

ANNEXURE-III					
BILL OF QUANTITY					
DESIGN, SUPPLY, CIVIL WORK AND ETC OF 220KV TRANSMISSION LINE & TOWERS (DOUBLE CIRCUIT)- ERECTION/ SERVICES PART					
Project	North Karanpura Super Thermal Power Project (3x660MW)				
Customer	NTPC Ltd.				
S. No.	Item / Work description	Unit	Quantity	Unit Rate	Amount (Rs.)
1	Transmission Line System Design				
1.1	Design of Transmission Line system including preparation of design basis report, BOM, Sag tension calculations, Erection key Diagram, stringing chart and relevant drawing/document for 220kV Double circuit Transmission lines as per NTPC/BHEL specification.	Lot	1		
2	Erection, Testing and Commissioning (ETC)				
2.1	Erection of various type of tower angles , tower parts and tower body / leg (equal & unequal) extensions (complete) including bolts and nuts, step bolts, hangers, D-Shackles, stubs & cleats etc., including tack welding and supply and application of zinc rich paint (excluding tower accessories) for both Tension and Suspension type towers for 220 kV Double Circuit Transmission Line	MT	600		
2.2	Installation of tower accessories for all towers (phase plate, caution plate, number plate, circuit plate, anti-climbing device, bird guard, aviation signal etc) as per NTPC/ BHEL specification	Set*	34		
2.3	ETC of ACSR Zebra Conductor per phase complete with stringing hardware, disc insulators, Clamps (tension, suspension, cleat, PG etc), Preformed armour rod, Vibration dampers, Mid span compression joint, Repair sleeves, rigid & flexible spacers etc. to complete for entire route length as per NTPC/ BHEL spec. (Stringing hardware & disc insulators shall be free issue items)	km	120		
2.4	ETC of OPGW on transmission line tower along with all its accessories to complete for entire route length as per NTPC/ BHEL spec.	km	10		
2.5	Complete earthing of all towers as per approved drawings (Scope includes complete work including testing to show that the tower resistance meets the acceptable limits.)				
2.5.1	3 m long , 40 NB pipe electrode	Nos.	34		
2.5.2	Counterpoise type (120 m long)	Nos.	10		
	Total Amount (Rs.)				
Notes:-					
1	** – One (1) Set means items for one (1) no. complete tension/ suspension tower.				
2	ETC of OPGW (including accessories) shall be done by the contractor under the supervision of Original Equipment Manufacturer (OEM).				
3	The quantities mentioned in the BOQ are tentative and Quantity of any item may vary upto any extent.				
4	Any material/services required for successful completion of the project but not covered in the BOQ shall be deemed to be included in the scope of contractor without any cost implications to BHEL. The bidder is advised to visit North Karanpura site before submission of bid.				
5	Make of items and their sources to be supplied/used under this contract shall be subject to acceptance by customer/BHEL at contract stage.				
6	Handling, storage, transportation, loading, unloading, shifting etc. of all materials to required locations shall be in the scope of the bidder.				
7	Bidder may note that owner (NTPC/BHEL) shall not pay any compensation for any loss or damage to the properties during work of execution of transmission line job or for tree cutting due to bidder's work.				
8	MS welding - apply red lead paint then aluminium paint then bitumen after welding.				
9	GI welding - apply 2 coats of cold galvanising anti corrosive paint after welding.				
10	10% welding joints in earthing shall be tested for dye penetration test.				
11	Quoted rates are deemed to be inclusive of miscellaneous works, viz.. erection of clamps and connectors, phase colour discs etc.				
12	Right of way is not in Bidder scope, but tree cutting (if any) is in the scope of bidder. Please refer special conditions of contract and customer technical specification				
13	All associated items, though specifically not mentioned but required for safe and satisfactory execution and commissioning of transmission line will also be treated as included and same shall be supplied & ETC to be done at no extra cost to BHEL/ NTPC.				
14	Complete earthing of all towers shall be as per approved drawings (Scope includes complete work including testing to show that the tower resistance meets the acceptable limits.)				
15	For scope of supply items in contractor scope following should be followed . (1)The approval of makes shall be obtained from BHEL/Customer . (2)Drawings and MQP shall be submitted for approval in line with specification and relevant IS. (3) Quality -Inspection & dispatch clearance shall be given by BHEL/Customer.				