/02/004), (TSP/02/003-1), (TSP/02/002), (TSP/02/003-2), (TSP/02/002), (TSP/02/002), (TSP/06/036-1), (TSP/02/002), (TSP/06/036-1), (TSP/02/002), (TSP/06/036-1), (TSP/02/002), (TSP/06/036-1), (TSP/02/002), (TSP/06/036-1), (TSP/02/002), (TSP/06/036-1), (TSP/06/020-2) 32 Reinforced (ACSR) conductor for length of three phase (3 - wire) line (TSP/06/020-2) MV Concrete Pole stays - (Stay wire, stay rod, stay block, shackle insulator) MV Concrete Pole flying stays - (Concrete pole, Stay wire, stay rod, stay block, shackle insulator) 34 MV Concrete Pole strut pole – (Concrete strut pole, heavy duty clamps) B4 11KV Distribution Transformer 35 11KV 50KVA transformer 11KV 50 - 200KVA transformer substation structure and fittings (Earthing & Ilghtning 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) ERAS HA BORU SUBTOTAL B C Mandatory spares Mandatory spares Mandatory spares 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.	29	14M MV Concrete Pole (TSP/03/005-1)			No	0	
Reinforced (ACSR) conductor for length of three phase (3 - wire) line (TSP/06/020-2) MV Concrete Pole stays - (Stay wire, stay rod, stay block, shackle insulator) MV Concrete Pole flying stays - (Concrete pole, Stay wire, stay rod, stay block, shackle insulator) MV Concrete Pole strut pole – (Concrete strut pole, heavy duty clamps) MV Concrete Pole strut pole – (Concrete strut pole, heavy duty clamps) MV Concrete Pole strut pole – (Concrete strut pole, heavy duty clamps) No 0 B4 11KV Distribution Transformer No 0 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) ERAS HA BORU SUBTOTAL B C 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.	30	straps, insulator composites, Universal clamps, bolts, nuts, preformed guy-grips, D-irons, insulators, etc) (TSP/06/035), (TSP/03/021), (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	
stay block, shackle insulator) MV Concrete Pole flying stays - (Concrete pole, Stay wire, stay rod, stay block, shackle insulator) MV Concrete Pole strut pole - (Concrete strut pole, heavy duty clamps) MV Concrete Pole strut pole - (Concrete strut pole, heavy duty clamps) No 0 B4 11KV Distribution Transformer 35 11KV 50KVA transformer No 0 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) ERAS HA BORU SUBTOTAL B C Mandatory spares Mandatory spares 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.	31	Reinforced (ACSR) conductor for length of			Km	0	
33 pole, Stay wire, stay rod, stay block, shackle insulator) 34 MV Concrete Pole strut pole – (Concrete strut pole, heavy duty clamps) 35 11KV Distribution Transformer	32	stay block, shackle insulator)			No	0	
pole, heavy duty clamps) B4 11KV Distribution Transformer 35 11KV 50KVA transformer 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) ERAS HA BORU SUBTOTAL B C Mandatory spares 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.	33	pole, Stay wire, stay rod, stay block, shackle			No	0	
11KV 50KVA transformer 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) ERAS HA BORU SUBTOTAL B C Mandatory spares 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.	34				No	0	
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) ERAS HA BORU SUBTOTAL B C Mandatory spares Mandatory spares 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.	B4	11KV Distribution Transformer					
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) ERAS HA BORU SUBTOTAL B C Mandatory spares Mandatory spares 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.	35				No	0	
C Mandatory spares 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	36	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				-	
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.			ERAS H	IA BORU	SUBT	OTAL B	
inverter, 5% of total solar PV panel capacity, fuses, cabling and hardware for 7 years including all consumable parts.	С						
ERAS HA BORU SUBTOTAL C	37	inverter, 5% of total solar PV panel capacity, fuses, cabling and hardware for 7 years			Lot	1	
			ERAS H	IA BORU	SUBT	OTAL C	

Item	Description	Quantity and	Code	Unit	Qty	EXW Unit Price ¹	EXW Total Price ¹		
		capacity of single unit ²			(1)	(2)	(1) x (2)		
	GARFASA 160kWp (160 kW AC) SOLAR PV MINI GRID								
A	Solar Power Generation Plant (SPGP)								
A 1	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 2000Litres Fuel Storage Tank			Lot	1				
9	2000Littles Fuel Stolage Talik								
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.				
			A DE A CA CLIDA	OTAL A	
	Danier District on Materials (DDM)	<u> </u>	ARFASA SUBT	OTAL A	
B	Power Distribution Network (PDN)				
B1	3-phase and single-phase LV Distribution Line		NI-	407	
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)		М	240	
21	Service Cable (16mm2 PVC Insulated Single Phase Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004)		М	19,23 0	
22	10mm dropper cable Red and Black; 1m each for single phase meters ² (TSP/05/016)		М	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. 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	No	649	
В3	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/03/003-1), (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	
		GARI	FASA SUBT	OTAL B	
С	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	
		GAR	FASA SUBTO	OTAL C	

ltem	Description	Quantity and capacity of	Code	Unit	Qty	EXW Unit Price ¹	EXW Total Price ¹
		single unit ²			(1)	(2)	(1) x (2)
	KIPSING 100 kWp	(100 kW AC)	SOLAR	PV MIN	II GRID		
Α	Solar Power Generation Plant (SPGP)						
A 1	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 SUBT	OTAL A	
В	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)	М	0	
21	Service Cable (16mm2 PVC Insulated Single Phase Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004)	М	5940	
22	10mm dropper cable Red and Black; 1m each for single phase meters ² (TSP/O5/O16)	М	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	

	Other Items not Mentioned above but required		1	
	for installation and commissioning of the single			
	and three phase Distribution line for Mini Grid			
27	and end user installation such as insulators, binding wires, fittings including nuts, bolts,	Lo	ot 1	
	Danger Plates, Name Plates, anti-climbing			
	Barbed wire and accessories etc. on turn-key			
	basis			
В3	11KV MV Distribution line			
28	12M MV Concrete Pole (TSP/03/005-1)	N	o 0	
29	14M MV Concrete Pole (TSP/03/005-1)	N	o 0	
	MV Concrete Pole fittings- (Cross arms, Tie			
	straps, insulator composites, Universal clamps,			
	bolts, nuts, preformed guy-grips, D-irons,			
30	insulators, etc) (TSP/06/035), (TSP/03/021), (TSP/03/003),	Se	et O	
	(TSP/02/004), (TSP/02/003-1),			
	(TSP/O4/O11), $(TSP/O2/O03-2),$			
	(TSP/02/002), (TSP/06/036-1),			
	(TSP/07/001), (TSP/03/022)			
	75sqmm Aluminium Conductor Steel			
31	Reinforced (ACSR) conductor for length of	Kr	n 0	
	three phase (3 - wire) line (TSP/06/020-2)			
32	MV Concrete Pole stays - (Stay wire, stay rod,	N	0 0	
	stay block, shackle insulator) MV Concrete Pole flying stays - (Concrete			
33	pole, Stay wire, stay rod, stay block, shackle	N	0 0	
	insulator)			
34	MV Concrete Pole strut pole – (Concrete strut	N	. 0	
34	pole, heavy duty clamps)	N N	0 0	
B4	11KV Distribution Transformer			
35	11KV 50KVA transformer	N	o 0	
	11KV 50 - 200KVA transformer substation			
	structure and fittings (Earthing & lightning			
	Protection and associated material			
36	requirement, Expulsion Fuses, Surge diverters, Overhead fuse carriers, 10M Concrete poles,	Se	et O	
30	11KV Steel channel and clamps etc. Danger			
	plates, phase plates, circuit plates, number			
	plates, anti-climbing devices and other safety			
	requirements)			
		KIPSING SU	IBTOTAL B	
С	Mandatory spares			
	Mandatory spares including at least 1 spare			
37	inverter, 5% of total solar PV panel capacity, fuses, cabling and hardware for 7 years	Lo	ot 1	
	including all consumable parts.			
		KIPSING SU	BTOTAL C	
				1

ltem	Description	Quantity and capacity of	Code	Unit	Qty	EXW Unit Price ¹	EXW Total Price ¹
		single unit ²			(1)	(2)	(1) x (2)
	BASSA 135 kWp	(135kW AC) S	OLAR P	V MIN	GRID		
Α	Solar Power Generation Plant (SPGP)						
A 1	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.						
		I	BASSA SI	UBTO	OTAL A		
В	Power Distribution Network (PDN)						
B1	3-phase and single-phase LV Distribution Line				44.0		
14	10M LV Concrete Pole (TSP/03/005-1) LV Concrete Pole fittings-		1	No	412		
15	(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)		1	Km	20.14		
17	Complete Earthing- Protective Multiple Earthing (PME) (TSP/06/031-1)		1	No	245		
18	LV Concrete stays- (Stay wire, stay block, stay rod)		1	No	185		
19	LV Concrete strut pole- (Concrete strut pole, heavy duty clamps)		ı	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)			М	60		
21	Service Cable (16mm2 PVC Insulated Single Phase Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004)			М	1371 0		
22	10mm dropper cable Red and Black; 1m each for single phase meters ² (TSP/05/016)			М	550.8		
23	Service cable concrete fittings (TSP/02/004), (TSP/02/003-1), (TSP/04/011), (TSP/03/003), (TSP/06/035)		١	No.	459		
24	Service Cable fittings for wall mounting including Angle Iron (TSP/02/003-3), (TSP/04/011), (TSP/02/003-1)		١	No.	459		
25	Ready Boards complete with mounting accessories (TSP/14/051)		N	No.	459		

37	inverter, 5% of total solar PV panel capacity, fuses, cabling and hardware for 7 years	Lot	1		
	Mandatory spares including at least 1 spare				
С	Mandatory spares		27 10071	Japioine	
36	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	O BASSA	SUBTOTAL B	
33	11KV 50KVA transformer 11KV 50 - 200KVA transformer substation structure and fittings (Earthing & lightning Protection and associated material requirement, Expulsion Fuses, Surge diverters,	No	U		
B4 35	11KV Distribution Transformer 11KV 50KVA transformer	No	0		
34	MV Concrete Pole strut pole – (Concrete strut pole, heavy duty clamps)	No	0		
33	MV Concrete Pole flying stays - (Concrete pole, Stay wire, stay rod, stay block, shackle insulator)	No	0		
32	MV Concrete Pole stays - (Stay wire, stay rod, stay block, shackle insulator)	No	0		
31	75sqmm Aluminium Conductor Steel Reinforced (ACSR) conductor for length of three phase (3 - wire) line (TSP/06/020-2)	Km	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/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		
29	14M MV Concrete Pole (TSP/03/005-1)	No	0		
28	12M MV Concrete Pole (TSP/03/005-1)	No	0		
В3	basis 11KV MV Distribution line				
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	Lot	1		
26	1 ftX1 ftX3/4ft 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		

Item	Description	Quantity and capacity of	Code ³	Unit⁴	Qty	EXW Unit Price ¹	EXW Total Price ¹
		single unit ²			(1)	(2)	(1) x (2)
	MALKADAKA 100 kWp	(100kW AC)	SOLAR I	PV MIN	I 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 SI	JBTO	TAL A		
В	Power Distribution Network (PDN)					
B1	3-phase and single-phase LV Distribution Line					
14	10M LV Concrete Pole (TSP/03/005-1)		No	124		
	LV Concrete Pole fittings- (Multipurpose					
15	/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 (25mm2 PVC Insulated three phase, 4 core Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004)		М	30		
21	Service Cable (16mm2 PVC Insulated Single Phase Concentric Aluminium Cable Without Two Core Copper Communication Cable) (TSP/05/004)		М	882 O		
22	10mm dropper cable Red and Black; 1m each for single phase meters ² (TSP/05/016)		М	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		

В3	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	
С	MALKADAKA SUBTOTAL B 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. Gra	and Summary)							
	Ŋ	Name of Bidder						
	Sign	ature of Bidder						
¹ Specify currency. Create and use as many column	s for Unit Price and Tota	I Price as there a	re currencies.					
² Bidder to provide further breakdown of items quo well as the size/capacity of a single unit.	oted for i.e. the exact num	nber of single un	its that make u	p the item as				
³ Lot per km - Bidders are advised to assume a span Low Voltage network.	³ Lot per km - Bidders are advised to assume a span length of 100m for Medium Voltage network (11kV) and 50m for							
NB – Refer to Employer's Requirements & Technic	NB – Refer to Employer's Requirements & Technical Specifications for details of each item (Bidding Documents Volumes							

	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							
		Nan	ne of Bidder					
		Signatu	re 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 kV	V AC) SOLA	AR PV MINI C	irid	I		
Α	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 H	A BORU SU	IBTOTAL A				
В	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						
С	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 A	C) SOLAR I	PV MINI GRII)	
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		
	G	ARFASA SU	IBTOTAL 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						
С	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				
	G	ARFASA SU	JBTOTAL C		· · · · · · · · · · · · · · · · · · ·		

1 II N 2 II E S S A II S S S S S S S S	KIPSING 100 kWp (100 kW AC Solar Power Generation Plant (SPGP) Installation, Erection, Testing and Commissioning of SPV Modules & Inverters including Mounting structures Installation, Erection, Testing and Commissioning of Battery Energy Storage System, including Inverter/Charger Installation, Erection, Testing and Commissioning of SCADA system Installation, Erection, Testing and Commissioning of Diesel Generator	Lot Lot Lot	V MINI GRID 1 1	(2)	(1) x (2)
1 II N 2 II E S S A II S S S S S S S S	Installation, Erection, Testing and Commissioning of SPV Modules & Inverters including Mounting structures Installation, Erection, Testing and Commissioning of Battery Energy Storage System, including Inverter/Charger Installation, Erection, Testing and Commissioning of SCADA system Installation, Erection, Testing and Commissioning of Diesel	Lot Lot	1		
1 II N 2 II E S S A II S S S S S S S S	Installation, Erection, Testing and Commissioning of SPV Modules & Inverters including Mounting structures Installation, Erection, Testing and Commissioning of Battery Energy Storage System, including Inverter/Charger Installation, Erection, Testing and Commissioning of SCADA system Installation, Erection, Testing and Commissioning of Diesel	Lot	1		
2 I E S A I	Modules & Inverters including Mounting structures Installation, Erection, Testing and Commissioning of Battery Energy Storage System, including Inverter/Charger Installation, Erection, Testing and Commissioning of SCADA system Installation, Erection, Testing and Commissioning of Diesel	Lot	1		
3 Ii	Energy Storage System, including Inverter/Charger Installation, Erection, Testing and Commissioning of SCADA system Installation, Erection, Testing and Commissioning of Diesel		•		
3 S	SCADA system Installation, Erection, Testing and Commissioning of Diesel	Lot	1		
T C					
	Installation of all balance of system components to complete erection of the SPGP	Lot	1		
6 li	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 SU	IBTOTAL A		
B P	Power Distribution Network				
	Pegging, Erection, dressing and stringing of LV lines- 3 phase lines and Single phase lines				
7 P	Pole Erection and dressing- Concrete	No	196		
×	Conductor Stringing including trace clearance as per KPLC standard	Km	11.95		
9 P	PME installation	No	129		
10 L	LV Stay hole digging, making & Erection	No	133		
11 L	LV Strut hole digging, making & Erection	No	2		
B-2 S	Service cable				
12 b	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 l	Installation of Ready Boards, Earthing and Testing	No.	198		
14 1	Installation of wall mounted metallic customer meter boards complete with MCB and service cable termination	No.	198		
15 C	Class C-2 ERC Wiring Certificates	No	198		
K-4	Pegging, Erection, dressing and stringing of 11KV MV Distribution line				
16 P	Pole Erection and dressing- Concrete	No	0		
1/	Conductor Stringing including trace clearance as per KPLC standard	Km	0		
18 N	MV Stay hole digging, making & Erection	No	0		
19 N	MV Flying Stay hole digging, making & Erection	No	0		
20 N	MV Strut hole digging, making & Erection	No	0		
	Mounting, Dressing, Welding and Earthing 11KV Distribution Transformer				
21 T	Transformer Mounting, Dressing, Welding and Earthing	No	0		
		KIPSING SU	JBTOTAL B		

С	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 SU	IBTOTAL 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		
Α	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 SU	BTOTAL A		
В	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 SU	IBTOTAL B		

С	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 SU	IBTOTAL C	

Item	Description	Unit ²	Quantity	Unit Price 1	Total Price 1
			(1)	(2)	(1) x (2)
A	MALKADAKA 100 kWp (100kW	AC) SOLAR	PV MINI GR	ND	
Α	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		
	MALK	ADAKA SU	BTOTAL A		
В	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		
	MAL	KADAKA SU	IBTOTAL B		
С	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		
	MALI	KADAKA SU	BTOTAL 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
		su	BTOTAL D		
	TOTAL (To Schedule No. 7. Grand Summary)				
	101AL (10 Schedule No. 7. Grand Summidly)				
		Name of Bio	dder		
	Signature of Bidder				
1 Spec	Specify currency in accordance with ITB 18. Create and use as many columns for Unit Price and Total Price as there are				

Specify currency in accordance with ITB 18. Create and use as many columns for Unit Price and Total Price as there are currencies.

	SCHEDULE NO. 5 - ENVIRONMENTAL, SOCIAL, HEALTH AND SAFETY (ESHS) SERVICES									
			Qty	Unit	Price ¹	Total Price ¹				
Item	Description	Unit	(Sites)	Foreign Currency Portion	Local Currency Portion	Foreign	Local			
	At- 0-194 - Dood I		(1)	(2)	(3)	(1) X (2)	(1) X (3)			
1	Air Quality: Dust and exhaust emissions	1 -4								
1	Sprinkle water to minimize dust generation Enclose/ cover/ water stockpiles of	Lot	5							
2	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 of	ther exis		structure						
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 resexual harassment, HIV/AIDs, Alcohol and o				d violence)-Sex	cual abuse an	d exploitation and	
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 wor	kers 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					
	TC	TAL (1	o Sched	ule No. 7. (Grand Summai	ry)		
				Name of				
				Signature				
	¹ Specify currency in accordance with ITB 18 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								
					Unit Price ¹				
ltem	Description	Unit	Qty	% of O&M Contract Price	Local Currency Portion	Foreign Currency Portion	Total Price ¹		
	ERAS HA BORU 160 kWp (160 kW AC) SOLA	AR PV MI	NI GR	ID		(optional)			
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 GRI	D						
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					
			S	SUBTOTAL B					

	KIPSING 100 kWp (100 kW AC) SOLAR PV N	11NI 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		
			S	UBTOTAL C		
	BASSA 135 kWp (135 kW AC) SOLAR PV MI	NI GRID	ı		T	
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		
		•	S	UBTOTAL D		
	MALKADAKA 100 kWp (100 kW AC) SOLAR	R PV MIN	I 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		

TOTAL (to Schedule No. 7. Gra	nd Summary)		
	Name of Bidder		
	Signature of Bidder		
⁷ Specify currency in accordance	with specifications in Bid Data Sheet under ITB 1	8.1	

T.		Total Price ¹				
ltem	Description	Foreign	Local			
	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)					
		Name of Bidder				
		Signature of Bidder				

SC	SCHEDULE NO. 8 - RECOMMENDED SPARE PARTS (NOT BE CONSIDERED FOR EVALUATION, BUT ONLY FOR INFORMATION)								
			-	Unit Price ¹		Total Price ¹			
Itom	Description	Unit	Qty	CIF or CIP	EXW	(1) x (2) or (3)			
Item	Description	unit		(foreign parts)	(local parts)				
			(1)	(2)	(3)				
		Name of Bidder							
		Signatu	ire of Bio	dder					
	¹ Specify currency. Create and use as many columns for	Unit Pri	ce and T	otal Price as the	re are currencie	es.			