

Bill of Quantity for Underground Earthing & Electrode

Project 400/220kV GTECO Sankhari Substation

Customer : POWERGRID

Rev 00

S.No	Description	Unit	Qty.	Rate	Amount
1	Unloading, storing and laying of 40 mm dia MS Rod at a minimum depth of 600 mm measured from the top of Finished Ground Level as per requirement including the following works: - excavation - laying of MS rod - welding of rods (refer Drg No. GETCO/E/STD/P-012 for Welding details of rod and GI flat) - backfilling of soil and compaction. This shall include all cutting, bending, welding, fixing, application of paints on cutting & welding surface, etc to the main earthmat. - any other work necessary to complete the laying of earthmat (40 mm dia MS rod will be supplied by BHEL).	MT	7		
2	Dismantling of existing 40 mm MS ROD installed at depth of 600mm from FGL to suit civil fronts for tower/equipment foundations e.t.c. as per requirement including the following works: - excavation - Cutting of MS rod for required lengths - Shifting of cut length to store yard.	MT	5		
3	Unloading, storing and laying of 75X10 mm and 75X12 mm GI Flat and bringing out risers just below gravel level near the equipment foundations as per requirement including following works: - excavation - laying of GI Flat - welding of GI Flat with Main Earthgrid of 40mm MS rods (refer Drg No. GETCO/E/STD/P-012 for Welding details of rod and GI flat) - backfilling of soil and compaction for bringing out pig tail risers of GI Flat for equipments. Risers shall be raised from the earthmat (at 600 mm depth from FGL) to approx 150 mm below finished ground level to the nearest point of the equipment. This shall include all cutting, bending, welding, fixing, application of paints on cutting & welding surface, etc to the main earthmesh. - any other work necessary to complete the laying of earthmat (GI Flat will be supplied by BHEL).	MT	5		
4	Installation of Pipe Electrode (to be driven - 3.0 Mtr) as per Drg. No. GETCO/E/2S-048/P-011 SHEET # 2 of 2 including following works: - excavation - installing the C.I. Pipe electrode. - pipe electrodes in treated earth pit (as per IS) such as alternate layers of coke/ charcoal and salt and sand. - Backfilling and compaction - Cement Concrete pit with a ISI marked cast iron cover hinged to a cast iron frame to have an access to the joints. - any other work necessary to complete the work Remark :- Pipe Electrode assembly i.e. C.I. Pipe electrode, Nuts, Bolts & Washers and funnel with wire mesh, PVC Pipe will be supplied by BHEL. All other items including CI frame, CI cover, charcol, salt etc shall be supplied by contractor.	nos.	6		

S.No	Description	Unit	Qty.	Rate	Amount
5	Installing of 40 mm diameter Rod Electrode with test pit as per Drg. No. GETCO/E/2S-048/P-011 SHEET # 1 of 2 including following works: - excavation - installing the rod electrode - welding of rod electrode with 40mm MS ROD (Main Earthmat) - Installation of GI Flat as shown in drawing - backfilling and compaction - Cement Concrete pit with a ISI marked cast iron cover hinged to a cast iron frame to have an access to the joints. - any other work necessary to complete the work Remark:- 40 mm dia MS rod, GI Flat, Nut Bolt washers, PVC Pipe will be supplied by BHEL. All other items including CI frame, CI cover e.t.c are in contractors scope.	Nos.	6		
	Total Rs.				