

ANNEXURE-II

BILL OF QUANTITIES FOR UNDER GROUND EARTHING AND ELECTRODES REV.00

Name of Project - 220kV Switchyard at 1x370MW Yelahanka CAPP

Name of Work - Bill of Quantity for Under Ground Earthing and Electrodes

S. No	Description	Unit	Qty	Rate	
				Unit Rate (Rs.)	Amount (Rs.)
1	Unloading, storing and laying of 40 mm dia MS Rods at a depth of 1800 mm measured from the top of Finished Ground Level and bringing out risers just below gravel level near the equipment foundations as per requirement including following works: - excavation of trenches - laying of MS rod - welding of rods (refer Drg. No. TB-STD-316-Rod Welding, Rev 00 for Welding details) - backfilling of soil for bringing out pig tail risers of 40 dia MS rod (approximately 1000) for equipments. Risers shall be raised from the earthmat (at 1800 mm depth) to 150 mm above ground level to the nearest point of the equipment. This shall include all cutting, bending, welding, fixing, application of zinc rich paint on cutting surface, etc to the main earthmesh. - any other work necessary to complete the laying of earthmat (40 mm dia MS rod will be supplied by BHEL)	MT	110		
2	Fabrication & laying of Auxiliary Mat of 40 mm Dia MS Rods at a depth of 300 mm from top of FGL including excavation & backfilling as per Drg No. TB-STD-316-Aux. Mat, Rev 00. - any other work necessary to complete the laying of earthmat (40 Diameter MS rod will be supplied by BHEL)	Nos.	54		
3	Installation of Pipe Electrode(to be driven - 3.0 Mtr) as per Drg. No. TB-STD-316-Pipe Electrode, Rev 00 including following works: - excavation - installing the pipe electrode with alternate layers of Coke/charcoal and salt - backfilling and compaction - Casting the Test Pit with Cast Iron covers - any other work necessary to complete the work (GI Pipe, Nuts, Bolts & Washers and funnel with wire mesh will be supplied by BHEL)	Nos.	5		
4	Installing of 40 mm diameter Rod Electrode with test pit (LM, Tower with Peak, CVT, LA etc) as per Drg. No. TB-STD-316-Rod Electrode with pit, R0 including following works: - excavation - installing the rod electrode - backfilling and compaction - Casting the Test Pit with Cast Iron covers - any other work necessary to complete the work (40 mm dia MS rod will be supplied by BHEL)	Nos.	60		
5	Installing of 40 mm diameter Rod Electrode without test pit (Fence Corners etc) as per Drg. No. TB-STD-316-Rod Electrode w/o pit, R0 including following works: - excavation - installing the rod electrode - backfilling and compaction - any other work necessary to complete the work (40 mm dia MS rod will be supplied by BHEL)	Nos.	4		
TOTAL AMOUNT					

NOTE:-1) Main earthmat comprising of 40 mm dia MS Rod shall be laid at a depth of **1800 mm** measured from the top of Finished Ground Level.