

BILL OF QUANTITIES AND PRICE SCHEDULE

Name of Work : SURVEY, DESIGN AND ENGINEERING WORK FOR ROUTE DIVERSION OF 132KV AND 220KV TRANSMISSION LINES

Project : 3X800MW PATRATU THERMAL POWER PLANT

Customer : NTPC Ltd.

S. No.	Item / Work description	Unit	Quantity	Rate (Rs)	Amount(Rs)
1	Survey				
1.1	Detailed Survey: Carrying out detailed survey including modification in preliminary route alignment, site clearance/ jungle clearing/tree cutting to make approach for survey work, adjustment in section details to achieve better average span, profiling, collecting actual field data along the selected route (marking of salient land features like crossing of rivers, nalla, road, railway lines, other transmission / distribution line, nearby buildings/structures, etc.), tower spotting & providing tower schedule, sag template, tree enumeration, etc. & submission of detailed survey report alongwith route profile drawing, all complete as per technical specification & directions of Engineer-in-charge including its approval from BHEL/Customer.	km	4	35660	142640
1.2	Check survey: Carrying out check-survey for route alignment to locate and peg mark tower positions conforming to approved profile, tower schedule and technical specifications. Changes, if required in tower schedule after detailed survey, shall be carried out and thereafter submit revised tower schedule for approval. The tower schedule shall show co-ordinates of all towers, type of towers, span length, type of foundation for each tower and the deviation. (Check survey to be done jointly in presence of civil work agency finalised by BHEL)	km	4	8000	32000
2	Design and engineering				
2.1	Transmission Line (T/L) Tower design/drawings : Preparation & submission of design documents, structural assembly drawings for following transmission line Towers (Single/Double/Multi-circuit upto four circuits) including stub, template, aux x-arm and tower extensions, bill of materials of all members, hardware and tower accessories complete as per relevant Is codes, Technical specification & directions of Engineer-in-charge including approval from BHEL/ Customer. Towers may be of normal base or narrow base depending upon space availability.				
	(i) 132kv Double Circuit T/L Towers - Tension type	Type	1	133140	133140
	(ii) 132kv Multi-Circuit T/L Towers - Suspension type	Type	1	164460	164460
	(iii) 132kv Multi-Circuit T/L Towers - Tension type	Type	1	202760	202760
	(iv) 220kv Single/Double Circuit T/L Towers	Type	1	152960	152960
	(v) 220kv Multi-Circuit T/L Towers - Suspension type	Type	1	198720	198720
	(vi) 220kv Multi-Circuit T/L Towers - Tension type	Type	1	236980	236980
2.2	T/L Tower Foundation Design/Drawing : Preparation & submission of design documents & drawings for transmission line Tower based on approved loads on foundations & soil data all complete as per relevant IS codes, Technical specification & directions of Engineer-in-charge including their approval from BHEL/Customer.				
	(i) 132kv Double/Multi-Circuit T/L Towers - Suspension/tension type	Type	3	61000	183000
	(ii) 220kv Single/Double/Multi-circuit T/L Towers - Suspension/tension type	Type	3	64100	192300
2.3	Other documents: Preparation and submission including its approval from BHEL/Customer of the following : (a) Bill of Material for transmission line material including conductor, conductor accessories, earthwire/OPGW, earth wire/OPGW accessories, stringing hardware, disc insulators etc, (b) Erection Key Diagram of each line, (c) Stringing chart of all spans, (d) Earthing details of towers (e) Any other drawing/documents required for successful completion of the work.	Lot	1	40000	40000
3	Electrical Resistivity Test				
3.1	Conducting Electrical Resistivity Test of soil at various tower locations including submission of test report for approval of BHEL/Customer including mobilisation of necessary equipment, tools, manpower etc complete as per relevant IS Code, Technical specification and Instruction of Engineer-In-charge.	Test locations	10	5000	50000
4	Visit to customer for approval/review meetings				
4.1	Lump sum allowance per day including boarding, lodging, local conveyance, etc., all inclusive. (BHEL shall pay to & fro 1st AC fare from Bidder's headquarters to Site/Customer's office for each visit separately).	Per day	10	10000	100000
				TOTAL	1828960.00
Notes:					
1	This is a percentage rate tender. Bidders to quote a percentage above/ below/ at par the item rate mentioned in the BOQ. The quoted percentage shall be applicable uniformly on all item rates of BOQ. The Percentage to be quoted in price schedule format (Annexure-I) attached with this BOQ.				
2	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.				
3	The quantities mentioned in the BOQ are tentative and may undergo a change to any extent for individual items.				
4	Cumulative length of transmissin line shall be approx. 3.5 km. The measurement for survey shall be of line length irrespective of number of circuits.				

ANNEXURE-I

TRANSMISSION BUSINESS GROUP (SUB- CONTRACTS MANAGEMENT) TBG - NOIDA

PRICE SCHEDULE FORMAT

SUB: SURVEY, DESIGN AND ENGINEERING OF TRANSMISSION LINE FOR RE-ROUTING AND DIVERSION OF EXISTING 220KV AND 132KV TRANSMISSION LINES EMANATING FROM EXISTING GENERATING SWITCHYARD AT 3X800 MW PATRATU TPS EXPANSION PHASE-I AT JHARKHAND.

I/ We hereby agree to execute the above work at ----- % (in figure) -----
Percentage (in words) Above / Below/ at Par the rates of items given in BOQ for survey, design and engineering of transmission line for re-routing and diversion of existing 220kV and 132kV transmission lines emanating from existing generating switchyard at 3X800 MW Patratu TPS Expansion Phase-I at Jharkhand (Annexure-A) of subject tender.

NOTE:

- 1 The percentage quoted shall be clearly written both in words and figures In case of discrepancy in rates in figure and words, the minimum will be taken into account by BHEL.
- 2 The quoted percentage will apply to the individual items unit rate uniformly.

Signature of tenderer
Name & Designation of authorised person (s) with seal

Date :

Place :

ANNEXURE-II**SUMMARY OF PRICES FOR SURVEY, DESIGN AND ENGINEERING OF TRANSMISSION LINE FOR RE-ROUTING AND DIVERSION OF EXISTING 220KV AND 132KV TRANSMISSION LINES EMANATING FROM EXISTING GENERATING SWITCHYARD AT 3X800 MW PATRATU TPS EXPANSION PHASE-I AT JHARKHAND.**

SI No.	Description	Amount (Rs.)
1	Total amount as per the rates in BOQ for survey, design and engineering of transmission line for re-routing and diversion of existing 220kV and 132kV transmission lines emanating from existing generating switchyard at 3X800 MW Patratu TPS Expansion Phase-I at Jharkhand (Annexure-A)	18,28,960.00
2	Value of percentage above/below/ at Par (As indicated in price schedule format, Annexure-I) applicable to the total amount of subject work (sl. no. 1 above)% above/below/ at par
3	Total Cost for subject work after consideration of percentage above/below/ at par.	