

ANNEXURE-I

BILL OF QUANTITIES CUM PRICE SCHEDULE

Name of Project
Name of Work

: 400 KV SWITCHYARD AT BHADRADRI, TSGENCO
: CIVIL WORKS FOR CONTROL BUILDING

S.No.	Description of Item	Unit	Quantity	Unit Rate (Rs)	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 as necessary of rain water/subsoil seepage water and disposal of excavated earth upto 100m and lift upto 3.5m, disposed earth to be levelled and neatly dressed. - All kinds of soil.	cum	1000	129.35	129350.0
2	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 as necessary of rain water/subsoil seepage water and dressing of sides and ramming of bottoms, lift upto 3.5m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 100m. - All kinds of soil.	cum	300	130.80	39240.0
3	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 3.5m.	cum	390	83.80	32682.0
4	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 -				
a	Lead upto 1 km.	cum	910	82.78	75329.8
b	Lead upto 2 km.	cum	100	93.94	9394.0
c	Lead upto 3 km.	cum	100	104.98	10498.0
5	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work upto plinth level.				
(a)	Concrete grade M15 .	cum	20	4514.05	90281.0
(b)	1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size)	cum	20	4024.00	80480.0
(c)	1:4:8(1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	cum	75	3593.30	269497.5
6	Providing and laying M20 reinforced cement concrete in ground floor grade slab/plinth protection of building - excluding the cost of centring,shuttering, finishing and reinforcement.	cum	200	5094.85	1018970.0
7	Supplying chemical emulsion in sealed containers including delivery as specified - Chloropyriphos emulsifiable concentrate of 20%	litre	50	185.95	9297.5
8	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 Technical specifications (Plinth area of the building at ground floor only shall be measured for payment).	sqm	625	88.25	55156.3
9	Providing and laying damp proof course 40mm thick cement concrete 1:1.5:3 (1 Cement:1.5 coarse sand : 3 graded stone aggregate 12.5 mm nominal size) .	sqm	90	225.21	20268.5
10	Extra for providing and mixing plasticiser cum water proofing cement additives such as SIKa or FOSROC make or equivalent conforming to IS:9103. in cement concrete work in the proportion recommended by the manufacturer.	per 50kg cement	30	35.35	1060.5

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S.No.	Description of Item	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
11	Providing and laying in position machine batched and machine mixed design mix M25 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	cum	250	5242.15	1310537.5
(b)	All works above plinth level upto floor V level	cum	550	5781.50	3179825.0
12	Add for using extra cement in the items of design mix over and above the specified cement content therein.	quintal	300	589.80	176940.0
13	Centering and shuttering including strutting, propping, etc., and removal of form for:				
(a)	Foundations, footings, bases of columns, etc., for mass concrete.	sqm	400	166.90	66760.0
(b)	RCC walls at all levels (any thickness).	sqm	800	285.15	228120.0
(c)	Suspended floors, roofs, landings, balconies, chajjas and access platforms at all levels.	sqm	1700	311.20	529040.0
(d)	Lintels, beams, plinth beams and cantilevers.	sqm	6250	262.25	1639062.5
(e)	Columns, Pillars, Piers, Posts and Struts.	sqm	900	365.60	329040.0
(f)	Stairs(excluding landings), excet spiral staircase	sqm	50	326.30	16315.0
14	Steel reinforcement -Cold twisted bars /TMT- Fe 500 (To be procured from SAIL, TISCO, RINL or rerollers approved by main producers only)				
(a)	Excluding supply but including transporting from SAIL stockyard to site, straightening, cutting, bending, binding, (i/c cost of binding wire), placing in position, etc., all labour & material, complete. (Reinforcement steel shall be supplied by BHEL free of cost as per norms indicated in conditions of contract. The rate quoted shall be inclusive of cost against all activities required.)	kg	65700	10.00	657000.0
(b)	Including supply and bending, binding (i/c cost of binding wire), placing in position, etc., all labour & material, complete. Material to be procured from customer approved sources i.e. SAIL, TISCO, RINL.	kg	7300	62.25	454425.0
15	Brickwork with FPS bricks of class designation 75 in foundation and plinth in: Cement mortar 1:6 (1 cement : 6 coarse sand) as per drawing and specification	cum	20	3316.55	66331.0
16	Brickwork with FPS bricks of class designation 75 in superstructure above plinth level upto V level in all shapes and sizes: Cement mortar 1:6 (1 cement : 6 coarse sand) as per drawing and specification	cum	360	3876.15	1395414.0
17	Half brick masonry with FPS bricks of class designation 75 in foundation and plinth in: 1:4 (1 cement : 4 coarse sand) as per drawing and specification	sqm	10	416.95	4169.5

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18	Half brick masonry with FPS bricks of class designation 75 in superstructure above plinth upto floor V level.1:4 (1 cement : 4 coarse sand) as per drawing and specification	sqm	100	476.85	47685.0
19	Extra for providing and placing in position 2 Nos 8mm dia bars at every third course of half brick masonry (with FPS bricks)	sqm	110	115.32	12685.4
20	20 mm cement plaster in two coats under layer 12 mm thk 1:4 (1 cement : 4 coarse sand) finished with top layer 8 mm thk cement plaster 1:6 (1 cement : 6 fine sand) .	sqm	2500	221.25	553124.4
21	12mm thk cement plaster on even side of the walls in the mix:				
(a)	1:4 (1cement :4 fine sand)	sqm	2300	123.50	284050.0
22	6mm cement plaster to ceiling of mix				
(a)	1:3 (1 cement : 3 fine sand)	sqm	50	101.00	5050.0
23	Providing and applying white cement based putty (Birla white, JK White or similar approved) of average thickness 3 mm over the plastered wall surface to prepare the surface even and smooth complete.	sqm	2180	193.23	421240.5
24	Plaster drip course in plastered surface or moulding to RCC projections:	metre	100	22.25	2225.0
25	Providing & fixing chicken wire mesh in plaster all complete as per specification and direction of Engineer - in - charge.	sqm	100	52.56	5256.3
26	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded builtup standard tubular and other sections of approved make conforming to IS: 733 and IS:1285, fixed with rawl plugs and screws or with fixing clips or with expansion hold fasteners including necessary filling up of gaps at junctions at top , bottom and sides with required PVC/neoprene felt, etc. Aluminium sections shall be smooth , rust free, straight, mitred and jointed mechanically wherever required including cleat angle, aluminium snap beading for glazing/panelling, CP brass/stainless steel screws, all complete as per architectural drawings and direction of Engineer-in-charge. (Glazing and panelling to be paid for separately).				
(a)	For fixed portion				
	Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)	kg	1300	358.30	465790.0
(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) (Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)	kg	1900	406.50	772350.0
27	Providing and fixing double action hydraulic floor spring of approved brand and manufacture IS 6315 marked "hardwyn" make (Model 3000) or equivalent for doors including cost of cutting floors as required, embedding in floors and cover plates with brass pivot and single piece M. S. sheet outer box with slide plate etc. complete as per direction of Engineer-in-charge.				
(a)	With Stainless steel cover plate	each	20	1953.10	39062.0

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S.No.	Description of Item	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
28	Providing and fixing fire resistant door frame of section 143 x 57 mm having built in rebate made out of 16 SWG G.I.sheet (zinc coating not less than 120gm/sqm) duly filled with vermiculite based concrete mix, suitable for mounting 60 minutes fire rated door shutters. The frame is fitted with intumescent fire seal strip of size 10x4 mm (minimum) around the frame and fixing with dash fastener of approved size and make, including applying a coat of approved brand fire resistant primer etc. complete as per direction of Engineer-in-charge	metre	30	1161.45	34843.5
29	Providing and fixing 50 mm thick glazed fire resistant door shutters of 60 minutes fire rating conforming to IS:3614 (Part-II) tested and certified as per laboratory approved by Engineer-in-charge with suitable mounting on doorframe, consisting of vertical styles, lock rail, top rail 100mm wide, bottom rail 200mm wide, made out of 16 SWG G.I.sheet (zinc coating not less than 120 gm/sqm duly filled FR insulation material and fixing with necessary stainless steel ball bearing hinges of approved make, including applying a coat of approved fire resistant primer etc. all complete as per direction of Engineer-in charge.	sqm	20	5727.20	114544.0
30	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 & length				
	Sal wood	Cum	1.00	68648.90	68648.9
31	Providing and fixing panelled or panelled and glazed shutters for doors, windows and clerestory windows including ISI marked M.S. pressed butt hinges bright finished of required size with necessary screws excluding, panelling which will be paid for separately, all complete as per direction of Engineer-in-charge.				
	Second class teak wood -35 mm thk shutters	Sqm	10.00	2434.05	24340.5
32	Supplying and fixing rolling shutters 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.	sqm	20	1583.40	31668.0
33	Providing and fixing ball bearing for rolling shutters.	each	2	429.85	859.7
34	Extra for providing mechanical device chain and crank operating rolling shutters. operation for				
	Exceeding 10.00 sqm and upto 16.80 sqm in the area	sqm	2	627.35	1254.7
35	Providing and fixing factory made P.V.C. door frame of size 50x47 mm with a wall thickness of 5 mm, made out of extruded 5 mm rigid PVC foam sheet, mitred at corners and joined with 2 nos of 150 mm long bracket of 15x15 mm M.S. square tube, the vertical door frame profiles to be reinforced with 19x19 mm M.S. square tube of 19 gauge, EPDM rubber gasket weather seal to be provided through out the frame. The door frame to be fixed to the wall using M.S. screws of 65/100 mm size, complete as per manufacturer's specification and direction of Engineer-in-charge.	metre	15	404.60	6069.0

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S.No.	Description of Item	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
36	Providing and fixing factory made panel PVC door shutter consisting of frame made out of M.S. tubes for styles, top & bottom rails. M. S. frame covered with 5 mm thick heat moulded PVC 'C' channel of size 30 mm thickness forming styles, top & bottom rail and 115 mm wide lock rail on both side of the panel. panelling of 5 mm thick both side PVC sheet to be fitted in the M.S. frame welded/ sealed to the styles & rails with 7 mm (5 mm + 2 mm) thick x 15 mm wide PVC sheet beading on inner side, and joined together with solvent cement adhesive. An additional 5 mm thick PVC strp of 20 mm width is to be stuck on the interior side of the 'C' channel using PVC solvent adhesive etc. complete as per direction of Engineer-in-charge, manufacturer's specification & drawing.				
	30 mm thick plain PVC door shutters	sqm	6	2499.20	14995.2
37	Providing and fixing in position collapsible steel shutters with vertical channels 20x10x2mm and braced with flat iron diagonals 20x5mm size, with top and bottom rail of T-iron 40x40x6mm, with 40mm dia steel pulleys, complete with bolts, nuts, locking arrangement, stoppers, handles, including applying a priming coat of approved steel primer.	sqm	15	4234.25	63513.8
38	Providing and fixing anodised aluminium grill (anodised transparent or dyed to required shade according to IS: 1868 with minimum anodic coating of grade AC 15) 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).	kg	192	388.40	74572.8
39	Providing and fixing glazing in fire resistant door shutters, fixed panels, ventilators and partitions etc., with G.I. beading of appropriate size made out of 20 SWG G.I.sheet (zinc coating not less than 120 gm/sqm sealant, including applying a coat of approved fire resistant primer on G.I. beading etc. complete all as per direction of Engineer-in-charge.	sqm	1	25435.15	25435.2
40	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions, etc., with PVC/neoprene gasket, etc., complete as per the architectural drawings and directions of Engineer-in-charge and Tech Spec Clause VII-C Sec XXII. (Cost of aluminium snap beading shall be paid in basic item).				
(a)	With float glass panes of 6 mm thickness.	sqm	100	958.56	95856.1
(b)	With frosted/ground glass panes of 4 mm thickness.	sqm	20	725.35	14507.0
41	Providing & fixing double glazed hermetically sealed glazing in aluminium windows, ventilators and partitions, etc, with 6mm thick toughened float glass on both sides having 12mm gap including providing EPDM gasket, perforated aluminium spacers, dessicants, sealants (both primary & secondary sealant) etc. as per specifications, drawings & direction of Engineer-in-charge complete.	sqm	50	3328.40	166420.0
42	Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying a priming coat of approved steel primer.				
	G.I. pipes	kg	130	93.30	12129.0

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S.No.	Description of Item	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
43	Providing and fixing stainless steel (Grade 304) 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 & 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 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.)	kg	50	558.00	27900.0
44	Providing and fixing chromium plated brass 100mm mortice latch and lock with 6 levers and a pair of lever handles with necessary screws etc. complete (best make of approved quality).	each	10	646.50	6465.0
45	Providing and fixing aluminium sliding door bolts anodised (anodic coating not less than grade AC 10 as per IS: 1868) transparent or dyed to required colour or shade with nuts and screws etc., complete.				
(a)	300 X 16mm	each	5	203.80	1019.0
46	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	each	20	100.40	2008.0
(b)	150 X 10mm	each	30	59.00	1770.0
47	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.				
(a)	125mm	each	10	62.50	625.0
48	Providing and fixing panic bar / latch (Double point) fitted with a single body, Trim Latch & Lock on back side of the Panic Latch of reputed brand and manufacture to be approved by the Engineer- in-charge, all complete.	nos	4	5873.25	23493.0
49	Providing and fixing aluminium die cast body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 35 kg and door width upto 700 mm) with necessary accessories and screws etc. complete.	each	10	662.80	6628.0
50	Providing and fixing circular/Hexagonal cast iron or MS sheet box for ceiling fan clamp of internal dia 140mm, 73mm height, top lid of 1.5mm thick MS sheet with its top surface hacked for proper bonding, top lid shall be scewed into the cast iron/ MS sheet box by means of 3.3mm dia. round headed screws, one lock at the corners. Clamp shall be made of 12mm dia MS bar bent to shape as per standard drawings.	each	5	117.45	587.3
51	Structural steelwork welded in built up sections like edge protection angles, pipes, 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 all complete.	kg	2000	59.90	119800.0
52	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.				

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S.No.	Description of Item	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
(a)	In covering of floors/trenches of control room building with chequered plates, stringers, treads, landings, etc., of staircases involving use of chequered plates, wherever required, all complete.	kg	3000	67.20	201600.0
(b)	In gratings, frames, ladders, stair railings, grills, rails, ISMB, ISMC and similar works.	kg	2000	77.90	155800.0
53	Supplying & laying hard core stone ballast of required thickness interstics filled with sand, rammed and well compacted to desired thickness all complete as per drawing, specification and direction of Engineer-in-charge (Rate shall be inclusive of material like stone ballast 63mm, sand etc., labour, T & P all complete)	Cum	200	1314.08	262816.2
54	52mm thick CC flooring with concrete hardner topping under layer 40mm thick CC 1:2:4 (1cement:2 coarse sand: 4 stone aggregate 20mm nominal size) and top layer 12 mm thick Hardcrete cement hardner consisting of mix 1:2 (1 cement hardner mix: 2 stone aggregate 6mm nominal size) by volume with which hardening compound of approved quality is mixed @ 2 liter per 50 Kg of cement including cement slurry, but excluding the cost of nosing of steps etc., complete.	sqm	650	420.50	273325.0
55	Cement plaster skirting (upto 30cm height) with cement mortar 1:3 (1cement: 3 coarse sand) finished with a floating coat of neat cement.				
(a)	18 mm thick	sqm	200	258.20	51640.0
56	Providing and fixing 1st quality ceramic glazed tiles (Minimum 5mm thk) conforming to IS:15622 (thickness to be specified by manufacture) of approved make in all colours (shades as approved by Engineer-in-Charge) 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.	sqm	100	724.25	72425.0
57	Providing and laying non-skid fully vitrified tiles in different sizes (10 mm thk) with water absorption's less than 0.08% and conforming to IS: 15622 of "MARBONITE", "FERRASTONE" make in all colours and shades laid over cement mortar 1:4 (1 Cement:4 coarse sand) overall thickness 40mm including grouting the joints with white cement and matching pigments etc. complete as per direction of Engineer-in charge.				
(a)	Size of tile 600 x 600 x 10mm thk laid in pattern	sqm	390	1337.10	521469.0
(b)	Size of tile 400 x 400 x 10mm thk laid in pattern	sqm	30	1182.35	35470.5
58	Providing and laying non-skid fully vitrified tiles of size 600 mmx600 mm (10 mm thk) with water absorption's less than 0.08% and conforming to IS: 15622 , "MARBONITE", "FERRASTONE" make ,in all colours & shade in skirting,risers of steps and dados over 12 mm thick bed of Cement mortar 1:3 (1 Cement:3 coarse sand) including grouting the joints with white cement and matching pigments etc. complete as per direction of Engineer-in charge.	sqm	85	1339.20	113832.0
59	Providing and fixing 20mm thick acid and alkali resistant vitrified tiles of ENDURA make using acid and or alkali resisting epoxy mortar as per IS : 4457 over bitumen primer complete as per the direction of Engineer-in- Charge				
(a)	In flooring on a bed of min.20 mm thick mortar 1:4 (1 acid proof cement : 4 coarse sand)	sqm	140	2151.20	301168.0
(b)	In dado / skirting on 12 mm thick mortar 1:4 (1 acid proof cement : 4 coarse sand)	sqm	60	1694.93	101695.5
60	Providing and fixing glass strips in joints of terrazo/ cement concrete floors.				
	40 mm wide and 4 mm thick.	metre	330.00	29.40	9702.0

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61	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) :	Sqm	240	945.70	226968.0
	25 mm thick.				
62	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement 3coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	Sqm	200	954.10	190820.0
63	Distempering with 1st quality acrylic distemper (ready mixed) of approved manufacturer, of required shade and colour complete, as per manufacturer's specification.Two or more coats on new work	Sqm	100	37.35	3735.0
64	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade: Two or more coats on new work.	Sqm	350	53.85	18847.5
65	Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade: Two or more coats on new work.	Sqm	1575	60.25	94893.8
66	Finishing walls with Acrylic Smooth exterior paint of required shade : New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm).	Sqm	1000	67.50	67500.0
67	Painting with acid proof epoxy paint of approved brand and manufacture of required colour to give an even shade. Two or more coats on new work.	Sqm	270	50.50	13635.0
68	Applying priming coat				
(a)	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanised iron/ steel works.	sqm	200	20.70	4140.0
69	Applying one coat of water thinnable cement primer of approved brand and manufacture on wall surface :	sqm	1575	27.55	43391.3
70	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.				
(a)	Granite of any colour and shade (area of slab over 0.5 sqm)	sqm	10	3083.40	30834.0
71	Providing and fixing water closet squatting pan (Indian type WC pan) with 100mm sand cast Iron P or S trap ,10 liter low level white PVC flushing cistern with manually controlled device (handle lever) conforming to IS 7231 with all fittings and fixtures complete including cutting and making good the walls and floors wherever required:				
	White vitreous china orissa pattern WC pan of size 580 X 480mm with integral type foot rests and with toilet paper holder	each	1	2964.10	2964.1

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72	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing & C. P. flush bend with fittings and C. I. brackets, 40mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete including painting of fittings and brackets, cutting and making good the walls and floors wherever required:				
	W.C. pan with ISI marked solid plastic seat and lid, with water faucet and toilet paper holder.	each	3	4201.05	12603.2
73	Providing and fixing coloured vitreous china flat back half stall urinal of size 580x380x350mm with PVC automatic flushing cistern, with fittings, standard size C. P. brass flush pipe, spreaders with unions and clamps (all in C. P. brass) with waste fitting as per IS: 2556, C.I. trap with outlet grating and other couplings in C. P. brass including painting of fittings, cutting and making good the walls and floors wherever required:				
	Range of two half stall urinal with 05 litre P.V.C automatic flushing cistern of approved make.	each	2	8445.00	16890.0
74	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever required:				
	White Vitreous China Flat back wash basin size 550x400 mm with single 15 mm C.P. brass pillar tap.	each	5	1460.50	7302.5
75	Providing and fixing 100 mm sand cast iron grating for gully, floor or Nahani trap.	each	10	24.60	246.0
76	Providing and fixing 750x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	each	5	674.05	3370.3
77	Providing and fixing 600 x 120 x 6 mm glass shelf with edges rounded off supported on anodised aluminium angle frame with C.P. Brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc. complete.	each	5	341.25	1706.3
78	Providing and fixing stainless Steel towel rail complete with brackets fixed to wooden cleats with C.P. Brass screws with concealed fitting arrangement of approved quality and make.				
	600 mm long and min. 25mm dia towel rail with total length of 645mm, width 78mm and effective height 88mm, weighing not less than 190gms.	each	5	415.20	2076.0
79	Providing and fixing PTMT soap Dish Holder having length of 138mm, breadth 102mm, height of 75mm with concealed fitting arrangements. Weighing not less than 106 gms.	each	5	151.10	755.5
80	Providing and fixing toilet paper holder. CP brass.	each	5	250.95	1254.8
81	Providing and fixing soil, waste and vent pipes: 100 mm dia. Sand cast iron S & S pipe.	metre	10	734.30	7343.0
82	Providing and fixing Stainless Steel AISI 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:				
(a)	Kitchen sink with drain board -510x1040 mm bowl depth 250mm.	each	1	6743.55	6743.6

BILL OF QUANTITIES CUM PRICE SCHEDULE

Name of Project
Name of Work

: 400 KV SWITCHYARD AT BHADRADRI, TSGENCO
: CIVIL WORKS FOR CONTROL BUILDING

S.No.	Description of Item	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
83	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 (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	each	2	7132.00	14264.0
84	Extra for depth for manholes				
	Size 90X80cm With FPS bricks	metre	2	4061.70	8123.4
85	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	each	1	15228.15	15228.2
86	Providing and fixing unplasticised Rigid PVC pipes conforming to IS : 13592 , including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes				
(a)	110 mm dia Type A (for rain water pipes)	metre	180	206.90	37242.0
(b)	110 mm dia Type B (for soil pipes)		95	268.97	25552.2
		metre			
87	Providing and fixing unplasticised - PVC moulded fittings/accessories for unplasticised Rigid PVC conforming to IS : 13592, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.				
(a)	110 mm dia fitting for Type A (coupler, tee, bends etc)	Each	60	223.59	13415.4
(b)	110 mm dia Type B (for soil pipes) (coupler, tee, bends etc)	Each	95	290.67	27613.4
88	Providing and fixing G.I. Pipes complete with G.I. fittings and clamps i/c making good the walls etc. concealed pipe including painting with anticorrosive bitumastic paint, cutting chases and making good the wall				
(a)	15 mm dia nominal bore.	metre	40	229.10	9164.0
(b)	20 mm dia nominal bore.	metre	10	251.30	2513.0
(c)	25 mm dia nominal bore.	metre	10	313.52	3135.2
(d)	32 mm dia nominal bore.	metre	10	368.06	3680.6
89	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc. : Internal work – Exposed on wall.				
(a)	25 mm dia nominal bore.	metre	10	243.15	2431.5
(b)	32 mm dia nominal bore.	metre	15	296.50	4447.5
(c)	40 mm dia nominal bore.	metre	15	364.10	5461.5

BILL OF QUANTITIES CUM PRICE SCHEDULE

Name of Project
Name of Work

: 400 KV SWITCHYARD AT BHADRADRI, TSGENCO
: CIVIL WORKS FOR CONTROL BUILDING

S.No.	Description of Item	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
90	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.				
(a)	25 to 40mm nominal bore.	each	2	277.35	554.7
91	Providing and fixing C.P. brass bib cock of approved quality conforming to IS: 8931				
	15mm nominal bore	each	5	397.50	1987.5
92	Providing and fixing C.P. brass stop angle valve for basin and cistern points of approved quality conforming to IS:8931.				
	15mm nominal bore	each	10	449.35	4493.5
93	Providing and fixing brass gate valve with CI wheel of approved quality (screwed end)				0
(a)	32mm nominal bore	each	2	450.90	901.8
94	Providing and placing on terrace (at all floor levels) polyethylene water storage tank of approved brand and manufacture with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank. The tank should be ISI marked .	per litre capacity	1000	6.10	6100.0
95	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	metre	10	254.50	2545.0
(b)	300mm dia. RCC pipe	metre	10	422.90	4229.0
(c)	450mm dia. RCC pipe	metre	10	620.85	6208.5
96	Providing and laying non-pressure NP3 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)	100 mm dia RCC Pipe	metre	10	1007.52	10075.2
(b)	250mm dia. RCC pipe	metre	10	1472.70	14727.0
(c)	300mm dia. RCC pipe	metre	10	1596.87	15968.7
(d)	450mm dia. RCC pipe	metre	10	2225.35	22253.5
97	Providing and placing in position suitable PVC water stops conforming to IS 12200 or equivalent 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)	metre	20	459.15	9183.0
98	Providing water proofing treatment on RCC roof using liquid, cold applied, polyurethane based elastomeric waterproofing membrane (SONOSHIELD HLM 5000R) in 2 coats with separate wearing course as per ASTM - C836 followed by laying of non-woven polypropylene geo-textile of 120gsm followed by rigid insulation board expanded polystyrene (BASF PERIPOR) including finishing top surface with 20mm thick pressed precast concrete tiles all complete as per Customer's Specification (Volume -VIIC Section XXVIII)	sqm	750	1241.90	931425.0
99	Providing and fixing thermal insulation of ceiling (under deck insulation) with PUF material of density 36 kg/cum, 50 mm thick wherever required, all complete as per customer's specification clause no. 26.09.00	sqm	410	431.70	176997.0

BILL OF QUANTITIES CUM PRICE SCHEDULE

Name of Project
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: 400 KV SWITCHYARD AT BHADRADRI, TSGENCO
: CIVIL WORKS FOR CONTROL BUILDING

S.No.	Description of Item	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
100	Providing and applying two layers of residual petroleum bitumen of penetration 85/25 of approved quality using 1.7 kg per sqm on the side faces of foundations after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.(For all lifts and leads).	sqm	900	190.00	171000.0
101	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50metres lead as per direction of Engineer - in-charge.	Cum	5	978.95	4894.8
102	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.	Cum	5	566.6	2833.0
103	Providing and fixing at all heights precoated aluminium panelled acoutic false ceiling 600X600mm 0.7mm thick aluminum alloy AA5050 (Al.mg) Luxalon of Hunter Douglas or Interarch having approved colour with stove enamel finish all complete as per Customer's Specification and directions of Engineer-in-charge.(Rate shall be inclusive of all items including laying of 50mm thick rock wool insulation bound in polythene bags over false ceiling panels, making openings for light fittings, grills,diffusers, cutouts etc.)	sqm	590	1198.31	707002.9
104	Providing and fixing square-mouth S.W. Gully trap grade 'A' complete with C.I. Grating brick masonry chamber with bricks of class designation 75 and water tight C.I. Cover with frame of 300 x 300 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 standard design.: 100 x 100 mm size P type				
	With F.P.S bricks	each	1	1256.35	1256.4
105	Providing and fixing white vitreous china laboratory sink with C.I. brackets, C.P. brass chain with rubber plug, 40 mm C.P brass waste and 40mm C.P. brass trap with necessary C.P. brass unions complete including painting of fittings and brackets, cutting and making good the wall wherever required :	each	1	2758.65	2758.7
	TOTAL				20571586

Note: Reinforcement steel shall be supplied by BHEL free of cost for item no 14(a) as per norms indicated in conditions of contract .The rate quoted against item no-14(a) shall be inclusive of cost agagist all activities required including transportation of material from SAIL stockyard to site.