

BILL OF QUANTITIES (BOQ)

Electrical Works: Substations, HT/LT Cables, Feeder Pillars, Transformers, Street Lighting and Earthing

Project: Client:

Contractor: Date:

S. No	Description	Unit	Qty	Rate	Amount
A. SUBSTATION EQUIPMENT					
1	Fabrication, supply, erection, testing and commissioning of outdoor-type, 4-way ring main unit (RMU) with data acquisition system (DAS): sheet steel enclosure with powder-coated finish (shade as approved), two-tier system; two load break switches of 630 A as incomers and two SF6-insulated, motorised VCBs of 630 A as outgoing; single-side extensible; earth fault (E/F) and over-current (O/C) protection with fault passage indicators (FPI); without RTU which is suitable for 240 sq.mm cable on incomer & outgoing as per distribution specification.	Set	2		
2	Fabrication, supply, erection, testing and commissioning of outdoor-type, 15-way ring main unit (RMU) with DAS: 1.6/2 mm sheet steel enclosure with powder-coated finish (shade as approved), two-tier system; two load break switches of 630 A as incomers and two SF6-insulated, motorised VCBs of 630 A as outgoing; single-side extensible; E/F and O/C protection with FPI; without RTU; suitable for 240 sq.mm cable; as per the distribution utility's specification.	Set	1		
3	Double pole structure for power tapping: supply and installation of 11 kV outdoor-type, two sets of 400 A group operating (GO) switches on an angle iron frame support, with bolts, nuts and fasteners, complete with 9 m long RCC pole as per the utility's specification.	Set	1		

S. No	Description	Unit	Qty	Rate	Amount
Total of Section A					
B. LOW VOLTAGE (1.1 kV) UNDERGROUND CABLE					
1	Supply, laying, testing and commissioning of 1.1 kV grade XLPE-insulated, PVC-sheathed, steel wire armoured, aluminium conductor cable, laid underground in hume pipe:				
1(a)	3.5 core, 240 sq.mm cable	Mtr	4,850		
1(b)	4 core, 10 sq.mm cable	Mtr	5,180		
2	Supply and installation of cable terminations, including compression-type chrome-plated brass glands and lugs, crimping complete:				
2.1	3.5 core, 240 sq.mm cable	No.	84		
2.2	4 core, 10 sq.mm cable	No.	220		
Total of Section B					
C. OUTDOOR FEEDER PILLAR BOXES (LT DISTRIBUTION BOARDS)					
3	Supply, installation, testing & commissioning of floor-mounted, waterproof, outdoor-type distribution boards for a 415 V, 3-phase, 4-wire system, on angular frame, fabricated from 14 SWG sheet steel with epoxy powder coated finish; with 2 separate cable entry boxes (incoming and outgoing), earthing bolt, aluminium busbars with heat shrinkable insulating sleeves, complete:				
3(a)	Feeder pillar for individual plot connection: two 250 A switches as incoming and outgoing (loop-in loop-out system), two-tier arrangement, rewirable fuse cutouts connected through solid busbars.	No.	34		

S. No	Description	Unit	Qty	Rate	Amount
3(b)	Feeder pillar with six 250 A moulded case circuit breakers (MCCB), 300 A aluminium solid busbar with PVC insulation and heat-shrinkable sleeves, separate cable entry for incoming and outgoing cables; 14 SWG CRCA sheet steel enclosure, epoxy powder-coated, grey finish.	Set	1		
3(c)	Feeder pillar with four 250 A MCCBs, 300 A aluminium solid busbar with PVC insulation and heat-shrinkable sleeves, separate cable entry for incoming and outgoing cables; 14 SWG CRCA sheet steel enclosure, epoxy powder-coated, grey finish.	Set	2		
Total of Section C					
D. DISTRIBUTION TRANSFORMERS					
1	Supply, testing & commissioning of 11 kV/433 V, 250 kVA, step-down, oil-cooled, aluminium-wound, floor-mounted distribution transformer with cable boxes on HT & LT sides, mounted on channel base with nuts, bolts & hardware, complete.	Set	7		
Total of Section D					
E. 11 kV HT CABLE					
1	Supply, laying, testing and commissioning of 11 kV (XLPE) 3 core, 240 sq.mm aluminium conductor, galvanised steel round wire armoured, overall extruded PVC ST-2 sheathed cable conforming to IS 7098 (Part II) 2011 with latest amendments.	Mtr	1,350		
2	Supply and erection of 240 sq.mm 11 kV HT cable straight-through joint kit.	No.	4		
Total of Section E					

S. No	Description	Unit	Qty	Rate	Amount
F. HT CABLE TERMINATIONS					
1	Supply and making of termination joints for 11 kV, 3 core, 240 sq.mm XLPE-insulated aluminium conductor cable, with sealing epoxy compound, complete.	No.	14		
2	Supply and making of outdoor pot head (heat-shrinkable) termination to connect to the group operating switch at the tapping point.	No.	2		
Total of Section F					
G. EARTHING					
1	Supply and making of earthing pit, including excavation and backfilling, using 50 mm dia. GI pipe of 2 m length with alternate layers of salt and charcoal, GI nuts, bolts etc.	No.	68		
2	Supply and making of earth pit using 600 x 600 x 3 mm copper plate, including excavation, backfilling etc.	No.	7		
3	Earthing strips of various sizes (copper/GI).	L/S	1		
Total of Section G					
H. STREET LIGHTING					
1	Supply and erection of street light pole (swaged type, 125 mm and 100 mm dia.; height as per design) with foundation grouted in 1:2:4 PCC and short bracket, suitable for outdoor LED fixture, with control gear box.	No.	107		
2	Supply and fixing of weatherproof outdoor LED street light fixture (wattage as per design).	No.	107		
3	Supply and fixing of control gear box for fixture.	No.	107		
Total of Section H					

S. No	Description	Unit	Qty	Rate	Amount
I. CIVIL AND MISCELLANEOUS WORKS					
1	Excavation and backfilling of cable trench in all kinds of soil.	Cum	2,110		
2	Spreading of 250 mm thick jelly (crushed stone) in the transformer substation yard as per utility requirements.	Sqm	200		
3	Supply and laying of 200 mm DWC pipe for road crossings for cables.	Rmt	750		
4	Construction of 450 x 450 x 450 mm chamber with cover, as per requirement.	No.	34		
5	Supply and laying of 50 mm dia. uPVC pipe (6 kg/sq.cm pressure) for individual plots for service mains, inclusive of fittings and erection.	Rmt	13,300		
6	Supply & fabrication of the chain link fencing all round each of the transformer substation using 2 m high vertical steel angle supports with gate.	Rmt	95		
Total of Section I					
J. INCIDENTAL CHARGES					
1	Professional charges to obtain 2,250 kVA power sanction from the competent authority.	L/S	1		
2	Incidental charges to obtain transformer approval (100 kVA to 250 kVA) from the technical authority.	L/S	1		
3	Incidental charges to obtain approval for transformers, cables and feeder pillar boxes from the technical and quality control authorities.	L/S	1		
4	Electrical inspectorate charges to obtain approval of the entire layout: transformers, feeder pillars, cables etc.	L/S	1		
Total of Section J					
GRAND TOTAL (A to J)					

Notes and Assumptions

1. This is a general version of the BOQ: all named utility, manufacturer and brand references have been replaced with neutral wording such as "the distribution utility's specification" and "shade as approved".
2. Rate and Amount columns are left blank for the bidder to fill.
3. Quantities are used to carried over from source BOQ. Items marked L/S are lump sum and are shown as quantity 1.
4. Source scan ambiguities: the RMU way configuration, the feeder pillar quantities in items C-3(b) and C-3(c), and the wattage and height of street light equipments were unclear and are left as "as per design" or as interpreted. They should be confirmed against approved drawings.
5. The 2,250 kVA sanction in Section J differs from the 1,750 kVA total of seven 250 kVA transformers; confirm the intended value before issue.
6. All materials shall conform to the relevant Indian Standards (IS) and the specification of the local distribution utility.