

BILL OF QUANTITY CUM PRICE SCHEDULE**Name of Project****400KV SUB-STATION EXTN AT ROURKELA****Name of Work****CIVIL WORKS FOR SWITCHYARD**

S.No.	Description of Item	Quantity	Unit	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.				
(a)	All kinds of soil.	425	cum	129.35	54973.75
(b)	Ordinary rock	6	cum	197.75	1186.50
(c)	Hard rock (blasting prohibited)	6	cum	490.1	2940.60
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.				
(a)	All kinds of soil.	140	cum	130.8	18312.00
(b)	Ordinary rock	6	cum	212	1272.00
(c)	Hard rock (blasting prohibited)	5	cum	491.95	2459.75
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.	245	cum	83.8	20531.00
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.	215	cum	82.78	17797.70
(b)	Lead upto 3 km.	6	cum	104.98	629.88
(c)	Lead upto 5 km.	6	cum	125.92	755.52
5	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work upto plinth level.				
(a)	1:2:4 (1 cement : 2coarse sand : 4 graded stone aggregate 20mm nominal size)	130	cum	4514.05	586826.50
(b)	1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size)	7	cum	3888.2	27217.40
(c)	1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	35	cum	3593.3	125765.50
6	Providing and laying in position 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size) reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level :				
(a)	All works upto plinth level	140	cum	5094.85	713279.00
(b)	All works above plinth level upto floor V level	7	cum	5735.75	40150.25
7	Centering and shuttering including strutting, propping, etc., and removal of form for:				
(a)	Foundations, footings, bases of columns, etc., for mass concrete.	205	sqm	166.9	34214.50
(b)	RCC walls at all levels (any thickness).	575	sqm	285.15	163961.25
(c)	Columns, Pillars, Piers, Posts and Struts .	230	sqm	365.6	84088.00
8	Steel reinforcement -Cold twisted bars /TMT- Fe 500 (To be procured from SAIL,TISCO, IISCO and RINL only)				
(a)	Including supply and straightening, cutting,bending, binding, (i/c cost of binding wire), placing in position, etc., all labour & material, complete.	8000	kg	62.25	498000.00
9a	Brickwork with F.P.S.bricks of class designation 75 in foundation and plinth in:				
	Cement mortar 1:6 (1 cement : 6 coarse sand)	5	cum	3316.55	16582.75

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9b	Brickwork with F.P.S.bricks of class designation 75 in superstructure above plinth level to floor V level in all shapes and sizes in:				
	Cement mortar 1:6 (1 cement : 6 coarse sand)	5	cum	3876.15	19380.75
10	12 mm cement plaster finished with a floating coat of neat cement of mix : 1:4 (1 cement: 4 fine sand)	10	sqm	153.45	1534.50
11	Structural steelwork welded in built up sections like edge protection angles, pipes, insert plates with lugs & framed work and grating including providing, cutting, hoisting, fixing in position/ embedding in concrete and applying a priming coat of approved steel primer all complete.	2900	kg	59.9	173710.00
12	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 of control room building with chequered plates, stringers, treads, landings, etc., of staircases involving use of chequered plates, wherever required, all complete.	200	kg	67.2	13440.00
(b)	In gratings, frames, ladders, stair railings, gates (including pipes), rails, ISMB, ISMC and similar works.	11800	kg	77.9	919220.00
13	Applying priming coat				
(a)	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanised iron/ steel works.	50	sqm	20.7	1035.00
14	Antiweed treatment in switchyard area including micro leveling, dressing etc as per Technical Specification.	900	Sqm	17.5	15750.00
15	Supplying and spreading stone in switchyard as per drawing and specification all complete but excluding micro leveling, dressing & antiweed treatment as per Technical Specification.	10	Sqm	104.5	1045.00
16	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.	900	Sqm	70	63000.00
17	Supplying and erection of dewatering pumps including all cable and pipe connections alongwith auto starter and necessary shed all complete as per customer's specification and instruction of engineer in charge.				
(a)	0.5 HP	1	Nos	16200	16200.00
18	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.	102	sqm	61.25	6247.50
19	Suppling and stacking at site				
(a)	90 mm to 45 mm size stone aggregate	10	cum	1010.75	10107.50
(b)	63 mm to 45 mm size stone aggregate	10	cum	1100.8	11008.00
(c)	53 mm to 22.5 mm size stone aggregate	10	cum	1190.8	11908.00
(d)	Stone screening 13.2 mm nominal size (type A)	4	cum	1338.75	5355.00
(e)	Stone screening 11.2 mm nominal size (type B)	2	cum	1425.85	2851.70
(f)	moorum	4	cum	624.45	2497.80
20	Laying WBM with specified size of stone aggregates, screening and moorum/ blinding materials including screening, sorting, spreading to template and consolidation with power road roller of 8 to 10 tonne capacity etc., complete. (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.	8	cum	330.15	2641.20
(b)	Base course with stone aggregate 63mm to 45mm including stone screening 13.2mm sizeand moorum/blinding material.	8	cum	330.15	2641.20
(c)	Base course with stone aggregate 53mm to 22.4 mm including stone screening 11.2mm size and moorum/blinding material.	8	cum	330.15	2641.20

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S.No.	Description of Item	Quantity	Unit	Unit Rate (Rs)	Amount (Rs)
21	Supplying and filling stone (40mm size) over grating for transformer/reactor foundation.	20	cum	1056	21120.00
22	Supplying & fixing (all dia & length) foundation bolts in position with help of proper templates including nuts, washers and template all complete as per drawings & directions of Engr-in-Charge.	50	Kg	86.55	4327.50
23	Extra over Item above for providing galvanised bolts (Mass of zinc coating =610gms/sqm), nuts & washer .	50	kg	5	250.00
24	Fixing (all dia & length) foundation bolts in position with help of proper templates including nuts, washers and template (to be supplied by contractor) all complete as per drawings & directions of Engr-in-Charge.	150	Kg	6.5	975.00
25	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.				
	1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)	7.5	Cum	5900	44250.00
26	Grouting of block outs, pockets, foundations, bolts holes and underside of base plates with cement, sand aggregate (of size 6 mm and down) grout 1:1:2 with non-shrink additive and shall be of strength not less than M30 including placing, curing, cleaning, surface preparation, testing, etc. complete with labour, materials, equipment, handling, testing, etc. all complete as per specifications, drawings and instructions of the Engineer.	1	cum	10000	10000.00
27	Dismantling of RCC Foundations including necessary excavation, stacking of steel bars and disposal of unserviceable material within the substation boundary as per direction of site-in-charge.	60	cum	1075.9	64554.00
28	Strengthening/Modification of existing reactor foundations as per technical specifications including dismantling, chipping of old concrete, scrapping, cleaning, application of necessary adhesives and straightening reinforcement from RCC including welding wherever necessary, stacking unconsumed serviceable and unserviceable material separately and disposal of unserviceable material within the substation boundary, as per the direction of Site-in charge, but excluding excavation, PCC, RCC, Reinforcement steel, Shuttering and Misc. steel etc., which shall be paid separately under respective item, for the following :				
(a)	Exisiting foundation of 50 MVAR Shunt Reactor to suit new 125 MVAR Shunt Reactor	1	lot	24000	24000.00
					3862634.70