

ANNEXURE-II

Name of Project - North Karanpura Super Thermal Power Project (3x660MW)

BILL OF QUANTITIES FOR UNDER GROUND EARTHING AND ELECTRODES , REV.01 (220kV switchyard)

S. No	Description	Unit	220kV - NKSTPP End	220kV - Mine End	Total	Unit Rate	Total Amount (Rs.)
			Quantities	Quantities	Quantities		
1	Unloading, storing and laying of 40 mm dia MS Rods at a depth of 600 mm measured from the top of FGL (either top of gravel or top of land as the case may be) for bringing out risers just below ground level near the equipment foundations as per requirement including following works: - excavation of trenches - laying of MS rod - welding of rods (refer Equipment Earthing drawing, 4410-001-572-PVE-F-0038 for Welding details of rods) - backfilling of soil for bringing out pig tail risers of 40 dia MS rod for equipments. - any other work necessary to complete the laying of earthmat (40 mm Diameter MS rod will be supplied by BHEL)	MT	200	100	300		
3	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 Equipment Earthing drawing, 4410-001-572-PVE-F-0038 & connection with existing main earthmat - any other work necessary to complete the laying of earthmat (40 mm Diameter MS rod will be supplied by BHEL)	Nos.	58	30	88		
4	Installing of 40/100 mm dia GS pipe Electrode (length - 3.0 Mtr) with test links and treated earth pit as per Equipment Earthing drawing, 4410-001-572-PVE-F-0038 with CI frame and hinged cover alongwith all associated civil works i.e - excavation - installing the pipe electrode with alternate layers of Coke & charcoal, salt - backfilling and compaction - Casting the Test Pit with Cast Iron covers - any other work necessary to complete the work (Only GI Pipe, Nuts, Bolts & Washers, test links will be supplied by BHEL. Other items like CI frame, CI cover, charcoal, salt etc shall be supplied by contractor)	Nos.	4	0	4		
5	Installing of 40 mm diameter Rod Electrode with test pit/link as per Equipment Earthing drawing, 4410-001-572-PVE-F-0038 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 (only 40 mm Diameter MS rod & test link shall be supplied by BHEL, other items like CI frame, cover etc.)	Nos.	23	13	36		
6	Installing of 40 mm diameter Rod Electrode without test pit/link as per Equipment Earthing drawing, 4410-001-572-PVE-F-0038 including following works including following works: - excavation/hammering of rod in earth - installing the rod electrode - backfilling and compaction - any other work necessary to complete the work (40 mm Diameter MS rod will be supplied by BHEL)	Nos.	36	24	60		
7	Embedding of GS flat, 50mm below concrete cover in the floor slab of control building	MT	1	0	1		
	Total Amount (Rs.)						

Note-

- Quantity may vary upto any extent during contract execution stage.
- Attached specification to be followed for Earthing Works.