

**BILL OF QUANTITY-CUM-PRICE SCHEDULE****Name of Project: Installation of 1x63MVAR Reactor for 400kV s/station at NELAMANGLA & HOODY****Name of Work : Civil works in substation.**

S.No.	Description of Item	Quantity	Unit	Unit Rate (Rs)	Amount (Rs)
<b>1</b>	Earthwork in excavation 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.	14000	cum	101.85	1425900.00
(b)	Ordinary rock	120	cum	152.60	18312.00
<b>2</b>	Earthwork in excavation 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.	800	cum	103.40	82720.00
(b)	Ordinary rock.	50	cum	162.65	8132.50
<b>3</b>	Filling available excavated earth (including rock) in trenches, plinth, sides of foundations, etc., in layers not exceeding 25cm in depth, consolidating each deposited layer by ramming and watering, lead upto 100m and lift upto 3.5m.	1000	cum	45.70	45700.00
<b>4</b>	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 3.0 m including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20cm in depth including consolidating each deposited layer by ramming,watering etc.and disposing of surplus excavated soil as directed within a lead of 100m.				
(a)	All kinds of soil				
<b>4.1</b>	Pipes, cables etc, not exceeding 80mm dia.	5	meter	70.45	352.25
<b>4.2</b>	Pipes, cables etc. exceeding 80mm dia. but not exceeding 300 mm dia.	5	meter	115.05	575.25
<b>4.3</b>	Pipes, cables etc. exceeding 300mm dia but not exceeding 600mm	5	meter	179.65	898.25
(b)	Ordinary rock.				
<b>4.1</b>	Pipes, cables etc, not exceeding 80mm dia.	5	meter	100.20	501.00
<b>4.2</b>	Pipes, cables etc. exceeding 80mm dia. but not exceeding 300 mm dia.	5	meter	248.10	1240.50
<b>4.3</b>	Pipes, cables etc. exceeding 300mm dia but not exceeding 600mm	5	meter	285.50	1427.50

<b>5</b>	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 -.				
<b>(a)</b>	Lead upto 1 km.	500	cum	49.42	24710.00
<b>(b)</b>	Lead upto 3 km.	200	cum	63.32	12664.00
<b>(c)</b>	Lead upto 5 km.	50	cum	76.48	3824.00
<b>6</b>	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work upto plinth level.				
<b>(a)</b>	1:2:4 (1 cement : 2coarse sand : 4 graded stone aggregate 20mm nominal size	5	cum	3257.45	16287.25
<b>(b)</b>	1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size	5	cum	2713.05	13565.25
<b>(c)</b>	1:4:8(1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	125	cum	2449.00	306125.00
<b>7</b>	Extra for providing and mixing water proofing material 'Impermo' or equivalent in cement concrete work in the proportion recommended by the manufacturer.	75	kg	27.45	2058.75
<b>8</b>	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centering,shuttering,finishing and reinforcement-All work up to plinth level:				
	1:1.5:3(1 cement:1.5 coarse sand:3 graded stone aggregate 20 mm nominal size)	600	cum	3732	2239200.00
<b>9</b>	Reinforced cement concrete work in walls (any thickness),including attached pilasters,buttresses,plinth and string courses,fillets,columns,pillars,piers,abutments,posts and struts etc.up to floor five level excluding cost of centering,shuttering,finishing and reinforcement:				
	1:1.5:3(1 cement:1.5 coarse sand:3 graded stone aggregate 20 mm nominal size)	80	cum	4092.35	327388.00
<b>10</b>	Centering and shuttering including strutting, propping, etc., and removal of form for:				
<b>(a)</b>	Foundations, footings, bases of columns, etc., for mass concrete.	400	sqm	119.25	47700.00
<b>(b)</b>	Columns, Pillars, Piers, Abutments, Posts and Struts	380	sqm	238.40	90592.00
<b>(c)</b>	RCC walls at all levels (any thickness).	2300	sqm	180.40	414920.00
<b>(d)</b>	Lintels,Beams,plinth beams,girders,bressumers,cantilevers.	40	sqm	162.50	6500.00
<b>11</b>	Extra for additional height in centering,shuttering where ever required with adequate bracing,propping etc including cost of de-shuttering and decentering at all levels,over a height of 3.5 m,for every additional height of 1 m or part thereof(plan area to be measured)				
	Suspended floors,roofs,landing,beams and balconies(Plan area to be measured)	50	sqm	106.20	5310.00
<b>12</b>	Steel reinforcement -Cold twisted bars /TMT,preferably SAIL,TISCO,RINL,IISCO				
<b>(a)</b>	Including supply and bending, binding (i/c cost of binding wire), placing in position, etc., all labour & material, complete.	80000	kg	42.70	3416000.00

13	Structural steelwork welded in built up sections like edge protection angles/insert plates with lugs & framed work including providing, cutting, hoisting, fixing in position/ embedding in concrete and applying a priming coat of approved steel primer all complete.	3000	kg	46.35	139050.00
14	Steelwork welded in built up sections/framed work including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc., as required.				
	In gratings, frames, ladders, railings,rails, brackets, gates and similar works.	7600	kg	51.20	389120.00
15	Providing & fixing in position precast cement concrete trench covers, etc., 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, and of following grade:				
	M20	14	cum	4500.00	63000.00
17	Providing and fixing (all dia & length) foundation bolts in position with help of proper templates including nuts and washers all complete as per specs, drawings & directions of Engr-in-Charge	800	kg	62.75	50200.00
18	Extra over Item above for providing galvanised bolts (Mass of zinc coating = 610gms/sqm), nuts & washer	800	kg	8.00	6400.00
19	Fixing (all dia & length) foundation bolts in position with help of proper templates including nuts and washers all complete as per specs, drawings & directions of Engr-in-Charge.Bolts to be provided by BHEL free of cost.	500	kg	7.00	3500.00
22	Brickwork with F.P.S.bricks of class designation 75 in foundation and plinth in:				
	Cement mortar 1:6 (1 cement : 6 coarse sand)	50	cum	2121.75	106087.50
23	Brickwork with F.P.S.bricks of class designation 75 in super structure above plinth level up to floor V level in all shapes and sizes in:				
	Cement mortar 1:6 (1 cement : 6 coarse sand)	30	cum	2357.40	70722.00
24	12 mm cement plaster of mix:				
(a)	1:4(1 cement:4 coarse sand)	200	sqm	82.55	16510.00
(b)	1:6(1 cement:6 coarse sand)	200	sqm	72.70	14540.00
25	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	200	RM	202.85	40570.00
(b)	250mm dia. RCC pipe	5	RM	258.20	1291.00

(c)	300mm dia. RCC pipe	5	RM	338.75	1693.75
26	Providing and laying non pressure NP4 class RCC pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. all complete.				
(a)	450mm dia RCC pipe	10	RM	500.00	5000.00
27	Providing and placing in position suitable PVC water stops conforming to IS 12200 for construction/expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete.				
	Serrated with central bulb(225mm wide,8-11mm thick)	30	meter	386.75	11602.50
29	Filling of approved materials i/c cost of materials, labour and equipment for handling, transportation, placing and compacting as required to the required density and to the required elevations as per specification, drawings and directions of Engineer-in-Charge.				
	Broken/crushed/non crushed stone of size 40 mm for placing over transformer grating.	10	cum	768.45	7684.50
30	Grouting of block outs, pockets, foundations, bolts holes and underside of base plates with ready mixed grout or grout consisting of 2 parts by weight of sand, 1 part by weight of cement including approved plasticizer, non-shrink admixture, in the required proportion as recommended by manufacturer/Engineer, 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	10000.00	10000.00
32	Construction of Inspection Chambers 65 x 45 cms with covers (interior clear dimensions) and of suitable depth with table moulded brick in CM 1:6, 23 Cms thick on a bed of 15.24 cms thick CC 1:3:6 and CM 1:4 plastered complete including providing and fixing 65 x 45 cms CI frame and cover in CC 1:2:4,7.5 cms thick and other details as per specification for manhole upto 0.6 m depth (including the cost of CI frame and cover).	8	Nos	3500.00	28000.00
33	Construction of Inspection Chambers 45 x 45 cms with covers (interior clear dimensions) and of suitable depth with table moulded brick in CM 1:6, 23 Cms thick on a bed of 15.24 cms thick CC 1:3:6and CM 1:4 plastered complete including providing and fixing 45 x 45 cms CI frame and cover in CC 1:2:4,7.5 cms thick and other details as per specification for manhole upto 0.6 m depth (including the cost of CI frame and cover).	8	Nos	3000.00	24000.00
34	Supplying and providing GI Pipes with all fittings for laying cables(Medium class) as per IS:1239(Part-I)& IS:4736.				
(a)	25mm dia. nominal bor	350	RM	156.85	54897.50
(b)	40mm daia nominal bore	50	RM	219.60	10980.00

35	Demolishing cement concrete manually/by mechanical means including disposal of material within 50 metres lead as per direction of engineer-in-charge.	10	cum	226.90	2269.00
36	Demolishing RCC work manually/by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge.	50	cum	537.55	26877.50
37	Providing and Laying Moorum below foundations, trenches, roads etc. including watering, compating all complete as per specification and direction of Engineer-in-charge	400	cum	421.85	168740.00
38	Providing ,laying and compacting 230mm thick stone base under the floors as per direction of Engineer-in-Charge.	50	cum	100.00	5000.00
39	Providing and Laying Sand in foundation of reactor etc. including compating all complete as per specification and direction of Engineer-in-charge	100	cum	301.50	30150.00
41	Removing, stacking,respreading and cleaning the existing gravel In the switchyard all complete as per direction of Engineer-in charge.	7000	sqm	50.00	350000.00
			Total Amount		10150489