

Corrigendum - 9 dated 03/07/2025 to CPC Tender No. BHEL/CPC / KRW/ PILING/ 26 /015

Corrigendum - 9 to Tender for the work of “Installation of Cast-in-Situ Pile, Breaking of Pile Head, Pile Built-up, Conducting Pile Load Test, Pile Integrity Test, etc., Casting of Pile Cap & Pedestal including Bolt Fixing, Plinth Beam, etc. including backfilling and handing over to other agency at 2X660MW Super Critical Thermal Power Project, HTPS, Korba West, Chhattisgarh.”

A) Modification in Clause 15.a of NIT is as below:

Sl. No.	Reference clause of Tender	Existing Clause	Amended Clause																					
1	15.a of NIT	<p>“Integrity Pact (IP)”</p> <p>(a) IP is a tool to ensure that activities and transactions between the Company and its Bidders/ Contractors are handled in a fair, transparent and corruption free manner. Following Independent External Monitors (IEMs) on the present panel have been appointed by BHEL with the approval of CVC to oversee implementation of IP in BHEL.</p> <table><tr><th>Sl. No.</th><th>IEM</th><th>Email</th></tr><tr><td>1.</td><td>Shri Otem Dai, IAS (Retd.)</td><td>iem1@bhel.in</td></tr><tr><td>2.</td><td>Shri Bishwamitra Pandey, IRAS (Retd.)</td><td>iem2@bhel.in</td></tr><tr><td>3.</td><td>Shri Mukesh Mittal, IRS (Retd.)</td><td>iem3@bhel.in</td></tr></table>	Sl. No.	IEM	Email	1.	Shri Otem Dai, IAS (Retd.)	iem1@bhel.in	2.	Shri Bishwamitra Pandey, IRAS (Retd.)	iem2@bhel.in	3.	Shri Mukesh Mittal, IRS (Retd.)	iem3@bhel.in	<p>“Integrity Pact (IP)”</p> <p>(b) IP is a tool to ensure that activities and transactions between the Company and its Bidders/ Contractors are handled in a fair, transparent and corruption free manner. Following Independent External Monitors (IEMs) on the present panel have been appointed by BHEL with the approval of CVC to oversee implementation of IP in BHEL.</p> <table><tr><th>Sl. No.</th><th>IEM</th><th>Email</th></tr><tr><td>1.</td><td>Shri Bishwamitra Pandey, IRAS (Retd.)</td><td>iem2@bhel.in</td></tr><tr><td>2.</td><td>Shri Mukesh Mittal, IRS (Retd.)</td><td>iem3@bhel.in</td></tr></table>	Sl. No.	IEM	Email	1.	Shri Bishwamitra Pandey, IRAS (Retd.)	iem2@bhel.in	2.	Shri Mukesh Mittal, IRS (Retd.)	iem3@bhel.in
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B) Some of the Bidders had asked queries in the published tender specification. The clarifications issued by BHEL are furnished below:

Sl. No.	Reference clause of Tender	Existing Clause	Bidder's Query-1	Reply vide TCN	Bidder's query-2	BHEL's Response
1	BOQ Item No. 112 and Sl. No. 22 in Page 12 of 38 of Corrigendum -4 in	Extra over item no. A101 for shoring and strutting in trenches including packing cavities (wherever required as instructed by engineer) all complete as per specification and as directed by engineer in charge.	As per BOQ item A101, the excavation depth is specified up to 10 meters. However, BOQ item 112 includes shoring and strutting provisions only for excavation depths up to 4 meters.	BHEL Reply - Corrigendum - 4 dated 17/06/2025, Sl. No. 22 in Page 12 of 38 Generally, suitable slope during excavation shall be provided without shoring and strutting.	Due to deeper levels of pilecap / foundation @ 7 m to 8 m, as suggested by BHEL reply corrigendum 4, suitable slope of excavation will be done to reach such levels for casting of foundations.	Clause 5.2.0 of Section-D shall be amended as: b) For earth work in excavation, the ground levels shall be taken before and after completion of the work in the actually excavated

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Sl. No.	Reference clause of Tender	Existing Clause	Bidder's Query-1	Reply vide TCN	Bidder's query-2	BHEL's Response
	response to Pre-Bid Query:	B. Depth exceeding 2 m but not exceeding 4 m	Kindly clarify the maximum depth of excavation. If more than 4m, then shoring and strutting are required for the maximum excavation depth of 10 meters. Hence provide additional item towards the same.	However, shoring and strutting may be required in case of space restrictions and as directed by Engineer-in Charge. Bidder may plan and quote suitably. No separate payment shall be made for shoring and strutting beyond 4 m depth.	a. We request you to confirm that the above additional slope as per site condition shall be payable under relevant Excavation item in BOQ for the actually excavated volume including slopes in addition to mode of measurement as per IS 1200 (Part 1)., b. In case of space restrictions as per site condition, if there is any requirement of shoring, then, the same shall be payable as an extra item as per clause 2.15.7 of GCC - (Extra Works for Civil Packages) - which shall be operated., Please confirm.	area. The quantity of earth work in excavation shall be computed from these levels and actual dimensions of the excavated area in cubic meter.
2	Section- D Earthwork in Excavation and Backfilling Clause: 5.2.0 (Pg: 20/379) and 6.02 (Pg:373/ 379)	5.2.0 and 6.02 Measurements Method of measurement are specified in the proceeding sections. Where not so specified, the latest version of IS: 1200, Part-1 shall be applicable. Method of measurements are specified as below: a) The length, breadth and depth shall be measured correct to the nearest centimetre, if measurements	We understand that the actual excavated earth volume will be measured and paid please confirm, Accordingly,1200 part-1 that shall be considered as deleted. Please confirm	Corrigendum - 5 dated 18/06/2025, Method of measurement shall be as per the relevant clause of tender. Where not so specified, the latest version of IS: 1200, Part-1 shall be applicable.	Due to variation / deeper COL of piles under various structures, we request that the additional slopes required as per site condition shall also be payable under relevant Excavation item in BOQ. Accordingly, please confirm that the payments will be made for the actually	Clause 5.2.0 of Section-D shall be amended as: b) For earth work in excavation, the ground levels shall be taken before and after completion of the work in the actually excavated area. The quantity of earth work in excavation shall be computed from these levels and actual dimensions of the

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Sl. No.	Reference clause of Tender	Existing Clause	Bidder's Query-1	Reply vide TCN	Bidder's query-2	BHEL's Response
		are taken by tape. Rounding of numerical shall be as per relevant IS Codes. If the measurements are taken with staff and level, the levels shall be recorded correct to 5mm. The area and volume shall be worked out in square meter and cubic meter respectively correct to the nearest of two decimal places. b) For earth work in excavation, the ground levels shall be taken before and after completion of the work in the actually excavated area. The quantity of earth work in excavation shall be computed from these levels in cubic meter.			excavated volume including slopes in addition to mode of measurement as per IS 1200 (Part 1).	excavated area in cubic meter.

(C) In addition to modified clause of NIT and clarification to Pre-Bid Queries, following are being amended in BOQ:

Sl. No.	BOQ Item Sl. No.	Existing BOQ Description	Modified BOQ Description
1.	A2504 Note (ii)	ii) The item includes empty boring of 3m from ground level and filling of the same with pond ash/ bottom ash/etc. (pond ash/bottom ash shall be issued by BHEL free of cost). In case, empty boring exceeds beyond 3m the same shall be payable under Item No. C2504 and Item No. D2504.	ii) The item includes empty boring of 3m from ground level and filling of the same with pond ash/ bottom ash/etc. (pond ash/bottom ash shall be collected by contractor on "as is where is" basis from silos of 4x210 MW and 1x500 MW Extn HTPS KW and Jhabu & Dindolbhata ash dyke). In case, empty boring exceeds beyond 3m the same shall be payable under Item No. C2504 and Item No. D2504.
2.	B2504	New BOQ Item	Extra over item no. A2504 for providing and fixing temporary casing for the following depth for stabilization of pile bore. (i) depth beyond 3m and upto 6m (a) Pile with 600 mm diameter – 904 Each (b) Pile with 760 mm diameter – 702.60 Each (ii) depth beyond 6m and upto 9m (a) Pile with 600 mm diameter – 226 Each (b) Pile with 760 mm diameter – 175.65 Each

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Sl. No.	BOQ Item Sl. No.	Existing BOQ Description	Modified BOQ Description
3.	C2504	New BOQ Item	Extra over item no. A2504 for empty boring beyond 3m from ground level: (a) Pile with 600 mm diameter – 1800 RM (b) Pile with 760 mm diameter – 4500 RM
4.	D2504	New BOQ Item	Extra over item no. A2504 for filling of the empty bore with pond ash/ bottom ash/ etc. (pond ash/bottom ash shall be collected by contractor on "as is where is" basis from silos of 4x210 MW and 1x500 MW Extn HTPS KW and Jhabu & Dindolbhata ash dyke) beyond 3m from ground level (a) Pile with 600 mm diameter – 1800 RM (b) Pile with 760 mm diameter – 4500 RM

Accordingly, weightage factor also changed in BOQ Cum Rate Schedule R01 as attached as Annexure-I.

Note:

- 1) All other terms and conditions against this NIT shall remain unchanged.
- 2) This corrigendum is to be submitted duly signed and stamped along with the Techno-commercial bid (Part- I).

for BHARAT HEAVY ELECTRICALS LTD
Sr. Manager / SCT- CPC

PROJECT: 2 X 660 MW SUPER CRITICAL THERMAL POWER PROJECT, HTPS, KORBA WEST						
BOQ CUM RATE SCHEDULE R01						
SCOPE OF WORK:- Installation of Cast-in-Situ Pile, Breaking of Pile Head, Pile Built-up, Conducting Pile Load Test, Pile Integrity Test, etc., Casting of Pile Cap & Pedestal including Bolt Fixing, Plinth Beam, etc. including backfilling and handing over to other agency.						
ST NO	ITEM DESCRIPTION	UOM	QTY	RATES = TOTAL QUOTED PRICE * WEIGHTAGE / (QUANTITY)	AMOUNT (INR) = RATE * QUANTITY	WEIGHTAGE (UPTO 10 DECIMAL POINT)
100	EARTH WORK: Earth work in excavation, backfilling and disposal including all labour, equipments etc complete as per specification, drawing and as directed by engineer-in-charge for the following.					
A101	Earth work in excavation in all types of soil including ash which can be excavated by any means including setting out, levelling, removing of surface water accumulated due to rain but excluding dewatering to lower the ground water table, dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead upto 1Km, spreading/levelling of disposed materials etc all complete for following depths below ground level.					
a	Depth from ground level but not exceeding 2 m	CUM	174626.00			0.0088548759
b	Depth exceeding 2 m but not exceeding 4 m	CUM	139862.00			0.0089012775
c	Depth exceeding 4 m but not exceeding 6 m	CUM	65300.00			0.0052033303
d	Depth exceeding 6 m but not exceeding 8 m	CUM	6800.00			0.0006790687
e	Depth exceeding 8 m but not exceeding 10 m	CUM	150.00			0.0000180064
A102	Extra over ST No. A101 for dewatering of ground water by sump pump method as per IS 9759. Ground water table shall be lowered up to 1 m below the founding level to make the site workable for foundation construction till backfilling up to ground level. Mode of measurement shall be the quantity of excavation of soil including ash below ground water table to founding level of the footing.	CUM	87500.00			0.0099604333
A107	Earthwork in Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc. to proper grade and level in layers not exceeding 300 mm compacted thickness using/with selected materials from compulsorily excavated earth available within a lead upto 1 Km and compacted as specified including re-excavation of stacked earth, watering, ramming/compaction by manual/mechanical means, dressing etc. all complete, for the following.					
a	at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	110073.00			0.0064358623
A108	Earthwork in Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc. to proper grade and level in layers not exceeding 300 mm compacted thickness using/with selected earth directly from excavation within a lead upto 1Km and compacted as specified including watering, ramming/compaction by manual/mechanical means, dressing etc all complete, for the following:					
a	at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	26500.00			0.0007952824
109	Extra over ST No. A101, A107 and A108 for carriage of material/earth for every 500m or part thereof beyond an initial lead of 1km.					
a	Carriage for stacking/ backfilling of serviceable material/ earth	CUM	2065976.00			0.0160348177
b	Carriage for disposal of serviceable/unserviceable material/ earth	CUM	508200.00			0.0039443316
A111	Supplying and filling clean and well graded natural river sand (conforming to IS 383 with grading zone I to III) upto any depth under floors, around foundations, plinths, paving, tank foundations, etc. in layers not exceeding 300mm compacted thickness and compacted so as to achieve at least 80% relative density as per IS-2720 (Part-XIV) including spreading, watering, ramming/compaction by manual / mechanical means, dressing, royalty (if any) etc. all complete.	CUM	14600.00			0.0136961390
B111	Supplying and filling clean and well graded Crushed stone sand (conforming the deleterious materials as per Table-2 of IS-383 & also confirming the grading zone I to III as per Table-9 of IS-383-2016) upto any depth under floors, around foundations, plinths, paving, tank foundations, etc. in layers not exceeding 200mm / 300mm (as applicable) compacted thickness and compacted so as to achieve at least 80% relative density as per IS-2720 (Part-XIV) including spreading, watering, ramming/compaction by manual / mechanical means, dressing, royalty (if any) etc. all complete.	CUM	133411.00			0.0980228850
112	Extra over item no. A101 for shoring and strutting in trenches including packing cavities (wherever required as instructed by engineer) all complete as per specification and as directed by engineer in charge.					
a	upto depth of 2m	SQM	10.00			0.0000017748
b	Depth exceeding 2 m but not exceeding 4 m	SQM	20.00			0.0000044395
200	CONCRETE WORK: Providing and placing concrete work including cost of labour, materials (unless otherwise specified in BOQ/contract specification) and equipment for handling, transportation, batching, mixing, placing, vibrating and curing (excluding cost of centering, shuttering and reinforcement) with mechanised equipments like batching plant, transit mixer, concrete pump etc. complete as per drawing, specifications and as per direction of engineer in charge for the following. Note: Cement shall be issued by BHEL free of cost.					
201	Concrete of grade M7.5 (1 part cement, 4 part sand, 8 parts of 40 mm graded aggregate by volume) as mass filling course, lean concrete, levelling course, mud mat under and around foundations/floors below finished floor level upto depth of 10m from FGFL (Finished Ground Floor Level). (For depth greater than 10m from FGFL, extra over for additional depth to be paid in Item No 224)	CUM	4650.00			0.0097251601
203	Concrete of grade M15 (1 part cement, 2 part sand, 4 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors below finished floor level upto depth of 10m from FGFL (Finished Ground Floor Level). (For depth greater than 10m from FGFL, extra over for additional depth to be paid in Item No. 224)	CUM	927.00			0.0019387577
A205	Providing and laying Design Mix cement concrete conforming to IS 456 & IS 10262-2009 for reinforced concrete works with sand and graded hard stone aggregate of 20 mm nominal size in foundations/substructure, grade slab, paving, drains, under floors etc for any shape, position or thickness etc complete including use of high performance PCE-based BIS approved water reducing admixture of Type-G/F as per ASTM C-494 of approved make FOSROC/SIKA/BASF or Equivalent having minimum water reduction capability of 30% to achieve required slump in concrete all complete as per specification & drawing below finished ground floor level (FGFL) upto a depth of 10m from FGFL for the following:					
b	M 25 Grade	CUM	48565.00			0.1092598060
c	M30 Grade	CUM	12144.00			0.0274782286
A207	Providing and laying Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works of grade mentioned below in machine foundations for TG, Gas Turbine, ID/FD/PA fans, BFP, Mills, Crusher House, CHP-AHP civil works, PGD, etc. at all elevations below/above finished ground floor level (FGFL) (except top decks supported over vibration isolation system, BFP deck and TG deck) but including TG foundation Columns, BFP foundation Columns with addition of suitable plasticizer conforming to IS 9103 (latest) or ASTM C494 to achieve a slump in the range of 100 mm -150 mm in concrete as per manufacturer's recommendation with 20 mm nominal size graded aggregate in concrete all complete as per specification & drawing all complete.					
a	M 30 Grade	CUM	11700.00			0.0298395436
b	M 35 Grade	CUM	4000.00			0.0102512262
A209	Extra over St. No. 205 to 208 for controlling of temperature of fresh concrete to less than 25 degree centigrade using ice, including all related arrangements for providing, storing and mixing of ice with water, cooling of aggregates etc. All complete as per specification, drawing and instruction of engineer in charge.	CUM	19600.00			0.0121698385
210	Extra over ST Nos. A205 and A207 for conducting UPV test for concrete at all levels including all equipments, making necessary arrangements, staging, submission of report etc. all complete as directed by engineer in charge and as per specification.	CUM	15800.00			0.0049051900
215	Dismantling concrete work for all types of structures at all levels including stacking of serviceable material to a lead of 500 m and disposal of unserviceable material upto a lead of 2 km, cutting of reinforcement, labour, equipment, safety precautions etc. all complete as per drawings, specification and instructions of engineer in charge.					
a	Plain cement concrete of all grades	CUM	40.00			0.0000250227
b	Reinforced cement concrete of all grades	CUM	60.00			0.0000582724
216	Chipping of concrete in reinforced concrete work, cutting pockets, making openings at all levels and according to shapes, disposal of waste materials upto a lead of 2 km as directed by engineer including equipment, safety precautions, making good the broken surface etc. all complete as per specification, drawing, instructions of engineer in charge but excluding cutting of reinforcement.	CUDM	1500.00			0.0000683001
217	Extra over and above ST No 216 for cutting of reinforcement, all sizes and types including labour, equipment, return of cut reinforcement to store etc. all complete as per specification, drawings and instructions of engineer in charge. Measurement shall be on the cross sectional area of reinforcement cut.	SQCM	200.00			0.0000008279
218	Cutting Reinforced concrete with mechanised tools like Core drilling machine etc. for cutting pockets, holes, cores in slab, beam, column or foundation as per direction of engineer in charge.	CUDM	100.00			0.0000101933
219	Providing and applying curing compound (water based) of approved make where ever required as per manufacturer's specification.	SQM	50.00			0.0000037513
220	Providing & laying Plum cement concrete 1:3:6 with 75% graded metal of maximum size 40 mm and 25% plums of maximum size 150 mm.	CUM	50.00			0.0001021138

PROJECT: 2 X 660 MW SUPER CRITICAL THERMAL POWER PROJECT, HTPS, KORBA WEST						
BOQ CUM RATE SCHEDULE R01						
SCOPE OF WORK:-						
Installation of Cast-in-Situ Pile, Breaking of Pile Head, Pile Built-up, Conducting Pile Load Test, Pile Integrity Test, etc., Casting of Pile Cap & Pedestal including Bolt Fixing, Plinth Beam, etc. including backfilling and handing over to other agency.						
ST NO	ITEM DESCRIPTION	UOM	QTY	RATES = TOTAL QUOTED PRICE * WEIGHTAGE / (QUANTITY)	AMOUNT (INR) = RATE * QUANTITY	WEIGHTAGE (UPTO 10 DECIMAL POINT)
300	FORMWORK: Providing, fixing and removing formwork at all elevations for all structures, as per specifications and including all labour, material, scaffoldings and centering etc. complete as per drawing, specifications and as per direction of engineer in charge for the following.					
A301	Fairface form work with good quality water proof ply wood with Filmface of minimum 12 mm thickness and smooth surface below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams & slabs(for which scaffolding work not required for vertical support of bottom face of formwork), mass concrete, trenches, grade slab, paving etc.including chamfering of edges as per drawing, specification and instruction of engineer in charge.					
a	Upto Depth 10m From FGL	SQM	79430.00			0.0289337496
b	Depth exceeding 10m From FGL	SQM	200.00			0.0000799939
A302	Fairface form work with good quality water proof Plywood with film face of minimum 12mm thickness and smooth surface above finished ground floor level for columns, beams, suspended/intermediate floors, roofs, lintels, cantilevers, staircases, landings, balconies, etc. including chamfering of edges as per drawing/for all heights as per specification, drawing and instruction of engineer in charge.					
a	For Height Upto 20m from FGL	SQM	1000.00			0.0004377416
304	Providing, fixing and removing formwork in block-outs/pockets and openings (below 0.1 sqm plan area) at all elevations including cutting, formation of all shapes and all other operations required for making the required shape and size all complete as per specification, drawing and instruction of engineer in charge.					
a	Upto 150 mm depth	Each	10.00			0.0000012987
b	Pockets of depths more than 150mm and upto 300 mm depth	Each	180.00			0.0000381860
c	Pockets of depths more than 300mm and upto 600 mm depth	Each	50.00			0.0000186014
d	Pockets of depths more than 600mm and upto 1000 mm depth	Each	20.00			0.0000115282
e	Pockets of depths more than 1000mm and upto 1500 mm depth	Each	15.00			0.0000123794
f	Pockets of depths more than 1500mm and upto 2000 mm depth	Each	5.00			0.0000054356
305	Extra over item no.301 and 302 for curved form work for foundations, footings, beams, walls, trenches, domes, arches etc as per specification.					
a	Extra for Curve Shuttering for Item No. A301	SQM	2000.00			0.0001459139
400	REINFORCEMENT WORK : Reinforcement work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling etc at all level as per specification, drawings and as directed by engineer - in - charge.					
403	Transportation, straightening, cutting, bending, placing in position at any level, binding in position of steel reinforcements of TMT steel of grade Fe-500D or 500EQR or HCRM or any other Grade confirming to IS:1786 including cost of binding wire, labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer. Note: Reinforcement Steel shall be issued by BHEL free of cost.	MT	15440.00			0.0998630453
405	Providing & fixing of Rebar in existing concrete surface by inserting reinforcement bar with Epoxy based suitable bonding compound of Hilti or equivalent make (HIT-RE-500 of Hilti or equivalent make) for interconnection of new R.C. structure with existing R.C. structure. Depth of drilled hole should be suitable to develop maximum recommended strength as per approved manufacturer's recommendation. This item includes supply of all materials including bonding chemicals, T&P required to execute the work, cost of all labour, transportation of chemical, staging to reach work place etc. all complete as directed by Engineer - in - Charge. Random Pull out non destructive test as directed by engineer shall be conducted to ensure strength of bond and same is included in this item. Reinforcement bar shall be paid separately under item no. 403.					
a	12mm Reinforcement bar	EACH	10.00			0.0000033115
b	16mm Reinforcement bar	EACH	10.00			0.0000053812
c	20mm Reinforcement bar	EACH	10.00			0.0000077924
d	25mm Reinforcement bar	EACH	10.00			0.0000108090
e	28mm Reinforcement bar	EACH	10.00			0.0000126200
f	32mm Reinforcement bar	EACH	10.00			0.0000150364
600	JOINTS AND FILLERS: Joints & fillers including all labour, material, equipment, transportation, handling etc at all level as per specification, drawings and as directed by engineer - in - charge.					
601	Supplying & installation of bitumen impregnated fibre board confirming to IS 1838 as joint filler at joints in concrete including nailing, coating of both faces with coal tar pitch/bitumin etc, all complete.					
a	12 mm wide joints.	SQM	100.00			0.0000329600
b	20 mm wide joints.	SQM	100.00			0.0000394795
c	25 mm wide joints	SQM	100.00			0.0000573307
d	50 mm wide joints	SQM	100.00			0.0001192147
602	Supplying and installation of Dura board HD100 or its equivalent as approved by the Engineer, as filler material in joints including nailing, installation as per manufacturer's recommendation etc, all complete.					
a	12 mm wide joints.	SQM	25.00			0.0000086798
b	20 mm wide joints.	SQM	25.00			0.0000135953
c	25 mm wide joints	SQM	25.00			0.0000140352
d	50 mm wide joints	SQM	25.00			0.0000284713
A603	Providing and applying polysulphide based sealant conforming to IS:12118 in expansion joints in concrete including cleaning of joints, raking out groove, application of primer, scaffolding etc, all complete for following size grooves.					
a	25mmX25mm groove size	RM	100.00			0.0000332187
b	50mmX25mm groove size	RM	50.00			0.0000312525
604	Supplying and filling in position hot applied bitumin sealing compund (Grade A) confirming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc, all complete.					
a	10mm X 40mm	RM	100.00			0.0000035702
b	12mm X 25mm	RM	100.00			0.0000031046
c	20mmX25mm	RM	100.00			0.0000040359
605	Supplying and installation of commercial quality of expanded polystyrene products from reliable manufacturers as approved by the Engineer, as filler material in joints including nailing, installation as per manufacturer's recommendation etc, all complete.					
a	12 mm wide joints.	SQM	50.00			0.0000019403
b	20 mm wide joints.	SQM	50.00			0.0000024578
c	25 mm wide joints	SQM	50.00			0.0000028200
d	50 mm wide joints	SQM	50.00			0.0000063902
A605	Supply and installation of Polystyrene board of Type-1 confirming to IS 4671, 20 Kg/ Cum. as filler material in joints including nailing, coating of both faces with coal tar pitch /butimen etc, all complete.					
a	100 mm thick	SQM	6400.00			0.0017319253
610	Providing and fixing PVC water stops in joints conforming to IS 12200 & IS 15058 all complete for the following: (Bulb or Kicker type)					
d	230 mm wide and 6 mm thick	RM	600.00			0.0001086593

PROJECT: 2 X 660 MW SUPER CRITICAL THERMAL POWER PROJECT, HTPS, KORBA WEST						
BOQ CUM RATE SCHEDULE R01						
SCOPE OF WORK:-						
Installation of Cast-in-Situ Pile, Breaking of Pile Head, Pile Built-up, Conducting Pile Load Test, Pile Integrity Test, etc., Casting of Pile Cap & Pedestal including Bolt Fixing, Plinth Beam, etc. including backfilling and handing over to other agency.						
ST NO	ITEM DESCRIPTION	UOM	QTY	RATES = TOTAL QUOTED PRICE * WEIGHTAGE / (QUANTITY)	AMOUNT (INR) = RATE * QUANTITY	WEIGHTAGE (UPTO 10 DECIMAL POINT)
700	MS EMBEDMENTS: Embedments including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
A701	Supply, fabricating and fixing of mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including manual cleaning with primer coat of chlorinated rubber based zinc phosphate primer of Minimum 50 Micron Dry Film Thickness (DFT) welding, bolting, cutting, drilling, scaffolding, setting etc. all complete. Payment Breakup: 1. On Completion of Fabrication - 60% 2. On completion of Erection, Alignment & Welding/Bolting - 40%	MT	13.30			0.0006994890
A702	Supply, Fabrication, transportation, delivery at site and erection, installation and alignment of mild steel foundation bolt assembly conforming to IS:2062 and grade 1 of IS:432 in concrete along with nuts, lock nuts (as per IS:1363, 1364 and IS:3138), washers, anchor plates, stiffner plates, protective tape, pipe sleeves, templates etc. including welding, cutting, grinding, threading, drilling, all threaded & other surfaces of foundation bolts shall be coated with temporary rust preventive fluid and during execution of civil works, the dried film of coating shall be removed using organic solvents, etc. all complete. Payment Breakup: 1. On Completion of Fabrication - 60% 2. On completion of Erection, Alignment & Welding/Bolting - 40%	MT	160.50			0.0105293287
A703	Same as above items A701 with BHEL supplied material free of cost including loading, transportation, unloading etc. all complete from BHEL store to plant site.					
A	Mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc.	MT	10.00			0.0001389597
B703	Fixing of Anchor / Foundation Bolts of various diameters along with nuts, lock nuts, washers, anchor plates, stiffener plates, protective tape, pipe sleeves, templates, pipe sleeves etc. including scaffolding, setting in position, transportation from BHEL site stores to work spot etc. all complete. Note: Fabricated Bolts and structural steel material shall be issued by BHEL free of cost.	MT	300.00			0.0043893689
704	Supplying, fabricating, erecting and installing following items in concrete/brickwall for all kind of works, including setting material in concrete, layout, scaffolding, cutting, forming, grinding, drilling, bolting, welding, jointing, testing etc. all complete.					
e	Expansion fasteners (mechanical galvanised) of HILTI make or equivalent of safe tensile capacity as specified below for concrete work with expansion sleeve of stainless steel:					
i	HST M8	EACH	25.00			0.0000035832
ii	HST M10	EACH	25.00			0.0000049673
iii	HST M12	EACH	25.00			0.0000089644
iv	HST M16	EACH	25.00			0.0000157297
v	HST M20	EACH	25.00			0.0000274106
vi	HST M24	EACH	25.00			0.0000545107
f	Chemical Expansion fasteners (galvanised) of HILTI make or equivalent of safe tensile capacity as specified below for concrete work with anchoring rod, nuts, washers, chemicals all complete, etc:					
i	HAS-E5.8 M8	EACH	25.00			0.0000067524
ii	HAS-E5.8 M10	EACH	25.00			0.0000082141
iii	HAS-E5.8 M12	EACH	25.00			0.0000104779
iv	HAS-E5.8 M16	EACH	25.00			0.0000179547
v	HAS-E5.8 M20	EACH	25.00			0.0000281479
vi	HAS-E5.8 M24	EACH	25.00			0.0000388457
1800	MISCELLANEOUS: Miscellaneous works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level unless otherwise specified as per specification, drawings and as directed by engineer - in - charge.					
A1801	Providing and Filling in trenches, plinths, area paving, grade slab, other underground structures, etc. with 63 mm downgraded hard stone aggregate as per IRC specification watering and compaction to minimum of 90% Standard Proctor density, including filling the interstices of stone aggregates with sand) in layers not exceeding 200 mm in thickness all complete as per drawings/specifications. Payment shall be made for the measurement of the volume of the compacted fill.	CUM	10.00			0.0000091533
2500	PILING WORK: Piling works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. as per specification, drawings and as directed by engineer - in - charge for the following: Note: Cement shall be issued by BHEL free of cost.					
A2501	Mobilisation of hydraulic rotary piling rigs and accessories capable of pile boring/drilling in all types of strata/ash etc., installing various size of bored cast in situ RCC piles to project site and demobilisation of the same after completion of piling works etc all complete. Payment Break-up: (a) mobilisation and commissioning of rig- 60% & (b) demobilisation - 40%)	EACH	16.00			0.0041676233
A2504	Installation of Bored cast-in-situ RCC vertical pile in soil (excluding rock socketing which shall be paid separately as per ST. No. 2510) as per IS 2911 (Part 1 Sec 2) with diameter and length as specified (length to be measured from pile cut-off level) using cement concrete grade M30 conforming to IS:456 with 20 mm nominal size stone aggregates with a minimum cement content of 400Kg per cum of concrete including providing all materials (but excluding reinforcement steel for which measurement/payment shall be made separately), boring/drilling in all types of soil, providing bentonite slurry/polymer and/or temporary casing for stabilization of pile bore, flushing of pile bore, cleaning, providing plasticizer wherever required, breaking pile head to cut off level and exposing pile reinforcement for embedment in pile cap etc. including empty boring from ground level to pile cut-off level etc. all complete as per specification, drawing and as directed by the engineer-in-charge for the following. Payment Break-up: a) Installation of Bored cast-in-situ RCC vertical pile as per item description - 90%; b) Breaking of pile head to cut off level and exposing pile reinforcement for embedment in pile cap - 10%. NOTE: i) The item includes temporary casing of 3m depth from ground level for stabilization of pile bore. In case, depth exceeds beyond 3m the same shall be payable under Item No. B2504. ii) The item includes empty boring of 3m from ground level and filling of the same with pond ash/ bottom ash/etc. (pond ash/bottom ash shall be collected by contractor on "as is where is" basis from silos of 4x210 MW and 1x500 MW Extn HTPS KW and Jhabu & Dindolbhata ash dyke). In case, empty boring exceeds beyond 3m the same shall be payable under Item No. C2504 and Item No. D2504.					
a	Pile with 600 mm diameter and 20 m length below cut off level	EACH	4704.00			0.1756738848
b	Pile with 760 mm diameter and 20.5 m length below cut off level	EACH	3533.00			0.1823191667
B2504	Extra over item no. A2504 for providing and fixing temporary casing for the following depth for stabilization of pile bore.					
i	depth beyond 3m and upto 6m					
a	Pile with 600 mm diameter	EACH	904.00			0.0013073677
b	Pile with 760 mm diameter	EACH	702.60			0.0010331889
ii	depth beyond 6m and upto 9m					
a	Pile with 600 mm diameter	EACH	226.00			0.0003015833
b	Pile with 760 mm diameter	EACH	175.65			0.0002742022
C2504	Extra over item no. A2504 for empty boring beyond 3m from ground level					
a	Pile with 600 mm diameter	Rm	1800.00			0.0019875333

PROJECT: 2 X 660 MW SUPER CRITICAL THERMAL POWER PROJECT, HTPS, KORBA WEST						
BOQ CUM RATE SCHEDULE R01						
SCOPE OF WORK:-						
Installation of Cast-in-Situ Pile, Breaking of Pile Head, Pile Built-up, Conducting Pile Load Test, Pile Integrity Test, etc., Casting of Pile Cap & Pedestal including Bolt Fixing, Plinth Beam, etc. including backfilling and handing over to other agency.						
ST NO	ITEM DESCRIPTION	UOM	QTY	RATES = TOTAL QUOTED PRICE * WEIGHTAGE / (QUANTITY)	AMOUNT (INR) = RATE * QUANTITY	WEIGHTAGE (UPTO 10 DECIMAL POINT)
b	Pile with 760 mm diameter	Rm	4500.00			0.0060352464
D2504	Extra over item no. A2504 for filling of the empty bore with pond ash/ bottom ash/ etc. (pond ash/bottom ash shall be collected by contractor on "as is where is" basis from silos of 4x210 MW and 1x500 MW Extn HTPS KW and Jhabu & Dindolbhata ash dyke) beyond 3m from ground level					
a	Pile with 600 mm diameter	Rm	1800.00			0.0002207335
b	Pile with 760 mm diameter	Rm	4500.00			0.0006705829
A2505	Installation of additional length of pile beyond specified length mentioned in ST. No. A2504 all complete for the following.					
a	For 600 mm diameter pile	Rm	5440.00			0.0101585864
b	For 760 mm diameter pile	Rm	3613.00			0.0090949078
A2506	Rebate on ST.No.A2504 for pile length less than the specified length for the following.					
a	For 600 mm diameter pile	Rm	2650.00			-0.0049485761
b	For 760 mm diameter pile	Rm	1850.00			-0.0046569553
A2510	Rock socketing of bored cast in situ RCC pile inside rock as per IS 2911 (Part 1 Sec 2) with diameter as specified using cement concrete grade M30 conforming to IS:456 with 20 mm nominal size stone aggregates with a minimum cement content of 400Kg per cum of concrete including providing all materials (but excluding reinforcement steel for which measurement/payment shall be made separately), boring/drilling in all types of rock strata, providing bentonite slurry/polymer, flushing of pile bore, cleaning, providing plasticizer wherever required etc, all complete as per specification, drawing and as directed by the engineer-in-charge for the following.					
a	For 600 mm diameter pile	RM	14052.00			0.0399897167
b	For 760 mm diameter pile	RM	13360.00			0.0418224364
A2511	Conducting initial load test upto a maximum test load of 3 times the safe load capacity on single pile as specified in accordance with IS 2911 Part-4 including preparation of pile head for testing, necessary excavation, all arrangements of loading, unloading, test equipments/ accessories, jacks, recording of results, labour, submission of test report but excluding the cost of installation of pile (installation of pile shall be paid separately) etc, all complete as per specification, drawing and as directed by engineer in - charge for the following:					
a	For vertical compression test by cyclic load method					
i	600 mm diameter pile	EACH	8.00			0.0006785761
ii	760 mm diameter pile	EACH	4.00			0.0003763129
b	For lateral load test					
i	600 mm diameter pile	EACH	8.00			0.0001566349
ii	760 mm diameter pile	EACH	4.00			0.0000900982
c	For tension/uplift test					
i	600 mm diameter pile	EACH	8.00			0.0002451767
ii	760 mm diameter pile	EACH	4.00			0.0001454378
2512	Conducting routine load test on single job pile as specified in accordance with IS 2911 (Part-4) including preparation of pile head for testing, necessary excavation, providing all arrangements of loading, unloading, test equipments/accessories, jacks, recording of results, labour, submission of test report etc but excluding the cost of installation of job pile complete as per specification, drawing and as directed by the engineer-in-charge for the following.					
a	For vertical compression test by maintained load method					
i	600 mm diameter pile	EACH	25.00			0.0019907672
ii	760 mm diameter pile	EACH	20.00			0.0019517792
b	For lateral load test					
i	600 mm diameter pile	EACH	25.00			0.0004894841
ii	760 mm diameter pile	EACH	20.00			0.0004504910
A2513	Carrying out low strain pile integrity test on 600mm/ 760mm diameter pile including all arrangements for test, equipments/ accessories, materials, labour, submission of test report etc but excluding the cost of installation of job pile all complete as per specification and as directed by the engineer-in-charge.	EACH	8237.00			0.0017474328
TOTAL AMOUNT						1.000000000