

ANNEXURE-I

TB-386-607-003
REV NO:00

BILL OF QUANTITY CUM PRICE SCHEDULE

Name of Project : 1x250MW Thermal Power Project Rourkela-220kV GIS

Name of Work : Civil Works for 220kV Control Room Building, GIS building and Switchyard at Rourkela

| S.No. | Description of Item | Quantity | Unit | Unit rate | Amount (Rs.) |
|-------|--|----------|-------|-----------|--------------|
| 1 | Earthwork in excavation by mechanical means(Hydraulic excavator)/manual means over areas (exceeding 30cm in depth 1.5m in width as well as 10sqm on plan) including dewatering till completion of backfilling as necessary of rain water/subsoil seepage water/ground water etc and disposal of excavated earth upto 100m and lift upto 3.6mtr , disposed earth to be levelled and neatly dressed. Bidder will have to provide the side of slope as per IS 1200 and safety requirement of Technical Specification.No claim for excavation will be entertained for soil condition, collapsing of pit side etc.(Please refer clause No.1.3.4.1 for Method of Measurement.) | | | | |
| (a) | All kinds of soil . | 11200 | cum | 131.94 | 1477694.40 |
| (b) | Ordinary Rock | 1100 | cum | 201.71 | 221875.50 |
| 2 | Extra for every additional lift of 1.5m or part thereof in excavation /banking including dewatering till completion of backfilling excavated after depth of 3.6mtr | | | | |
| (a) | All kinds of soil . | 2800 | cum | 35.29 | 98817.60 |
| (b) | Ordinary Rock | 350 | cum | 63.24 | 22134.00 |
| 3 | Earthwork in excavation by mechanical means (Hydraulic excavator)/manual means in foundation trenches or drains (not exceeding 1.5m in width as well as 10sqm on plan) including dewatering till completion of backfilling as necessary of rain water/subsoil seepage water/ground water etc and dressing of sides and ramming of bottoms, lift upto 3.6m , including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 100m. Bidder will have to provide the side of slope as per IS 1200 and safety requirement of Technical Specification.No claim for excavation will be entertained for soil condition, collapsing of pit side etc.(Please refer clause No.1.3.4.1 for Method of Measurement.) | | | | |
| (a) | All kinds of soil | 1200 | cum | 133.42 | 160099.20 |
| (a) | Ordinary Rock | 150 | cum | 216.24 | 32436.00 |
| 4 | Filling available excavated earth (including rock) in trenches, plinth, sides of foundations, etc., in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead upto 100m and lift upto 4.0m including dewatering if required.(Please refer clause No.1.3.4.1 for Method of Measurement.) | 7600 | cum | 85.48 | 649617.60 |
| 5 | Carriage & disposal of surplus excavated earth/rock beyond initial lead by mechanical means not necessarily all the times on pucca roads, including loading, unloading, dressing of excavated material, etc., complete as per specifications. (Please refer clause No.1.3.4.1. for Method of Measurement):- | | | | |
| (a) | Lead upto 1 km. | 1350 | cum | 84.44 | 113988.06 |
| (b) | Lead upto 3 km. | 985 | cum | 107.08 | 105473.41 |
| (c) | Lead upto 5 km. | 415 | cum | 128.44 | 53301.94 |
| (d) | Lead upto 8 km. | 290 | cum | 156.65 | 45428.96 |
| 6 | Supplying and filling in plinth with Jamuna/local sand under floors including watering, ramming, consolidating and dressing complete as per TS and Direction of Engineer-In-Charge. | 315 | cum | 764.29 | 240750.09 |
| 7 | Providing, laying and compacting boulder soiling/stone boulder/crushed stone under the floors including sand filling in voids, all material, labour & T & P with ramming, watering, compaction complete etc as per direction of Engineer-in-Charge and customer specification. | 150 | cum | 665.55 | 99832.50 |
| 8 | Making plinth protection 50 mm thick of cement concrete M-20 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 12 mm maximum size) over 200mm thick stone soiling/bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including finishing the top smooth. | 150 | Sqm | 479.30 | 71894.70 |
| 9 | Extra for providing and mixing water proofing material 'Impermo' or equivalent as per TS & direction of Engineer-In-Charge in cement concrete work, plaster work, etc in the proportion recommended by the manufacturer. | 255 | Kg | 36.06 | 9194.54 |
| 10 | Supplying chemical emulsion in sealed containers including delivery as specified. | | | | |
| | Chloropyriphos emulsifiable concentrate of 20% | 450 | litre | 189.67 | 85351.05 |
| 11 | Diluting & injecting chemical emulsion for PRE-CONSTRUCTIONAL ANTI-TERMITE treatment and creating a continuous chemical barrier under and all around the column pits, wall trenches, basement excavation, top surface of plinth filling, junction of wall & floor, along the external perimeter of building, expansion joints, over the top surface of consolidated earth on which apron is to be laid , surroundings of pipes and conduits, etc complete as per specifications (Plinth area of the building at ground floor only shall be measured for payment) | 625 | sqm | 90.02 | 56259.38 |
| 12 | Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work upto plinth level. | | | | |
| (a) | 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size) | 405 | cum | 3965.96 | 1606215.42 |
| (b) | 1:4:8(1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size) | 105 | cum | 3665.17 | 384842.43 |
| (c) | 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40mm nominal size) | 15 | cum | 3424.55 | 51368.22 |

BILL OF QUANTITY CUM PRICE SCHEDULE**Name of Project : 1x250MW Thermal Power Project Rourkela-220kV GIS****Name of Work : Civil Works for 220kV Control Room Building, GIS building and Switchyard at Rourkela**

| S.No. | Description of Item | Quantity | Unit | Unit rate | Amount (Rs.) |
|-------|--|----------|-------------------------------------|-----------|--------------|
| 13 | Providing and laying damp proof course min. 40mm thick cement concrete 1:1.5:3 (1 Cement : 1 1/2 coarse sand : 3 graded stone chips 12 mm downgraded) including all works as per direction of Engineer-In-Charge and Technical specification | 45 | sqm | 211.70 | 9526.55 |
| 14 | Applying two coat of hot bitumen (20/30 or as approved) over a coat of primer as per IS:702 of approved quality & as per Technical Specification after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil. | 15500 | sqm | 98.58 | 1528036.50 |
| 15 | Providing and fixing in position min. 50mm thick bitumen impregnated fibre board conforming to IS: 1838, including the cost of primer, sealing compound in expansion joints. | 10 | per cm depth per 100 m | 438.91 | 4389.06 |
| 16 | Providing and filling in position, blown bitumen in expansion joints | 10 | per cm depth per cm width per 100 m | 533.10 | 5331.03 |
| 17 | Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. (Note :- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately). | | | | |
| (a) | All works upto plinth level | 2310 | cum | 5346.99 | 12351553.83 |
| (b) | All works above plinth level upto floor V level | 1150 | cum | 5897.13 | 6781699.50 |
| 18 | Extra for providing richer mixes at all floor levels. (Note:-Excess/less cement over the specified cement content used is payable/recoverable separately) | | | | |
| (a) | Provide M-30 grade concrete instead of M-25 grade BMC/RMC (Note:-Cement content considered in M-30 is @ 340 Kg/cum) | 50 | cum | 64.46 | 3223.20 |
| (b) | Provide M-35 grade concrete instead of M-25 grade BMC/RMC (Note:-Cement content considered in M-30 is @ 350 Kg/cum) | 50 | cum | 128.98 | 6448.95 |
| 19 | Add for using extra cement in the items of design mix over and above the specified cement content therein. | 3300 | quintal | 601.60 | 1985266.80 |
| 20 | Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size) | | | | |
| (a) | All works upto plinth level | 10 | cum | 5196.75 | 51967.47 |
| (b) | All works above plinth level upto floor V level | 10 | cum | 5850.47 | 58504.65 |
| 21 | Centering and shuttering including strutting, propping, etc., and removal of form for: | | | | |
| (a) | Foundations, footings, bases of columns, etc., for mass concrete. | 2100 | sqm | 170.24 | 357499.80 |
| (b) | Columns, Pillars, Piers, Abutments, Posts and Struts | 2700 | sqm | 372.91 | 1006862.40 |
| (c) | RCC walls at all levels (any thickness). | 3800 | sqm | 290.85 | 1105241.40 |
| (d) | Suspended floors, roofs, landings, balconies and access platform | 1000 | sqm | 317.42 | 317424.00 |
| (e) | Lintels, beams, plinth beams, girders, bressumers and cantilevers | 3000 | sqm | 267.50 | 802485.00 |
| (f) | Stairs (excluding landing) | 50 | sqm | 332.83 | 16641.30 |
| (g) | Weather shade, chajjas,corbel etc including edges | 50 | sqm | 419.32 | 20966.10 |
| 22 | Extra for additional height in centring ,shuttering wherever required with adequate bracing ,propping etc. including cost of deshuttering and decentering at all levels over a height of 5 meter for every additional height of 1 meter or part thereof (Plan area to be measured). | | | | |
| (a) | Suspended floors, roofs, landing, beams,chajjas,corbel and balconies etc . | 4360 | sqm | 124.08 | 541001.88 |
| 23 | Steel reinforcement -TMT/High Yield Strength Deformed steel bars Fe-500 bars conforming to IS-1786 and steel annealed binding wire as per TS at all heights | | | | |
| (a) | Including supply , straightning, cutting and bending, binding (i/c cost of binding wire), welding if required,placing in position, etc., all labour & material, complete. | 6600 | kg | 63.50 | 419067.00 |
| 24 | Steel reinforcement -TMT/High Yield Strength Deformed steel bars/Corrosion resistant bars of grade Fe-500 bars conforming to IS-1786 and steel annealed binding wire as per TS at all heights | | | | |
| (a) | Excluding supply but including straightning, cutting, bending, binding (i/c cost of steel annealed binding wire),welding if required, placing in position, etc., all labour & material, complete. (Reinforcement steel shall be supplied by BHEL at free of cost to site. Unloading, storage and watch & ward shall be in the scope of bidder.) | 261000 | kg | 8.28 | 2161080.00 |
| 25 | Grouting of block outs, pockets, foundations, bolts holes and underside of base plates including placing, curing, cleaning, surface preparation, testing, foamwork etc. complete with labour, materials, equipment, handling, testing, etc. all complete as per specifications, drawings and instructions of the Engineer. | | | | |

BILL OF QUANTITY CUM PRICE SCHEDULE

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Name of Work : Civil Works for 220kV Control Room Building, GIS building and Switchyard at Rourkela

| S.No. | Description of Item | Quantity | Unit | Unit rate | Amount (Rs.) |
|-------|---|----------|-------|-----------|--------------|
| (a) | Cement, sand, aggregate of size 6mm down grout 1:1:2 with non-shrink additive of approved make and shall be of strength not less than M30 | 5 | cum | 7369.20 | 36846.00 |
| 26 | Applying minimum two coat of hot bitumen grade (85/25) as per IS:702 mixed with 1% of anti-stripping compound meeting the requirement of IS:6241, shall be applied on concrete surface. The total application of bitumen shall not be less than 1.7 kg per sqm on foundations etc. after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil. | 220 | sqm | 98.58 | 21688.26 |
| 27 | Brickwork with F.P.S. (Non modular) bricks of class designation 7.5 in foundation and plinth in: | | | | |
| (a) | Cement mortar 1:6 (1 cement : 6 coarse sand) | 60 | cum | 3382.88 | 202972.86 |
| 28 | Brickwork with F.P.S. (Non modular) bricks of class designation 7.5 in superstructure above plinth level upto V level in all shapes and sizes: | | | | |
| (a) | Cement mortar 1:6 (1 cement : 6 coarse sand) | 370 | cum | 3953.67 | 1462859.01 |
| 29 | Half brick masonry with F.P.S. (Non modular) bricks of class designation 7.5 in foundation and plinth in: | | | | |
| (a) | Cement mortar 1:4 (1 cement : 4 coarse sand) | 40 | sqm | 425.29 | 17011.56 |
| 30 | Half brick masonry with F.P.S. (Non modular) bricks of class designation 7.5 in superstructure above plinth upto floor V level. | | | | |
| (a) | Cement mortar 1:4 (1 cement : 4 coarse sand) | 45 | sqm | 486.39 | 21887.42 |
| 31 | 20 mm cement external (or rough side) plaster irrespective of any height from ground level in two coats under layer 12 mm thick cement plaster 1:3 (1 cement : 3 coarse sand) finished with a top layer 8 mm thick cement plaster 1:2 (1 cement : 2 fine sand). | 2100 | sqm | 202.22 | 424651.50 |
| 32 | Rendered sand faced cement plaster irrespective of any height from ground level in two coats under layer 12mm thick cement plaster 1:3 (1 cement : 3 coarse sand) and keys to formed on surface. Top layer finished to desired texture to the satisfaction of Engineer-In-Charge with min.6mm thick plaster 1:3 (1 cement : 3 screened coarse sand). | 175 | sqm | 202.22 | 35387.63 |
| 33 | Rough cast concrete facing cement plaster irrespective of any height from ground level shall have two coat with backing coat of 2mm thick mortar of 1:3 (1 cement : 3 coarse sand) and a top coat of min. 12mm thick plaster with a mixture of sand and gravel or crushed stone from 6mm to 10mm nominal size, dashed over and including finished to the desired texture to the satisfaction of Engineer-In-Charge with a proportion of mix 1:3 (1 cement: 3 Coarse sand). | 85 | sqm | 321.61 | 27488.73 |
| 34 | 15mm cement plaster internal (or even side) of the walls in the mix: | | | | |
| (a) | 1:3 (1cement :3coarse sand) | 1620 | sqm | 134.74 | 218220.19 |
| 35 | 6mm cement plaster to ceiling of mix. | | | | |
| (a) | 1:3 (1 cement : 3 fine sand) | 1060 | sqm | 103.02 | 109188.01 |
| 36 | 2mm thick plaster of paris putty over the plastered surfaces on wall surfaces at all height as directed by engineer-in-charge. | 2680 | sqm | 85.48 | 229075.68 |
| 37 | Plaster drip course/groove in plastered surface or moulding to RCC projections: | 50 | meter | 22.70 | 1130.59 |
| 38 | Applying priming coat | | | | |
| (a) | With chlorinated Rubber based zinc Phosphate or Zinc silicate or Zinc chronate or as approved primer of approved brand and manufacture on steel works for two or more coat. | 875 | sqm | 21.11 | 18474.75 |
| (b) | Applying cement primer of approved brand and manufacture for two or more coat. | 430 | sqm | 28.10 | 12083.43 |
| 39 | Supplying & fixing (all dia & length) foundation bolts in position with help of proper templates (template to be supplied by contractor) including nuts, washers and template all complete as per drawings & directions of Engr-in-Charge.(Weight of Template will not be considered for payment purpose) | 2550 | kg | 88.28 | 225116.55 |
| 40 | Extra over Item above for providing galvanised bolts (Mass of zinc coating = 800gms/sqm), nuts & washer . | 2550 | kg | 8.85 | 22567.50 |
| 41 | Fixing (all dia & length) foundation bolts in position with help of proper templates(template to be supplied by contractor) including nuts and washers all complete as per specs, drawings & directions of Engr-in-Charge.(Foundation bolts shall be supplied by BHEL.Weight of Template will not be considered for payment purpose) | 100 | kg | 11.06 | 1106.00 |

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| S.No. | Description of Item | Quantity | Unit | Unit rate | Amount (Rs.) |
|-------|---|----------|------|-----------|--------------|
| 42 | Providing & fixing in position precast cement concrete trench covers or perforated covers wherever necessary at various elevations in all kinds of work including moulding, formwork, mixing, laying out, compacting and curing, storing, transportation, erection without damage, setting in position with cement and sand mortar, grouting etc all as per specs, drawings and directions of Engr-in-Charge but excluding the cost of reinforcement, inserts, edge angles, etc. | | | | |
| | Grade of concrete shall be M30 | 55 | Cum | 6538.22 | 359602.10 |
| 43 | Structural steelwork welded in built up sections like edge protection angles, insert plates with lugs & framed work including providing, cutting, hoisting, fixing in position/ embedding in concrete and applying a priming coat of approved steel primer etc all complete. | 44000 | kg | 67.83 | 2984520.00 |
| 44 | Steelwork welded in built up sections/framed work including providing ,cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc., as required. | | | | |
| (a) | In covering of floors/trenches inside the buildings with chequered plates , stringers, treads, landings etc of staircases involving use of chequered plates, wherever required, all complete. | 9550 | kg | 68.54 | 654595.20 |
| (b) | In gratings, rails ,mono rails (including mono rails for crane support and lifting arrangement in the building), frames, ladders, stair railings, gates(including pipe), gantry girder(beams,channels etc), and similar works. | 5750 | kg | 79.46 | 456883.50 |
| 45 | Cement concrete flooring 1:2:4 (1cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement including cement slurry, but excluding the cost of nosing of steps, etc., complete. | | | | |
| (a) | 50mm thick with 12.5mm nominal size stone aggregate. | 15 | sqm | 357.07 | 5356.07 |
| 46 | 52mm thick CC flooring with Metallic/Concrete hardner topping under layer 40mm thick CC 1:2:4 (1cement:2 coarse sand: 4 stone aggregate 10mm nominal size) and top layer 12 mm thick Hardcrete cement hardner consisting of mix 1:1 (1 cement hardner mix: 1 stone chips 3mm to 6mm nominal size) by volume with which hardening compound of approved quality is mixed @ 2 liter per 50 Kg of cement including neat coat of cement slurry, making panels of requisite size from glass strip or as approved etc all complete as per Technical specification but excluding the cost of nosing of steps etc., complete. | 515 | sqm | 428.91 | 220888.65 |
| 47 | Cement plaster skirting (upto 30cm height) with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement & material used in respective CC flooring. | | | | |
| (a) | 18mm thick | 30 | sqm | 263.36 | 7900.92 |
| 48 | Providing & fixing chemical resistant (Acid & Alkali) Tiles as per IS 4457 of minimum thickness 25mm thick in flooring,skirting,Dado. The tiles shall be abrasion resistant and durable. The potassium silicate as per IS 4832, 6mm thick mortar used for setting or for under bed shall be durable strong and chemical resistant epoxy mortar including pointing etc. after laying bitumen primer as per IS 158 and 15mm thick cement mortar underbed complete as per IS 9510 and IS 412 and as per specification. | 150 | sqm | 1490.31 | 223546.50 |
| 49 | Providing and laying Ceramic glazed floor tiles of size 300x300 mm(thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement : 4Coarse sand), including pointing the joints with white cement and matching pigment etc., complete. | 15 | sqm | 779.84 | 11697.62 |
| 50 | Providing and fixing 1st quality designer ceramic glazed tiles conforming to IS:15622 of minimum thickness 5 mm of approved make and colours in skirting,risers of steps and dados over 12 mm thick bed of Cement mortar 1:3 (1 Cement:3 coarse sand) and jointing with grey cement slurry @3.3 kg/sqm including pointing in white cement mixed with pigment of matching shade complete. | 125 | sqm | 738.74 | 92341.88 |
| 51 | Providing and laying of minimum 10 mm thick pre-polished vitrified tiles with water absorption less than 0.08% and conforming to IS 15622 in different sizes of approved make and colours laid over 20 mm thick bed of Cement mortar 1:4 (1 Cement:4 coarse sand) including pointing in white cement mixed with pigment of matching shade complete as per direction of Engineer-in charge. | | | | |
| (a) | Size of Tile 60X60 cm. | 220 | sqm | 1363.84 | 300045.24 |
| 52 | Providing and fixing pre polished vitrified tiles minimum thickness 10 mm with water absorption less than 0.08% and conforming to IS 15622 of approved make and colours in skirting,risers of steps and dados over 12 mm thick bed of Cement mortar 1:3 (1 Cement:3 coarse sand) and jointing with grey cement slurry @3.3 kg/sqm including pointing in white cement mixed with pigment of matching shade complete. | 25 | sqm | 1365.98 | 34149.60 |

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| S.No. | Description of Item | Quantity | Unit | Unit rate | Amount (Rs.) |
|-------|---|----------|------|-----------|--------------|
| 53 | Providing and fixing minimum 18mm thick gang saw cut, mirror polished, machine cut as approved by Engineer-In-Charge for wall lining(veneer work), skirting,dado,risers etc of approved shade, colour and texture backing filled with a grout of average 12mm thick in cement mortar 1:3(1 cement: 3 coarse sand), including pointing with white cement mortar 1:2 (1 white cement: 2 marble dust) with an admixture of pigment to match the marble stone epoxy touch ups, including rubbing, curing,moulding and polishing etc. to give high gloss finish etc complete at all levels. | | | | |
| | Rajnagar Marble/Udaipur Green Marble/Zebra black marble | 70 | sqm | 2267.36 | 158715.06 |
| 54 | Providing and fixing minimum 18mm thick gang saw cut, mirror polished, machine cut as approved by Engineer-In-Charge for column facia, kitchen platforms, vanity counters,(one piece granite stone for wash basin and kitchen sink platform) flooring and similar locations of required size of approved shade, colour and texture laid over 20mm thick base cement mortar 1:4 (1 cement: 4 coarse sand) with joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing,moulding and polishing etc. to give high gloss finish etc complete at all levels. | | | | |
| | Rajnagar Marble/Udaipur Green Marble/Zebra black marble | 5 | sqm | 1932.65 | 9663.23 |
| | Granite of any approved color and shade | 5 | sqm | 3101.97 | 15509.87 |
| 55 | Extra for providing opening of required size and shape for wash basin/kitchen sink in kitchen platform (one piece for wash basin platform), vanity counter and similar location in marble/granite/stone work, including necessary holes for pillar taps etc including moulding, rubbing and polishing of cut edges etc complete as per direction of Engineer-In-Charge | 5 | Each | 286.72 | 1433.61 |
| 56 | Providing and fixing polished Marble/Grante stone flooring with minimum 18mm thickness marble stone,as per sample of marble approved by Engineer-In-Charge, over 20mm (average) thick base of cement mortar 1:4 (1cement: 4 Coarse Sand) laid and jointed with grey cement slurry including rubbing and polishing complete with: | | | | |
| | Rajnagar Marble/Udaipur Green Marble/Zebra black marble or as approved by Engineer In charge | 65 | sqm | 1308.81 | 85072.85 |
| 57 | Kota stone slab flooring over 20mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match shade of the slab, including rubbing and polishing complete with base of cement mortar 1: 4 (1 cement : 4 coarse sand): | | | | |
| | Minimum 25 mm thick | 15 | sqm | 964.61 | 14469.21 |
| 58 | Kota stone slabs min. 25 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement : 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shades of the slabs, including rubbing, bull nosing and polishing complete. | 20 | sqm | 973.18 | 19463.64 |
| 59 | Providing and laying 1st quality heavy duty dustpressed anti skid ceramic tiles 300X300 mm (thickness to be specified by manufacturer) conforming to IS:15622 of minimum thickness 7 mm of approved make and colours laid over 43 mm thick bed of cement mortar 1:4 (1 cement : 4 coarse sand) to make overall thickness of flooring 50mm including pointing in white cement mixed with pigment of matching shade complete. | 40 | sqm | 779.84 | 31193.64 |
| 60 | Chequerred precast cement concrete tiles 25mm thick in footpath and courtyard, jointed with neat cement slurry mixed with pigment to match the shade of tiles including rubbing and cleaning etc complete on 20mm thick bed of cement mortar 1:4 (1 Cement: 4 Coarse Sand) | | | | |
| | Minimum 25 mm thick | 10 | sqm | 741.86 | 7418.56 |
| 61 | Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete. | | | | |
| (a) | On steel work | 15 | sqm | 107.61 | 1614.15 |
| (b) | On concrete work | 15 | sqm | 110.72 | 1660.82 |
| 62 | Providing and fixing ISI marked double flush door shutters decorative type, the outer shutter shall be 45mm (min.) thick two outer sheets of 1.25mm rigidly connected with continuous vertical 1.0mm stiffeners at the rate of 150 mm center to center. Sides, top and bottom edges of shutters shall be reinforced by continuous pressed steel channel with min.1.2mm. The door shall be sound deadened by filling the inside void with mineral wool all complete with all hardware as per specification. | | | | |
| | 45 mm thick including ISI marked Stainless Steel butt hinges with nessary screws. | 5 | sqm | 5400.00 | 27000.00 |

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| S.No. | Description of Item | Quantity | Unit | Unit rate | Amount (Rs.) |
|-------|--|----------|-------|-----------|--------------|
| 63 | Providing and fixing pressed steel door frames conforming to IS: 4351 manufactured from commercial mild steel sheet of not less than 5.0 mm thickness including hinges, jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50x25mm, or base ties of min. 5.0 mm pressed mild steel welded or rigidly fixed together by mechanical means, including M.S. pressed butt hinges, min. 8.0mm thick with mortar guards, lock strike-plate and shock absorbers as specified and applying a coat of approved steel primer after pre-treatment of the surface as directed by Engineer-in-charge: | | | | |
| | Profile B | 5 | RM | 353.69 | 1768.43 |
| | Profile C | 70 | RM | 377.40 | 26418.00 |
| 64 | Providing and fixing double walled door shutter consist of two plates each 2.5mm min. thick, separated by a gap of 33mm in between making an overall thickness of 38mm, plates shall be adequately stiffened by means of suitably spaced horizontal steel stiffeners etc all complete as per drawing and direction of Engineer-In-Charge. | 15 | sqm | 5204.96 | 78074.37 |
| 65 | Providing and fixing with min. 1 mm thick M.S. sheet door with frame of 40x40x6 angle iron/semi-tubular edge and central stiffening rail/3mm gusset plate for lock etc all necessary fittings complete, including applying a priming coat of approved steel primer as per drawing, TS and directed by Engineer-in-charge: | 30 | sqm | 2602.48 | 78074.37 |
| 66 | Providing and fixing Fiber glass Reinforced Plastic (FRP) Door frames of cross section 90mmx45mm having single rebate of 32mm x 15mm to receive shutter of 30mm thickness. The laminate shall be moulded with fire resistant grade unsaturated polyester resin and chopped mat. Door frame laminate shall be 2mm thick and shall be filled with suitable material wooden/woolen etc in all the three legs. The frame shall be covered with fibre glass from all sides. M.S stay shall be provided at the bottom to steady the frame. | 5 | Meter | 454.16 | 2270.78 |
| 67 | Providing and fixing 30mm thick Glass Fiber Reinforced Plastic (FRP) flush door shutter in different plain and wood finish made of required colour and approved brand and manufacture, made with fire-retardant grade unsaturated polyester resin, moulded to 3mm thick FRP laminate all around with suitable wooden blocks inside at required places for fixing of fitting with and polyurethane foam (PUF)/ Polystyrene foams to be used as filler material throughout the hollow panel, casted monolithically with testing parameters of F.R.P laminated conforming to table-3 of IS: 14856, complete as per direction of Engineer-In-Charge. | 5 | sqm | 2489.92 | 12449.61 |
| 68 | Providing and fixing aluminium work for doors, windows, ventilators and partitions as per IS:1948 & 1949 with extruded built up standard tubular sections/appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket, sealent compound etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) : | | | | |
| (a) | For fixed portion- Powder coated Aluminum (Minimum Thickness of powder coating 50 micron) | 455 | kg | 395.35 | 179885.16 |
| (b) | For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)- (Minimum Thickness of powder coating 50 micron) | 600 | kg | 445.08 | 267046.20 |
| 69 | Providing and fixing 12mm thick prelaminated particle board flat pressed three layer or graded wood particle board conforming to IS:12823 grade I type II, in panelling fixed in aluminium doors, windows, shutters and partitions frame with C.P. brass/stainless steel screws etc. complete as per architectural drawings and direction of Engineer-In-Charge. | | | | |
| (a) | Pre-laminated particle board with decorative lamination on one side and balancing lamination on other side | 5 | sqm | 952.07 | 4760.34 |
| (b) | Pre-laminated particle board with decorative lamination on both sides | 5 | sqm | 989.35 | 4946.75 |
| 70 | Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions, etc., with PVC/neoprene gasket, etc., all complete as per the architectural drawings and directions of Engineer-in-charge. (Cost of aluminium snap beading shall be paid in basic item). | | | | |
| (a) | With float/frosted/Tinted glass panes of 4 mm thickness. | 15 | sqm | 739.86 | 11097.86 |
| (b) | With float/frosted/Tinted glass panes of 5.5 mm(min.) thickness | 35 | sqm | 923.87 | 32335.28 |
| (c) | With toughened reflective glass of 6mm (Min.) thickness | 125 | sqm | 1512.66 | 189082.50 |
| (d) | With toughened reflective glass of 8mm thickness | 15 | sqm | 1904.34 | 28565.10 |
| (e) | With toughened reflective glass of 10mm thickness | 15 | sqm | 2295.00 | 34425.00 |
| (f) | With toughened reflective glass of 12mm thickness | 15 | sqm | 2685.66 | 40284.90 |

BILL OF QUANTITY CUM PRICE SCHEDULE**Name of Project : 1x250MW Thermal Power Project Rourkela-220kV GIS****Name of Work : Civil Works for 220kV Control Room Building, GIS building and Switchyard at Rourkela**

| S.No. | Description of Item | Quantity | Unit | Unit rate | Amount (Rs.) |
|-------|---|----------|------|-----------|--------------|
| 71 | Providing and fixing fire proof door with panic devices as per IS:3614 (part-I & part-II) duly approved by Tariff Advisory Committee with minimum fire rating of 2 hours from reputed manufacturer having valid Test Certificate from approved lab and double cover plated type with mineral wool insulation all complete as per TS & direction of Engineer-in-Charge. | 25 | sqm | 8640.19 | 216004.75 |
| 72 | Providing & fixing double glazed hermetically sealed glazing in aluminium windows, ventilators and partitions, etc, with min. 6mm thick toughened safety glass conforming to IS: 2553 on both sides having 12mm air gap including providing EPDM gasket, perforated aluminium spacers/beading, dessicants, silicon sealants (both primary & secondary sealant) etc. as per specifications, drawings & direction of Engineer-in-charge complete. | 20 | sqm | 3394.97 | 67899.36 |
| 73 | Frameless/Aluminum framed automatic sliding Aluminum doors comprising of Advanced DC brushless motor, Automatic Reversing safety device, suitable for door min. weight 100kg, operating speed: 90-110 cm/sec (adjustable), opening time: within 1-9seconds after door stopped in opening, controller: 8 bit micro computer, motor (Dortexorequivalent): DC 12V, 35W brushless motor, Power voltage: AC110V-240V, 50Hz-60Hz, Power Consumption: 45W including infra red sensors 2 Nos both sides, make of best and approved quality etc all complete as per drawing/TS and direction of Engineer-In-Charge. Cost inclusive of all items used in this work except glass. | | | | |
| (a) | Opening area to be considered for payment | 10 | sqm | 20522.40 | 205224.00 |
| 74 | Providing & fixing anodised aluminium grill (anodised transparent or dyed to required shade according to IS:1868 with minimum anodic coating of grade AC15) of approved design/pattern, with approved standard section and fixed to the existing window frame with C.P brass/stainless steel screws @ 200mm centre to centre, including cutting the grill to proper opening size for fixing and operation of handles and fixing approved anodised aluminium standard section around the opening, all complete as per requirement and direction of Engineer-In-Charge. (Only weight of grill to be measured for payment). | 45 | Kg | 396.17 | 17827.56 |
| 75 | Providing wood work in frames of doors , windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia and length | | | | |
| a) | Min. Second class teak wood of any thickness | 5 | cum | 87529.57 | 437647.83 |
| 76 | Providing and fixing ISI marked flush door shutters conforming to IS:2202 (Part I) non decorative type, core of block board construction with frame of 1st class hard wood/2nd class teak wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters: | | | | |
| a) | 35mm thick including ISI marked stainless steel butt hinges with necessary screws | 10 | sqm | 1609.87 | 16098.66 |
| 77 | French spirit polishing: | | | | |
| a) | Two or more coats on new works including a coat of wood filler | 10 | sqm | 140.20 | 1401.99 |
| 78 | Polishing on wood work with ready made wax polish of approved brand and manufacture: | | | | |
| a) | Two or more coats on new works | 5 | sqm | 61.71 | 308.55 |
| 79 | Providing and fixing double action hydraulic floor spring of approved brand and manufacture conforming to IS : 6315, having brand logoembossed on the body / plate with double spring mechanism and door weight upto 125 kg, for doors, including cost of cutting floors, embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot andsingle piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge. | 5 | each | 1992.16 | 9960.81 |
| 80 | Providing and fixing aluminium sliding door bolts anodised (anodic coating not less than .06mm as per IS: 1868) transparent or dyed to required colour or shade with nuts and screws etc., complete. | | | | |
| (a) | 300 X 16 mm | 4 | each | 207.88 | 831.50 |
| (b) | 250 X 16 mm | 1 | each | 172.33 | 172.33 |
| 81 | Providing and fixing aluminium tower bolts anodised (anodic coating not less than grade AC 10 as per IS: 1868) transparent or dyed to required colour or shade with necessary screws etc., complete. | | | | |
| (a) | 300 X 10mm | 4 | each | 102.41 | 409.63 |
| (b) | 250 X 10 mm | 1 | each | 88.18 | 88.18 |
| 82 | Providing and fixing aluminium handles anodised (anodic coating not less than grade AC 10 as per IS: 1868) transparent or dyed to required colour or shade with necessary screws etc., complete. | | | | |
| | 125mm | 5 | each | 63.75 | 318.75 |
| 83 | Providing and fixing aluminium hanging floor door stopper , ISI marked, anodised (anodic coating not less than grade AC 10 as per IS:1868) transported or dyed to required colour or shade with necessary screws etc., complete. | | | | |
| | Single Rubber Stopper | 1 | each | 29.17 | 29.17 |
| | Double Rubber Stopper | 1 | each | 72.98 | 72.98 |

BILL OF QUANTITY CUM PRICE SCHEDULE**Name of Project : 1x250MW Thermal Power Project Rourkela-220kV GIS****Name of Work : Civil Works for 220kV Control Room Building, GIS building and Switchyard at Rourkela**

| S.No. | Description of Item | Quantity | Unit | Unit rate | Amount (Rs.) |
|-------|--|----------|------|-----------|--------------|
| 84 | Providing and fixing aluminium casement stays , ISI marked, anodised (anodic coating not less than grade AC 10 as per IS:1868) transported or dyed to required colour or shade with necessary screws etc., complete. | 10 | each | 63.65 | 636.48 |
| 85 | Providing and fixing IS:3564 marked aluminium die cast body tubular type universal door closer of approved quality and make with accessories and screws complete. | 5 | each | 676.06 | 3380.28 |
| 86 | Supplying and fixing rolling shutters as per IS:6248 of approved make, made of required size MS laths interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with mechanical arrangement for operation complete including the cost of providing and fixing necessary 27.5cm long wire springs grade no. 2 and MS top cover of required thickness for rolling shutters. | | | | |
| | 80X1.20 mm MS laths with 1.2mm thick top cover. | 20 | sqm | 1615.07 | 32301.36 |
| 87 | Providing and fixing ball bearing for rolling shutters. | 4 | each | 438.45 | 1753.79 |
| 88 | Extra for providing mechanical device chain and crank operating rolling shutters , operation for | | | | |
| | Exceeding 10.00 sqm in the area | 20 | sqm | 639.90 | 12797.94 |
| 89 | Providing and fixing M.S. grills of required pattern in frames of windows etc. with MS flats, square or round bars etc. including priming coat with approved steel primer all complete. all complete. | 660 | kg | 100.16 | 66108.24 |
| 90 | Providing and fixing ISI marked oxidised M.S. sliding door bolts with nuts and screws etc complete for min. size of 300x16mm | 4 | each | 145.20 | 580.79 |
| 91 | Providing and fixing ISI marked oxidised M.S. tower bolt black finish or approved color with necessary screws etc complete for min. size of 250x10mm | 4 | each | 56.61 | 226.44 |
| 92 | Providing and fixing ISI marked 85x42mm oxidised M.S. pull block lock conforming to IS:7534 with necessary screws bolts, nut and washers etc complete. | 4 | each | 61.35 | 245.41 |
| 93 | Providing and fixing ISI marked oxidised M.S. door latches conforming to IS:5930 with screws etc complete for min. size of 300x20x6mm | 4 | each | 61.56 | 246.23 |
| 94 | Providing and fixing ISI marked oxidised M.S. handles conforming to IS:4992 with necessary screws etc complete for min. size of 125mm | 4 | each | 24.23 | 96.90 |
| 95 | Providing and fixing bright finished brass/chromium plated brass 100mm mortice latch and lock with 6 levers and a pair of lever handles of approved quality with necessary screws etc all complete. | 4 | each | 481.70 | 1926.78 |
| 96 | White washing with lime to give an even shade | | | | |
| | New work (3 or more coats) | 440 | sqm | 11.99 | 5273.40 |
| 97 | Color washing of approved color to give an even shade: | | | | |
| | New work (2 or more coats) with a base coat of white wash with lime | 55 | sqm | 16.47 | 906.02 |
| 98 | Distempering with 1st quality acrylic distemper of approved manufacturer, of required shade and colour complete, as per manufacturer's specification . | | | | |
| | Two or more coats on new work. | 2570 | sqm | 38.10 | 97909.29 |
| 99 | Distempering with 1st quality acrylic oil bound washable distemper of approved brand and manufacture to give an even shade : | | | | |
| | New work (two or more coats) over and including water thinnable priming coat with cement primer | 740 | sqm | 68.03 | 50345.16 |
| 100 | Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade : | | | | |
| | Two or more coats on new work. | 1460 | sqm | 61.46 | 89724.30 |
| 101 | Painting with ready mixed synthetic enamel paint of approved brand and manufacture to give an even shade: | | | | |
| | Two or more coats on new work. | 490 | sqm | 54.93 | 26914.23 |
| 102 | Painting with Acid/Alkaline proof paint of approved brand and manufacture to give an even shade. | | | | |
| | Two or more coats on new work. | 300 | sqm | 51.51 | 15453.00 |
| 103 | Painting with Acid/Alkali resistant resin based Epoxy coating over two coats of DECKURDS-S manufactured by FOSROC or equivalent of required colour to give an even shade. | | | | |
| | Two or more coats on new work. | 100 | sqm | 46.46 | 4646.00 |
| 104 | Finishing walls with textured/Resin bonded granular texture finish exterior paint of required shade: | | | | |

BILL OF QUANTITY CUM PRICE SCHEDULE**Name of Project : 1x250MW Thermal Power Project Rourkela-220kV GIS****Name of Work : Civil Works for 220kV Control Room Building, GIS building and Switchyard at Rourkela**

| S.No. | Description of Item | Quantity | Unit | Unit rate | Amount (Rs.) |
|------------|--|----------|------|-----------|--------------|
| | New work : Two or more coats applied @min.3.28ltr/10sqm) over and including priming coat of exterior primer applied @2.20kg/10 Sqm. | 530 | sqm | 120.05 | 63628.62 |
| | | | | | |
| 105 | Finishing walls with water proofing cement paint of required shade : | | | | |
| | New work : Two or more coats applied @3.84kg/10sqm. | 2900 | sqm | 45.85 | 132962.10 |
| | | | | | |
| 106 | Finishing walls with premium Acrylic smooth exterior paint or required shade: | | | | |
| | New work : Two or more coats applied @min.1.67ltr/10sqm) over and including priming coat of exterior primer applied @2.20kg/10 Sqm. | 2350 | sqm | 82.06 | 192838.65 |
| | | | | | |
| 107 | Providing and fixing stainless steel (Grade E304) railing made of hollow tubes, channels, plates etc including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete i/c fixing the railing with necessary accessories and stainless steel dash fasteners, stainless steel bolts etc of required size, on the top of the floor or the side of waist slab with suitable arrangement as per Technical Specification and approval of Engineer-In-Charge . (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.) (Approved make-ARCH Brand or equivalent make) | 525 | kg | 569.16 | 298809.00 |
| | | | | | |
| 108 | Providing and fixing color galzed earthenware/ color vitreous china water closet squatting pan (Indian type W.C. pan) as per IS 2556 with 100 mm sand cast iron P or S trap, 10 litre low level P.V.C. flushing cistern (of approved make) with valveless siphon/fittings(15mm ball cock,galvanised iron handle), C.I./M.S. brackets with wall plugs,brass unions,flush pipe coupling, 32 mm diameter GI telescopic high density PVC flush pipe with fittings and clamps, overflow arrangement with specials and mosquito proof flushing cistern coupling of approved municipal design including painting of fittings and brackets, providing 15mm PVC connection pipe with brass couplings at both ends & 15mm brass CP cock, cutting and making good the walls and floors wherever required as per TS and direction of Engineer-In-Charge inclusive of all work. | | | | |
| | Orissa pattern W.C. Pan of Min. Size 580 x 440 mm with integral type foot rests flush pipe and overflow arrangement.(Approved make are of Hindustan sanitary ware or parry ware make or equivalent make & shape of approved by customer. CP flush valves shall be of Jaquar, ACCO brand or equivalent quality.) | 1 | each | 3023.38 | 3023.38 |
| | | | | | |
| 109 | Providing and fixing color galzed earthenware/color vitreous china pedestal type water closet (European type W.C. Pan) as per IS 2556 with approved seat cover and lid, C.P. Brass hinges/unions, screw bolt and rubber buffers conforming to IS:2548, 10 litre low level flushing cistern having Duco spray painted GI telescopic flush pipe with buffer clamp, holder bat and 38mm dia PVC pipe/40mm O.D high density polythene flush pipe with fittings & CI/MS brackets 40mm dia flush bend , overflow arrangement with specials of standard make and 'Duco' spray painted mosquito proof coupling of approved municipal design compete including painting of fittings and brackets, providing 15mm PVC connection pipe with brass couplings at both ends & 15mm brass CP cock, min. 390mm high, cutting and making good the walls and floors wherever required : | | | | |
| | W.C. pan with color/black solid plastic seat and lid with white vitreous china flushing cistern and CP flush bend.(Approved makes are of Hindustan sanitary ware or parry ware make or equivalent make & shape approved by customer.CP flush valves shall be of Jaquar, ACCO brand or equivalent quality.) | 2 | each | 4305.22 | 8610.43 |
| | | | | | |
| 110 | Providing and fixing color galzed earthenware/ color vitreous china flat back or wall corner type lipped front urinal basin of size 435x265x355 and 340x410x265 mm size respectively with CI/MS mosquito proof high level automatic flushing cistern(Photo voltaic control flushing system as pe IS:2556) ,with fittings, standard size C.P. brass flush pipe(Min. 25mm dia), spreaders with unions and clamps (all in C.P. brass) with waste(PVC) fitting as per IS :2556, C.I. trap with 20mm dia overflow pipe wht mosquito proof cover and other couplings in C.P. brass, providing 15mm PVC connection pipe with brass couplings at both ends & 15mm brass CP cock,32mm C.P brass outlets complete with PVC waste including painting of fittings and cutting and making good the walls and floors wherever required as per TS : | | | | |
| | One Urinal basin with minimum 10 litre capacity color P.V.C automatic flushing cistern (Approved make of Hindustan sanitary ware or parry ware make or equivalent make & shape) | 1 | each | 2901.29 | 2901.29 |
| | Range of two Urinal basin with minimum 10 litre capacity color P.V.C automatic flushing cistern(Approved make of Hindustan sanitary ware or parry ware make or equivalent make & shape) | 1 | each | 4745.86 | 4745.86 |
| | | | | | |
| 111 | Providing and fixing granite stone slab with table rubbed/Vitreous china with Mosaic finish or marble of approved make & quality, edges rounded and polished, of size 75x50 cm deep and 1.8 cm thick, fixed in urinal partitions by cutting a chase of appropriate width with chase cutter and embedding the stone in the chase with epoxy grout or with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6 mm nominal size) as per direction of Engineer-in-charge and finished smooth. | 5.0 | sqm | 3000.89 | 15004.46 |
| | | | | | |

BILL OF QUANTITY CUM PRICE SCHEDULE**Name of Project : 1x250MW Thermal Power Project Rourkela-220kV GIS****Name of Work : Civil Works for 220kV Control Room Building, GIS building and Switchyard at Rourkela**

| S.No. | Description of Item | Quantity | Unit | Unit rate | Amount (Rs.) |
|-------|--|----------|-------|-----------|--------------|
| 112 | Providing and fixing C/MS mosquito proof high level automatic flushing cistern of approved capacity wash basin with C.I. brackets, min. 15 mm C.P. brass pillar taps, 32 mm C.P. brass outlet with PVC waste of standard pattern, 20mm dia overflow pipe with mosquito proof cover, providing 15mm PVC connection pipe with brass couplings at both ends & 15mm brass CP cock including painting of fittings and brackets, cutting and making good the walls wherever require : | | | | |
| (a) | Color Vitreous china wash basin of approved make of Hindustan sanitary ware or parry ware make or equivalent make & shape min. 630x450mm with a pair of 15mm C.P. brass pillar taps. CP flush valves shall be of Jaquar, ACCO brand or equivalent quality approved by customer. | 2 | each | 1885.32 | 3770.63 |
| (b) | Color Vitreous china wash basin of approved make of Hindustan sanitary ware or parry ware make or equivalent make & shape min. 550x400mm with a pair of 15mm C.P. brass pillar taps. CP flush valves shall be of Jaquar, ACCO brand or equivalent quality approved by customer | 1 | each | 1713.55 | 1713.55 |
| 113 | Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS : 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required : | | | | |
| | Kitchen sink with drain board 510x1040 mm bowl depth 250 mm | 2 | each | 6878.42 | 13756.84 |
| 114 | Providing and fixing 100 mm sand cast iron grating for gully, floor or Nahani trap. | 3 | each | 25.09 | 75.28 |
| 115 | Providing and fixing Min. 600 x 450 x 6 mm bevelled edge mirror of float glass (of approved quality) complete with 6 mm thick hard water proof board ground fixed to wooden cleats with C.P. Brass screws and washers complete. | 3 | each | 687.53 | 2062.59 |
| 116 | Providing and fixing Min. 600 x 125 x 5 mm glass shelf with edges rounded off supported on anodised aluminium guard rail/angle frame with C.P. Brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc. complete as per Technical specification. | 3 | each | 348.08 | 1044.23 |
| 117 | Providing and fixing 600 X 20 mm Stainless steel towel rail complete with fitting arrangement of approved quality and make. | 3 | each | 606.24 | 1818.72 |
| 118 | Providing and fixing Stainless steel liquid soap holder cum dispenser complete with fitting arrangement of approved colour, quality and make. | 3 | each | 708.16 | 2124.48 |
| 119 | Providing and fixing toilet paper holder . | | | | |
| | CP brass. | 3 | each | 255.97 | 767.91 |
| 120 | Painting (two or more coats) on rain water , soil waste and vent pipes and fittings with anticorrosive paint of approved brand and manufacture, over and including a coat of primer all inclusive: | | | | |
| a | Min. 110mm dia pipes | 305 | Meter | 26.11 | 7964.16 |
| 121 | Providing and fixing soil, waste and vent pipes of Min. 100mm dia.: | | | | |
| | Sand cast iron S & S pipe. | 10 | RM | 748.99 | 7489.86 |
| 122 | Providing and fixing G.I. Pipes (medium grade) complete with G.I. Fitting and clamps , including painting with anti corrosive bitumastic paint, providing & fixing tee (socket for change of dia./Expander/Reducer etc), cutting and making good the walls etc. (internal work). | | | | |
| (a) | 15 mm dia nominal bore. | 20 | RM | 164.83 | 3296.64 |
| (b) | 20 mm dia nominal bore. | 35 | RM | 191.81 | 6713.39 |
| (c) | 25 mm dia nominal bore. | 10 | RM | 248.01 | 2480.13 |
| (d) | 32 mm dia nominal bore. | 10 | RM | 302.43 | 3024.30 |
| 123 | Providing and fixing G.I. Pipes (medium grade) complete with G.I. Fitting and clamps , including painting with anti corrosive paint of approved color, providing & fixing tee (socket for change of dia./Expander/Reducer etc), including trenching and refilling, etc. (external work). | | | | |
| (a) | 15 mm dia nominal bore. | 10 | RM | 145.10 | 1450.95 |
| (b) | 20 mm dia nominal bore. | 10 | RM | 164.48 | 1644.75 |
| (c) | 32 mm dia nominal bore. | 60 | RM | 253.52 | 15211.26 |
| (d) | 40 mm dia nominal bore. | 35 | RM | 300.08 | 10502.94 |
| (e) | 50 mm dia nominal bore. | 20 | RM | 363.07 | 7261.38 |
| (f) | 80 mm dia nominal bore. | 20 | RM | 584.87 | 11697.36 |
| 124 | Making connection of GI distribution branch with GI main of following sizes by providing and fixing tee, including cutting and threading the pipe etc., complete. | | | | |
| | 25 to 40mm nominal bore. | 2 | each | 282.90 | 565.79 |
| 125 | Providing and fixing C.P. brass bib cock of Jaquar , ACCO brand or equivalent approved quality | | | | |
| (a) | 15mm nominal bore | 5 | each | 209.71 | 1048.56 |
| (b) | Min. 20mm nominal bore | 1 | each | 271.47 | 271.47 |

BILL OF QUANTITY CUM PRICE SCHEDULE**Name of Project : 1x250MW Thermal Power Project Rourkela-220kV GIS****Name of Work : Civil Works for 220kV Control Room Building, GIS building and Switchyard at Rourkela**

| S.No. | Description of Item | Quantity | Unit | Unit rate | Amount (Rs.) |
|-------|---|----------|-----------|-----------|--------------|
| 126 | Providing and fixing brass stop cock of Jaquar, ACCO brand or equivalent approved quality | | | | |
| (a) | 15mm nominal bore | 8 | each | 209.71 | 1677.70 |
| (b) | Min. 20mm nominal bore | 4 | each | 271.98 | 1087.93 |
| 127 | Providing and fixing gun metal gate valve with CI wheel of approved quality (screwed end) | | | | |
| (a) | 25mm nominal bore | 1 | each | 380.41 | 380.41 |
| (b) | 32mm nominal bore | 1 | each | 459.92 | 459.92 |
| 128 | Providing and fixing ball valve (brass) of approved quality , high or low pressure with plastic floats complete. | | | | |
| | 25mm nominal bore | 2 | each | 430.08 | 860.17 |
| 129 | Providing and fixing P.V.C waste pipe for sink or wash basin including P.V.C waste fittings complete | | | | |
| (a) | 32mm dia | 1 | each | 60.69 | 60.69 |
| (b) | 40mm dia | 1 | each | 67.78 | 67.78 |
| 130 | Providing, laying and jointing glazed stoneware pipes class SP-1 (grade AA) with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete : | | | | |
| (a) | 100 mm diameter. | 15 | RM | 153.10 | 2296.53 |
| (b) | 150 mm diameter. | 15 | RM | 223.43 | 3351.47 |
| 131 | Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I.cover with frame of 300 x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design and as per TS: | | | | |
| | Min. 100 x 100 mm size P type | | | | |
| | With F.P.S bricks | 2 | each | 1281.48 | 2562.95 |
| 132 | Providing and placing on terrace (at all floor levels) polyethylene water storage tank of SINTEX brand or approved equivalent make, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes including fittings and the base support for tank. The tank should be ISI marked . | 1500 | per litre | 6.22 | 9333.00 |
| 133 | Providing and laying water proofing treatment on roofs of slabs by applying cement slurry mixed with water proofing cement compound consisting of applying: a) Top surface of roof shall be finished with 15mm thick cement plaster (1:4). b) Over the plastered finished surface elastomeric membrane (Elastomeric membrance shall comprise of high solid content liquid applied urethane laid over reinforcing layer of polyscrim cloth or non woven geo-textile) shall be laid.c) The top of elastomeric membrane shall be finished with 20mm thick cement:sand (1:4) mortar with chicken wire mesh and pressed precast concrete tiles of 20mm thickness wherever applicable shall be laid over mortar at green stage. Provision for thermal expansion of roofing tiles shall be kept by providing an expansion gap in both directions filled up with polysulphide joint sealant. The expansion gap shall be provided in cement sand mortar underbed layer also. The entire treatment will be taken upto 30cm on parapet wall and tucked into groove in parapet all around. Item including all labour, T&P and material required for all allied activity including all allied activities and as per technical specification and instruction of Engineer in Charge(All works excluding Pressed precast concrete tiles). | 625 | sqm | 317.73 | 198581.25 |
| 134 | Providing and laying in position screed concrete of 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) grade at roof level in required slope including all labour, T&P, material,shuttering etc as per drawing, tech spec and instruction of engineer in charge. | 25 | cum | 4604.33 | 115108.28 |
| 135 | Providing and laying pressed precast concrete tiles (As per approved pattern 20mm nominal thickness of approved size) on roof jointed with cement mortar 1:4(1 cement: 4 coarse sand) mixed with 2% integral water proofing compound laid over a bed of 20mm thick cement mortar 1:4 (1 cement: 4 coarse sand) and finished with neat complete including all labour, T&P, material as per drawing, tech spec and instruction of engineer in charge. | 160 | sqm | 440.54 | 70486.08 |
| 136 | Making khurras 45X45cm with average minimum thickness of 5cm cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate of 20mm nominal size) over PVC sheet 1mX1mX400micron, finished with 12mm cement plaster 1:3 (1 cement: 3 coarse sand) and a coat of neat cement rounding the edges and making and finishing the outlet complete. | 29 | each | 151.73 | 4400.03 |
| 137 | Providing and fixing on wall face Cast Iron rain water pipes shall conform to IS:1230 including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion.. Single socketed pipes all complete including clamps, bends etc making good the walls etc. wherever required | | | | |
| (a) | Min. 110 mm diameter. | 370 | meter | 211.04 | 78084.06 |
| 138 | Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less than 440 grams. | 30 | each | 33.41 | 1002.15 |

BILL OF QUANTITY CUM PRICE SCHEDULE**Name of Project : 1x250MW Thermal Power Project Rourkela-220kV GIS****Name of Work : Civil Works for 220kV Control Room Building, GIS building and Switchyard at Rourkela**

| S.No. | Description of Item | Quantity | Unit | Unit rate | Amount (Rs.) |
|-------|--|----------|------|-----------|--------------|
| 139 | Providing and fixing at all heights in position false ceiling with Luxalon 84C ceiling system comprising of 84mm wide x 16mm deep perforated panel roll of approved color formed of min. 0.5mm thick Aluminum alloy stove enamelled on both sides fixed on panel carriers 62mm wide x 29mm deep out of 0.95mm thick enamelled Aluminum satin black with cutouts to hold panels in a module of 100mm (16 mm gap between panels) at maximum 1.3m c/c carriers to be suspended from roof by 4mm dia galvanised steel wire hangers with special height adjustment clips made of spring steel at maximum 1.3M c/c hangers fixed to roof by "J" hook and nylon inserts with provision of openings for fixing light fittings, air conditioning grill etc complete with all bye works as per drawing, manufactures,customer specification and direction of Engineer-In-Charge.(Rate shall be inclusive of all items including laying of 50mm thick rock wool insulation bound in polythene bags or as approved over false ceiling panels, making openings for light fittings. grills.diffusers, cutouts etc.) | 70 | sqm | 2698.33 | 188883.10 |
| 140 | Providing and fixing at all heights 12.5mm thick tapered/square edge glass fibre reinforced gypsum board conforming to IS: 2095 having fine texture finish, including providing and fixing of frame work at all levels, for all kind of work, consisting of light weight galvanised steel members (minimum 0.8mm thick and galvanised as per IS: 277) having maximum grid size of 1200mmx600mm for supporting panels of specified size, suspended with 4mm (minimum) galvanised wires (rods) with special height adjustment clips, providing angle section of minimum 25mm width along the perimeter of ceiling, supporting grid system (minimum 0.8 mm thick and galvanised as per IS:277), expansion fasteners for suspension arrangement from RCC, providing openings for AC ducts, return air grills, light fixture etc all complete as per customer specification and direction of Engineer-In-Charge (concealed grid and finished flat seamless and curve shape (dome etc), finished smooth (seamless) along with the galvanised light gauge steel supporting system laid in profile to suit the profile of dome) | 70 | sqm | 801.01 | 56070.42 |
| 141 | Providing and fixing at all heights 15mm thick mineral fibre board false ceiling in tile form of size 600mmx600mm, along with galvanised light gauge rolled from supporting system in double web construction pre painted with steel coping of approved shade and color to give grid of maximum size 1200x600 as per manufacturer detail including supporting grid system, expansion fasteners for suspension arrangement from RCC, providing opening for AC ducts, return air grills, light fixture etc all complete as per customer specification and direction of Engineer-In-Charge. | 205 | sqm | 931.62 | 190982.10 |
| 142 | Providing and fixing at all heights thermal insulation of ceiling (under deck insulation) with Fire retardant quality expanded polystyrene of 50mm thick through GI frame (Section of GI frame shall be 25x50x25mm or of equivalent approved thickness) of 1000mmx500mm conforming to IS: 4671, density 24kg/m3 including apply 2 coats of black japan paint or equivalent on ceiling along with a coat of adhesive to the underside of roof, fixing of GI angle/frame/ cleats, criss crossing GI wire, chicken wire mesh etc. all complete as per customer's specification and instruction of Engineer-In-charge | 175 | sqm | 440.33 | 77058.45 |
| 143 | Constructing brick masonry manhole with 75 class designation bricks in cement mortar 1:4 (1 cement: 4 coarse sand) RCC top slab with 1:2:4 mix(1 cement:2 coarse sand: 4 graded stone aggregate 20mm nominal size) foundation concrete 1:4:8 (1 cement: 4 coarse sand: 8 graded stone aggregate 40mm nominal size) inside plastering 12mm thick with cement mortar 1:3 (1 cement: 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 mix(1 cement:2 coarse sand: 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement complete as per standard design. | | | | |
| | Inside size 90X80cm and 45cm deep including CI cover with frame (Min.light duty) 455X610mm internal dimensions total weight of cover and frame to be not less than 38kg (weight of cover 23kg and weight of frame 15kg) | | | | |
| | With FPS bricks | 2 | each | 7274.64 | 14549.28 |
| 144 | Extra for depth for manholes | | | | |
| | Size 90X80cm With FPS bricks | 1.0 | RM | 4142.93 | 4142.93 |
| 145 | Making soak pit 2.5m diameter 3m deep with 45X45cm dry brick honeycomb shaft with bricks of class designation 75 and SW drain pipe 100mm diameter, 1.8m long complete as per standard design and specification. | | | | |
| | With FPS bricks | 1 | each | 15532.71 | 15532.71 |
| 146 | Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 cm depth,dressing to camber and consolidating with road roller including making good the undulations etc and re-rolling the sub grade and disposal of surplus earth lead upto 50 metres. | 620 | sqm | 62.48 | 38734.50 |
| 147 | Extra for compaction of earth work in embankment under optimum moisture conditions to give at least 95% of the maximum dry density (Proctor Density) | 620 | cum | 7.91 | 4901.10 |
| 148 | Suppling and stacking at site | | | | |
| (a) | 90 mm to 45 mm size stone aggregate | 85 | cum | 1030.97 | 87632.03 |
| (b) | 63 mm to 45 mm size stone aggregate | 85 | cum | 1122.82 | 95439.36 |
| (c) | 53mm to 22.4 mm | 150 | cum | 1214.62 | 182192.40 |
| (d) | Stone screening 13.2 mm nominal size (type A) | 70 | cum | 1365.53 | 95586.75 |

BILL OF QUANTITY CUM PRICE SCHEDULE

Name of Project : 1x250MW Thermal Power Project Rourkela-220kV GIS

Name of Work : Civil Works for 220kV Control Room Building, GIS building and Switchyard at Rourkela

| S.No. | Description of Item | Quantity | Unit | Unit rate | Amount (Rs.) |
|-------|---|----------|--|-----------|--------------|
| (e) | 11.2 mm nominal size (Type B) | 30 | cum | 1454.37 | 43631.01 |
| (f) | Moorum | 35 | cum | 636.94 | 22292.87 |
| 149 | Laying,spreading and compacting stone aggregate of specified sizes to WBM specifications in uniform thickness,hand picking, rolling with 3 wheeled power road/vibratory roller 8-10 tonne capacity in stage of proper grade and camber, applying and brooming requisite type of screening/binding material to fill up interstices of coarse aggregate,watering and compacting to the required density. (Payment will be made for compacted layers only). | | | | |
| (a) | Subbase with stone aggregate 90mm to 45mm including stone screening 13.2mm size and moorum/blinding material. | 65 | cum | 336.75 | 21888.95 |
| (b) | Base course with stone aggregate 63mm to 45mm including stone screening 13.2mm sizeand moorum/blinding material. | 65 | cum | 336.75 | 21888.95 |
| (c) | Base course with stone aggregate 53mm to 22.4 mm including stone screening 11.2mm size. | 140 | cum | 336.75 | 47145.42 |
| (d) | Laying and compacting of moorum in shoulder | 25 | cum | 61.46 | 1536.50 |
| 150 | Providing and laying design mix cement concrete of M-30 grade in roads using cement content as per design mix, using coarse sand and graded stone aggregate of 20mm nominal size in appropriate proportions as per approved & specified design criteria, providing dowel bars with sleeve/tie bars wherever required, laying at site, spreading and compacting with fully mechanized paver fitted with electronic sensor/mechanically by using needle and surface vibrators, levelling to required slope/camber, finishing with required texture,including Vacuum Dewatering, including steel form work with sturdy MS channel sections, curing, making provision for contraction/expansion, construction and longitudinal joints (10mm wide x 50mm deep) by groove cutting machine, providing and filling joints with approved joint filler and sealants, complete as per direction of Engineer-In-Charge. Note: Cement content considered in M30 is @ 340Kg/Cum. Excess/less cement used as per design mix is payable/recoverable separately. | 155 | cum | 5731.89 | 888442.95 |
| 151 | Providing and laying in position bitumen hot sealing compound for expansion joint etc using grade A sealing compound | 620 | Per cm depth per cm width per m length | 1.68 | 1043.46 |
| 152 | Providing and fixing health faucet of approved make including all fitting of make Jaquar, Cera,hindware or as approved by Engineer-In-Charge | 3 | each | 733.20 | 2419.56 |
| 153 | Providing and fixing in position false flooring system including panels,understructures, pedestals, etc., all complete as per clause No. 08.16.00 of Customer Technical Specification Section-VI (Vol.2-Section 2 (Technical Rule)) and direction of Engineer-In-Charge. | 125 | sqm | 6104.70 | 763087.50 |
| 154 | Providing and placing Water cooler for drinking water of Blue star Make (Min. capacity as per SDLX 480) or equivalent make with suitable arrangement and making necessary inlet, outlet and overflow pipe connections including fittings, electrical connections and the base support, if required, for water cooler. Minimum storage capacity 80 litre, minimum cooling capacity 40 litre/hours and with 2 nos tap. | 1 | each | 25027.50 | 27530.25 |
| 155 | Providing and fixing at or near ground level factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1 : 3 (1 Cement : 3 coarse sand) including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete tec. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). | 25 | cum | 5147.74 | 128693.40 |
| 156 | Providing and laying 75mm thick factory made cement concrete interlocking paver block of min. M-30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including min. 50mm thick compacted bed of coarse sand, filling the joints with fine sand etc all complete as per the direction of Engineer-In-Charge | 495 | sqm | 684.24 | 338697.02 |
| 157 | Providing and laying non-pressure NP2 class (light duty) RCC pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement: 2 fine sand) including testing of joints etc., complete. | | | | |
| (a) | 150mm dia. RCC pipe | 15 | RM | 259.59 | 3893.85 |
| (b) | 250mm dia. RCC pipe | 15 | RM | 349.30 | 5239.49 |
| (c) | 300mm dia. RCC pipe | 20 | RM | 431.36 | 8627.16 |
| (d) | 450mm dia. RCC pipe | 20 | RM | 633.27 | 12665.34 |
| (e) | 600mm dia. RCC pipe | 10 | RM | 1105.94 | 11059.35 |

BILL OF QUANTITY CUM PRICE SCHEDULE

Name of Project : 1x250MW Thermal Power Project Rourkela-220kV GIS

Name of Work : Civil Works for 220kV Control Room Building, GIS building and Switchyard at Rourkela

| S.No. | Description of Item | Quantity | Unit | Unit rate | Amount (Rs.) |
|-------|---|----------|-------|-----------|--------------------|
| 158 | Providing and laying non-pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement: 2 fine sand) including testing of joints etc., complete. | | | | |
| (a) | 250mm dia. RCC pipe | 10 | RM | 325.03 | 3250.30 |
| (b) | 300mm dia. RCC pipe | 20 | RM | 451.24 | 9024.80 |
| (c) | 450mm dia. RCC pipe | 15 | RM | 656.98 | 9854.70 |
| (d) | 600mm dia. RCC pipe | 10 | RM | 862.72 | 8627.20 |
| 159 | Providing and placing in position suitable PVC water stops conforming to IS 12200 for construction/expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete. Serrated with central bulb(225mm wide,8-11mm thick) | 30 | meter | 468.33 | 14049.99 |
| 160 | Providing & fixing chicken wire mesh in plaster all complete as per specification and direction of Engineer - in - charge. | 345 | sqm | 45.90 | 15835.50 |
| 161 | Forming groove of uniform size from 12X12mm and upto 25X15mm in plastered surface and joints of ceiling and wall as per approved pattern using wooden battens, nailed to the underlayer including removal of wooden battens, repairs to the edges of plaster panel and finishing the groove complete as per specifications and directions of the Engineer-in-charge. | 110 | RM | 73.59 | 8095.23 |
| 162 | Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in- charge. | 5 | cum | 998.53 | 4992.65 |
| 163 | Demolishing brick work in cement mortar manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge. | 5 | cum | 577.93 | 2889.66 |
| 164 | Providing and laying stone aggregate in switch yard areas in 75mm thick layer using 20 mm aggregates size in layer I and 75mm thick layer using 40mm size aggregate in layer II making overall thickness of stone aggregate as 150mm. Before laying the stone aggregates , the yard surface shall be treated with antiweed treatment (Bidder shall require a performance guarantee of 3 year for the anti-weed treatment from the date of completion of work or date of handing over, whichever is later). The area shall be maintained, rolled/compacted to the lines and grades by using min. half ton roller with suitable water sprinkling arrangement to form a smooth and compacted surface etc all complete as per Customer's specification and direction of Engineer in Charge. (The rate shall be inclusive of all materials ,labour,loading,unloading and surface preparation, compaction, micro grading, antiweed treatment etc.) | 2970 | SQM | 187.92 | 558122.40 |
| 165 | Antiweed treatment in switchyard area including micro leveling, dressing etc as per Technical Specification.(Bidder shall require a performance guarantee of 3 year for the anti-weed treatment from the date of completion of work or date of handing over, whichever is later) | 500 | Sqm | 16.75 | 8375.00 |
| 166 | Removal, cleaning & washing of existing stone and relaying of stone in switchyard including supply of extra matching gravel but excluding micro leveling, dressing & antiweed treatment as per Technical Specification. | 50 | Sqm | 66.98 | 3349.00 |
| 167 | Supplying and erection of dewatering pumps at desired location as per specification and direction of Engineer-in-charge (Rate shall be inclusive of all material like pump,piping, electricity connection, T & P etc.all complete) | | | | |
| a | 0.5 HP | 2 | each | 14988 | 29976.48 |
| b | 5 HP | 1 | each | 37008 | 37008.00 |
| 168 | Providing & fixing Precast RCC Post/Struts/rails/pales of M20 grade with wooden plugs or min. 6mm bar nibs wherever required as per direction of Engineer-In-Charge (Cost of earth works in excavation, concrete works for foundation to be paid separately) | 10 | Cum | 16628.50 | 166284.99 |
| 169 | Providing & fixing GI chain link fencing (minimum 8G including PVC coating) of required width in mesh size of 75mm including strengthening with min. 12G dia wire or nuts,bolts and washers as required complete as per the direction of Engineer-In-Charge and as per Technical specification | | | | |
| a | The diameter of steel wire for chain link fence shall not be less than 12G excl PVC coating. PVC coating shall be such that outer dia not be less than 8G in required color and shade | 700 | Sqm | 529.53 | 370673.10 |
| | | | | | 52282520.14 |

| ANNEXURE-II | | | | | |
|---|--|------|----------|-----------|--------------|
| BILL OF QUANTITIES FOR UNDER GROUND EARTHING AND ELECTRODES | | | | | |
| PROJECT: 220KV GIS AND SWITCHYARD, ROURKELA | | | | | |
| S. No | Description | Unit | Quantity | Unit Rate | Amount (Rs.) |
| 1 | Unloading, storing and laying of 40 mm dia MS Rods at a depth of 600 mm measured from the top of FGL (either top of gravel or top of land as the case may be) for bringing out risers just below gravel level near the equipment foundations as per requirement including following works: - excavation of trenches - laying of MS rod - welding of rods (refer Drg No. TB-4-359-PVE-E-002 Sheet No. 21 Rev 00 for Welding details of rods) - backfilling of soil for bringing out pig tail risers of 40 dia MS rod (approximately 2000) for equipments. Risers shall be raised from the earthmat (at 600 mm depth) to 150 mm above ground level to the nearest point of the equipment. This shall include all cutting, bending, welding, fixing, application of zinc rich paint on cutting surface, etc to the main earthmesh. - any other work necessary to complete the laying of earthmat (40 Diameter MS rod will be supplied by BHEL) | MT | 50 | 5830.00 | 291500.00 |
| 2 | Grounding of GIS : Unloading, storing and laying of MS Rod inside the ground slab of the GIS Building Floor (forming a mesh of maximum 5 mtrs) and bringing out risers 300mm above FFL level near the equipment foundations and building columns as per requirement including following works: - laying, cutting and bending - welding of rods. - Risers shall be raised from the earthing mesh of Mild Steel to 300 mm above ground level to the nearest point of the equipment. This shall include all cutting, bending, welding, fixing, application of zinc rich paint on cutting surface, etc and connecting it to the main earthmesh. - any other work necessary to complete the preparation of grounding mesh of the GIS Building (MS Rods shall be supplied by Bidder .) - any other work necessary to complete the laying of earthmat for GIS and linking it with the main Earthmat. | MT | 2.25 | 5830.00 | 13117.50 |
| 3 | Grounding of GIS : Unloading, storing and laying of Copper Flat of 100x12 mm inside the ground slab of the GIS Building Floor (forming a mesh of maximum 5 mtrs) and bringing out risers 300mm above FFL level near the equipment foundations and building columns as per requirement including following works: - cutting and bending - brazing - brazing of copper flats. - Risers shall be raised from the earthing mesh of Copper to 300 mm above ground level to the nearest point of the equipment. This shall include all cutting, bending, brazing, fixing, etc and connecting the copper mesh to the main earthmesh of the Swichyard at adequate points. - any other work necessary to complete the laying of earthmat for GIS and linking it with the main Earthmat. (100x12mm Copper flats will be supplied by Bidder .) | MT | 2.25 | 30270.00 | 68107.50 |
| 4 | Fabrication & laying of Auxiliary Mat of 40 mm Dia MS Rods at a depth of 300 mm from top of FGL including excavation & backfilling as per Drg No. TB-4-359-PVE-E-002 Sheet No. 15 Rev 00. - any other work necessary to complete the laying of earthmat (40 Diameter MS rod will be supplied by BHEL.) | Nos. | 15 | 2130.00 | 31950.00 |
| 5 | Installing of Pipe Electrode(to be driven - 3.0 Mtr) as per Drg. No. TB-4-359-PVE-E-002 Sheet No. 11 Rev 00 including following works: - excavation - installing the pipe electrode with alternate layers of Coke & charcoal, salt - backfilling and compaction - Casting the Test Pit with Cast Iron covers - any other work necessary to complete the work (GI Pipe, Nuts, Bolts & Washers and funnel with wire mesh will be supplies by BHEL.) | Nos. | 6 | 7550.00 | 45300.00 |

| ANNEXURE-II | | | | | |
|---|---|------|----------|-----------|------------------|
| BILL OF QUANTITIES FOR UNDER GROUND EARTHING AND ELECTRODES | | | | | |
| PROJECT: 220KV GIS AND SWITCHYARD, ROURKELA | | | | | |
| S. No | Description | Unit | Quantity | Unit Rate | Amount (Rs.) |
| 6 | Installing of 40 mm diameter Rod Electrode with test pit as per Drg. No. TB-4-359-316-161 Sheet No. 12 Rev 01 including following works for reactors and transformers: - excavation - installing the rod electrode - backfilling and compaction - Casting the Test Pit with Cast Iron covers - any other work necessary to complete the work (40 Diameter MS rod will be supplied by BHEL) | Nos. | 4 | 3480.00 | 13920.00 |
| 7 | Installing of 40 mm diameter Rod Electrode without test pit including following works: - excavation/hammering of rod in earth - installing the rode electrode - backfilling and compaction - any other work necessary to complete the work (40 Diameter MS rod will be supplied by BHEL) | Nos. | 48 | 3000.00 | 144000.00 |
| | Total Amount (Rs.) | | | | 607895.00 |

| ANNEXURE -III | | | | | |
|---|--|------|------|-----------------|---------------------|
| BOQ FOR CONSTRUCTION OF STORES | | | | | |
| PROJECT: 220KV GIS AND SWITCHYARD, ROURKELA | | | | | |
| SI No. | Description | Unit | Qty. | Unit Rate (Rs.) | Amount (Rs.) |
| 1 | Open stores (as per specification enclosed) | Sqm | 2000 | 700.00 | 14,00,000.00 |
| 2 | Covered store of size 200 sqm (As per specification enclosed). | LOT | 1 | 15,50,000.00 | 15,50,000.00 |
| | Total Amount (Rs.) | | | | 29,50,000.00 |
| | Notes: | | | | |
| 1 | The quoted rate should be inclusive of all materials, tools & plants etc. required for above works. | | | | |
| 2 | Decision of store location and execution of above items shall be taken by site incharge as per site requirement. | | | | |

ANNEXURE-IV

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

PRICE SCHEDULE FORMAT

SUB: EXECUTION AND HANDING OVER OF CIVIL WORKS OF 220KV GIS BUILDING, CONTROL ROOM BUILDING AND SWITCHYARD AT 1X250 MW THERMAL POWER PROJECT AT ROURKELA IN ODISHA

- (a) I/ We hereby agree to execute the above work at ----- % (in figure).....
----- (in words) Above / Below/ At Par the rates of items given in BOQ
for civil works (Annexure-I, II & III) of subject tender.

NOTE:

1. In this annexure the tenderer shall quote a percentage above or below the rates shown in the Bill of Quantities of civil works (Annexure-I, II & III). The percentage quoted shall be clearly written both in words and figures In case of discrepancy in rates in figure and words, the minimum will be taken into account by BHEL.
2. The quoted percentage will apply to the individual items uniformly.

Date:

Place

Signature of tenderer

Name & Designation of authorized person(s) with seal

ANNEXURE-V

SUMMARY OF PRICES FOR EXECUTION AND HANDING OVER OF CIVIL WORKS OF 220KV GIS BUILDING, CONTROL ROOM BUILDING AND SWITCHYARD AT 1X250 MW THERMAL POWER PROJECT AT ROURKELA IN ODISHA

| Sl No. | Description | Amount (Rs.) |
|---------------|--|----------------------|
| 1 (a) | Total amount as per the rates in BOQ for civil works of Civil Works of 220kV Control Room Building, GIS building and Switchyard at Rourkela at Banaskantha in Gujarat (Annexure-I) | 522,82,520.14 |
| 1 (b) | Total amount as per the rates in BOQ for under ground earthing and electrodes work at Rourkela in Odisha (Annexure-II) | 6,07,895.00 |
| 1 (c) | Total amount as per the rates in BOQ for construction of stores at Rourkela in Odisha (Annexure-III) | 29,50,000.00 |
| 1 | Total Amount for civil works (Annexure- I, II & III) | 558,40,415.14 |
| 2 | Value of percentage above/below/at par (As indicated in Price Schedule Format, Annexure-IV) applicable to the total amount of civil work (Sl. no. 1 above) |% above/below |
| 3 | Total amount for civil work after consideration of percentage above/below/ at par. | |