

# TENDERSPECIFICATION

NO: BHE/PW/PUR/PIVVG-CVL/1145  
CIVIL WORKS RELATED TO REPAIR OF GRP PIPE LINE FOR CW  
SUPPLYAND RETURNLINEINMAIN PLANT AND BOP AREA

AT  
2X350MW CCPP, GPPCL, PIPAVAV, GUJARAT.

## VOLUME :II – PRICE BID-1145



BHARAT HEAVY ELECTRICALS LIMITED

(A GOVERNMENT OF INDIA UNDERTAKING)

POWER SECTOR - WESTERN REGION

SHREEMOHINI COMPLEX

345, KINGSWAY - NAGPUR 440 001

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**T E N D E R S P E C I F I C A T I O N**

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2X350MW CCPP, GPPCL, PIPAVAV, GUJARAT.**

EARNEST MONEY DEPOSIT: Please see Notice Inviting Tender.

LAST DATE FOR: Please see Notice Inviting Tender.

TENDER SUBMISSION:

THESE TENDER SPECIFICATION DOCUMENTS CONTAINING **VOLUME-I-Tech Bid**, **VOLUME- II-Price Bid**, **Vol-IE-  
Tender Drawings** AND VOLIME-IBCD Rev-01 Rev-01 ARE ISSUED TO:

M/s. ....

PLEASE NOTE:

THESE TENDER SPECS DOCUMENTS ARE NOT TRANSFERABLE.

For Bharat Heavy Electricals Limited

AGM (Purchase)

Place: Nagpur

Date:

**BHEL PSWR NAGPUR**  
**VOL-II-PRICE BID-1145**  
**T.S.NO BHE/PW/PUR/PIPVG-CVL/1145**

RATE SCHEDULE FOR RELATED CIVIL WORKS FOR REPAIR/ RECTIFICATION OF GRP PIPELINE AT PIPAVA FOR UNIT # 1 & 2						
ITEM NO.	DESCRIPTION OF WORK	Unit	QUANTITY TO BE EXECUTED	Unit Rate In Figure(In Rs)	Unit Rate In Words (In Rs)	Total Amounts (In Rs)
1	<b>EARTH WORK IN EXCAVATION, BACKFILLING AND DISPOSAL AS PER SPECIFICATION, DRAWINGS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:</b>					
1(a)	Earth work in excavation (in filled-up soil above GRP pipe line already laid) <b>upto 2m depth</b> below ground level for exposing the GRP line and making concere encasing, trenches, pipe lines, storm water drains etc including setting out, clearing & grubbing, removal of debris, dewatering as required, strutting, shoring/sheet piling if required, dressing the sides, stacking the usable earth within a lead of 500M for re-filling in <b>all types of soils mixed with</b> ash, laterite, morrum, weathered rock, decomposed rock, pieces of soft rock etc. Excavation is to be done mechanically/ manually as per site situation but with utmost precaution to avoid damage of GRP pipeline.	Cum	4700			
1(b)	Excavation and removal of sand (from 2.0M to 4.0M) manually/mechanically from bottom, sides & top of GRP pipeline already laid (after exposing the top soil as per item 1a above) including dewatering, strutting, shoring/sheet piling if required to support the sides of excavation, dressing the sides, stacking the usable sand within a lead of 500M for re-filling	Cum	3000			
1(c)	Excavation and removal of sand (from 2.0M to 6.0M) manually/mechanically from bottom, sides & top of GRP pipeline already laid (after exposing the top soil as per item 1a above) including dewatering, strutting, shoring/sheet piling if required to support the sides of excavation, dressing the sides, stacking the usable sand within a lead of 500M for re-filling	Cum	200			
1(d)	Extra over 1a & 1b for excavation of earth & sand below Ground water level (against Dewatering from GRP trenches for performing the rectification activities and keep the area dry & workable till compleion of work).	Cum	5000			
1(e)	Back filling over the GRP pipeline after rectification, around the concrete encasibg./ foundations, plinths, sides of trenches, drains etc to proper grade and level up to any depth with <b>selected good soil from compulsorily excavated earth stack within a lead of 500M (from stock pile)</b> free from shingle, salts, organic materials, roots, sod or any other foreign substance including re-excavating loose thickness, watering and ramming/compacting in layers of 25cm to 30cm thickness compacted to 85% of standard proctor density by manual/mechanical means using plat vibrator, dressing etc complete. Density test protocols to be made jointly with BHEL/Consultant for each & every layer at site. Work to be carried out strictly as per methodology/guideline attached with tender .	Cum	3650			
1(f)	Supply and filling of sand upto any depth under floors, around GRP pipeline. trenches, plinths etc. in layers not exceeding 200 mm thickness and compacted so as to achieve at least 80% relative density as per IS-2720 including spreading, watering, ramming/compaction by manual/mechanical means, dressing, royalty (if any) etc. all complete. Density test protocols to be made jointly with BHEL/Consultant for each & every layer at site. Work to be carried out strictly as per methodology/guideline attached with tender .	Cum	925			

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<b>RATE SCHEDULE FOR RELATED CIVIL WORKS FOR REPAIR/ RECTIFICATION OF GRP PIPELINE AT PIPAVA FOR UNIT # 1 &amp; 2</b>						
ITEM NO.	DESCRIPTION OF WORK	Unit	QUANTITY TO BE EXECUTED	Unit Rate In Figure(In Rs)	Unit Rate In Words (In Rs)	Total Amounts (In Rs)
1(g)	Refilling of sand upto any depth (available from excavated sand stock within a lead of 500M) under floors, around GRP pipeline, trenches, plinths etc. in layers not exceeding 200 mm thickness and compacted so as to achieve at least 80% relative density as per IS-2720 including spreading, watering, ramming/compaction by manual/mechanical means, dressing etc. all complete. Density test protocols to be made jointly with BHEL/Consultant for each & every layer at site. Work to be carried out strictly as per methodology/guideline attached with tender.	Cum	2775			
2	Providing and laying rubble soling with specified sizes of approved quality hard rock rubble or hand broken hard metal of sizes ranging from <b>63mm and down</b> , at all position and depths below or above finished ground floor level, below foundations, below flooring, and for providing hard standing etc in one layer of approximately 225 mm thickness, hand packing, filling in interestices with sand including watering, thoroughly compacting the layer all complete as per specification and the direction of the Engineer .	Cum	179			
3	PROVIDING AND PLACING <b>CONCRETE WORK</b> INCLUDING COST OF LABOUR, MATERIALS AND EQUIPMENT FOR HANDLING, TRANSPORTATION, BATCHING, MIXING, PLACING, VIBRATING AND CURING, (EXCLUDING COST OF CENTERING, SHUTTERING AND REINFORCEMENT) ETC COMPLETE AT ALL ELEVATIONS AS PER DRAWING, SPECIFICATIONS UNLESS SPECIFIED OTHERWISE AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:					
3(a)	Providing and laying Plain Cement Concrete of grade M10/1:3:6 as <b>levelling course</b> , under GRP line, under foundations/floors, trenches etc all complete at all depth.	Cum	340			
3(b)	Providing & laying Concrete of grade M-20 conforming to IS:456 with coarse sand and graded hard stone aggregate 20mm nominal size <b>in encasing of GRP pipeline, foundations/substructure, grade slab, paving, drains, under floors</b> etc at any level below finished floor level, any shape, position or thickness etc complete including use of plasticizer/ superplasticizer conforming to IS:9103 (latest) to achieve required slump in concrete all complete using <b>33 grade Sulphate Resisting Cement conforming to relevant IS Code.</b>	Cum	980			
3(c)	Concrete of grade M-30 conforming to IS:456 with coarse sand and graded hard stone aggregate 20mm nominal size <b>in foundations/substructure, grade slab, paving, drains, under floors</b> etc at any level below finished floor level, any shape, position or thickness etc complete including use of plasticizer/ superplasticizer conforming to IS:9103 (latest) to achieve required slump in concrete all complete using <b>33 grade Sulphate Resisting Cement conforming to relevant IS Code.</b>	Cum	540			
3(d)	Breaking existing concrete work at any level including <b>cutting reinforcements</b> , removing the rubbish within a lead of 2 Km including scaffolding/supporting at any level, all complete and as directed by Engineer.	Cum	178			
3(e)	Chipping of existing concrete surface (25mm - 30mm deep) & expose the aggregate, remove the loose aggregates and clean the surface throughly with wire brush to make the surface rough wherevr required for extension of existing thrust block/encasingof GRP line including all T&P, Manpower, scaffolding, working plateform etc.	Sqm	400			

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ITEM NO.	DESCRIPTION OF WORK	Unit	QUANTITY TO BE EXECUTED	Unit Rate In Figure(In Rs)	Unit Rate In Words (In Rs)	Total Amounts (In Rs)
4	SUPPLYING, FIXING AND REMOVING <b>FORMWORK</b> AT ANY ELEVATION INCLUDING ALL LABOUR, MATERIAL, SCAFFOLDING COMPLETE INCLUDING POCKETS ETC AS PER SPECIFICATIONS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:					
4a	Fairface form work (using commercial laminated plywood with steel/wooden frame) below finished ground floor level for GRP pipe encasing, foundations, footings, base of columns, walls, columns, pilasters, beams, mass concrete, trenches etc for	Sqm	1428			
5	<b>REINFORCEMENTS</b>					
5a	Taking delivery of steel materials from BHEL stores/ store yard, loading, unloading, transportation, stacking, straightening, cutting, bending, placing in position at any level, binding in position of <b>Tor steel reinforcements (TMT) supplied by BHEL free of cost, confirming to HCR -M Grade FE - 500</b> including cost of binding wire, labour etc complete all as per specifications, drawings and as directed by Engineer.	MT	140			
6	<b>M.S. EMBEDMENTS</b>					
6a	Supplying, fabricating and fixing of <b>embedments, MS inserts</b> , pipe sleeves, guide rails, angle pieces, rungs of various diameters, plates of dimensions as required including cost of all labour, materials and equipment, transportation, loading, unloading, handling, welding, cutting, drilling, scaffolding and setting complete as per specifications, drawings and as directed by Engineer.	MT	1			
7	Disposal of unusable excavated earth , Sand & debris beyond initial 500M and up to 2 KM within plant boundary	Cum	1000			
8	Supplying, fixing of Rubber Padding in strip of 450mm width (10mm thick of neoprene commercial grade) as per specification of 50 Durometer at the pipe exit from concrete encasing extension locations or at new concrete encasing and per drawing .	Sqm	200			
9	Cutting & Fixing of dowel bars / rebar 12 dia , 800mm long and anchoring in existing concrete to a depth of 150mm with chemical grout all complete as per standard specifications and directions of Engineer for connection of old and new concrete. Work to be carried out by Hilti or equivalent agency who have adequate knowledg and experience of such works. Rebars of standard length (10M- 12M) shall be supplied by BHEL free of cost.	Nos.	720			
10	Cleaning of burried GRP pipe (2100 NB) from inside by removing sludge/mud deposite including dewatering if required for rectification of joints/ damages (damage rectfication shall be done by other agency). Total length approx. 2800M. Rate shall be in terms of "per day manpower rate " deployed on the job including T&P etc. Per day means 8 hrs. working .	Mandays	500			
<b>TOTAL AMOUNY (IN RS)</b>						
<b>TOTAL AMOUNT In Word.....</b>						