



KERALA STATE ELECTRICITY BOARD LIMITED

(Incorporated under the Companies Act, 1956)

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

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ABSTRACT

Upgradation of 66kV Substation, Mananthavady to 110kV by installing 2x12.5MVA, 110/11kV Transformers under Transmission Circle, Kozhikode – Administrative Sanction accorded - orders issued.

Corporate Office(SBU-T)

B.O.(FTD)No.298 /2020/D(T&SO)/T3/Mananthavady upgradation to 110kV /2019-20 dated, Thiruvananthapuram 27.04.2020

- Read: 1. B.O (FTD) No:1736/16(D(T&SO)/T3/KNBTA-MNTHVDY/2016 dated 13.06.2016
2.Letter No. D(T&SO)/PSE/CE-NU/2018-19/120 dated 03.09.2018 of the Executive Engineer, Power System Engineering
3.Note No. CE/TRN/E6/Mananthavady /2019-20/1217 dated 21.11.2019 of the Chief Engineer , Transmission North
4.Minutes of the DPR Committee held on 15.01.2020
5.Letter No.CE/TRN/E6/Mananthavady Upgradation/2019-20/1801 dated 19.03.2020 of the Chief Engineer , Transmission North
6.Note No.D(T&SO)/T3/ Mananthavady Upgradation to 110kV I/2019-20/ 153 dated 22.04.2020 of the Director(Transmission, System Operation & Safety) (Agenda No. 45/04/20)

ORDER

The 66 kV Substation, Mananthavady is one of the oldest substations in Waynad district, which was commissioned in the year 1955, is feeding the loads of the entire Mananthavady Taluk. At present 66 kV SC feeder (18.9km) from 220 kV Substation, Kaniyambetta is feeding Mananthavady and Anjukunnu 66 kV Substations.

Due to the very long 66kV line feeding the Mananthavady substation, low voltage profile is observed. The substation has an installed capacity of 2 Nos 66/11kV 10 MVA transformers with 60 to 70% loading, but considerable load growth is expected in the future period. The Load Flow studies as per letter read 2nd above has recommended the upgradation of 66kV Substation, Mananthavady to 110kV by upgrading the existing 66kV Kaniyambetta- Mananthavady SC feeder to 110kV DC feeder and installing 2x12.5MVA 110/11kV Transformers citing voltage improvement and reduction in system losses. Also, back feeding facility from Kannur side through Nedumpoil substation is not so effective as substations upto Nedumpoil has already been upgraded to 110kV. Hence it is very much essential to upgrade the 66 kV substation, Mananthavady into 110 kV parameters.

Considering the above facts, Administrative Sanction has already been accorded by KSEBL as per order read as 1st above for the conversion of the existing 66kV Kaniyambetta- Mananthavady

SC feeder (18.9km) to 110kV DC and construction of a feeder bay in 110kV parameters at 220kV Substation, Kaniyambetta at an estimated cost of Rs 18.45 Crore and the work is under tendering. Hence it is required to take up the upgradation of the Mananthavady substation also. Anjukunnu substation is already constructed in 110kV parameters.

The Chief Engineer(Transmission North) has forwarded a proposal as per Note read as 3rd above, seeking Administrative Sanction for an estimate amounting to Rs.14 Crore for the upgradation of 66kV Substation, Mananthavady to 110kV by installing 2x12.5MVA, 110/11kV Transformers.

The proposal was placed before the DPR Committee held on 15.01.2020 and the Committee approved the proposal .

The matter 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 23.04.2020,

Resolved to accord Administrative Sanction for an estimated amount of Rs 14.0 Crore (Rupees Fourteen Crore only) for the upgradation of 66kV Substation, Mananthavady to 110kV by installing 2x12.5MVA Transformers under Transmission Circle, Kozhikkode.

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, Kozhikode

The Deputy Chief Engineer(IT)

The Financial Adviser/ The Chief Internal Auditor.

The RAO/ 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

KERALA STATE ELECTRICITY BOARD Ltd.

ESTIMATE

**Name of work :- Upgradation of 66 kV Substation, Mananthavady to 110 kV AIS
under Transmission Circle, Kozhikode**

SL. No	Description	Qty	Unit	Rate Rs Lakh	Total (Rs lakhs)
	Part-I Civil works				
1	Building works		LS	100.000	100.00
2	Excavation and Site leveling and road		LS	75.000	75.00
3	Foundation of yard structure and equipment		LS	50.000	50.00
4	Fencing and compound wall		LS	75.000	75.00
5	Yard metaling & yard Fencing		LS	45.000	45.00
6	approach road		LS	25.000	25.00
7	Cable trench		LS	30.000	30.00
8	Retaining wall		LS	100.000	100.00
9	Providing water supply		LS	4.000	4.00
10	Drainage (road to colony & control room)		LS	25.000	25.00
	Sub total-I				529.00
	Part-II 11kV side(Materials including T&P)				
2	11 kV 10 panel set with spares suitable for transformer of capacity upto 16 MVA	1	set	42.96597	42.97
3	11 kV panel with vacuum circuit breaker	2	No	4.96401	9.93
4	11kV XLPE 3X300mm ² UG cable	0.25	km	9.13018	2.28
5	11kV XLPE 1X500mm ² UG cable	0.25	km	6.06456	1.52
6	11 kV XLPE 3x300mm ² cable end Termination kit (indoor)	7	No	0.0295	0.21
7	11 kV 3x300mm ² cable end Termination kit (Outdoor)	7	No	0.0295	0.21
8	11 kV 1x500mm ² cable end Termination kit (indoor)	7	No	0.0180	0.13
9	11 kV 1x500mm ² cable end Termination kit (Outdoor)	7	No	0.0260	0.18
10	Aluminium socket of various sizes		LS	0.80	0.80
11	LT Distribution panel	1	No	2.42176	2.42
12	DC Distribution panel	1	set	1.78	1.78
13	LT UG Cable 3.5 X 185mm ²	0.25	km	8.487	2.12
14	Chequerred plate 6mm		LS	4.00	4.00
15	Furniture and T & P		LS	3.00	3.00
16	Yard lighting		LS	3.00	3.00

Sr. No	Description	Qty	Unit	Rs Lakh	(Rs lakhs)
17	Bus bar arrangement		LS	25.00	25.00
18	Earthmat and earthing		LS	30.00	30.00
19	Clamps various size		LS	3.00	3.00
20	Safety Equipment and fire fighting equipment		LS	1.00	1.00
21	Optical Equipment ,RTU/SCADA Battery Charger etc		LS	25.00	25.00
	Sub total of Part -II				158.54
	Part-III 110kV side				
1	110kV SF ₆ CB with structure	4	No	5.18020	20.7208
2	110kV Bus isolator with structure 800A	7	No	1.82223	12.7556
3	110kV CT 400-200-100/1-1-1-1A	12	No	1.62724	19.5269
4	110kV NCT 100-50/1A	2	No	0.23116	0.4623
5	Supporting structure for CT	14	No	0.31978	4.4769
6	110kV PT with structure	12	No	1.12688	13.5226
7	110kV 800 A line isolator with sructure and earth switch	2	No	2.51724	5.0345
8	110 kV LA without structure	12	No	0.28737	3.4484
9	110kV LA supporting structure	12	No	0.07784	0.9341
10	110 kV/11kV Transformer 12.5 MVA	2	No	80.51929	161.0386
11	110kV Transformer control and relay panel (primary side)	2	No	5.27608	10.5522
12	110kV feeder control & relay pannel	2	set	5.27165	10.5433
13	110V ,200AH Plante type battery	1	set	8.11250	8.1125
14	30A battery charger	1	No	1.15876	1.1588
15	Marshelling kiosk				6.0000
16	Steel structures, fabricated galvanised structure for switch yards	50	MT	0.81008	40.5040
17	Power conductor(Kundah)	1	km	2.00235	2.0024
18	Accessories for Kundah Conductor		Ls		0.5000
19	110kV 90kN Tension Composite Polymer insulator	50	No	0.01889	0.9445
20	110kV 90kN silicon rubber housed Polymer insulator	50	No	0.02533	1.2665
21	Multistrand armoured copper Control cables including adequate cable glands				
a	2X4 mm ²	2	km	1.07601	2.15202
b	2 X 2.5 mm ²	2	km	0.78350	1.56700
c	19 X2.5 mm ²	2	km	4.33701	8.67402
d	12 X2.5mm ²	2	km	2.85740	5.71480
e	12X4 mm ²	2	km	4.27410	8.54820
f	4X4 mm ²	2	km	1.72956	3.45912
g	4 X2.5 mm ²	2	km	1.19191	2.38382

SL. No	Description	Qty	Unit	Rate Rs Lakh	Total (Rs lakhs)
22	GI Strip 50/6, 25/3	1	MT	0.780000	0.78
23	GI earth wire 7/3.15 with accessories	2	km	0.34342	0.687
24	110kV Supporting insulator structure	12	No	0.07784	0.93408
25	110kV Supporting insulator		Ls	2.50000	2.50000
	Sub total-III				360.905
A	Cost of Material (Part II+ III)				519.442
B	Erection & commissioning (7.5% of A)				38.96
C	Transport insurance Contingencies (6% of A)				31.17
D	Civil Work (B/F from Part 1 above)				529.00
E	Subtotal (A+B+C+D)				1118.57
F	Overheads (10% of Total)				111.86
G	Tax If any (GST @18%)				165.31
H	Unforeseen				4.27
	Total for Substation works (G+H)				1400.00
	Grand Total				
	(Rupees Fourteen Crore only)				
					Sd/-
	Director (Transmission, System Operation & Safety)				