

## ANNEXURE-I

## BILL OF QUANTITY OF ROUTE SURVEY AND GEO-TECHNICAL INVESTIGATION WORK

Project North Karanpura Super Thermal Power Project (3x660MW)

Customer NTPC Ltd.

S. No.	Item / Work description	Unit	Quantity	Unit Rate(Rs)	Amount(Rs)
<b>1</b>	<b>Survey</b>				
1.1	Preliminary Survey: Conducting reconnaissance/walkover & preliminary survey using GPS & topo sheets for three alternative routes, suggesting the best optimum route, identifying/fixing point for crossings such as river, railway, power line, telecom, road forest, fixing of angle points & submission of preliminary survey report all complete as per project specific specification & directions of BHEL including its approval from BHEL/Customer.	Km	12		
1.2	Detailed Survey: Detailed survey including modification in preliminary route alignment, adjustment in section details to achieve better average span, profiling, collecting actual field data along the selected route (enumeration of salient land features like crossing of rivers, nalla, road, railway lines, other transmission / distribution line, nearby habitations, forest land, proximity to airport, etc.), tower spotting & providing tower schedule with detailed land schedule (Plot No/Khata No, etc) for each tower location, estimation of tower quantities with extension and special tower requirement, sag template, marking on Khasra map, tree enumeration, etc. & submission of detailed survey report, all complete as per project specific specification & directions of BHEL including its approval from BHEL/Customer.	Km	12		
1.3	Check survey: Survey for route alignment during civil works & ETC stage. Peg markings to be done as per NTPC.	Km	12		
<b>2</b>	<b>Geo-Technical Investigation &amp; Soil Resistively Measurements</b>				
2.1	Conducting detailed soil investigation at various tower locations and at other locations as per instruction of BHEL/Customer including mobilization of necessary equipment, providing necessary engineering supervision and technical personnel, carrying out field investigation and tests, laboratory tests, analysis and interpretation of data and results and working out tentative quantity of foundation work, preparations for the type of foundations and the safe bearing capacity for different sizes of foundations, different foundation strata for the various locations along the transmission lines all complete, submission of report as per project specific specification & directions of BHEL including its approval from BHEL/Customer Boreholes	Nos.	20		
2.2	Performing soil resistivity along the route for each tower location and working out tentative quantity of earthing material all complete as per project specific specification & directions of BHEL including its approval from BHEL/Customer .	Nos.	8		
	<b>Total Amount (Rs.)</b>				

## Notes

- The quantities mentioned in the BOQ are tentative and **may undergo a change to any extent for individual items.**
- 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 site before submission of bid.