

**BOQ CUM PRICE SCHEDULE**

**ANNEXURE-I**

Name of Project		400 KV SWITCHYARD FOR YERAMARUS			
Name of Work		BALANCE CIVIL WORKS FOR 400KV SWITCHYARD			
SI No	Description	Unit	QTY	Unit Rate	Amount
<b>Road works</b>					
1	Providing, laying and compaction of granular sub-base with material conforming to Grade-I including all material, machinery and manpower	Cum	86	1366.61	117528.03
2	Providing, laying and compaction of wet mix macadam (WMM) including all including all material machinery and manpower	Cum	135	1373.62	185438.93
3	Providing and laying of Kerbstone of PCC1:2:4 (Size of each 400X350X125mm) per RM including all material, machinery and manpower	RM	3300	238.95	788535.00
4	Providing and laying bitumen penetration macadam with hard stone aggregate of quality, size and grading as specified, with bitumen of suitable penetration grade including required key aggregate as specified, spreading course aggregate with the help of self propelled/tipper tail mounted aggregate spreader and applying bitumen by a pressure distributor and then spreading key aggregate with the help of aggregate spreader complete including consolidation with road roller of minimum 8 to 10 tonne capacity to achieve specified values of compaction and surface accuracy. -- For 50mm compacted thickness using course aggregate of size 50 - 20 mm graded at 0.60 cum per 10 sqm key aggregate of size 12.5mm graded at 0.15cum per 10 sqm. With paving asphalt 80/100 @ 50 kg/10sqm.	Sqm	7000	355.30	2487100.00
5	Providing and laying 2cm thick premix carpet surfacing with 2.4cum of stone chipping 11.2mm nominal size per 100sqm and bitumen emulsion ( medium setting minimum 65% bitumen content ) complying with IS: 8887-1995 using 96kg per cum of chipping including consolidation with road roller of 6 to 9 tonne capacity etc complete (tack coat to be paid for separately)	Sqm	7000	150.90	1056300.00
6	Providing and laying seal coat of premixed fine aggregate (passing 2.36mm and retained on 180micron sieve ) with bitumen using 128 kg of bitumen of grade 80/100 bitumen per cum of fine aggregate and 0.60cum of fine aggregate per 100 sqm of road surface including rolling and finishing with road roller all complete.	Sqm	7000	61.30	429100.00
7	Providing and applying primer/ tack coat using bitumen emulsion conforming to IS: 8887, using emulsion pressure distributor including preparing the surface & cleaning with mechanical broom with medium setting bitumen emulsion				
a	On W.M.M. @ 0.6kg/sqm	Sqm	7000	21.75	152250.00
b	On bituminous surface @ 0.3kg/sqm	Sqm	7000	11.46	80220.00
<b>Control building works</b>					
8	providing & fixing thermal insulation of ceiling under deck insulation with resin bonded fiber glass wool confirming to IS 8183 (twiga insulation 1500x50mm or equalent ) density 24kg/cum, 50mm thick, wrapped in 200G virgin polutheneG bags fixed to ceiling with metallic cleats (50x50x3mm) @60cm and wire mesh 12.5mm x24 G wire & mesh, for top most ceiling of building.	Sqm	200	431.70	86340.00
9	Providing & fixing aluminium false ceiling system comprise of 84mm wide 12.5mm deep closed type plane panels of approved colour, road formed out of 0.5mm thick corrosion resistant aluminium alloy AA5050 fixed on roll formed carriers.additional hangers & heigth adjustment clips shall be provided for return air drills, supply air defusers, light fixtures AC duct etc, all complete required for completion of works as per direction of engineer -in-charge	Sqm	500	826.80	413400.00

SI No	Description	Unit	QTY	Unit Rate	Amount
10	Providing and laying the 20 mm thick mirror polished granite for <b>Dado and skirting</b> with nosing with cement mortar 1:3 including all as per the direction of engineering in charge and drawing nos;TB-1-332-607-626-8(Rev:1)&TB-1-332-607-626-6(Rev:2)	Sqm	43	3041.15	130769.45
11	Provideing and laying the 20 mm thick mirror polished granite for <b>Flooring</b> with cement mortar 1:3 including lead and lift as per the direction of engineering in charge and drawing no;TB-1-332-607-626-6(Rev:2)	Sqm	100	3083.40	308340.00
12	Providing , laying & fixing roof water proofing treatment using two successive liquid coatings of high solid contain urethane pre polimers to form elastomeric membrane having overall dry film thickness of min 1.5mm subject to min 750gms per sqm per coat application.Rate including primer coat consisting of polyurethane or any other equivalent material, finishing coats & surface finish complete laid over cement plaster (1:6) grading. screed concrete over fivished layer of elastomeric membrane cast in panels of 1.2x1.2m & reinforced with 0.56mm dia galvanised chicken wire mesh and joints sealed using sealing compound all complete(cement plaster & screed paid separatly) including all labour, material, equipment, handling, scaffolding, transporting , testing etc. complete as per drawing , specification & instruction of the engineer.	Sqm	1100	584.24	642666.20
13	Providing and laying of polymerised mrotar as per drawing no:TB-1-332-607-626-5 (Rev:3) including all.	Sqm	1100	525.00	577500.00
14	Providing and laying of chequered cement tiles as per drawing no:TB-1-332-607-626-5 (Rev:3) including all.	Sqm	1100	564.35	620785.00
15	Providing and fixing of HDPE pipe of 150mm dia as per drawing no:TB-1-332-607-626-1 (Rev:3) including all.	RM	250	447.93	111982.50
16	Precast Terrozo tiles minimum 20mm thick with graded marble chips of size up to 12mm laid in floors and landing ,jointed with neat cement slurry mixed with pigments to match shade of the tiles including rubbing and polishing complete with precast tiles laid over 30mm thick bed of cement motor 1:4(1cement: 4 coarse sand) to make overall thickness of flooring 50mm .-Light shade using White cement.	Sqm	178	769.35	136944.30
17	Precast Terrozo tiles minimum 20mm thick with graded marble chips of size up to 12mm laid in skirting & risers of steps not exceeding 30cm in height on 12mm cement plaster 1:3(1 cement: 3coarse sand),jointed with neat cement slurry mixed with pigment to match the shade of the tiles including rubbing & polishing complete with pre cast tiles of-light shade using white cement	Sqm	100	966.85	96685.00
18	Provideing and laying the Granolithic Flooring of 50 mm thick including all lifts and lead as per the direction of engineering in chargeand drawing no;TB-1-332-607-626-6(Rev:2)	Sqm	200	420.50	84100.00
19	prioviding & laying of 10mm min thick pre polished vetrified tiles 600*600mm of approved make & colours laid over 40mm thick bed of cement mortar 1:3(1cement:3coarse sand) including pointing in white cement mixed with pigment of matching shade complete as per direction of engineer -in-charge.	Sqm	30	1434.38	43031.40
20	providing & fixing approved quality pre polished vetrified tiles of min thickness 10mm of approved make & colour in skirting , risers of steps & dados over 12mm thick bed of cement mortar 1:3 & jointing with grey cement slurry at 3.3kg per Sqm including pointing in white cement mixed with pigment of matching shade complete.	Sqm	20	1339.20	26784.00
21	providing & fixing 1st quality ceramic glazed tiles 300*300mm (thickness to be specified by manufacturer)conforming to IS 13755 of min thickness 7mm of approved make & colours laid over 43mm thick bed of cement mortar 1:4 (1cement: 4 coarse sand)to make over all thickness of flooring 50mm including pointing in white cement mixed with pigment of matching shade complete.	Sqm	30.000	764.55	22936.50
22	Providing and applying Two or more coats of Water Bound Distember Paint of approved brand & manufacture to give an even shade drg ref no; TB-1-332-607-626-6(Rev:2)	Sqm	1650	46.30	76395.00
23	Providing and applying Two or more coats of Acrlyic Emulsion Paint of approved brand & manufacture to give an even shade drg ref no; TB-1-332-607-626-6(Rev:2)	Sqm	1700	60.25	102425.00
24	Applying of prime coat - with ready mixed red oxide of zinc cromite primer of approved brand & manufacture on steel galvanised iron / steel works.	Sqm	100	11.40	1140.00

Sl No	Description	Unit	QTY	Unit Rate	Amount
25	Applying of prime coat - applying 1 coat of cement primer of approved brand & manufacture on wall surface	Sqm	200	27.55	5510.00
26	Distemping with oil bond washable distemper of approved brand & manufacture two or more coats over & including priming coat with cement primer (work to be carried as per relevent IS codes)	Sqm	100	66.70	6670.00
27	finishing walls with water proofing cement paint :snowcem- plus" of M/s Snowcem India ltd or equivalent of required shape				
(a)	two or more coats on new work	Sqm	1680	44.95	75516.00
28	Making plinth protection of 100mm thick cement concrete M15 laid over 230mm thick compacted rubble soling well rammed & consolidated & grouted with fine sand including finishing the tops smooth	Sqm	130	644.89	83835.50
29	Providing & fixing aluminium grills of required pattern in frames of window etc. with aluminium flats , square are round bars etc all complete.	Kg	100	388.40	38840.00
30	Providing & fixing anodised aluminium work for doors, windows , ventilators & partitions with extruded built up Standard tubular & other section of approved make conforming to IS 733 & IS 1285, Anodised or Transperant Dyed to required Shade according to IS 1868(minimum anodic coating of grade AC 15). Fixed with rtawl plugs & screws or with fixing clips or with expansion fastners including necessary filling up of gaPS @ JUNCTIONS AT TOP, bottom & sides with required PVC Bar neoprene felt, etc . Aluminium section shall be smooth rust free straight, mitred & jointed mechanically wherever required including cleat angle, aluminium snap beading for glasing & panelling, CP brass/stainless steel screws all complete as per architectural drawings & as per site in charge(Glazing & panelling to be paid for separatly)- for fixed portion	Kg	100	358.30	35830.00
31	for shutters of doors , windows, ventilators, including providing & fixing hinges, pivots & fitting wherever required including the cost of PVC/neoprint gasket required	Kg	100	406.50	40650.00
32	Steel work welded in built up section/framed work including providing, cutting, hoisting & fixing in position & applying a prime coat of approved steel primer using structural steel etc as required-In covering of floors/trenchs of C.R.B with chequered plates, stingers, treads, landing etc of staircase involving use of chequered plates wherever required, all complete	Kg	1000	67.20	67200.00
33	In gratings, frames,ladders, stair railings, gates(including pips), rails, ISMB,ISMC & similar works	Kg	5000	77.90	389500.00
<b>Site levelling works</b>					
34	Site grading/ land development works -Mass cutting including lift of 1.5m.	Cum	3000	129.35	388050.00
35	Site grading/ land development works -Backfilling from above excavated earth with proper compaction in layers of 20cm. Lead of transportation of soil upto 50 m	Cum	12000	83.80	1005600.00
36	Carriage & disposal of surplus excavated earth/rock beyond initial lead by mechanical means not necessarily all the times pucca roads ,including loading & unloading, dressing of excavated material etc.. Complete as per specification- Lead upto 3Km	Cum	100	93.90	9390.00
37	excavation of Hard rock	Cum	302	347.80	105035.60
38	Construction of Swichyard Fencing work				
(a)	Providing & laying in position cement concrete of M20 grade excluding centring and shuttering & reinforcement	Cum	25	4904.95	122623.75
(b)	Providing & laying in position PCC of M15 grade excluding centring and shuttering	Cum	75	4514.05	338553.75
(c)	Centring & shuttering including strupting, propping etc, & removal of form for Foundations, footings , bases of column, toe wall etc,	Sqm	950	166.90	158555.00
(d)	Steel reinforcement-cold twisted bars/TMT fe500, preferably SAIL TISCO, IISCO & RINL only- including supply, bending, binding(i/c cost of binding wire ), placing in position, etc, all labour & material, complete.	Kg	1200	62.25	74700.00

SI No	Description	Unit	QTY	Unit Rate	Amount
(e)	Structural steel work welded in built up section like edge protection angles pipes insert plates with lugs & framed work including providing cutting, hosting, fixing in position/ embedding in concrete & applying a priming coat of approved steel primer all complete.	Kg	12000	59.90	718800.00
(f)	Providing and fixing chain link fencing mesh of 75mm square size, thickness including PVC coating shall be minimum 8G and the base metal shall be min 12 G thick, including making holes in MS angles, MS flats for fixing mesh, materials (chain link mesh and accessories like nuts bolts washers etc.), manpower and T&P etc. all required for completion of work per drawing no: TB-1-332-607-614	Sqm	240	519.15	124596.00
(g)	Fixing chain link fencing mesh of 75mm square size, thickness including PVC coating shall be minimum 8G and the base metal shall be min 12 G thick, including making holes in MS angles, MS flats for fixing mesh, materials (accessories like nuts bolts washers etc.), manpower and T&P etc. all required for completion of work per drawing no: TB-1-332-607-614. Chain link mesh will be provided by BHEL.	Sqm	1320	144.58	190845.60
(h)	Providing and fixing galvanised steel barbed steel wires shall be of type A size designation 1 as per IS 278, including making holes in MS angles, MS flats for fixing barbed wire , materials (barbed wires and accessories like nuts bolts washers etc.), manpower and T&P etc. all required for completion of work as per drawing no: TB-1-332-607-614.	RM	7500	7.32	54928.84
(i)	Fixing galvanised steel barbed steel wires shall be of type A size designation 1 as per IS 278, including making holes in MS angles, MS flats for fixing barbed wire, materials (accessories like nuts bolts washers etc.), manpower and T&P etc. all required for completion of work as per drawing no: TB-1-332-607-614. Brabed wire will be provided by BHEL.	RM	7800	1.90	14852.29
(j)	Painting with Aluminium paint on angle, post struts and flats each coat	Sqm	200	23.85	4770.00
	<b>GRAND TOTAL</b>				<b>12833548.64</b>

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

**Annexure – A**

**PRICE SCHEDULE FORMAT**

**SUB: EXECUTION AND HANDING OVER OF BALANCE CIVIL  
WORKS OF 400 KV SWITCHYARD AT YERAMARUS IN  
KARNATAKA**

I/ We hereby agree to execute the above work at ----- % (in figure)  
----- (in words) Above/ Below the rates as given in 'Bill of  
Quantity cum Price Schedule' for Civil Works of 400kV Switchyard (Annexure-I)  
of subject tender.

**NOTE:**

1. In case of discrepancy in rates in figure and words, the minimum will be taken into account by BHEL.

Date:

Place:

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