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TENDER NO. BHEL/NR/SCT/BAWANA-PRAGATI/BOUNDRY/533

FOR

**CONSTRUCTION OF COMPLETE PLANT BOUNDRY WALL AT 2x750 MW
PRAGATI -III COMBINED CYCLE POWER PROJECT AT BAWANA, DELHI**

PART II – PRICE BID



**Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector – Northern Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar, NOIDA – 201 301(INDIA)**



ISO 9001-2000, ISO 14001
and OHSAS 18001 certified
company
SubContract and Purchase
Deptt.

Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector – Northern Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar, NOIDA – 201 301(INDIA)
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IMPORTANT NOTE

PURCHASER OF THIS TENDER DOCUMENT IS ADVISED TO CHECK AND ENSURE COMPLETION OF ALL PAGES OF TENDER DOCUMENT AND REPORT ANY DISCREPANCY TIMELY FOR CORRECTIVE ACTION, IF ANY, TO THE ISSUING AUTHORITY BEFORE THE BIDS ARE SUBMITTED. ORIGINAL COPY OF TENDER DOCUMENT COMPLETE IN ALL RESPECTS MUST BE SUBMITTED BACK AS PART OF THE BID WITHOUT WHICH THE SAME IS LIABLE TO BE REJECTED BY BHEL.

THIS TENDER SPECIFICATION ISSUED TO:

M/S-----

Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector – Northern Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar, NOIDA – 201 301.INDIA

PROCEDURE FOR SUBMISSION OF SEALED TENDERS:

The tenderers must submit their tenders as required in two parts in separate sealed covers prominently superscribed as Part-I Technical bid and Part-II ,Price bid also indicating on each of the cover tender specification no., date and time as mentioned in tender notice.

TECHNICAL BID (COVER-I)

Except Price bid Part-II, complete set of tender document consisting of General conditions of Contract, “Technical specification & Special terms and condition” (Part-I) issued by BHEL shall be enclosed in Part I Technical Bid only. All schedules, data sheets and details called for in the specification shall also be submitted along with technical bid. All details / Data / Schedules including offer letter duly signed and stamped are to be submitted in duplicate.

PRICE BID (COVER-II)

Tenderers may please note that price bid is to be submitted only in original copy of Tender i.e. Price bid (Part-II) issued by BHEL and no duplicate copy of same is required.

These Two separate covers i.e. cover I & II shall together be enclosed in a third envelope (Cover-III) and this sealed cover shall be superscribed with tender specification No., due date, time and submitted to officer inviting tender as indicated in tender notice on or before due date as indicated.

ST. NO	DESCRIPTION	RATE SCHEDULE CUM BILL OF QUANTITIES			
		UNIT	QUANTITY	RATE IN RS	AMOUNT IN RS
100	EARTH WORK IN EXCAVATION, BACKFILLING AND DISPOSAL AS PER SPECIFICATION, DRAWINGS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-				
101	Earth work in excavation upto 2m depth below ground level for foundation, trenches, pipe lines, storm water drains etc including setting out, clearing & grubbing, removal of debris, dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material including levelling the earth if required, within a lead of 1.0 KM etc complete for all types of soils including , laterite, morrum etc which can be excavated by means of crow bar, pick axe, etc but does not require chiselling or blasting.	CUM	41800		
102	Earth work in excavation for depth exceeding 2.0m but not exceeding 4.0m below ground level for foundation, trenches, pipe lines, storm water drains etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material including levelling the earth if required within a lead of 1.0 KM etc complete for all types of soils including laterite, morrum , etc which can be excavated by means of crow bar, pick axe, etc but does not require chiselling or blasting.	CUM	22350		
103	Extra over item no 101 and 102 for disposal of surplus excavated earth beyond an initial lead of 1km and upto a maximum lead of 2 Km including transportation, dumping/unloading and levelling the dumped soil etc all complete as specified and directed by Engineer.	CUM	6415		
105	Extra over item no 101 and 102 for disposal of surplus excavated earth beyond an initial lead of 2km and upto a lead of 4 Km including transportation, dumping and levelling the dumped soil all complete as specified and directed by Engineer.	CUM	3208		
106	Extra over item no 101 and 102 for disposal of surplus excavated earth beyond an initial lead of 4km and upto a lead of 6 Km including transportaion, dumping and levelling the dumped soil all complete as specified and directed by Engineer.	CUM	3208		
107	Back filling around foundations and plinths etc to proper grade and level with selected soil/earth within a lead of 1 Km from available excavated materials including re-excavating the loose soil/earth, transportation, watering and ramming/compacting in layers not exceeding 25cm in thickness and compacted to atleast 90% of its maximum dry density for cohesive soils and to 75% relative density for non-cohesive soils by manual/mechanical means, dressing etc all complete as per specification and as directed by the engineer.	CUM	37020		

ST. NO	DESCRIPTION	RATE SCHEDULE CUM BILL OF QUANTITIES			
		UNIT	QUANTITY	RATE IN RS	AMOUNT IN RS
108	Back filling around foundations and plinths etc to proper grade and level with selected excavated soil directly from excavation area within a lead of 1Km including watering and ramming/compacting in layers not exceeding 25cm in thickness and compacted to atleast 90% of its maximum dry density for cohesive soils and to 75% relative density for non-cohesive soils by manual/mechanical means, dressing etc all complete as per specification and as directed by the engineer.	CUM	24680		
200	PROVIDING AND PLACING CONCRETE WORK INCLUDING COST OF LABOUR, MATERIALS AND EQUIPMENT FOR HANDLING, TRANSPORTATION, BATCHING, MIXING, PLACING, VIBRATING AND CURING, (EXCLUDING COST OF CENTERING, SHUTTERING AND REINFORCEMENT) COMPLETE AT ALL ELEVATIONS AS PER DRAWING, SPECIFICATIONS UNLESS SPECIFIED OTHERWISE AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:				
201	Lean concrete 100mm thick of 1:3:6 proportion shall be provided below all structural concrete resting directly on soil/founding strata.	CUM	715		
202	Concrete of grade M-25 conforming to IS:456 with coarse sand and graded hard stone aggregate 20mm nominal size in all foundations, underground works, water retaining structures and outdoor works floors etc at any level below finished floor level, any shape, position or thickness etc all complete.	CUM	2100		
203	Concrete of grade M-25 conforming to IS:456 with coarse sand and graded hard stone aggregate 20mm nominal size in superstructure at all heights from finished floor level at any level, shape, position or thickness all complete.	CUM	750		
204	Breaking existing concrete work at any level including reinforced concrete, removing the rubbish within a lead of 1Km., including transportation, loading, unloading, etc all complete.	CUM	70		
205	Breaking existing concrete work at any level including cutting reinforcements, removing the rubbish within a lead of 1Km., including making good the broken edges/surface with cement mortar, painting, finishing to match with existing finishing, scaffolding/supporting at any level, all complete and as directed by Engineer.	CUM	40		

1500MW PRAGATI III BAWANA CAPP		RATE SCHEDULE CUM BILL OF QUANTITIES			
		CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR BOUNDARY WALL			
ST. NO	DESCRIPTION	UNIT	QUANTITY	RATE IN RS	AMOUNT IN RS
206	Providing Bitumen coating to all surfaces of foundations and substructures in contact with soil with two coats of hot applied industrial bitumen conforming to IS: 702 (latest) of Grade 85/25 at the rate of 1.7 kg/sq/m/coat mixed with 1% of anti-stripping compound as per IS:6241.	SQM	100		
300	SUPPLYING, FIXING AND REMOVING FORMWORK AT ANY ELEVATION INCLUDING ALL LABOUR, MATERIAL, SCAFFOLDING COMPLETE INCLUDING POCKETS ETC. AS PER SPECIFICATIONS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:				
301	Ordinary form work below finished ground floor level for foundations, footings, bases of columns, walls, columns pilasters, beams, mass concrete, trenches etc.	SQM	8460		
302	Fairface form work below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams, mass concrete, trenches etc for exposed concrete works.	SQM	940		
303	Ordinary form work above finished ground floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc for all heights.	SQM	900		
304	Fairface form work above finished ground floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc for all heights.	SQM	8100		
400	REINFORCEMENTS				
401	Straightening, cutting, bending, placing in position at any level, binding in position of mild steel reinforcements confirming to grade-1 of IS:432 (part-I) including cost of binding wire, labour, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer. (Steel shall be supplied free of cost by BHEL as per Clause 39.1)	MT	2		
402	Straightening, cutting, bending, placing in position at any level, binding of high yield strength steel reinforcements (TMT HYSD bars of grade Fe-415 and / or Fe-500 conforming to relevant IS codes) in concrete, including cost of binding wire, labour, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer. (Steel shall be supplied free of cost by BHEL as per Clause 39.1)	MT	315		
500	M.S. EMBEDMENTS				

1500MW PRAGATI III BAWANA CAPP		RATE SCHEDULE CUM BILL OF QUANTITIES			
		CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR BOUNDARY WALL			
ST. NO	DESCRIPTION	UNIT	QUANTITY	RATE IN RS	AMOUNT IN RS
501	Supply, fabricating and fixing of embedments, MS inserts, pipe sleeves, guide rails, angle pieces, rungs of various diameters, plates of dimensions as required including cost of all labour, materials and equipment (including steel), transportation, loading, unloading, handling, welding, cutting, drilling, scaffolding and setting complete as per specifications, drawings and as directed by Engineer.	MT	1		
502	Transportation from stores, delivery at work spot, fabrication, erection and alignment of embedments, MS inserts, pipe sleeves, rails, guide rails, angle pieces, anchor bolts, foundation bolts of various diameters, plates of dimensions as required including cost of all labour, equipment, material, loading, unloading etc. all complete as per specifications, drawings and as directed by Engineer.	MT	1		
503	Supply, fabrication, erection and alignment of Y shaped M.S angle posts including galvanization at 610g/sqm, cost of all labour, equipment, material INCLUDING STEEL, loading, unloading etc. all complete as per specifications, drawings and as directed by Engineer.	MT	11		
600	GROUTING AS PER SPECIFICATION FOR THE FOLLOWING:				
601	Providing and grouting of pocket holes , pipe sleeves of any shape and size under base plates after erection of necessary structural steel work, machinery with minimum M30 nonshrink flowable grout at any elevation including roughening surface, cleaning, ramming, curing etc complete (non-shrink flowable grout as per specification using approved admixture) as per specification and as directed by the Engineer.	CUM	6		
700	BRICKWORK MASONRY INCLUDING SUPPLY OF MATERIAL, COST OF LABOUR ETC. COMPLETE, AS PER SPECIFICATIONS.				
701	Providing brick work in cement mortar 1:6 (1 cement 6 coarse sand) in walls, chambers etc. in thickness 230/250 mm at all heights, places and position above plinth including raking out joints, curing, scaffolding etc complete excluding plastering and painting.				
i)	Using fly ash lime bricks conforming to IS 12894 with crushing strength of 75 kg/cm ² and minimum percentage of fly ash shall be 25%	CUM	1325		
ii)	Using fly ash clay bricks shall be as per IS 13757 with crushing strength of 75 kg/cm ² and minimum percentage of fly ash shall be 25%	CUM	1325		
iii)	Using ordinary bricks of class designation 7.5 of nominal dimension	CUM	133		

ST. NO	DESCRIPTION	RATE SCHEDULE CUM BILL OF QUANTITIES			
		UNIT	QUANTITY	RATE IN RS	AMOUNT IN RS
702	Breaking of existing brick work at all levels including plastering, removing the rubbish up to a distance of 500 m including transportation, loading, unloading etc. all complete as directed by the engineer.	CUM	66		
703	Making openings in existing brick wall or partition wall including making good the broken edges/surface with cement mortar etc. complete.	CUM	10		
800	DAMP PROOF COURSE INCLUDING ALL MATERIALS, LABOUR, SHUTTERING, CENTERING, CURING ETC., COMPLETE WITH THICKNESS AS SPECIFIED/SHOWN ON DRAWINGS OR AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-				
801	Damp Proof Course 50mm thick in (1:1.5:3) cement concrete (10mm and down graded aggregate) with 2% of approved admixture of water proofing compound. Two layers of hot bitumen coating 85/25 grade as per IS: 702 @ 1.7Kg./sqm shall be applied before & after the DPC as per specification.	SQM	874		
900	CEMENT MORTAR PLASTER INCLUDING MAKING GROOVES WHEREVER REQUIRED, ALL MATERIALS, SCAFFOLDING, CURING ETC. COMPLETE AS PER SPECIFICATION, DRAWING AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-				
901	Providing 12mm thick plaster in two layers outside the building wall in cement mortar 1:6 on walls, finished to a smooth finish as per specification and shall conform to IS 1661. 3mmx3mm size grooves are to be provided at junctions of two dissimilar materials.	SQM	420		
902	Providing 18mm thick plaster in two layers outside the building wall in cement mortar 1:6 on walls, finished to a smooth finish as per specification and shall conform to IS 1661. 3mmx3mm size grooves are to be provided at junctions of two dissimilar materials.	SQM	20500		
1000	FINISHES, PAINTING TO CONCRETE, PLASTERED SURFACES, SURFACE PREPARATION INCLUDING ALL MATERIALS, LABOUR, SCAFFOLDING ETC. ALL COMPLETE AS PER SPECIFICATION, DRAWING AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-				

ST. NO	DESCRIPTION	RATE SCHEDULE CUM BILL OF QUANTITIES			
		CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR BOUNDARY WALL			
ST. NO	DESCRIPTION	UNIT	QUANTITY	RATE IN RS	AMOUNT IN RS
1001	Two or more coats of exterior masonry paint (water or solvent base) of special resins, adhesives and additives mixed with fine, hard stone aggregate and finest available pigment. The final finished coating shall be fungus resistant, UV resistant, water repellent, alkali resistant and extremely durable with color fastness as per specification. The paint shall be applied on a coat of primer over dried, prepared plaster surface as manufacturers guidelines and instruction of Engineer-in-charge.	SQM	20500		
1002	Two or more coats of Resin bonded granular textured finish consisting of crushed stone /quartz chips of 2.5mm size and of approved colour/shade bonded with synthetic resins, adhesives and additives all together in a single pack mix as per specification. The final finished coating shall be fungus/bacterial resistant and UV resistant. The paint shall be applied on cured and dried plastered surfaces, with a dry film thickness of min 2.0 mm. as manufacturers guidelines and instruction of Engineer-in-charge. Grooves shall be provided as per drawing and the same shall be filled with polysulphide sealant of matching shade/colour.	SQM	420		
1100	FENCING AND GATES.				
1101	Providing , laying and fixing eight strings of galvanized Concertina Wire clamped to vertical Y-Shaped angle post of 600mm High(min) @ 3000mm c/c complete as per specification. Payment to be made per metre cost of length of wire used. (cost of angle post paid separately elsewhere)	m	29600		
1102	Providing , laying and fixing Galvanized Concertina Spiral Wire Fencing over Boundary Wall including eight strings of galvanized Concertina Wire min 2.5 mm dia clamped to vertical Y-Shaped angle post of 600mm High(min) @ 3000mm c/c complete as per specification. (cost of angle post paid separately elsewhere)	MT	9		

1500MW PRAGATI III BAWANA CAPP		RATE SCHEDULE CUM BILL OF QUANTITIES			
		CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR BOUNDARY WALL			
ST. NO	DESCRIPTION	UNIT	QUANTITY	RATE IN RS	AMOUNT IN RS
1103	Supply, fabrication and installing in position and testing galvanised MS Gates of width min 7.5 m and height of about 3.6m including wicket gate of size 1.0m X 2.1m out of channels, joists, angles, flats, plates, pipes & sheets including stiffeners, bracings, fabricated hinges, MS Aldrops with locking arrangement, tempered steel pivot, guide track of MS Tee, ball bearing arrangements, castor wheels,etc. all complete as per drawing, specification and as directed by Engineer-in-charge all complete.The main entrance gate shall be fabricated out of mild steel sections completed with synthetic enamel painting. The structural steel works for gates shall include supply, fabrication, transportation, erection of structural steel gates complete with fabricated hinges, M.S. aldrops, locking arrangements, tower bolts, GI pipe stub, tempered steel template, tempered steel pivots, guide track MS tee, castor wheel with bearing arrangements and placing in position embedded parts in concrete/brick work and in road surface including cutting, grinding, drilling of holes, welding and painting etc. complete. The mild steel gate shall be electrically operated. The gate will be double leaf sliding type, which can be operated from remote push buttons from the security control room	Nos	2		
NOTES:					
1	In case of omission in quoting any rate, the evaluation will be done considering the highest quoted rate obtained against that item but the work, if awarded, will be on the lowest quoted rate obtained against that item.				
2	The rate shall be entered in figures as well as in words. In case of difference in rates between words and figures, the lesser of the two will be treated as valid rate.				
3	The bidders shall enter both 'Unit Rate' & 'Amount'. In case of any mismatch between 'Total Amount based on Unit Rate' & 'Total Amount as quoted', the higher of the two shall be considered for evaluation and the lower of the two shall be considered for award.				
4	The quantities indicated against each item above are tentative and are liable to vary depending upon the site requirement. The contractor has to supply / install actual quantities as per advice of BHEL Engineer and accordingly the final contract price sha				
5	Evaluation of the bids shall be done based on total price against this BOQ.				