

**TENDER SPECIFICATION**  
**NO: BHE/PW/PUR/UKT- BAL CVL/1282**

**Balance civil work of CWPH Dome of overhead tank Power House Bunker  
ESP Control room Ware House etc**

**AT**

**GUJARAT STATE ELECTRICITY CORPORATION LIMITED**

**(1X500MW UKAI, TPS)**

**(GUJARAT)**

**VOLUME-II – PRICE BID-1282**



**BHARAT HEAVY ELECTRICALS LIMITED**

**(A GOVERNMENT OF INDIA UNDERTAKING)**

**POWER SECTOR - WESTERN REGION**

**SHREEMOHINI COMPLEX**

**345, KINGSWAY - NAGPUR 440 001**

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EARNEST MONEY DEPOSIT: Please see Notice Inviting Tender.

LAST DATE FOR: Please see Notice Inviting Tender.

TENDER SUBMISSION:

THESE TENDER SPECIFICATION DOCUMENTS CONTAINING **VOLUME-I-Tech Bid**, **VOLUME- II-Price Bid** AND  
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M/s. ....

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THESE TENDER SPECS DOCUMENTS ARE NOT TRANSFERABLE.

For Bharat Heavy Electricals Limited

AGM (Purchase)

Place: Nagpur

Date:

BHEL PSWR NAGPUR  
VOL-II-PRICE BID-1282  
(Schedule of Rates and Quantities)  
T.S.No. BHE/PW/PUR/UKT- BAL CVL/1282

**Job: Balance Civil works for grade slab, pavements, garland draincollection pits, sewage & sewerage system, flooring in Boiler, ESP, Transformer yard and all balance works related to equipment foundations AT 2 X 250 MW TPS MADHYA PRADESH POWER GENERATION CORPORATION LTD. (MPPGCL) DIST- BETUL MADHYA PRADESH**

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|----------|---|------|----------|-------------------------------|-----------------------------|-----------------------|
| 101      | Excavtion with lift upto 2.0 meters including providing coffer dams, shoring, strutting, sheeting, bracing, draining, and pumping out water and other than water below ground water table all complete as per specifications, drawings and instructions of the  |      |          |                               |                             |                       |
| (i)      | In all types of soils including expansive soil, ash, morrum, laterite.  | CUM  | 450.61   |                               |                             |                       |
| 102      | Extra over item no. 101above for all types of soil/rock for additional lifts of 2 meters (include in item no.1 above) all complete specifications drawings and instruction of the engineer for following lifts.   |      |          |                               |                             |                       |
| (i)      | In all types of soils   |      |          |                               |                             |                       |
| (a)      | Beyond initial lifts of 2 mtr. (for qty. excavated between 2 m. to 4 m. depth)  | CUM  | 90.55    |                               |                             |                       |
| 104      | Extra over item no. 101 above for carriage (in/outside of plant area earmarked by customer) of all type of excavated materials beyond the initial lead of 100 meters (initail lead, loading & unloading included in item no. 101 above) all complete as per spe |      |          |                               |                             |                       |
| (i)      | Carriage beyond initial lead of 100 mtr but not exceeding 500 Mtr.  | CUM  | 304.19   |                               |                             |                       |
| 105      | Filling using selected excavated soil in trenches, plinths, sides of foundation and other under ground structures, leveling in layers. Lead from 500 mtr to 2.5 KM  |      |          |                               |                             |                       |
| iii)     | 95 % Standard Proctor Density   | CUM  | 875.00   |                               |                             |                       |
| 106      | Filling using selected excavated mataterials directly from excavation area in trenches, plinths, sides of foundation and other under ground structures, leveling in layers.   |      |          |                               |                             |                       |
| iii)     | 95 % Standard Proctor Density   | CUM  | 795.00   |                               |                             |                       |
| (iii)    | With selected sand brought from querries/river bed arrange by the contractor  | CUM  | 330.10   |                               |                             |                       |
| 108      | Filling in trenches, plinths, area paving and other underground structures with stone (63 mm down graded), in layers not exceeding 225 mm thickness including breaking of boulders to required sizes, filling the interstices with selected sand and compacting | CUM  | 148.32   |                               |                             |                       |

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| 109      | Filling in transformer pits etc. , with clean 40 mm nominal size stone aggregate including all labour, materials, royalties, equipments etc. complete as per instructions of engineer in charge.   | CUM  | 97.27    |                               |                             |                       |
| 110      | Buldozing earth for grading of ground including removal of vegetation complete including disposal of debris up to 5kms.  | CUM  | 420.00   |                               |                             |                       |
| 202      | Concrete of Grade M 10 as lean concrete levelling course ,mud mat under and around foundation / floors, mass dumps etc.  | CUM  | 80.68    |                               |                             |                       |
| 205      | Concrete of M 25 grades in under structure like foundation, columns below finish floor level plinth beams slab on grade drain etc. complete with 20 mm nominal size graded..   | CUM  | 277.30   |                               |                             |                       |
| 206      | Concrete of grade M-25 in superstructure from finished floor level complete at all heights with 20 mm nominal size graded aggregate  | CUM  | 1008.55  |                               |                             |                       |
| 210      | Screed concrete 1:2:4 conforming to IS 456 with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof at any level or thickness drains etc complete.  | CUM  | 608.25   |                               |                             |                       |
| 211      | Concrete of grade M-25 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, transporting all leads erection without damage, setting in position with cement sand mortar (1:3) filling the gaps between adjacent precast units with M30concrete 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 | CUM  | 27.13    |                               |                             |                       |
| 213      | Concrete of Grade M-15 ( in plinth protection, pipe encasing etc. complete with 20 mm nominal size graded aggregate.   | CUM  | 37.77    |                               |                             |                       |
| 215      | 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 etc all complete as p  | CUDM | 0.50     |                               |                             |                       |

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| 216      | Extra over and above St No 215 for cutting of reinforcement, all sizes and types including labour, equipment, return of cut reinforcement to store etc all complete as per specification, drawings and instructions of engineer in charge.                      | SQCM | 15.00    |                               |                             |                       |
| 300      | Supplying, Fixing and removing formwork at any elevation for all structures, as per specification and including all labour material scaffoldings and centering complete including pockets etc. for the following.   |      |          |                               |                             |                       |
| 301      | Ordinary Formwork (reasonably steel or plywood surface) below finished ground level.  | Sqm  | 537.67   |                               |                             |                       |
| 303      | Ordinary form work (reasonably good steel/plywood surface) above finished ground floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc. for all heights.                            | Sqm  | 1111.74  |                               |                             |                       |
| 304      | Fairface form work (using commercial laminated plywood with steel/wooden frame) above finished ground floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc. for all heights        | Sqm  | 2718.32  |                               |                             |                       |
| 306      | Providing , fixing and removing formwork in block out /pockets (below 0.1 Sqm contact area)   |      |          |                               |                             |                       |
| i)       | Upto 300 MM Depth   | Nos. | 49.00    |                               |                             |                       |
| ii)      | From 301 mm upto 600 mm depth   | Nos. | 21.00    |                               |                             |                       |
| iii)     | From 601 mm upto 1000 mm depth  | Nos. | 5.00     |                               |                             |                       |
| 400      | REINFORCEMENT (Reinforcement Steel is in BHEL's Scope of Supply)  |      |          |                               |                             |                       |
| 402      | Taking delivery from BHEL's store/store yard, loading, transportation and unloading at site, straightening, cutting, bending, placing, in position at any level, binding in position Fe-500 high yield strength steel reinforcements in concrete including cost | MT   | 94.79    |                               |                             |                       |
| 501      | Providing, laying and fixing PU based roof water proofing treatment using two successive liquid coatings of high solid content urethane pre-polymers to form elastomeric membrane having overall dry film thickness of min. 1.5mm subject to min. 750gm/sq.m/co | SQM  | 8271.67  |                               |                             |                       |

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| 503      | Providing and laying pressed precast concrete tiles over water proofing of minimum size 600 X 600 and minimum thickness 20 mm confirming to IS 13801 including 15 mm thick cement mortar (1:4) bedding. (water proofing paid else where)  | SQM  | 1507.37  |                               |                             |                       |
| 601      | Supplying & installation of bitumin impregnated board confirming to IS 1838 as Joint filler at joints in concrete.  |      |          |                               |                             |                       |
| c.       | 25 MM Thick Joint   | Sqm  | 50.00    |                               |                             |                       |
| 700      | <b>M.S. EMBEDMENTS</b>  |      |          |                               |                             |                       |
| 701      | Supply, Fabricating and fixing of embedments, MS insert, Angle Pieces etc.  | MT   | 0.50     |                               |                             |                       |
| 702      | Transportation from stores, delivery at work spot, fixing of embedments, MS inserts, pipes sleeves, rails guide rails, angle pieces, foundation bolts, anchor bolts, rugs of various diameter, plates of diameter as required.  | MT   | 7.55     |                               |                             |                       |
| 905      | Providing and fixing steel single or double door shutters. Shutters shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot   | SQM  | 17.00    |                               |                             |                       |
| 906      | Providing and fixing fire proof steel doors (single or double shutter) with panic devices shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20  | SQM  | 57.42    |                               |                             |                       |
| 907      | Providing and fixing anodised aluminium work of INDAL/HINDALCO/ JINDAL for doors, windows, ventilators and partitions, railing etc with extruded standard tubular and other sections including all fittings & fixtures and accessories of approved make conforming to IS733 and IS1285, anodised and electro color dyed to required shade according to IS 1868 (minimum anodic coating of grade AC15), fixed with rawl plugs, expansion fasteners, screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom and sides with required PVC /neoprene felt for bi-metallc protection etc. including preparation of | kg   | 1570.00  |                               |                             |                       |
| 908      | Providing and fixing of over head hydraulic door closers of approved make & quality as directed by Engineer.  | Nos. | 31.00    |                               |                             |                       |

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| 909      | Providing and fixing floor mounted Hydraulic door closer of approved make & quality as directed by engineer  | Nos. | 2.00     |                               |                             |                       |
| 910      | Providing and fixing pressed steel frames fabricated from 1.4 mm thk (16 gauge) M.S sheet, mortised, reinforced strikes, hold fasts, adjustable floor anchors, floor tiles/weather bars, painting with min. two coats of synthetic enamel paint on primer etc. complete as per specifications.                                     | KG   | 500.00   |                               |                             |                       |
| 914      | Providing, fitting and fixing of glazing including poly carbonate sheet of superior (selected) quality, first grade class, at various elevations, where required, cleaning after fixing, gaskets, clips, hardware with all labour and material etc. complete as per specification, drawing and instructions of engineer in charge. |      |          |                               |                             |                       |
| iii)     | 6 mm clear float glass   | SQM  | 624.18   |                               |                             |                       |
| iv)      | 6 mm wired glass   | SQM  | 132.08   |                               |                             |                       |
| 915      | Providing, fitting and fixing heavy duty minimum six lever mortised lock of godrej or equivalent make with handles or knobs to single and double leaf door (wooden/steel/aluminium)  | Each | 32.00    |                               |                             |                       |
| 916      | Providing and fixing PVC doors of sintex or equivalent make including all fitting & fixtures as per specification, drawing and instructions of engineer in charge.   | SQM  | 1.58     |                               |                             |                       |
| 918      | Providing and fixing steel openable or fixed windows/ventilators with steel sections as per IS:1038, IS:1361 & IS:7452 latest revision. Glazing shall be of 6.0mm thick wired glass panes including all fittings, metal beadings, hold fasts, primer paintin   | SQM  | 1081.86  |                               |                             |                       |
| 919      | Providing and fixing factory made prelaminated particle board of minimum 25 mm thickness(MDF exterior grade) door including hollow extruded section of minimum 3 mm thickness as manufactured by INDAL/JINDAL with electrocolor coating of minimum 15 micron thickness including all fixtures complete.                            | SQM  | 51.58    |                               |                             |                       |
| 1001     | Providing brick work in cement mortar 1:5 (1 part of cement & 5 parts of course sand) in walls, champhers etc. in thickness varying from 250 mm to 500 mm at all depths, places and positions below plinth including raking of joints, curing, scaffolding etc. (excluding plastering & painting)                                  |      |          |                               |                             |                       |

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| (i)      | Using fly ash lime bricks confirming to is 12894 with crushing strength of 75 kg/cm2.   | CUM  | 162.88   |                               |                             |                       |
| 1002     | Providing brick work in cement mortar 1:5 (1 cement 5 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 |      |          |                               |                             |                       |
| i)       | Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2  | CUM  | 1081.55  |                               |                             |                       |
| 1004     | PROVIDING BRICK WORK IN CEMENT MORTAR 1:4 [1 PART CEMENT & 4 PARTS COARSE SAND] IN WALLS, CHAMBERS, I THICKNESS 115 MM  |      |          |                               |                             |                       |
| (i)      | USIG FLYASH LIME BRICK  | sqm  | 291.98   |                               |                             |                       |
| 1005     | 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  | 5.00     |                               |                             |                       |
| 1010     | Providing and filling brick bats in soak pits, below plinth protection etc. complete.   | CUM  | 110.52   |                               |                             |                       |
| 1101     | Damp Proof Course 40mm thk. 1:1.5:3 concrete (10mm down aggregate) with 2% of approved admixture of water proofing compound. Hot bitumen of grade 85/25 @ 1.7Kg /sqm shall be   | SQM  | 65.18    |                               |                             |                       |
| 1201     | Providing 12 mm thick plaster in cement mortar 1:6 on walls, finished to a smooth finish as per specification   | Sqm  | 10547.49 |                               |                             |                       |
| 1203     | Providing 12 mm thick plaster in cement mortar 1:6 on walls with a paste of neat cement @1kg/sqm and rubbed smooth with trowel as per specification.  | Sqm  | 45.00    |                               |                             |                       |
| 1204     | Providing 18 mm thick (12mm + 6mm) plaster in two layers in cement mortar 1:6 on walls finished to a wooden float/smooth/rough finish as per specification.   | Sqm  | 6641.58  |                               |                             |                       |
| 1204(a)  | Providing & adding water proof compound admixture for the top 6mm layer in external plastering  | Kg   | 50.00    |                               |                             |                       |
| 1205     | Providing 6mm thick plaster in cement mortar 1:4 on ceilings finished to a smooth finish as per specification.  | Sqm  | 461.26   |                               |                             |                       |

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| 1207     | Providing Plaster of Paris/ white putty (birla white) 2 mm thick punning over finished plaster surface and finished with smooth surface as per specification.   | SQM  | 31014.11 |                               |                             |                       |
| 1208     | Providing screed/grading plaster of average 20 mm thickness in ratio 1:6 nominal by volume including finishing smooth and even etc. all complete at all levels above or below grade level.  | SQM  | 8241.67  |                               |                             |                       |
| 1210     | Forming groove of uniform size from 12X12 mm upto 20X15 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   | 604.00   |                               |                             |                       |
| 1211     | Providing drip coarse on plastered surface at all elevations for all type of work such as chajjas, parapet, projections etc. including scaffolding, finishing etc. complete with all labour, tools and plants as per specification, drawing and instructions of engineer in charge.   | RM   | 576.70   |                               |                             |                       |
| 1212     | Providing and laying encasement to box type steel beams at all levels with lath plaster 50 mm nominal thickness with cement plaster (1:4) over galvanised hexagonal chicken wire of 0.9 mm wire diameter and 19 mm mesh size as per IS3150 including all labour   | SQM  | 1369.50  |                               |                             |                       |
| 1301     | Providing and applying two or more coats of Oil Bound Destemper as per IS 428 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface with POP as per manufacturers guidelines but excluding cost of plaster of paris and punning min 2mm thick (to be paid separately).         | SQM  | 35704.82 |                               |                             |                       |
| 1302     | Providing and applying two or more coats of acrylic destemper as per IS 428 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface with POP as per manufacturers guideline but excluding cost of plaster of paris punning minimum 2 mm. which shall be paid under item no. 1207 | SQM  |          |                               |                             |                       |

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| 1304     | Providing and applying two or more coats of acid/alkali resistant paint of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying bitumen primer confirming to IS 158 comp  | SQM  | 1522.32  |                               |                             |                       |
| 1305     | Two or more coats of oil resistant paints epoxy based and ammine cured, 150 micron over primer of approved grade and manufacture to give an even shade.   | SQM  | 455.50   |                               |                             |                       |
| 1306     | 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 with POP as per manufacturers guideline but excluding cost of plaster of paris punning minimum 2 mm. which shall be paid under item no. 1207 | SQM  | 444.01   |                               |                             |                       |
| 1307     | Providing & applying two or more coats of exterior emulsion paint of approved brand, shade and manufacture complete as per specifications.  | SQM  | 10150.19 |                               |                             |                       |
| 1308     | Providing and applying two or more coats of water proof cement paint of approved make and color on exterior surface at all heights including material, labour, scaffolding, curing etc complete as per specification.   | SQM  | 998.46   |                               |                             |                       |
| 1401     | Providing and laying 50 mm thick heavy duty cement concrete flooring with metallic hardener pigmented topping of 12 mm thick uniform graded treated iron particles over underbed of 1 part cement,1.5 part sand and 3 parts chips (10mm down, well graded) by   | SQM  | 3950.17  |                               |                             |                       |
| 1402     | Providing and laying 50 mm thick heavy duty cement concrete flooring without metallic hardener  | SQM  | 926.67   |                               |                             |                       |

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| 1403     | Providing & fixing chemical resistant (Acid & Alkali) Tiles as per IS 4457 of minimum thickness 20 mm thick in flooring/Dado.The tiles shall be abrasion resistant and durable. The potassium silicate as per IS 4832, 6 mm thick mortar used for setting or fo  | SQM  | 232.90   |                               |                             |                       |
| 1405     | Providing and laying polished Kota stone 20 mm thk in flooring.staircase over min. 20mm thick underbed of 1 part lime, 1 part surkhi and 2 parts coarse sand by weight mixed with sufficient water to form a stiff workable mass. The kota stone slab shall be min. size 600mmx600mm and laid over under-bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including pigments, curing, grinding, making corners,granite polishing etc. complete. | SQM  | 377.19   |                               |                             |                       |
| 1407     | Providing polished Kota stone 20 mm thk in skirting projecting 6mm from adjacent plaster all complete .  | SQM  | 1.00     |                               |                             |                       |
| 1412     | Providing and laying glazed ceramic tiles of approved color and design in dado of approved size of reputed manufacturer topped with 50mm wide matching ceramic trims complete as per specification including all materials labour etc.   |      |          |                               |                             |                       |
| ii)      | 7mm thick  | SQM  | 726.75   |                               |                             |                       |
| 1413     | Providing and laying Granite slab 20 mm thickness single piece for wash basin slab, wall of black or approved colour with making corner, cutting and opening complete.   | SQM  | 10.46    |                               |                             |                       |
| i)       | Glass strips 40 mm wide and minimum 6 mm thick.  | RM   | 1950.00  |                               |                             |                       |
| 1417     | Providing and laying 50mm thick anti skid precast interlocking concrete paver (M30 grade concrete) of approved shape as per the approval of engineer in charge specification complete including min. 40mm thick sand underbed.   | SQM  | 250.00   |                               |                             |                       |

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| 1501     | Designing, providing and fixing permanently color coated galvanised MS troughed metal sheet decking plate as per IS:513 over roof purlins as per relevant IS code and specification. Thickness of deck plate shall be minimum 0.8mm (base metal excluding coat)  | Sqm     | 671.31   |                               |                             |                       |
|          | contd.....fixing of sheet to purlin with self tapping self drilling white zinc plated heat treated high carbon steel screws of minimum 5.5 mm dia @ 260mm c/c in the trough and stich screws between two adjacent sheets and sealing with epoxy sealant. (hei  |         |          |                               |                             |                       |
| 1502     | Providing and fixing self tapping, self drilling shear connectors of 16mm dia and min. 75mm projected length above purlin of mild steel studs passing through metal decking as per relevant IS codes and specification   | Quintal | 6.20     |                               |                             |                       |
| 1503     | Design, supply & erection of permanent colour coated thermally insulated sandwiched metal cladding for external walls with troughed galvanized MS sheeting of 0.6mm thickness and 275 g/sqm of galvanization or Hi tensile steel (350 Mpa) 0.5 mm thick, coate   | SQM     | 1334.00  |                               |                             |                       |
|          | by self drilling fastners & concealed clips (including sub grits of size 50x50x50mm manufactured out of 16g GI Z shape) to connect the external sheet (without penetrating the external sheet) and including an insulation of 50mm thick rock wool (rockl  |         |          |                               |                             |                       |
| 1504     | Design, supply & erection of permanent colour coated single skin metal cladding (external sheet) of approved color for external walls comprising of profiled sheet of 0.55mm TCT (total coated thickness) permanently colour coated zinalume steel (150gsm zinc - alluminum alloy coating) having 300 Mpa yield strength with colour coating of SMP/Super polyster XRW including colour coating of 20 micron finish coat over a 5 micron primer coat on the exposed side and a back coat of 5 micron over a primer coat of 5 micron on the reverse side. The sheet having 500mm cover width 75mm hiegh crests at 250mm c/c with special male/femal side laps and siphoning feature to prevent leakage including fixing of sheet by concealed clips (including sub grits of size 50x50x50mm manufactured out of 16g GI Z shape without penetrating the external sheet) complete including flashing as per specification | sqm     | 2000.00  |                               |                             |                       |

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|----------|---|------|----------|-------------------------------|-----------------------------|-----------------------|
| 1507     | Providing & fixing insulation of resin bonded mineral wool of specified thickness (25/50mm nominal) conforming to IS 8183 having a density of 32 kg/cum. Glass wool or 48kg/cum of rockwool for under deck insulation including application of glue & tying with lacing wire, for glass/rock wool as per manufacture recommendation all labours materials scaffolding, equipment etc. all complete as per specification, drawing and instruction of Engineer Incharge.  | Cum  | 4.00     |                               |                             |                       |
| 1508     | Providing and installing under deck insulation using minimum 0.05 mm thick aluminium foil on exposed surface followed by 0.56 mm dia and 25 mm mesh GI wire netting, fixed at various elevations with rawl plugs including clips, all labour, material, scaffolding, equipment etc (but excluding cost of insulation which shall be paid under item no. 1507) all complete as per specification, drawing and instructions of engineer in charge.  | SQM  | 65.00    |                               |                             |                       |
| 1601     | Providing and fixing glass reinforced gypsum (GRG) ceiling system consisting of supporting grid system forming panels of specified size, suspended from RCC slab/structural steel or catwalkway grid above with 4 mm (minimum) galvanised wires (rods) with special height adjustment clips, including preparation of working drawing, providing openings for AC ducts, return air grills, light fixtures etc (but excluding the cost of catwalkway grid) all complete as per drawings, specification and instructions of the engineer. |      |          |                               |                             |                       |
| i)       | 12 mm thick GRG board with galvanised light gauge steel load bearing supporting GI frame and finished flat.   | SQM  | 45.00    |                               |                             |                       |
| 1701     | GI down take pipes conforming to IS 1239 / IS 3589 as per specification of following dia.   |      |          |                               |                             |                       |
| ii)      | 150 mm dia  | RM   | 1756.80  |                               |                             |                       |
| 1800     | Miscellaneous   |      |          |                               |                             |                       |
| 1808     | Laying of earthing mats/rods including transportation from yard stores, loading, unloading, cutting to length, welding etc complete as per specification and as directed by Engineer. Earthwork excavation & backfilling shall be paid separately under rel   | MT   | 9.00     |                               |                             |                       |

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|----------|---|------|----------|-------------------------------|-----------------------------|-----------------------|
| 1811     | Providing and fixing GI rungs in concrete/brick walls at all elevations including zinc coating of min. 900 g/sqm all complete.  | Kg   | 727.00   |                               |                             |                       |
| 2001     | Supplying and erecting in position 2.4m high PVC coated galvanised chain linked fencing of minimum 8gauge (including PVC coating) of mesh size 50mm. The diameter of the steel wire for chain link fencing excluding PVC coating shall not be less than 12gauge. GI barbed wire fencing confirming to IS 298 at top of chain link fencing shall be provided with 4 strands of height of 600 mm including all accesories as per specification all complete. Earthwork & concrete for post foundation, structural fabrication etc. shall be paid separately under relevant item and MS angle/channel for post shall be supplied by BHEL free of charge. | Sqm  | 338.40   |                               |                             |                       |
| 2002     | Supplying and fixing G.I. barbed (2 ply) wire in fencing @ 150mm c/c (specing between the runs) and two diagonal ties between the post with mild steel Angle posts, clips, anchors, one coat of redoxide zinc chromate primer and two coats of approved aluminium paint etc complete as per specification, drawing and as directed by the Engineer. Earthwork & concrete for post foundation, structural fabrication etc. shall be paid separately under relevant item and MS angle shall be supplied by BHEL free of charge. For further details of barbed wire ref. Section D, Sub-sec. D17   | Sqm  | 84.60    |                               |                             |                       |
| 2003     | Supply, fabrication and installing in position and testing galvanised MS Gates out of channels, joists, angles, flats, plates, pipes & sheets including stiffners, bracings, fabricated hinges, MS Aldrops with locking arrangement, tempered steel pivot, guide track of MS Tee, ball bearing arrangements, castor wheels,anti corrosive synthetic enamel painting over two coats of primer etc. all complete as per drawing, specification and as directed by Engineer-in-charge with 600mm high GI barbed wire fencing at top all complete.  | MT   | 1.00     |                               |                             |                       |
| 2101     | Providing and fixing in position tested heavy duty type chromium plated brass long neck bib cocks including sockets, union, nut etc. complete 15mm nominal bore.  | No   | 21.00    |                               |                             |                       |

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|----------|--|------|----------|-------------------------------|-----------------------------|-----------------------|
| 2102     | Providing and fixing in position heavy duty brass stop cock of approved quality including all specials etc. complete as directed by Engineer 15mm nominal bore.  | No   | 33.00    |                               |                             |                       |
| 2103     | Providing and fixing in position heavy duty brass full way valve with wheel of approved quality 25mm nominal bore.   | No   | 19.00    |                               |                             |                       |
| 2104     | Providing and fixing in position heavy duty brass full way valve with wheel of approved quality 50mm nominal bore.   | No   | 2.00     |                               |                             |                       |
| 2105     | Providing and fixing GI pipes of class B-Medium complete with GI sockets, unions, elbows, tees, nipples etc. and clamps including cutting and making good the walls etc. complete (internal work) 15 mm nominal bore.      | RM   | 410.00   |                               |                             |                       |
| 2106     | Providing and fixing GI pipes of class B-Medium complete with GI fittings a clamps including cutting and making good the walls etc. complete (internal work) 20 mm nominal bore.   | RM   | 340.00   |                               |                             |                       |
| 2107     | Providing and fixing GI pipes of class B-Medium complete with GI sockets, unions, elbows, tees, nipples etc. and clamps including cutting and making good the walls etc.complete (internal work) 25 mm nominal bore (N.B). | RM   | 330.00   |                               |                             |                       |
| 2108     | Providing and fixing GI pipes of class B-Medium complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc. complete (external work) 15mm nominal bore (N.B).   | RM   | 160.00   |                               |                             |                       |
| 2109     | Providing and fixing GI pipes of class B-Medium complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc.complete (external work) 20mm nominal bore (N.B).    | RM   | 150.00   |                               |                             |                       |
| 2110     | Providing and fixing GI pipes of class B-Medium complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc.complete (external work) 25mm nominal bore (N.B).    | RM   | 270.00   |                               |                             |                       |

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|----------|---|------|----------|-------------------------------|-----------------------------|-----------------------|
| 2111     | Providing and fixing GI pipes of class B-Medium complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc.complete (external work) 50mm nominal bore (N.B).   | RM   | 25.00    |                               |                             |                       |
| 2112     | Providing and fixing 610mmx453mmx6mm thk mirror from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets etc. complete with CP screws as per specification.  | Nos. | 10.00    |                               |                             |                       |
| 2113     | Providing and fixing 610mmx127mmx6mm thk clear glass with C.P Guard rails and mounted on C.P. brackets etc. complete as per specification.  | Nos. | 4.00     |                               |                             |                       |
| 2114     | Providing and fixing 20mm dia chromium plated M.S. pipes wall mounted towel rod (1.00m long) with C.P. brackets etc. all complete as per specification.   | Nos. | 10.00    |                               |                             |                       |
| 2115     | Providing and fixing C.P. soap holder mounted with C.P. screws etc.complete as per specification.   | Nos. | 16.00    |                               |                             |                       |
| 2116     | Providing and fixing C.P. liquid soap dispenser. Dispenser shall be round and easily revolving with removable threaded nozzle and mounted on C.P. brackets etc.complete as per specification.   | Nos. | 14.00    |                               |                             |                       |
| 2117     | Providing and fixing glazed vitreous wall mounted paper holder with suitable cover cum cutter fitted with CP screws etc. complete as per specification  | Nos. | 16.00    |                               |                             |                       |
| 2119     | Providing & fixing P.V.C. water tank (Syntex or equivalent) in position . The work to including making all necessary inlet & outlet pipes, fixture, ball cocks, valves etc. all complete as per specification at all heights and levels                                   |      |          |                               |                             |                       |
| i)       | 2000 Litres Capacity  | Nos. | 5.00     |                               |                             |                       |
| ii)      | 5000 Litres Capacity  | Nos. | 1.00     |                               |                             |                       |
| 2120     | Providing & Fixing approved stainless steel sink with integrated drainboard complete including painting the fitting cutting and making good the wall where required as per specification. The work to be complete as per specification drawing and direction of engineer. | Nos. | 2.00     |                               |                             |                       |

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|----------|---|------|----------|-------------------------------|-----------------------------|-----------------------|
| 2201     | Supply and fixing vitreous china wash basin size 600x450 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, cutting and making good the walls where required etc. complete as per specifications | Nos. | 14.00    |                               |                             |                       |
| 2202     | Providing and fixing approved vitreous china acid/alkali resistant laboratory sink of size 600x450x200mm with R.S. or C.I. brackets, chromium plated brass chain with rubber plug 40mm, CP brass waste and 40mm CP brass bottle trap with necessary union complete including painting the fittings, cutting and making good the wall where required as per specification.   | Nos. | 1.00     |                               |                             |                       |
| 2203     | Providing and fixing colour European type water closet with siphon, open front solid plastic seat and plastic cover, low level 12.5 litre glazed stone water flushing cistern with valveless fittings, necessary C.P connections etc. complete as per specification.  | Nos. | 12.00    |                               |                             |                       |
| 2204     | Providing and fixing glazed vitreous china pan with foot rests and high level 12.5 litre C.I flushing cistern with valveless fittings, necessary C.P connections, foot rests shall be made of white glazed vitreous china with chequered surface allcomplete with cistern painting, C.I brackets etc. as per specification.   | Nos. | 3.00     |                               |                             |                       |
| 2205     | Providing and fixing wall type glazed vitreous china sensor type urinals with flush pipes,sensors, lead pipes, gratings, CP bottle traps and necessary C.P fittings all complete as per specifications.   | Nos. | 13.00    |                               |                             |                       |
| 2206     | Supply, laying and jointing 75mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, lead cocking, a coat of bitumenous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc. all complete and as per specifications.  | RM   | 187.00   |                               |                             |                       |

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|----------|--|------|----------|-------------------------------|-----------------------------|-----------------------|
| 2207     | Supply, laying and jointing 100mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, lead caulking, a coat of bitumenous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc. all complete and as per specifications.   | RM   | 220.00   |                               |                             |                       |
| 2208     | Supply, laying and jointing 150mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, a coat of bitumenous paint, M.S holder bats/clam lead caulking, a coat of bitumenous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc. all complete and as per specifications.                      | RM   | 160.00   |                               |                             |                       |
| 2209     | 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. complete, as per specifications. for dia.  |      |          |                               |                             |                       |
| ii)      | 200 mm   | RM   | 5.00     |                               |                             |                       |
| 2210     | Providing, laying light duty non pressure NP2 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. as per specifications for dia:   |      |          |                               |                             |                       |
| i)       | 150mm  | RM   | 5.00     |                               |                             |                       |
| ii)      | 250mm  | RM   | 2.00     |                               |                             |                       |
| 2211     | Providing and fixing C.I Manhole cover (Medium grade) of size 600mmx450mm including frame from reputed manufacture all complete as per specifications.   | Nos. | 10.00    |                               |                             |                       |
| 2213     | Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber and watertight CI grating, brick masonry chamber 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 as per drawing and specifications etc. all complete size 100x100mm P or S Type. | Nos. | 13.00    |                               |                             |                       |

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|----------|--|------|----------|-------------------------------|-----------------------------|-----------------------|
| 2214     | Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber and watertight CI grating, brick masonry chamber 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 as per drawing and specifications etc. all complete size 150x100mm P or S Type. | Nos. | 11.00    |                               |                             |                       |
| 2215     | Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber and watertight CI grating, brick masonry chamber 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 as per drawing and specifications etc. all complete size 150x150mm P or S Type. | Nos. | 4.00     |                               |                             |                       |
| 2216     | Providing and fixing C.I. floor traps with C.P jalli complete as per specification.  | Nos. | 50.00    |                               |                             |                       |
| 2217     | Providing and installing approved brand single tap water cooler of 80 L cooling capacity complete in all respect.  | Nos. | 1.00     |                               |                             |                       |
| 2218     | Providing and installing approved brand single tap water cooler of 150 L cooling capacity complete in all respect.   | Nos. | 3.00     |                               |                             |                       |
| 2219     | Providing and fixing white vitreous urinal partitions all complete as per specification.   | Nos. | 6.00     |                               |                             |                       |
| 2301     | Structural Steel Works. All items for Fabrication should include fabrication drawings as per specifications. (Supply of Steel in BHEL's Scope.)  |      |          |                               |                             |                       |
| (a)      | Fabrication & Erection   | MT   | 25.00    |                               |                             |                       |
| b) (ii)  | alignment, welding   | MT   | 829.50   |                               |                             |                       |
| 2304     | Providing & application of synthetic enamel paint of Berger or approved equivalent make and colour in two coats of minimum 50 micron total thickness (DFT) already having primer coats (as per ST NO. 2301) at all elevations to achieve an even shade with al   | MT   | 5448.12  |                               |                             |                       |

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|--------------------------------------|--|------|----------|-------------------------------|-----------------------------|-----------------------|
| 2307                                 | Supplying, fabrication , transportation, erection and alignment of factory made 40mm thick electroforged galvanised gratings of steel (having min. galvanisation of 610g/sqm) conforming to IS:2062 at all elevations including preparation of design drawings                           | MT   | 2.00     |                               |                             |                       |
| 2316                                 | Providing and fixing flexible open ended bellow strap of neoprene of min. th. Of 2mm & min. width 200mm with aluminium strip edges as sealing below top of bunker and bottom of tripper floor to avoid coal dust nuisance.   | RM   | 50.00    |                               |                             |                       |
| 2322                                 | Supply fabrication & delivery at site transportation , loading/unloading of various sizes GI hand railing 32 NB including painting (primer and finish) and fixing as per specification labour and materials complete for medium duty class. Rate shall be inclusive of cost of GI pipes. | MT   | 5.80     |                               |                             |                       |
| <b>GRAND TOTAL (In Rs)</b>           |  |      |          |                               |                             |                       |
| <b>Total Amount in words (In Rs)</b> |  |      |          |                               |                             |                       |