

ANNEXURE-II					
BILL OF QUANTITIES FOR UNDER GROUND EARTHING AND ELECTRODES REV.00					
Name of Project: 400 kV Switchyard at Bhadradri TPS					
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 1000 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 of rods) - 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 1000 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). (Quantity may vary by +/- 40% at contract stage.)	kM	21		
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-Auxiliary mat Rev 00. - any other work necessary to complete the laying of earthmat (40 Diameter MS rod will be supplied by BHEL) (Quantity may vary by +/- 40% at contract stage.)	Nos.	(18+48x2+2x3)=120		
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). Quantity may vary by +/-40% at contract stage).	Nos.	4		
4	Installing of 40 mm diameter Rod Electrode with test pit (Shield wire tower) as per Drg. No. TB-STD-316-Rod Electrode With Pit 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). Quantity may vary by +/- 40% at contract stage)	Nos.	(30+10)=40		
5	Installing of 40 mm diameter Rod Electrode without test pit (LA & CVT) as per Drg. No. TB-STD-316-Rod Electrode Without Pit including following works: - excavation/hammering of rod in earth - installing the rode electrode - backfilling and compaction - any other work necessary to complete the work (40 mm dia MS rod will be supplied by BHEL). Quantity may vary by +/- 40% at contract stage)	Nos.	(40+36)=76		
TOTAL AMOUNT					