

TENDER SPECIFICATION

BHEL/PSSR/USTPP/SCT&P/SCT/256

for

Balance Civil works of Canteen building (Near Fire station), Dispensary Building of non-plant buildings and complete construction of Quality Control Laboratory at 2X660 MW Udangudi Supercritical Thermal Power Plant

VOLUME –II

PRICE BID



BHARAT HEAVY ELECTRICALS LIMITED

(A Government of India Undertaking)

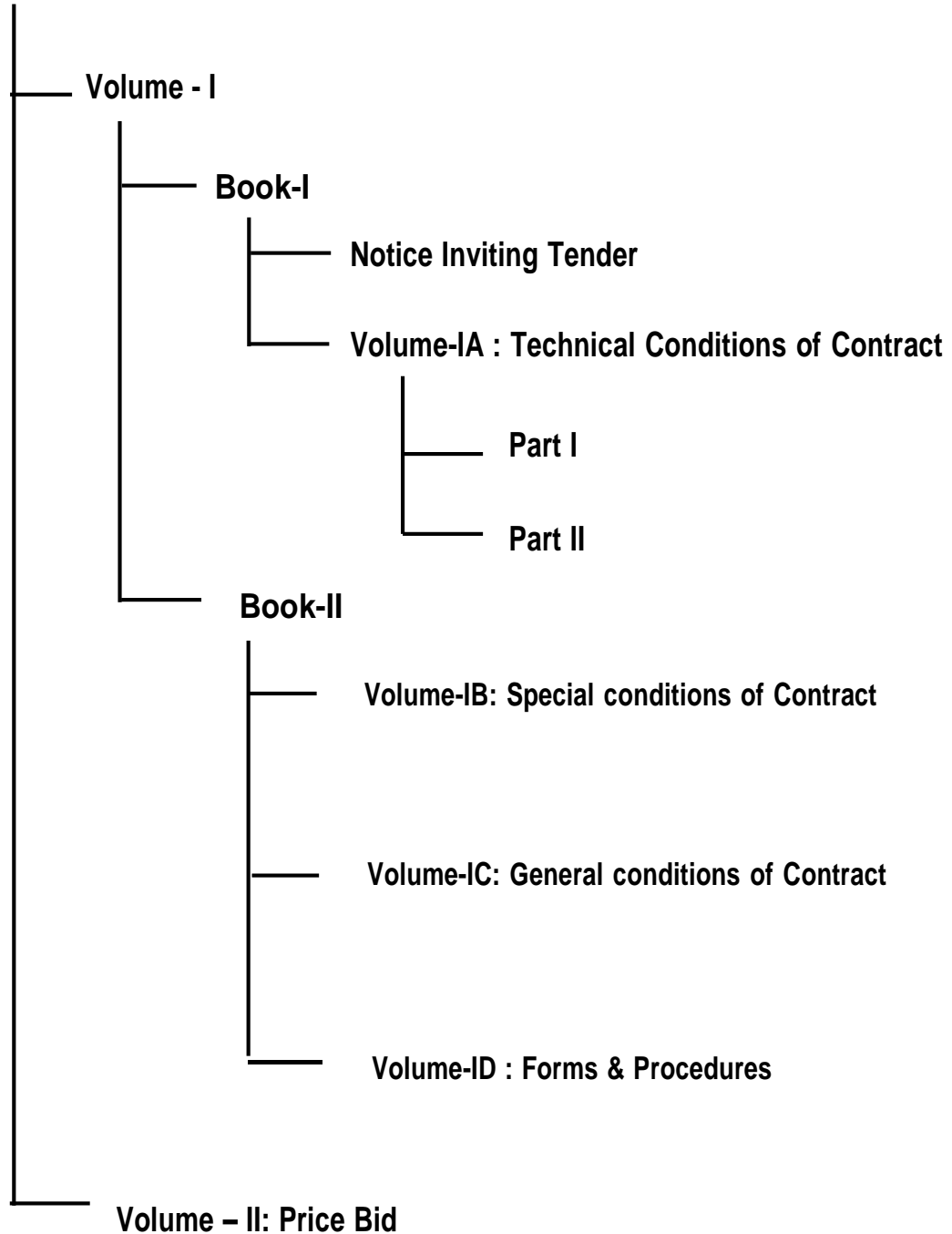
Power Sector – Southern Region

BHEL site office, 2X660 MW Udangudi STPP,

Kallamozhi, Tiruchendur-628206

TENDER SPECIFICATION CONSISTS OF

Tender Specification



PRICE BID

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PART A

Instruction to Bidders:

1. The quantity indicated in the BOQ in Part C of Price Bid is approximate only and is liable for variation. Payment will be as per actual quantity executed and as certified by BHEL Engineer.
2. Tenderers are requested to affix their company seal and authorized signature in all pages.
3. Bidders shall quote 'Total Amount for Package-A' in the format enclosed as a separate Excel File in BHEL NIC e-Procurement portal for the subject tender and upload the same under 'Packet details - > Tender covers -> Finance '(Cover Type Description – Price Bid)' and same shall be taken into account for evaluation and awarding and hence, shall be complete in all respect for the full scope of work defined in specification and in accordance with terms & conditions of the tender. Any other entry elsewhere in the price bid shall be treated as Null and Void. Quoting of rates in any other form/formats will not be entertained.
4. The above mentioned 'Total amount for Package-A' is for the entire Bill of Quantity (BOQ) for Package-A given in Part -C of the Price Bid.
5. BHEL has pre-fixed the weightages for the amount of individual items of Bill of Quantity with respect to the 'Total Amount' in Part C of Price Bid.
6. Based on the pre-fixed weightages, the amount for the individual items of the Bill of Quantity shall be arrived at. This amount shall be rounded off to the nearest rupee.
7. Based on the quantities of individual item and the amount arrived in Sl. No: 6 above, unit rate of individual items shall be derived. This unit rate shall be rounded off to four decimal places.
8. Bidders to note that this is an item rate contract. Payment shall be made for the actual quantities of work executed as certified by BHEL Engineer.

Part C : Bill of Quantities							
Tender Specification BHEL/PSSR/USTPP/SCT&P/SCT/256 for Balance Civil works of Canteen building (Near Fire station), Dispensary Building of non-plant buildings and complete construction of Quality Control Laboratory at 2X660 MW Udangudi Supercritical Thermal Power Plant							
Ref. No.	Description	Unit of Measurement	Quantity for Canteen Building (A)	Quantity for Dispensary Building (B)	Quantity for Centralized Quality Lab (C)	Total Quantity (A+B+C)	Weightage for amount of each item (Nearest to the 7decimal points) w.r.t the total amount
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.	--					
101	Earth work in excavation in all types of soil including ash which can be excavated by any means including setting out, levelling, dewatering (but excluding special type of dewatering viz. well point method), shoring & strutting (wherever required), dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead upto 500m, 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	104.46	144.90		249.36	0.0019842
b	Depth exceeding 2 m but not exceeding 4 m	CUM	54.46	11.22		65.67	0.0006560
103	Earth work in excavation in soft rock (rock without any recovery of excavated materials in the form of hard stone/boulder) including weathered rock which can be excavated by means of crow bar, pick axe, pneumatic rock breaker attachment with excavator machine etc but does not require chiselling or blasting including setting out, levelling, dewatering (wherever required), shoring & strutting (wherever required),	--	-				

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	dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead upto 500 m, spreading / levelling of disposed materials etc all complete for following depths below ground level.						
c	Depth exceeding 4 m but not exceeding 6 m	CUM	-		384	384.00	0.0065460
107	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 250 mm thickness using/with selected materials from compulsorily excavated earth available within a lead upto 500m and compacted as specified including re-excavation of stacked earth, watering, ramming/compaction by manual/mechanical means, dressing etc all complete.for the following.	--	-				
Aa	Each layer compacted so as to achieve at least 98% maximum dry density as per IS- 2720 (Part-VII)	CUM	7.72	173.62	384	565.34	0.0043920
109	Extra over ST No. 101 and 103 to 108 for carriage of material/earth for every 500m or part thereof beyond an initial lead of 500m.	--	-				
a	Carriage for stacking/ backfilling of serviceable material/ earth (TO BE STACKED & USED FOR GRADING & LEVELING OF THIS PKG FROM NGL TO FGL)	CUM	916.94			916.94	0.0006789

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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, at any depth below finished floor level etc.	CUM	13.98	17.05		31.03	0.0071629
202	Concrete of grade M10 (1 part cement, 3 part sand, 6 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors at any depth below finished floor level etc	CUM	22.60			22.60	0.0052152
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 at any depth below finished floor level etc	CUM	-		7.344	7.34	0.0016944
204	Concrete under floors, paving, plinth protection, pipe encasing etc complete with 20 mm nominal size graded aggregate at any depth below finished floor level for the following grades.	CUM	-				
b	M20 Grade	CUM	-		3	3.00	0.0006776

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205	Providing and laying Design Mix cement concrete conforming to IS:456 & IS 10262- 2009 for reinforced concrete works with coarse sand and graded hard stone aggregate of 20mm nominal size in foundations/substructure, grade slab, paving, drains, under floors etc at all 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 as per specification & drawing for the following.	--	-				
b	M 30 Grade	CUM	17.34	37.65		54.98	0.0142746
206	Providing and laying Design Mix cement concrete of grade conforming to IS:456 & IS 10262-2009 for reinforced concrete works with coarse sand and graded hard stone aggregate of 20mm nominal size in superstructure at all level above 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 as per specification & drawing for the following.	--	-				
b	M 30 Grade	CUM	24.47	25.86	90	140.33	0.0362367
212	Screed concrete conforming to IS 456 with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof at all level or thickness, drains etc complete as per following.	--	-				

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a	M20 Grade	CUM	5.00	50.00		55.00	0.0126910
213	Providing and laying Design Mix cement concrete as per IS:456 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete in precast works like roof slabs/trench covers, fins, lintels, chajas, beams, columns, wall panels, facias etc.at all levels in all kinds of work including formwork/moulds, curing, rendering the top exposed surface with cement sand mortar (1:3), handling, storing, transpoting, all leads, erection without damage, setting in position with cement sand mortar (1:3), filling the gaps between adjacent precast units with M30 grade concrete or cement sand mortar (1:3) and including making of holes for bolts for fixing, welding etc.complete with graded aggregate (20/12.5/10 mm) and as per specification and drawing for following grades.	--	-				
a	M25	CUM	10.00			10.00	0.0044423
215	Dismantling concrete work for all types of structures at all levels including stacking of servicable material to a lead of 500 m and disposal of unservicable 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.	--	-				
b	Reinforced cement concrete of all grades	CUM	5.00			5.00	0.0004652

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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	1.00			1.00	0.0000075
301	Fairface form work with good quality water proof ply wood of minimum 12mm thickness and smooth surface below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams, mass concrete, trenches etc.including chamfering of edges as per drawing, specification and instruction of engineer in charge..	SQM	72.10	359.79	300	731.89	0.0316791
302	Fairface form work with good quality water proof ply wood of minimum 12mm thickness and smooth surface above finished ground floor level for columns, beams, suspended 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.	SQM	67.02	236.72	300	603.73	0.0314923
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.	--	-				

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a	Upto 150 mm depth	Each	5.00			5.00	0.0000938
b	Pockets of depths more than 150mm and upto 300 mm depth	Each	2.00			2.00	0.0000651
c	Pockets of depths more than 300mm and upto 600 mm depth	Each	2.00			2.00	0.0001191
d	Pockets of depths more than 600mm and upto 1000 mm depth	Each	2.00			2.00	0.0001892
e	Pockets of depths more than 1000mm and upto 1500 mm depth	Each	2.00			2.00	0.0002757
A405	Collection of material from BHEL stores, transportation, straightening, cutting, bending, placing in position at any level, binding in position of corrosion resistant steel -HCRM re-bars of approved make with steel of grade Fe-500 confirming to IS:1786 norms including cost of binding wire, labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer.	MT	0.02	6.69	10	16.71	0.0160311

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A506	Providing and applying PU based high solid content (minimum 90%) cold liquid applied water proofing treatment with one coat of polyurethane or equivalent material based primer as recommended by manufacturer with an application rate of minimum 6 sq.m per litre and two successive liquid coatings of high solids content urethane pre- polymers or equivalent material based finish coats as per relevant IS/ASTM standards to form an elastomeric membrane with overall dry film thickness 1.5 mm subject to minimum 500 gm/sqm/coat application rate. min. The coating shall have high viscosity, min.450% elongation and forming a perfectly smooth permanently flexible seamless membrane which should have good adhesion to roof substrates. The cured film should have a very low water absorption rate (0.5% maximum at ambient temperature after 7 days).Item includes surface preparation, polyscrim cloth /fabric(non-woven polyscrim cloth of 100% polyester with min. weight of 40gsm/sqm), polymerised mortar base preparation, etc all complete as per manufacturer specifications and directions of engineer in charge.	SQM	800.00	170.43	160	1130.43	0.0763169
508	Providing and laying wearing course consisting of 40mm thick plain cement concrete of grade M15 (1:2:4) with graded aggregate of 12.5mm size cast in panels of maximum size 1.2mx1.2m and reinforced with 0.56 mm dia. galvanised chicken wire mesh and sealing of joints (in grooves of 6mm X 6mm) using silicon /elastomeric compound etc all complete.	SQM	800.00	145.56	160	1105.56	0.0384436

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511	Providing and applying two coats of bitumen grade 85/25 as per IS 702 (@ 1.7kg/sqm)with 1% antistripping compound conforming to IS 6241 in foundation, wall, column etc on concrete surfaces exposed to soil / ash including surface preparation etc. all complete.	SQM	-	175.00	134.5	309.50	0.0040785
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.	--	-				
c	25 mm wide joints	SQM	94.50			94.50	0.0058385
610	Providing and fixing PVC water stops in joints conforming to IS 12200 & IS 15058 all complete for the following: (Bulb or Kicker type)	--	-				
b	230 mm wide and 8 mm thick	RM	100.00			100.00	0.0020847
d	230 mm wide and 6 mm thick	RM	50.00			50.00	0.0014887
701	Supply, fabricating and fixing of mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, setting etc. all complete.	MT	1.00	0.10		1.10	0.0061786

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703	Same as above items 701 with BHEL supplied material (scrap) free of cost including Fabrication,loading, transportation, unloading and Erection 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	1.00			1.00	0.0018203
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.	--	-				
a	MS pipes of all diameters	kg	10.00		10	20.00	0.0001138
b	PVC pipes / conduits of all diameters	kg	10.00		10	20.00	0.0006043
c	UPVC pipes / conduits of all diameters	kg	5.00		10	15.00	0.0004689

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801	Providing & grouting with cement slurry mix of approved ratio using pressure pump for water retaining concrete structures as per approved procedure including cost of nipples/ nozzles, cement, admixture, curing, pressure pumps, slurry agitator etc. all complete. Cost shall include fixing of nipples at maximum 500 mm centre to centre spacing, cutting of nipples after completing of grouting, making good of the nipple hole with appropriate non-shrink cement paste, water tightness test etc. all complete wherever specified in the drawing.	SQM	50.00			50.00	0.0021549
A904	Providing and fixing single or double steel door shutters with 45mm thk flush design shutter comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centres including void filled with mineral wool (density as per specification) including preparation of working drawings, three steel butt hinges of 100 mm length, door closer with rubber cushions, sign plates of anodised aluminium or galvanised steel screwed to the door under the horizontal bar having printed the sign, "PUSH BAR TO OPEN"	SQM	2.52	3.15		5.67	0.0025127

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A906	Providing and fixing powder coated/anodized extruded aluminium doors (single or double shutter) conforming to IS:1948, IS:1949 fabricated from extruded sections of HINDALCO/JINDAL or equivalent make having minimum 3mm wall thickness as per IS:1285, IS:733 and anodized and electro color coating of required shade as per IS 1868 (minimum anodized coating of grade AC15). fixed with rawl plugs, expansion fasteners,SS screws / fixing clips necessary filling of gaps at Junctions, at top, bottom & sides with required PVC / neoprene felt for bi-metallic protection etc. Glazing shall be clear float glass of 6mm thickness including snap fit type beading, concealed screws, fixtures, Godrej or equivalent make Mortice lock with handle on both sides, etc all complete. Aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required. (Glazing shall be paid separately)	KG	806.05	755.07	820	2381.12	0.0956193
911	Providing and fixing of door closers as per specification ,of approved make & quality all complete of following type :	--	-				
a	Over head hydraulic door closures as per IS 3564	Each	12.00	12.00		24.00	0.0028576
b	Floor mounted Hydraulic door closers as per IS 6315	Each	5.00			5.00	0.0010420

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A914	Providing and fixing solid core PVC doors with PVC shutter (25 thk double skin) of approved manufacturer make as per relevant IS standard including all fitting & fixtures as per specification, drawing and as instructed by engineer in charge.	SQM	80.00	10.71	5	95.71	0.0213722
915	Providing, fixing and fitting of glazing of first grade class in steel/aluminium/wooden frames, where ever required, cleaning after fixing including hardware, gaskets, clips, beadings etc. all complete.	--	-				
Ac	6 mm thick clear float glass	SQM	25.00	25.34		50.34	0.0074711
d	6 mm thick wired glass	SQM	-		3	3.00	0.0003549
e	6mm thick Polycarbonate sheet multi (twin) wall fire retardant and ultra violet resistant with sealed open edges.	SQM	-				
f	4 mm thick ground glass	SQM	25.00	20.06		45.06	0.0066881
h	6 mm thick clear toughened safety glass	SQM	-				
916	Supplying and fixing weather stripping of approved make and quality to doors as per instructions of engineer in charge and specification complete.	RM	20.00			20.00	0.0003348

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917	Providing and fixing 12 mm thick BWP particle board, decorative veneer (prelaminated) on both sides, as panels in aluminium framed door shutter, fixed with necessary snap-on-beading etc. all complete (excluding aluminium works).	SQM	10.00			10.00	0.0012654
A927	Providing and fixing 12 mm square MS rod grills for security on windows/ventilators including fixtures, painting etc. all complete.	SQM	70.50	40.20	30	140.70	0.0366691
1001.0	Providing brick work in cement mortar 1:6 (1 part cement 6 parts coarse sand) in walls, chambers etc. in thickness varying from 230mm to 460mm at all depths, places and positions below plinth including raking out joints, curing, scaffolding etc. complete excluding plastering and painting.	--	-				
a	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2(including cost of cement for brick making)	CUM	-	12.50		12.50	0.0065734
1002.0	Providing brick work in cement mortar 1:6 (1 cement 6 coarse sand) in walls, chambers etc. in thickness 230mm at all heights, places and position above plinth including raking out joints, curing, scaffolding etc complete excluding plastering and painting.	--	-				
a	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2(including cost of cement for brick making)	CUM	7.10	31.29	85	123.39	0.0764113

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1003.0	Providing brick work in cement mortar 1:4 (1 cement 4 coarse sand) in partition walls, chambers etc. in thickness 115mm at all heights, places and position above or below plinth/graded level including providing two nos. 6 mm diameter MS bars at every third layer, raking out joints, curing, scaffolding etc complete excluding plastering and painting as per specification.	--	-				
a	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2(including cost of cement for brick making)	SQM	119.83	153.82	15	288.65	0.0217430
1005.0	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	2.00			2.00	0.0002463
1008.0	Making openings in existing brick wall or partition wall including making good the broken edges/surface with cement mortar 1:6 etc. complete.	CUM	2.00			2.00	0.0001394
1102.0	Providing Damp Proof Course 50mm thick 1:1.5:3 concrete (6 mm and down graded stone chips) with 1% of approved admixture of water proofing compound all complete. Then hot bitumen (residual petroleum bitumen of penetration 80/100 of approved quality) shall be applied over the prepared surface in two coats at the rate of 1.7kg per sq. meter per coat and dry sand spread over it	--	-				

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Tender Specification BHEL/PSSR/USTPP/SCT&P/SCT/256 for Balance Civil works of Canteen building (Near Fire station), Dispensary Building of non-plant buildings and complete construction of Quality Control Laboratory at 2X660 MW Udangudi Supercritical Thermal Power Plant							
Ref. No.	Description	Unit of Measurement	Quantity for Canteen Building (A)	Quantity for Dispensary Building (B)	Quantity for Centralized Quality Lab (C)	Total Quantity (A+B+C)	Weightage for amount of each item (Nearest to the 7decimal points) w.r.t the total amount
b	50mm thick	SQM	30.00		20	50.00	0.0011165
A1201	Providing 20mm thick plaster in two layers outside the building/boundary wall with an under layer 12 mm thick in CM 1:5 and top 8 mm thick layer in CM 1:3 (Sand faced) with approved water proofing compound on walls, finished to a smooth finish with a paste of neat cement @ 1kg/sqm and rubbed smooth with trowel over plastered surface (Aldeck smooth finish) including providing 3mmx3mm size grooves at junctions of two dissimilar materials etc all complete.	SQM	300.00		300	600.00	0.0134850
A1202	Providing 12mm thick plaster inside the building/boundary wall in cement mortar 1:4 on even side of walls finished to a smooth finish with approved water proofing compound on walls, finished to a smooth finish with a paste of neat cement @ 1kg/sqm and rubbed smooth with trowel over plastered surface (Aldeck smooth finish) as per specification all complete.	SQM	800.00		250	1050.00	0.0155280
B1202	Providing 18mm thick plaster inside the building/boundary wall in cement mortar 1:4 on uneven side of walls finished to a smooth finish with approved water proofing compound on walls, finished to a smooth finish with a paste of neat cement @ 1kg/sqm and rubbed smooth with trowel over plastered surface (Aldeck smooth finish) as per specification all complete.	SQM	-				
A1204	Providing 6mm thick plaster on ceiling in cement mortar 1:3 finished to a smooth all complete.	SQM			160	160.00	0.0023075

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1207.0	Forming groove of uniform size from 12X12 mm upto 25X15 mm in plastered surface as per approved pattern, using wooden battens nailed to the under layer, including removal of wooden battons, repair of the edges of plaster panel and finishing the groove etc. complete as per specification, drawing and the instructions of engineer in charge.	RM	-	116.26		116.26	0.0002884
A1303	Providing and applying two or more coats of water bound distemper as per IS 427 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline.	SQM	1,000.00	75.43		1075.43	0.0063036
1304.0	Two or more coats of acrylic distemper of approved brand and manufacture to give an even shade including a priming coat with distemper primer complete.	SQM	619.30	284.76	410	1314.06	0.0077048
1305.0	Providing and applying two or more coats of acrylic emulsion paint as per IS 5411 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline.	SQM	40.67	₹ 562		602.52	0.0050426
1312.0	Providing and applying 3 coats of water proof cement paint of approved make and color on exterior surface at all heights including material, labour, scaffolding, curing etc including primer coat complete as per specification.	SQM	1,000.00		300	1300.00	0.0079823

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A1314	Providing and applying resin bonded granular textured finish, for external applications shall consist of crushed stone/quartz chips of .5 mm to 2.5 mm size and of approved natural color/shade and bonded with synthetic resins, adhesives and additives altogether in a single pack mix, applied on cured and dried plaster surface with a dry film thickness of minimum 2 mm. The paint should have VOC content limit less than 200 grams per litre.The final finish shall have UV resistance, fungus, bacterial resistance properties all complete with grooves filled with poly sulphide sealant of matching color and shade as per specification/drawing/approval of engineer in charge.	SQM	827.20	494.49		1321.68	0.0883548
1316.0	Providing and applying 2 mm thick plaster of paris punning on walls including preparation of surface, staging, etc. to achieve a smooth even surface all complete as per specification and as directed by Engineer.	SQM	1,000.00		250	1250.00	0.0080949
A1401	Providing and laying 50 mm thick heavy duty cement concrete in flooring with non- metallic hardener pigmented topping 12mm thick in flooring. Under layer of 38mm thick cement concrete mix 1:2:4 (1 cement: 2 sand : 4 stone aggregates 12.5mm well graded) and top layer of 12mm thick non-metallic concrete of mix 1:2 (1 cement hardner mix with approved quality non-metallic hardening compound :2 stone aggregate 6mm nominal size) by volume including cement slurry, rounding off edges, aluminium strips etc. all complete for following (Quoted item rate shall be inclusive of providing glass joint strips)	SQM	50.00		80	130.00	0.0048213

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1412.0	Providing and laying 18-20mm thick polished Granite stone of approved color and texture in flooring with brass/ stainless steel strips. Under bed shall average 30 mm thick of 1 cement : 2 sand : 4 stone aggregate by volume and brought to proper level. The granite stone slabs/tiles laid over under bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry @3.3kg/sqm spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. all complete.	SQM	25.00	69.19		94.19	0.0136725
A1416	Providing and laying glazed vitrified ceramic tiles of size 600x600mm from reputed / approved manufacturer including underbed of cement mortar 1:3 with neat cement slurry etc. all complete for following.	--	-				
b	10mm thick tiles In flooring	SQM	-	83.93	206	289.93	0.0295512
d	10mm thick tiles In skirting and dado upto specific height	SQM	-	110.46		110.46	0.0116754
d	10mm thick tiles In skirting and dado upto specific height	SQM	300.00		25	325.00	0.0343517
A1420	Providing and laying Heavy Duty anti skid Ceramic Tiles with matt finish of 10mm thick of reputed manufacturer of approved finish shade and colour including underbed of cement mortar 1:3 with neat cement slurry etc. all complete.	--	-				

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a	300X300 mm	SQM	250.00	40.47	25	315.47	0.0178929
1430.0	Providing and fixing dividing strips in joints of cast in situ floorings at various elevations, finishing, all labour, material etc. complete as per drawing, specification and instructions of engineer in charge.	--	-				
a	Glass strips 40 mm wide and minimum 6 mm thick.	RM	50.00		150	200.00	0.0006748
b	Aluminium strips 40 mm wide and minimum 3 mm thick	RM	50.00			50.00	0.0004667
A1514	Providing and installing 50 mm thick under deck insulation with resin bonded mineral wool conforming to IS 8183 backed with 0.05 mm thick aluminium foil and 24 G x 25 mm wire mesh netting including fixing with 100x50x6 slotted mild steel plate welded to MS plate insert embedded at the soffit of the slab at suitable distance and 14G steel wire drawn through slots and fixing to wire netting etc. all complete.	SQM	-		20	20.00	0.0010049

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A1604	Providing, fixing and laying permanently colour coated aluminium false ceiling of approved colour with stove enamelled finish of approved make in LINEAR and SQUARE type with corrosion resistance aluminium alloys panels of minimum thickness 0.8mm including 50mm thick mineral wool insulation (as per IS:8183) bound in polythene bags on top of panels. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. suitable M.S. channel (minimum MC 100) grid 1200 c/c maximum shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc.The work to be complete as per specifications, drawings and direction of engineer.(Materials for structural platform grid for movement made up of MS Channels/ Beams / Angles shall be supplied by BHEL and shall be paid under ST No 2301)	SQM	-		20	20.00	0.0029774
b	150 mm Dia	RM	-		60	60.00	0.0032850
1801.0	Providing and Filling in trenches, plinths, area paving and other underground structures with graded stone aggregate of size range 63 mm to 45 mm in layers not exceeding 230 mm in thickness including breaking of stone boulders to required sizes, filling the interstices with selected sand and compacting to 85 % of original volume of stone stack for all lifts etc. all complete. Payment shall be made for the measurement of the volume of the compacted fill.	CUM	8.21	20.00		28.21	0.0031960

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1805.0	Providing and mixing approved Bipolar Concrete penetrating Corrosion inhibiting admixture phenolic base (krishna conchem or equivalent) in concrete as per detail specification of manufacturer etc. all complete. Payment shall be made per cum of concrete.	CUM	30.00	25.00	90	145.00	0.0095416
1807.0	Anti termite chemical treatment of soil with Chlorpyriphos/Lindane E.C. 20% with 1% concentration conforming to IS:8944 and as per IS 6313 all complete. (Plinth area of building at ground floor only shall be measured for payment).	SQM	-	288.00	100	388.00	0.0043896
1808.0	Laying of earthing mats/rods including risers, transportation from yard stores, loading, unloading, cutting to length, welding, protective painting of joints etc. all complete. (Excavation & Back filling shall be paid separately under respective item of earth work. Earthing mats/rods shall be supplied by BHEL free of cost)	MT	10.00	0.67	1	11.67	0.0095533
2101.0	Providing and fixing in position tested heavy duty type chromium plated (CP) brass long neck bib cocks including sockets, union, nuts etc all complete - 15mm nominal bore.	NOS	67.00	41.00	10	118.00	0.0074665
2104.0	Providing and fixing GI pipes class B medium class conforming to IS:1239 pipes shall be concealed and painted with anticorrosive paint, complete for internal works with GI sockets, unions, elbows, tees, nipples etc and clamps including cutting and making good the walls etc all complete for following sizes:	--	-				

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a	15 mm nominal bore.	RM	50.00	20.00	20	90.00	0.0026796
b	20 mm nominal bore.	RM	50.00	20.00	20	90.00	0.0030146
c	25 mm nominal bore.	RM	20.00	10.00	15	45.00	0.0018089
2105.0	Providing and fixing GI pipes class B complete for external work with GI sockets, unions, elbows, tees, nipples etc including trenching & refilling, anti-corrosive paint etc all complete for following sizes:	--	-				
a	15 mm nominal bore.	RM	30.00	15.00		45.00	0.0010716
b	20 mm nominal bore.	RM	30.00	15.00		45.00	0.0012057
c	25 mm nominal bore.	RM	10.00	10.00		20.00	0.0006551
A2106	Providing and fixing Wall to wall Bathroom mirror (6 mm thick float glass) with high square edges from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets with CP screws etc all complete.	EACH	17.00	4.00	2	23.00	0.0015414
A2108	Providing and fixing 25 mm diameter stainless steel towel rails (600mm X 20mm) all complete.	EACH	12.00	6.00	2	20.00	0.0010423

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A2111	Providing and fixing stainless steel / C.P. liquid soap holder cum dispenser. Dispenser shall be round and easily revolving with removable threaded nozzle and mounted on C.P. brackets etc all complete.	EACH	17.00	8.00	2	27.00	0.0014072
A2114	Providing & fixing in position polyethylene (P.V.C.) water tank conforming as per IS12701 of Syntex or approved equivalent including making all necessary inlet & outlet pipes, fixture, ball cocks, valves etc all complete for following capacities. GI pipes shall be paid separately under ST No. 2105.	--	-				
b	1000 litres capacity	NOS	-	2.00	4	6.00	0.0030593
c	2000 litres capacity	NOS	4.00	2.00		6.00	0.0061185
A2115	Providing and fixing approved heavy duty stainless steel sink/wash basin with integrated drainboard as per IS:13983 of size 915x460x178mm with CI brackets, stainless steel chain with rubber plug 40mm, cp brass waste trap with necessary union complete including painting the fittings, cutting and making good the wall where required etc. all complete.	EACH	7.00	2.00	1	10.00	0.0037588

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A2201	Supply and fixing glazed vitreous china Wash Basin with photo voltaic control fittings conforming to IS:2556 part 4 of oval shape with R.S. or C.I. brackets painted white, 15mm chromium plated brass hot & cold faucets with nylon washers, chromium plated brass chain with rubber plug, 32mm chromium plated brass bottle trap and waste of standard pattern, 32mm dia chromium plated brass trap unions, plastic connection pipe with chromium plated nuts, fittings, cutting and making good the walls where required etc all complete.	--	-				
a	White	EACH	17.00	8.00	2	27.00	0.0073353
2202.0	Providing and fixing approved vitreous china laboratory sink of size 600x400x200mm conforming to IS:2556 (part-5) with R.S. or C.I. brackets, chromium plated brass chain with rubber plug 40mm, 40mm CP brass waste and 40mm CP brass trap with necessary union complete including painting the fittings, cutting and making good the wall where required etc. all complete.	EACH	-	2.00		2.00	0.0004168
2204.0	Providing and fixing colour glazed vitreous china European type water closet conforming to IS:2556 with siphon, open front solid plastic seat and plastic cover, low level 12.5 litre PVC flushing cistern (same colour as WC) with valveless fittings, necessary C.P connections etc all complete.	--	-				
a	Floor mounted	EACH	5.00	5.00	2	12.00	0.0045554

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2206.0	Providing and fixing white flat back glazed vitreous china urinals of size 440x265x355 mm with photo voltaic control flushing system as per IS:2556 (part 6, section 1) with flush pipes, lead pipes, gratings, traps and necessary C.P. fittings etc. all complete.	EACH	3.00	2.00	1	6.00	0.0028135
2207.0	Supply, laying and jointing UPVC pipes of class 3 as per IS:4985 including bends, branches and all other necessary fittings, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete for following.	--	-				
a	75mm dia pipes	RM	-		50	50.00	0.0011158
2208.0	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc all complete for following.	--	-				
a	200mm dia	RM	2.00			2.00	0.0000858
b	300mm dia	RM	2.00			2.00	0.0001096
c	450mm dia	RM	4.00			4.00	0.0006429
d	600mm dia	RM	5.00			5.00	0.0010344

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2213.0	Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber(Clay Brickwork in 1:6 mortar, 12mm plaster in 1:6 mortar & 1:2:4 Cement Concrete) and water tight CI cover with 300x300mm (inside). The weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg etc all complete for following sizes:	--	-				
a	100x100mm P or S Type.	EACH	-		10	10.00	0.0010794
b	150x100mm P or S Type.	EACH	-		10	10.00	0.0010794
c	150x150mm P or S Type.	EACH	-		10	10.00	0.0011910
2214.0	Providing and fixing C.I. floor traps size 100 mm Inlet and 100 mm Outlet Sand Cast Iron S&S as per IS: 1729 with C.P jalli all complete.	EACH	5.00		10	15.00	0.0013400
2215.0	Providing and fixing 100mm heavy duty UPVC floor traps with 100 mm inlet and 100 mm outlet & C.P jalli all complete.	EACH	5.00	20.00		25.00	0.0021398
2216.0	Providing and installing approved brand single tap water cooler of 80 L cooling capacity all complete.	EACH	2.00			2.00	0.0051881
2217.0	Providing and installing approved brand single tap water cooler of 150 L cooling capacity all complete.	EACH	2.00			2.00	0.0064609

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2218.0	Providing and fixing white vitreous urinal partitions of size 675x325x85mm all complete.	EACH	2.00	1.00		3.00	0.0003126
2222.0	Providing and fixing HDPE pipes in concrete/ brick work of following sizes including cutting, fixing and levelling in position etc. all complete.	--	-				
c	160 mm dia	RM	-	250.00		250.00	0.0102313
A2322	Supply, fabrication and fixing of GI pipe hand railing (1250 mm high) of 32 mm/40 mm dia (Medium Grade) including transportation, loading/unloading, painting etc. all complete as per specification.	MT	1.00	1.00		2.00	0.0168135
Total Weightage							1.0000000

SIGNATURE OF BIDDER WITH SEAL