



KERALA STATE ELECTRICITY BOARD LIMITED

(Incorporated under the Companies Act, 1956)

Reg. Office: Vydyuthi Bhavanam, Pattom, Thiruvananthapuram – 695 004

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ABSTRACT

Construction of 110kV Substation, Kuttikkol installing 2x12.5MVA 110/11kV Transformers after constructing 15km 110kV Double Circuit line from 220kV Substation, Mylatty under Transmission Circle, Kannur – Administrative sanction accorded - taking over of land – sanction accorded - orders issued.

Corporate Office(SBU-T)

B.O.(FTD)No.208 /2020/D(T,SO&S)/T3/110kV S/s Kuttikkol /2019-20 dated, Thiruvananthapuram 18.03.2020

Read: 1. GO No. 250/2019/Rev dated 03.08.2019.

2. Letter No.D(T&SO)/PSE/NP/2019-20/156 dtd.24-12-2019 of the Executive Engineer, Power System Engineering, Thiruvananthapuram.

3. Letter No. CE/TRN/AEE2/Kuttikkol /2019-20/ 1370 dated 31.12.2019 of the Chief Engineer (Transmission North).

4. Minutes of the DPR Committee meeting held on 15.01.2020.

5. Letter No. TS1/Kuttikkol/2019-20/428 dated 22.01.2020 of the Deputy Chief Engineer, Transmission Circle, Kannur.

6. Note No.D(T,SO&S)/T3/ 110kV S/s Kuttikkol/2019-20/ 130 dated 10.03.2020 of the Director(Transmission, System Operation & Safety) (Agenda No.44 /03/2020)

ORDER

The Chief Engineer (Transmission North) forwarded a proposal as per letter read as 3rd above for the construction of a new 110kV Substation at Kuttikkol by installing 2x12.5MVA 110/11kV Transformers after constructing 15km 110kV Double Circuit line from 220kV Substation, Mylatty and constructing 2 Nos 110kV feeder bays at Mylatty at an estimate amount of Rs 35 Crore.

At present, on the eastern side of Mylatty, there are no EHT substations and the areas are fed from 220kV Substation Mylatty; 110kV Substation, Mulleria and 33kV Substation, Belur through 11kV feeders. All these 11kV feeders are almost overloaded and the supply interruptions are much frequent. Prolonged interruptions in 11kV feeders results in consumer dissatisfaction and revenue loss. Places like Badaadukka, Bethurpara, Bedakam, Munnadu, Pallathinkal, Kundamkuzhi, Paduppu, Choorithodu, Karivedakam etc. are nearby to Kuttikkol where the people are facing acute voltage problems. It was reported that many of the drinking water projects and agricultural motors are not working due to low voltage issues.

On materialisation of the project, loading of the substations 220 kV Mylatty, 110kV Mulleria, and 33kV Belur will be relieved considerably, and the supply interruptions in Kuttikkol, Badaadukka, Bedakam, Bethurpara, Kundamkuzhi, Kolathur and Munnad region will be

reduced . It will also facilitate the industrial development and to meet future demand in Kuttikol and provide reliable and quality power, thereby ensuring consumer satisfaction.About 1 lakh of consumers are expected to be benefitted from this project.

The Revenue land to an extent of 3 acres in Re-Survey No.396/1 part of Badadukka village in Kasaragode district is allotted to KSEBL for the construction of the substation on Lease deed basis for 30 years by the Government of Kerala as per GO read as 1st above at an annual lease rent @ 2% of the market rate of Rs 25,76,400/- for 30 years, on the condition that the lease amount shall be renewed every 3 years.

The proposal was revised to an estimate amount of Rs 34.25 crore , incorporating lease amount and rectifying duplication in the calculation of GST and was placed before the Full Time Directors as per note read as 6th above seeking sanction.

Having considered the above, the Full Time Directors in the meeting held on 12.03.2020,

Resolved to accord Administrative Sanction for the construction of 110kV Substation, Kuttikkol by installing 2x12.5MVA 110/11kV Transformers after constructing 15km 110kV Double Circuit line from 220kV Substation , Mylatty at an estimate amount of Rs 34.25 Crore (Rupees Thirty Four Crore and Twenty Five lakh only) .

Further resolved to take up the matter with the Government for issuing the land either on sale basis or on lease at a fixed rent for the whole life time of the project, amending the clause of Revision of Lease Rent in every 3 years as envisaged in the Government Order dated 03.08.2019 since such revision in certain cases were found to be exorbitant and to limit the requirement of land to 1.5 acres instead of 3 acres.

Orders are issued accordingly.

By Order of the Full Time Directors,
Sd/-
Lekha G.
Company Secretary (In- Charge)

To

: The Chief Engineer (Transmission North)

Copy to: The Deputy Chief Engineer, Transmission Circle, Kannur
The Deputy Chief Engineer(IT)
The Financial Adviser/ The Chief Internal Auditor.
The RCAO/ RAO.
The TA to CMD/ D(T,SO&S)/ D(D, IT&HRM)/ D(G-C)/ D(G-E& SCM)
The PA to Director (Finance)/CA to Company Secretary
Fair Copy Superintendent/Library/Stock File.

Forwarded / By Order


Assistant Executive Engineer

Annexure to B.O.(FTD)No.208 /2020/D(T,SO&S)/T3/110kV Thimiri/2019-20 dated, Thiruvananthapuram
18.03.2020

KERALA STATE ELECTRICITY BOARD LIMITED

Name of Work: Construction of new 110kV Substation at Kuttikol, Bay extension at Mylatty and Construction of 15km of 110kV DC line from 220kV Substation, Mylatty under Transmission Circle, Kannur

ABSTRACT

Sl.No.	Particulars	QTY	Unit	Rate in Rs. Lakhs	Total amount in Rs. Lakhs
1	Construction of 110kV substation at Kuttikol with 2Nos. of 110kV feeder bays and 2 Nos. of 110/11kV 12.5MVA Power transformer and its accessories.	1	Set	1200.00	1200.00
2	Construction of 2 Nos. 110kV feeder bay at 220kV Substation, Mylatty	1	Set	350.00	350.00
3	Construction of 110kV DC line from 220kV Substation, Mylatty to Kuttikol Substation	15	km	125.00	1875.00
					3425.00

Rs.34,25,00,000/-

(Rupees Thirty Four crore twenty five lakh only)

Sd/-

Director(Transmission, System Operation & Safety)

KERALA STATE ELECTRICITY BOARD LIMITED

ESTIMATE

Name of Work: Construction of new 110kV Substation at Kuttikol, Bay extension at Mylatty and Construction of 15km of 110kV DC line from 220kV Substation, Mylatty

Phase I -Construction of Substation					
Sl.No.	Particulars	Unit	Qty	Rate in Rs. Lakhs	Total amount in Rs. Lakhs
I	Part-1 Land on lease(Lease @ 2% of Rs 25,76,400/- (for 3 acres) for 35 years)	Acre	3	6.0116	18.03480
II	Part-2 Electrical Equipments				
1	Power Transformer 110/11kV 12.5 MVA	Nos.	2	80.51929	161.03858
2	110/11kV12.5 MVA Power Transformer C&R panel	set	2	5.27608	10.55216
3	110 kV feeder control and relay panel	Sets	2	5.27165	10.5433
4	110kV SF6 Circuit Breaker with structure	Set	4	5.1802	20.7208
5	110kV Current Transformer with structure (800-400/1-1-1-1A)	Nos	12	1.63071	19.56852
6	110kV Potential Transformer with structure(for buses)	Nos	12	1.12688	13.52256
7	110kV Lightning arrestor with structure	Nos	12	0.3652	4.3824
8	110kV Neutral CT	Nos	2	0.23116	0.46232
9	110kV Bus isolator 1200A Triple pole Double-break with structure	Nos.	7	2.24589	15.72123
10	110kV line isolator 800A Triple pole Double-break with earth switch and structure	Nos.	2	2.51724	5.03448
11	Disc Insulator 120kN	Nos	250	0.0064	1.6
12	ACSR Kundah conductor	km	3	2.00235	6.00705
13	Galvanised steel structure	MT	40	0.71539	28.6156
14	Provision for Hardware fittings and clamps	LS	1	10	10
15	32mm MS Rod for earthing	MT	25	0.531	13.275
16	G.I Earthwire, 7/3.15mm	km	2	0.34342	0.68684
17	GI Strip for earthing	MT	1	0.78	0.78
18	Control cable of Various size	km	10	2.27	22.7
19	11kV Lightning Arrester	Nos	21	0.02	0.42
20	11kV NCT with structure	Nos	2	0.26545	0.5309
21	11 kV 3x300sqmm XLPE Cable	Km	2	9.13018	18.26036
22	11 kV 1x500sqmm XLPE Cable	Km	1.5	6.06456	9.09684
23	11kV XLPE 3X300sqmm heat shrinkable outdoor end joining kit	Nos	6	0.0295	0.177
24	11kV XLPE 1X500sqmm heat shrinkable outdoor end joining kit	Nos	3	0.02599	0.07797
25	11kV XLPE 3X300sqmm heat shrinkable indoor end joining kit	Nos	6	0.03304	0.19824

26	11kV XLPE 1X500sqmm heat shrinkable indoor end joining kit	Nos	3	0.02509	0.07527
27	11kV 10 Panel set	Set	1	42.966	42.96597
28	11kV , 630A, AB switch	Set	6	0.16748	1.00488
29	110V, 200AH Plante battery	Set	1	8.1125	8.1125
30	30A battery charger	No.	1	1.15876	1.15876
31	AC Distribution Panel	Set	1	2.42176	2.42176
32	Bus Bar, clamps etc	LS		20.00	20.0000
33	Safety devices and Fire fighting Equipments	LS		5.0000	5.0000
34	Tools and plants	LS		3.0000	3.0000
35	Furniture and Name board	LS		5.0000	5.0000
36	Earth mat & Earthing	LS		40.00	40.0000
37	160kVA 11kV/433V Auxiliary transformer	Nos.	1	2.35478	2.35478
SUB TOTAL OF Part - 2					505.07
Part-3. Civil works					
1	Site leveling	LS		40.0	40.0
2	Compound walls, Security cabin and Temporary office cum store building	LS		55.0	55.0
3	Control room building	LS		90.0	90.0
4	Well ,Pump House, accessories and Sanitation	LS		10.0	10.0
5	Electrification	LS		5.0	5.0
6	Foundation works for yard structure and equipments	LS		65.0	65.0
7	Cable trench	LS		30.0	30.0
8	Yard Metalling	LS		30.0	30.0
9	Roads	LS		10.0	10.0
10	Yard Fencing	LS		10.0	10.0
11	Yard lighting	LS		10.0	10.0
12	Local scada for monitoring	LS		10.00	10.0
Sub total Part 3.					365.0
ABSTRACT FOR SUBSTATION					
A	Part-1 : Land				18.03
B	Part-2: Cost of materials				505.07
C	Erection and commissioning @7.5% of Part-2				37.88
D	Insurance, transporting and contingencies @6% of Part-2				30.30
E	Part 3: Civil works and special works				365.0
Total (A+B+C+D+E)					956.28
Overhead charges @10%					95.63
Total					1051.91
GST @ 18%					140.54
Total					1192.46
Unforeseen items					7.54
GRAND TOTAL for Substation					1200.00

Construction of 2Nos. of 110kV feeder bays at 220kV Substation, Mylatty.					
Sl.No.	Particulars	Unit	Qty	Rate in Rs. Lakhs	Total amount in Rs. Lakhs
I	Part-1 Land	Acre	0	0	0.00
II	Part-2 Electrical Equipments				
1	110 kV feeder control and relay panel	Sets	2	5.27165	10.5433
2	110kV SF6 Circuit Breaker with structure	Set	2	5.1802	10.3604
3	110kV Current Transformer with structure (800-400/1-1-1-1-1A)	Nos	6	1.63071	9.78426
4	110kV Potential Transformer with structure(for buses)	Nos	6	1.12688	6.76128
5	110kV Lightning arrestor with structure	Nos	6	0.36521	2.19126
6	110kV Bus isolator 1200A Triple pole Double-break with structure	Nos.	4	2.24589	8.98356
7	110kV line isolator 800A Triple pole Double-break with earth switch and structure	Nos.	2	2.51724	5.03448
8	Disc Insulator 120kN	Nos	100	0.0064	0.64
9	ACSR Kundah conductor	km	2	2.00235	4.0047
10	Galvanised steel structure	MT	25	0.71539	17.88475
11	Provision for Hardware fittings and clamps	LS	1	10	10
12	32mm MS Rod for earthing	MT	15	0.531	7.965
13	G.I Earthwire, 7/3.15mm	km	1.5	0.34342	0.51513
14	GI Strip for earthing	MT	1	0.78	0.78
15	Control cable of Various size	km	7	2.27	15.89
16	Bus Bar, clamps etc	LS		20.00	20.0000
17	Safety devices and Fire fighting Equipments	LS		1.0000	1.0000
18	Tools and plants	LS		1.0000	3.0000
19	Furniture and Name board	LS		1.0000	1.0000
20	Earth mat & Earthing	LS		25.00	25.0000
SUB TOTAL OF Part - 2					161.34
	Part-3. Civil works				
1	Site leveling	LS		10.0	10.0
2	Foundation works for yard structure and equipments	LS		35.0	35.0
3	Cable trench	LS		20.0	20.0
4	Yard Metalling	LS		20.0	20.0
5	Roads	LS		5.0	5.0
6	Yard Fencing	LS		5.0	5.0
7	Yard lighting	LS		2.0	2.0
8	Local scada for monitoring	LS		5.00	5.0
Sub total Part 3.					102.0
ABSTRACT FOR SUBSTATION					

A	Part-1 : Land				0.00
B	Part-2: Cost of materials				161.34
C	Erection and commissioning @7.5% of Part-2				12.10
D	Insurance, transporting and contingencies @6% of Part-2				9.68
E	Part 3: Civil works and special works				102.0
	Total (A+B+C+D+E)				285.12
	Overhead charges @10%				28.51
	Total				313.63
	GST @ 18%				33.51
	Total				347.14
	Unforeseen items				2.86
	GRAND TOTAL for Substation				350.00

Estimate for the construction of 1km 110kV DC line

Sl.No.	Particulars	Unit	Qty	Rate in Rs. Lakhs	Total amount in Rs. Lakhs
	Part-(1) : Material				
1	Tower	MT	25	0.8909	22.27
2	Tower accessories	LS		1.5	1.50
3	Power conductor (ACSR Wolf)	km	6.3	1.1343	7.15
4	Power conductor accessories	LS		1.5	1.50
5	Earthwire, 7/3.15mm	km	1.25	0.34342	0.43
6	Earthwire accessories	LS		0.08	0.08
7	Insulators and hardware items	E	450	0.005	1.25
	Subtotal Part-(1)				34.18
	Part-(2): Civil works				
1	Foundation of Towers	LS		30	30.00
2	Surveys & Soil Investigation	LS		2	2.00
	Subtotal Part - (2)				32.00
	ABSTRACT FOR PART C				
A	Cost of materials				34.18
B	Erection and commissioning @7.5% of Part-A				2.56
C	Insurance, transporting and contingencies @6% of Part-A				2.05
D	Civil works				32.00
E	Tree cutting compensation	LS			15.00
F	Inspectorate Testing charges & PTCC	LS			10.00
	Total				95.79
	Overhead charges @10%				9.58
	Total				105.37
	GST @ 18%				12.81
	Total				118.19
	Unforeseen items				6.81
	GRAND TOTAL for 1km of 110kV line				125.00