

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED



**Estimate for Increasing the height of
existing 66kV Somanahalli-
Subramanyapura 2 nos SC line (B1 & B2)
which are infringing the work of proposed
Anjanapura Depot in Reach -4B, Ph-II on
self execution basis by M/s BMRCL**

**Executive Engineer (Ele.),
Major Works South Division.,
KPTCL,A.R.Circle, B'lore - 09**

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ABSTRACT - LINE

Sl. No.	Particulars	Amount in Lakhs
1	Material Cost (including F&I and GST)	125.00
2	Spares @ 3 % on Material cost (3% of item no 1)	3.75
3	Erection/Labour Charges	14.00
4	Applicable GST on Erection/Labour charges (on Sl. No. 3)	2.52
5	Testing and Commissioning Charges	0.00
6	Applicable GST on Testing and Commissioning Charges (on Sl. No. 5)	0.00
7	Total cost (Material Cost + Erection /Labour charges + Testing Charges) (Sum of Sl. No. 1 to 6)	145.27
8	Cost of Civil Engineering works based on KPWD SR 2016-17 with multiplying factor to account for GST	51.20
9	Total Work Cost (Material Cost + Erection /Labour + Testing Charges + Civil Engg. Cost) (Sum of Sl. No. 7 & 8)	196.47
10	Establishment charges at 20% on Sl. No. 7 (Material cost + Erection /Labour + Testing Charges)	29.05
11	Contingencies at 3 % on Sl. No. 7 & 10) (Material cost + Erection /Labour + Testing Charges + Establishment Charges)	5.23
12	Statutory charges such as payment to civic bodies / Electrical Inspectorate etc.,	1.00
13	Forest clearance / Tree cut compensation & crop compensation and Land compensation etc.,	3.24
14	Total estimated cost of the work (sum of 9to13)	235.00

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Sl. No.	Description	Unit	Quantity		Material Cost							Total Amount in Rs
			No's	Total weight	Base Rate in Rs.	F&I charges @ 6% on Base Price in Rs.	GST Rate in % on Base Price & F&I	GST Amount in Rs.	Unit Rate with GST in Rs.			
1	2	3	4	5	6	7	8	9	10	11		
A1 I	Tower type 66 kV DC Narrow Based Tower											
	66 kV DD+0 (KPTCL Design).											
	a 66 kV DD+0 KPTCL Design.(3.428 MT)	No/MT	1	3.428	82,000.00	4,920.00	18.00	15,645.60	1,02,565.60	3,51,594.88		
	b Stub for the above (0.553 MT)	No/MT	1	0.553	82,000.00	4,920.00	18.00	15,645.60	1,02,565.60	56,718.78		
	c Supply of Galvanised Bolts & Nuts =(wt of Bolts and Nuts=172 kg+6 kg)	No/MT	1	0.178	1,15,000.00	6,900.00	18.00	21,942.00	1,43,842.00	25,603.88		
II	Tower type 66 kV DC Narrow Based Tower											
	66 kV DD+3 (KPTCL Design).											
	a 66 kV DD+0 KPTCL Design.(3.428 MT)	No/MT	1	3.428	82,000.00	4,920.00	18.00	15,645.60	1,02,565.60	3,51,594.88		
	b +3 Mtr Extension Wt=0.781 MT	No/MT	1	0.781	82,000.00	4,920.00	18.00	15,645.60	1,02,565.60	80,103.73		
	c Stub for the above (0.553 MT)	No/MT	1	0.553	82,000.00	4,920.00	18.00	15,645.60	1,02,565.60	56,718.78		
	d Supply of Galvanised Bolts & Nuts =(wt of Bolts and Nuts=172 kg+6 kg +31kg)	No/MT	1	0.209	1,15,000.00	6,900.00	18.00	21,942.00	1,43,842.00	30,062.98		

Sl. No.	Description	Unit	Quantity		Material Cost					
			No's	Total weight	Base Rate in Rs.	F&I charges @ 6% on Base Price in Rs.	GST Rate in % on Base Price & F&I	GST Amount in Rs.	Unit Rate with GST in Rs.	Total Amount in Rs
1	2	3	4	5	6	7	8	9	10	11
III	Tower type 220 kV DC Narrow Based Tower									
	220 kV DD+25 (Hoody-HAL Design).									
	220 kV DD+0 Hoody-HAL Design.(HT-6.4594MT)	No/MT	4	25.838	91,000.00	5,460.00	18.00	17,362.80	1,13,822.80	29,40,907.98
	220 kV DD+0 Hoody-HAL Design.(MS-3.01734MT)	No/MT	4	12.069	82,000.00	4,920.00	18.00	15,645.60	1,02,565.60	12,37,901.15
	+25 Mtr Extension Wt=(HT-5.9858MT)	No/MT	4	23.943	91,000.00	5,460.00	18.00	17,362.80	1,13,822.80	27,25,282.06
	+25 Mtr Extension Wt=(MS-5.0575MT)	No/MT	4	20.230	82,000.00	4,920.00	18.00	15,645.60	1,02,565.60	20,74,902.09
	Stub for the above (1.00566MT)	No/MT	4	4.023	82,000.00	4,920.00	18.00	15,645.60	1,02,565.60	4,12,584.49
	Supply of Galvanised Bolts & Nuts =(wt of Bolts and Nuts=18.19kg+463.22 kg + 472.48Kgs)	No/MT	4	3.816	1,15,000.00	6,900.00	18.00	21,942.00	1,43,842.00	5,48,837.78
A2	Tower accessories :									
	Supplying and fixing GI angle 450 x 450 mm 1Mtr length with cleats, bolts nuts as per specification and fixing above 0.5 mts length each at inner and outer surface of tower to facilitate running of barbed wire AC device	Set	6							
	Supplying and fixing Barbed wire	Rmtr	2000							
	Number Plates	No	6		150.79	9.05	18.00	28.77	188.61	1,131.65
	Danger Boards	No	6		167.69	10.06	18.00	32.00	209.75	1,258.48
	Circuit plate	No	12		150.79	9.05	18.00	28.77	188.61	2,263.30

Sl. No.	Description	Unit	Quantity		Material Cost						
			No's	Total weight	Base Rate in Rs.	F&I charges @ 6% on Base Price in Rs.	GST Rate in % on Base Price & F&I	GST Amount in Rs.	Unit Rate with GST in Rs.	Total Amount in Rs	
1	2	3	4	5	6	7	8	9	10	11	
f	Phase plate (Set of 3 No.)	Set	12		397.77	23.87	18.00	75.89	497.53	5,970.37	
g	Earth bond 450 mm long	No	12		413.37	24.80	18.00	78.87	517.04	6,204.52	
g	Grounding of tower with GI Pipe including the cost of GI pipe	Set	6		3,525.00	211.50	18.00	672.57	4,409.07	26,454.42	
A3	Conductor & Earth wire :										
a	AAAC Moose Conductor	Kms	1.36		2,61,000.00	15,660.00	18.00	49,798.80	3,26,458.80	4,43,353.90	
b	ACSR Coyote Conductor	Kms	1.43		77,000.00	4,620.00	18.00	14,691.60	96,311.60	1,37,836.35	
b	7/3.15 mm Ground wire	Kms	0.93		58,000.00	3,480.00	18.00	11,066.40	72,546.40	67,743.83	
A4	Insulators & Hardware										
1	Double Tension string of 16 units of Disc insulator 120 KN each for AAAC Moose (2016 MW SR)	Nos.	12		22,472.00	1,348.32	18.00	4,287.66	28,107.98	3,37,295.73	
2	Single Tension string of 5 units of Disc insulator 90 KN each for Coyote ACSR(2016 MW SR)	No's	18		3,230.70	193.84	18.00	616.42	4,040.96	72,737.27	
A5	Accessories for Conductor										
a	M S C Joints suitable for AAAC Moose	Nos.	5		836.00	50.16	18.00	159.51	1,045.67	5,228.34	
b	M S C Joints suitable for Coyote ACSR	No's	5		411.00	24.66	18.00	78.42	514.08	2,570.39	
c	Pre formed armour rods suitable for AAAC Moose	Nos.	4		2,434.00	146.04	18.00	464.41	3,044.45	12,177.79	

Sl. No.	Description	Unit	Quantity		Material Cost						Total Amount in Rs
			No's	Total weight	Base Rate in Rs.	F&I charges @ 6% on Base Price in Rs.	GST Rate in % on Base Price & F&I	GST Amount in Rs.	Unit Rate with GST in Rs.		
1	2	3	4	5	6	7	8	9	10	11	
d	Pre formed armour rods suitable for Coyote ACSR	Nos.	4		716.00	42.96	18.00	136.61	895.57	3,582.29	
e	Repair sleeves suitable for AAAC Moose	Nos.	6		643.00	38.58	18.00	122.68	804.26	4,825.59	
f	Repair sleeves suitable for Coyote ACSR	Nos.	6		199.00	11.94	18.00	37.97	248.91	1,493.46	
g	P.G.Clamps for AAAC Moose	Nos.	12		941.00	56.46	18.00	179.54	1,177.00	14,124.03	
h	P.G.Clamps suitable for Coyote ACSR	Nos.	18		210.00	12.60	18.00	40.07	262.67	4,728.02	
i	Vibration dampers for AAAC Moose	Nos.	12		1,122.00	67.32	18.00	214.08	1,403.40	16,840.77	
j	Vibration dampers for Coyote ACSR	Nos.	18		564.00	33.84	18.00	107.61	705.45	12,698.12	
A6	Accessories & Hardware for Earthwire										
1	P G Clamps suitable for GROUND wire	No.	12		266.00	15.96	18.00	50.75	332.71	3,992.55	
2	Single Tension clamps (bolted type) suitable for Ground wire	No.	12		816.00	48.96	18.00	155.69	1,020.65	12,247.83	
A7	Miscellaneous and other unforeseen materials.	L/S								4,10,427.55	
A6	TOTAL									1,25,00,000.00	

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Estimate for Increasing the height of existing 66kV Somanahalli-Subramanyapura 2 nos SC line (B1 & B2) which are infringing the work of proposed Anjanapura Depot in Reach -4B, Ph-II on self execution basis by M/s BMRCCL

Sl. No.	Description	Unit	Quantity		Labour Cost	
			No's	Total weight	Unit Rate (in Rs.)	Amount (in Rs.)
1	2	3	4	5	8	9
B1	Check Survey by using their own equipments in Plain terrain	Per KM	1.528		2,864.00	4,376.19
B2	Assembling and erection of towers including tightening of bolts and nuts including loading, unloading at store and site (Including the Wt. of stubs) Note : For tower erections requiring shutdown 25% above S.R. are to be adopted. P.No. 99	MT		99.049	2,945.00	2,91,699.31
B3	Stub setting templates					
a	Setting of stub templates and aligning dismantling and transportation of templates from one location to another location for 66 kV	Loc	6		502.00	3,012.00
b	Sorting of Tower Parts made of fabricated angle iron	MT		89.717	323.00	28,978.59
c	Rivetting of tower bolt ends by heating using dry -Acetylene gas and hammering to destroy threads so as to make the tower members theft proof.	Per Bolt	2000		18.75	37,500.00
d	Welding of bolts and nuts	Per Bolt	2000		18.75	37,500.00
B4	Tower accessories :					
a	Supplying and fixing GI angle 450 x 450 mm 1Mtr length with cleats, bolts nuts as per specification and fixing above 0.5 mts length each at inner and outer surface of tower to facilitate running of barbed wire AC device	Set	6		2,781.00	16,686.00
b	Supplying and fixing Barbed wire	Rmtr	2000		51.00	1,02,000.00

Sl. No.	Description	Unit	Quantity		Labour Cost			
			No's	Total weight	Unit Rate (in Rs.)	Amount (in Rs.)		
1	2	3	4	5	8	9		
	c	Fixing of Number Plates	No	6		54.00	324.00	
	d	Fixing of Danger Boards	No	6		54.00	324.00	
	e	Fixing of Circuit plate	No	12		54.00	648.00	
	f	Fixing of Phase plate (Set of 3 No.)	Set	12		161.00	1,932.00	
g	Earth bond 450 mm long	No	12		-	-		
g	Grounding of tower with GI Pipe including the cost of GI pipe	Set	6		1,425.00	8,550.00		
B5	Stringing of Conductor without allowing the conductor to touch the ground and without damaging the conductor.							
		1	Stringing of AAAC Moose conductors under LC condition	Kms	1.36		19,999.50	27,160.72
		2	Stringing of Coyote conductors urder LC condition	Kms	1.43		8,892.00	12,725.79
		3	a) Stringing of ground conductor for plain terrain under LC condition	Kms	0.93		6,879.00	6,423.61
B6	Dismantling							
1	Releasing of 66kV H-Frame towers	No's/MT	4 No's	5.344	2,208.75	11,803.56		
2	Releasing of 66kV DD+0 towers	No's/MT	2 No's	3.979	2,208.75	8,789.06		

Sl. No.	Description	Unit	Quantity		Labour Cost	
			No's	Total weight	Unit Rate (in Rs.)	Amount (in Rs.)
1	2	3	4	5	8	9
3	Releasing of 66kV DD+0 CTT NBT towers	No's/ MT	4 No's	18.400	2,208.75	40,641.00
4	Releasing of Coyote ACSR	Kms	2.748		6,669.00	18,326.41
5	Releasing of 66kV 630Sqmm UG cable	Kms	0.7260		1,82,956.88	1,32,826.69
6	Releasing of GROUND wire	Kms	0.9160		5,159.25	4,725.87
3	Loading of Tower Materials , conductors and accessories	MT	38.474		2,061.00	79,294.77
4	Unloading of Tower Materials , conductors and accessories	MT	38.474		2,061.00	79,294.77
5	Transportation 1. Using 21 to 40 MT Truck or Tractor i) 1 to 250 KMs b) Transportation of other materials	Trip (L/S)	1		39,532.50	39,532.50
6	Miscellaneous and other unforeseen materials.	L/S				4,925.16
B7	Sub Total					10,00,000.00
B8	Scattered Area Mobilisation allowance over the basic labour rates for LINE work @5% of item no B12					50,000.00
B9	Extra allowance to take care of contractor over heads @ 15% of item no.B12					1,50,000.00
B10	Area allowance for transmission line works@ 20% of item no.B12					2,00,000.00
B11	TOTAL					14,00,000.00

Sl. No.	Description	Unit	Quantity		Labour Cost	
			No's	Total weight	Unit Rate (in Rs.)	Amount (in Rs.)
1	2	3	4	5	8	9
	Civil portion					
C1	Excavation for foundation including Back filling, levelling of consolidation.(only labour) :					
1	Normal Dry soil	CMT	0.00		437.24	-
2	DFR	CMT	1021.70		1,364.24	13,93,838.90
C2	Foundation Concreting : (NDS)					
1	Concreting and curing - (M10)	CMT	16.20		8,160.69	1,32,203.18
2	Concreting and curing - (M20)	CMT	243.22		8,406.35	20,44,592.45
C3	Steel reinforcement (including material and labour) NDS	MT	12.568		64,242.23	8,07,396.38
C4	Back filling					
1	Back filling and levelling with available soil	CMT	762.28		143.89	1,09,685.23
C5	Excavation for releasing of 66kV UG cable	CMT	75.75		240.00	18,180.00
C6	Backfilling the cable trench with available earth from the trench excavation & consolidating with ramming in successive layers of 15 cms thickness, watering wherever necessary, achieving 96% proctors density, forming a crown for subsidence.(after releasing of cable)	CMT	75.75		78.00	5,908.50

Sl. No.	Description	Unit	Quantity		Labour Cost	
			No's	Total weight	Unit Rate (in Rs.)	Amount (in Rs.)
1	2	3	4	5	8	9
C7	Miscellaneous and rounding off					68,195.36
C8	Total					45,80,000.00

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Report: This estimate is prepared for Increasing the height of existing 66kV Somanahalli-Subramanyapura 2 nos SC line (B1 & B2) which are infringing the work of proposed Anjanapura Depot in Reach -4B, Ph-II on self execution basis by M/s BMRCL

This estimate was prepared and submitted vide letter No. EEE/BMWSD/AEE(5)/ 19-20/506-07 Dated: 27.04.2019. As SR has been revised, the estimate is re-prepared as per prevailing SR 2019 for amounting **Rs. 235.00 Lakhs** as per approved survey reports from the office of The Superintending Engineer, Ele, Transmission Works, KPTCL, A.R. Circle, Bangalore vide letter no. SEE/TR(W)C/ EE(O)/AEE-SSD/2018-19/F-270/213-14 dtd: 23.04.2019 and as per technical feasibility letter from the office of the Chief Engineer, Elect, Planning & Co-ordination KPTCL, Kaveri Bhavan vide ref No.CEE/P&C/SET/EE(TL)/KCO-109/AEE-7/34861/2017-18 dtd 08.04.2019.

The execution of work is as per the tower schedule and route profile.

The work of increasing the height of existing 66kV Somanahalli-Subramanyapura 2 nos SC line (B1 & B2) which are infringing the work of proposed Anjanapura Depot in Reach -4B, Ph-II includes erection of one number of 66kV DC Narrow based tower type 'DD' (of M/s KPTCL design for B1 line), one number of 66kV DC Narrow based tower type 'DD+3ME' (of M/s KPTCL design for B2 line), and four number of 220kV DC Narrow based tower type 'DD+25ME' (of HOODY-HAL design) (2 no's. B1 line and 2 No's for B2 line) using AAAC Moose conductor stringing for 2 spans, coyote conductor stringing for 2 Spans and ground wire for 4 spans (Both B1 & B2). Also the necessary materials are made provisioned in this estimate to complete the work.

Provision is made for dismantling of 4 No's of 66kV H-frame towers (02 No's of B1 and 02 No's of B2 line), 2 No's of 66kV DC Narrow based tower type DD+0 (Kalpatharu design) (01No of B1 and 01 No of B2 line), 4 No's of 66kV NBT CTT tower type DD+0 (Leela venture design) (02 No's of B1 and 02 No's of B2 line), releasing of coyote conductor for 2.748Kms ((240+229+230+217)x3) and releasing of existing 66kV UG cable for a length of 726Mtrs (121x6) and accessories. And also provision is made to return all the above materials to Major works stores, Peenya.

The shifting work requires line clear of 66kV Somanahalli-Subramanyapura line (B1 & B2) line affecting the load.

Hence the estimate may kindly be sanctioned.

Certificate:

Certified that this estimate is prepared using current schedule of Rates (MWSR-2019 and KPWD 2016-17) along with applicable prevailing GST for most economical and safe way of executing the work.

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