

ANNEXURE-I

BOQ CUM PRICE SCHEDULE

Name of Project
Name of Work

220 KV SWITCHYARD FOR 1X370 MW YELAHANKA
220KV SWITCHYARD CIVIL WORKS

S.No.	Description of Item	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
1	Earthwork in excavation over areas (exceeding 30cm in depth 1.5m in width as well as 10sqm on plan) including dewatering as necessary of rainwater/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.	cum	5800	129.35	750230.00
(b)	Ordinary Rock	cum	10	197.75	1977.50
2	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 rainwater/subsoil seepage water, dressing of sides and ramming of bottoms, lift upto 3.5m and including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 100m.				
(a)	All kinds of soil.	cum	1650	130.80	215820.00
3	Filling available excavated earth (excluding 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	4400	83.80	368720.00
4	Carriage & disposal of surplus excavated earth 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 1km.	cum	3000	82.78	248340.00
(b)	Lead upto 2km.	cum	100	93.94	9394.00
(c)	Lead upto 3km.	cum	100	104.98	10498.00
5	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work upto plinth level.				
(a)	M15	cum	500	4514.05	2257025.00
(b)	M10	cum	10	3888.20	38882.00
(c)	M7.5	cum	10	3331.25	33312.50
6	Centering and shuttering including strutting, propping, etc., and removal of form for:				
(a)	Foundations, footings, bases of columns, etc., for mass concrete.	sqm	1450	166.90	242005.00
(b)	Columns, pillars, piers, posts and struts,	sqm	2600	365.60	950560.00
(c)	Walls (any thickness).	sqm	4200	285.15	1197630.00
(d)	Lintels, beams, plinth beams and cantilevers.	sqm	50	262.25	13112.50
7	Steel reinforcement .				
(a)	Including supply and bending, binding (i/c cost of binding wire), placing in position, etc., all labour & material, complete.	Kg	10000	38.00	380000.00
(b)	Excluding supply but including bending, binding (i/c cost of binding wire), placing in position, etc., all labour & material, complete. (See Note No:1)	Kg	174000	7.28	1266720.00
	Excluding supply but including straightning, cutting, bending, binding (i/c cost of PVC binding wire), placing in position, etc., all labour & material, complete. (Reinforcement steel shall be supplied by BHEL free of cost at site. Unlodng, storing, watch & ward shall be in the scope of the bidder)				
8	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	1800	5242.15	9435870.00
(b)	Add for using extra cement in the items of design mix over and above the specified cement content therein.	quintal	550	589.80	324390.00

S.No.	Description of Item	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
9	Providing M-30 grade concrete instead of M-25 grade (Note:- Cement content considered in M-30 is @ 340)	cum	250	5305.35	1326337.50
10	Add for using extra cement in the items of design mix over and above the specified cement content therein	quintal	70	589.80	41286.00
11	Extra for providing and mixing water proofing material of approved make in cement concrete work in the proportion recommended by the manufacturer.	kg/50 kg of cement	1650	35.35	58327.50
12	Providing & fixing in position precast cement concrete trench covers, coping, roof units, fascia, RCC grills, 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.				
	Grade of concrete shall be M25.	cum	30	5242.15	157264.50
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.	kg	13700	39.99	547863.00
14	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.	cum	15	11893.75	178406.25
15	Providing and fixing (all dia & length) GI foundation bolts in position with help of proper templates including supply of templates ,nuts and washers all complete as per specs, drawings & directions of Engr-in-Charge. (Mass of zinc coating = 610gms/sqm)	kg	11100	86.55	960705.00
16	Extra over Item above for providing galvanised bolts (Mass of zinc coating = 610gms/sqm), nuts & washer .	kg	11100	5.95	66010.31
17	Fixing (all dia & length) foundation bolts in position with help of proper templates(to be supplied by contractor) including nuts and washers all complete as per drawings & directions of Engr-in-Charge. (Bolts to be supplied by BHEL)	kg	1000	23.74	23740.00
18	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)	100mm dia. RCC pipe	RM	50	218.35	10917.50
(b)	150 mm dia. RCC pipe	RM	10	254.50	2545.00
(d)	250 mm dia. RCC pipe	RM	10	342.45	3424.50
19	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)	300mm dia. RCC pipe	RM	10	620.85	6208.54
(b)	450mm dia. RCC pipe	RM	10	903.93	9039.25
(c)	600mm dia. RCC pipe	RM	10	1241.71	12417.08
20	Providing and placing in position suitable PVC water stops conforming to IS 12200 of Deep-Jyoti or equivalent for construction/expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete.				
(a)	Serrated with central bulb(225mm wide,8-11mm thick)	meter	60	459.15	27549.00

S.No.	Description of Item	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
21	Preparation and consolidation of subgrade with power road roller of 8 to 10 tonne capacity after excavating earth to an average of 22.5cm 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 50m.	sqm	1200	61.25	73500.00
22	Extra for compaction of earthwork in embankment under optimum moisture conditions to give at least 95% of the maximum dry density (Proctor density)	cum	1200	7.75	9300.00
23	Suppling and stacking at site				
(a)	90 mm to 45 mm size stone aggregate	cum	10	1010.75	10107.50
(b)	63 mm to 45 mm size stone aggregate	cum	360	1100.80	396288.00
(c)	53 mm to 22.5 mm size stone aggregate	cum	10	1190.80	11908.00
(d)	Stone screening 13.2 mm nominal size (type A)	cum	40	1338.75	53550.00
(f)	Moorum	cum	10	624.45	6244.50
24	Laying spreading and compacting stone aggregate of specified sizes to WBM specifications including spreading in uniform thickness, hand picking, rolling with 3 wheeled road/vibratory roller 8-10tonne in stages to proper grade and camber, applying and brooming requisite type of screening/binding material to fill up interstices of coarse aggregate water and compacting to the required density (payment for stone aggregate, screenings, kankar, moorum and red bajri etc., to be made separately)	cum	300	330.15	99045.00
25	Providing and fixing in position 25 mm thick bitumen impregnated fibre board conforming to IS: 1838, including the cost of primer, sealing compound in expansion joints.	per cm depth per 100 m length	150	430.30	64545.00
26	Providing and laying in position bitumen hot sealing compound for expansion joints etc. Using grade A sealing compound	per cm depth per cm width per m length	900	1.65	1485.00
27	Providing and laying at or near ground level factory made kerb stone of grade M25 cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement : 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not be more than 5mm), including making drainage opening wherever required complete etc. all complete as per the direction of Engineer-in-charge. (Length of finished kerb edging shall be measured for payment). (Precast CC kerb stone shall be approved by Engineer-in-charge). (kerb stine will be fixied over 20 thk cement mortar) .	cum	40	5046.80	201872.00
28	Providing & fixing PVC Coated galvanised chainlink fencing including all allied activities, all complete as per Customer Technical specification , drawing and direction of Engineer incharge. (Rates shall be inclusive of all civil works including labour & material like PVC Coated GI chainlink fence, fence posts, earth work ,RCC foundn, HTSSW wire, Concertina coil, brick work/, plaster, PCC coping, painting with textured paint, etc.all complete)-	RM	480	3635.00	1744800.00

S.No.	Description of Item	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
29	Providing & fixing gate made of medium duty MS pipe including all allied activities, all complete as per Customer Technical specification , drawing and direction of Engineer incharge.. (Rates shall be inclusive of all labour material items like medium duty pipe, hinges, MS aldrop, tempered steel pivot, guide track of MS tee, Bronze-Alu. ball bearing arrangement, caster wheel, fabrication, welding, primer, painting etc.all complete) (Earthwork, concrete, reinforcement required for gate post to be paid separately)	kg	2	74.12	148.24
30	Providing and laying stone aggregate in switch yard areas in 75mm thick layer using 20 mm aggregates size in layer I and 75mm thick layer using 40mm size aggregate in layer II (Top) making overall thickness of stone aggregate as 150mm . Before laying the stone aggregates , the yard surface shall be treated with antiweed treatment (as per manufacturer recommendations) all complete as per Customer's specification and direction of Engineer in Charge. (The rate shall be inclusive of all materials ,labour,loading,unloading and surface preparation, compaction, micro grading etc. required for aggregate laying and antiweed treatment)	Sqm	10000	165.80	1657988.75
31	Applying two coat of residual petroleum bitumen of penetration 85/25 grade as per IS:702 of approved quality using 1.7 kg per sqm per coat on concrete surface in contact with soil, after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	sqm	7400.00	193.30	1430420.00
32	Providing and laying 75mm thk factory made cement concrete interlocking paver block of M -30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge.	sqm	450	536.65	241492.50
33	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in-charge.	cum	10	978.95	9789.50
34	Demolishing brick work 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. In Cement Mortar	cum	10	566.60	5666.00
35	Providing, laying and compacting rubble soiling of required thickness in floor, foundations of equipment under the floors etc... as per direction of Engineer-in-Charge.	cum	10	841.00	8410.00
36	Supplying chemical emulsion in sealed containers including delivery as specified - Chloropyriphos emulsifiable concentrate of 20%	litre	50	185.95	9297.50
37	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	150	88.25	13237.50
				TOTAL	27225622.42
Note					
1	Reinforcement steel for Item No 7(b) shall be supplied by BHEL free of cost at site .Unlodng, storing, watch & ward shall be in the scope of the bidder)				

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

**PRICE SCHEDULE FORMAT
(ANNEXURE-A)**

SUB: EXECUTION AND HANDING OVER OF CIVIL WORKS OF 220 KV SWITCHYARD AT YELAHANKA IN KARNATAKA.

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

NOTE:

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

Date:
Place

Signature of tenderer
Name & Designation of authorized person(s) with seal