



KERALA STATE ELECTRICITY BOARD LIMITED

(Incorporated under the Companies Act, 1956)

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

CIN:U40100KL2011SGC027424 Website: www.kseb.in

Phone: +91 471 2446885, Fax: +91 471 2444738 E-mail: dtkseb@kseb.in

ABSTRACT

Upgradation of 66kV Substation, Kuthumunda 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.310 /2020/D(T,SO&S)/T3/Kuthumunda upgradn /2019-20 dated, Thiruvananthapuram .
05.05.2020

- Read: 1. Letter No. CE/TRN/E6/Kuthumunda/2019-20 /1215 dated 21.11.2019 of the Chief Engineer (Transmission North).
2. Minutes of the DPR Meeting held on 15.01.2020
3. Letter No. CE/TRN/E6/Kuthumunda Upgradation/2019-20/1788 dated 18.03.2020 of the Chief Engineer, Transmission North.
4. Note No.D(T,SO&S)/T3/ Kuthumunda Upgradn/2019-20/ 156 dated 29.04.2020 of the Director(Transmission, System Operation & Safety) (Agenda No. 57/04/20)

ORDER

66kV Substation, Kuthumunda is the first and the oldest substation in Wayanad district and has been in operation since early 50's. At present Kuthumunda Substation has 4Nos. of 66kV feeders and 2nos.of 10MVA, 66/11kV transformers. The 66kV Kuthumunda - Uppatty DC feeder (Interstate) is kept idly charged from this substation upto the border, as no power transactions are now taking place. Power evacuation of upcoming Kanthanpara HEP (45MW) is also planned to be evacuated to this Substation through Uppatty feeder.

Presently Kuthumunda substation is catering supply for most of the areas under Vythiri, Meppadi and major parts of Kalpetta sections including Kalpetta Civil station, major hospitals and commercial establishments. The growth of load in Kalpetta , Meppadi and surrounding areas are expected to increase rapidly in the coming years. Present peak load of the substation has already exceeded 10 MVA causing loss of N-1 redundancy. The difficulty to maintain N-1 condition makes the maintenance of transformers impossible especially during summer seasons.

As the existing Kuthumunda substation is very old, the equipments are obsolete and systems are in eroded state. The Circuit Breaker is of old pneumatic type. The fault level in the substation has been continuously increasing because of addition of new lines in the system and hence new earth mats to be provided instead of old plate earthing.

The existing control room is very small, old and with space constraints for providing new control panels for any additional bay. Presently the 11kV feeder controls are installed in outdoor, which needs to be converted to indoor type. The existing control room lacks adequate space for

accommodating DC battery system, duty room, storage room, Office room and records keeping room. So the construction of a new control room is inevitable. The substation has 3.7 acres of land. Most of the areas of the land are irregular and steep and necessitate huge amount for the construction of retaining wall.

Considering the above facts, Administrative Sanction was accorded for the upgradation of Kaniyambetta - Kuthumunda 66kV SC feeder to 110kV DC and the work has been completed, but kept energized at 66kV level as substation upgradation not done. Also, the upgradation of the tap line to Sulthan Bathery, which is connected to the main line, is under execution. Hence, the upgradation of the Kuthumunda substation to 110kV is inevitable to achieve the benefit of the above works. Load Flow Study also recommended the proposal as essential.

Accordingly, the Chief Engineer(Transmission North) forwarded a proposal as per letter read as 1st above, seeking Administrative Sanction for an estimate amounting to Rs.15.75 Crore for the upgradation of 66kV Substation, Kuthumunda to 110kV by installing 2x12.5MVA, 110/11kV Transformers. The proposal includes construction of 6 Nos of 110kV bays- two for Kaniyambetta, two for Thamarassery and two for Uppatty feeders.

The DPR Committee held on 15.01.2020 approved the proposal citing the importance of the project .Hence the matter was placed before the Full Time Directors as per note read as 4th above seeking administrative sanction.

Having considered the above, the Full Time Directors in the meeting held on 30.04.2020,

Resolved to accord Administrative Sanction for an estimated amount of Rs 15.75 Crore (Rupees Fifteen Crore and Seventy Five Lakh only) for the upgradation of 66kV Substation, Kuthumunda 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

Annexure to B.O.(FTD)No.310 /2020/D(T,SO&S)/T3/Kuthumunda upgradn /2019-20 dated,
Thiruvananthapuram 05.05.2020

KERALA STATE ELECTRICITY BOARD Ltd.

ESTIMATE

**Name of work :- Upgradation of 66kV Substation, Kuthumunda to 110kV by Installing 2x12.5 MVA,
110/11kV Transformers under Transmission Circle, Kozhikode**

SL. no	Description	Qty	Unit	Rate Rs. Lakhs	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
11	Demolishing 66 kV concrete structure and bus		Ls	12.000	12.00
Sub total-I					541.00
Part-II 11kV side Materials					
1	11 kV 10 panel set with spares suitable for transformer of capacity upto 16 MVA	1	set	42.96597	42.97
2	11 kV panel with vacuum circuit breaker	2	No	4.96401	9.93
3	11kV XLPE 3x300mm ² UG cable	0.25	km	9.13018	2.28
4	11kV XLPE 1x500mm ² UG cable	0.25	km	6.06456	1.52
5	Aluminium socket of various sizes		LS	0.80000	0.80
6	LT Distribution panel	1	No	2.42176	2.42
7	DC Distribution panel	1	set	1.78000	1.78
8	LT UG Cable 3.5 x 185mm ²	0.25	km	8.48700	2.12
9	Chequerred plate 6mm		LS	4.00000	4.00
10	Furniture, T & P, Internet		LS	3.00000	3.00
11	Yard lighting		LS	3.00000	3.00
12	Bus bar arrangement		LS	25.00000	25.00
13	Earthmat and earthing		LS	25.00000	25.00
14	Clamps various size		LS	3.00000	3.00
15	Safety Equipment and fire fighting equipment		LS	1.00000	1.00
16	SCADA		LS	10.00000	10.00
Sub total of Part -II					137.82

SL. no	Description	Qty	Unit	Rate Rs. Lakhs	Total(Rs lakhs)
	Part-III 110kV side				
17	110kV SF ₆ CB with structure	8	No	5.18020	41.4416
18	110kV Bus isolator with structure 1200A double break	1	set	1.51254	1.5125
19	110kV Bus isolator with structure 800A	10	No	1.82223	18.2223
20	110kV CT 400-200-100/1-1-1-1A	24	No	1.62724	39.0538
21	110kV NCT 100-50/1A	3	No	0.23116	0.6935
22	110kV PT with structure	18	No	0.78000	14.0400
23	110kV CVT with structure	6	No	1.55052	9.3031
24	110kV 800 A line isolator With sructure and earth switch	6	No	2.51724	15.1034
25	110 kV LA without structure	24	No	0.28737	6.8969
26	110 kV LA supporting structure	21	No	0.07784	1.6346
27	110 /11kV Transformer 12.5 MVA	2	No	80.51929	161.0386
28	110kV 1 x 500mm ² XLPE Aluminium cable	0.7	km	27.62000	19.3340
29	110kV, 500mm ² Cable end termination kit - O/D	12	No	3.00000	36.0000
30	110kV Transformer control and relay panel(primary side)	3	No	5.27608	15.8282
31	110kV feeder control & relay panel	6	set	5.27165	31.6299
32	110V ,200AH Plante type battery	1	set	8.11250	8.1125
33	30A battery charger	1	No	1.15876	1.1588
34	Marshelling kiosk		LS		6.0000
35	Steel structures, fabricated galvanised structure for switch yards	40	MT	0.81008	32.4031
36	Power conductor (Kundah)	1.5	km	2.00235	3.0035
37	110kV 90kN tension composite Polymer insulator	50	No	0.01889	0.9445
38	110kV 90kN silicon rubber housed Polymer insulator	50	No	0.02533	1.2665
39	Multistrand armoured copper Control cables including adequate cable glands				
	2x4 mm ²	1	km	1.07601	1.07601
	2 x 2.5 mm ²	1	km	0.78350	0.78350
	19 x2.5mm ²	2	km	4.33701	8.67402
	12 x2.5mm ²	1	km	2.85740	2.85740
	12x4mm ²	1	km	4.27410	4.27410
	4x4 mm ²	1	km	1.72956	1.72956
	4 x2.5mm ²	1	km	1.19191	1.19191
40	GI Strip 50/6, 25/3	1	MT	0.78000	0.78
41	GI earth wire 7/3.15 with accessories	2	km	0.34342	0.687
42	Communication battery with charger	1	LS		4.00
43	110kV Supporting insulator structure	12	No	0.07784	0.93408
44	110kV Supporting insulator		Ls	2.50000	2.50000
	Sub total-III				494.109

SL no	Description	Qty	Unit	Rate Rs. Lakhs	Total(Rs lakhs)
A	Cost of Material(Part II+ III)				631.925
B	Errection & commissioning (7.5% of A)				47.39
C	Transport insurance Contingencies (6% of A)				37.92
C1	Provision for uninterrupted supply arrangements				17.00
D	Civil Work (B/F from Part 1 above)				541.00
E	Tree cutting				0.00
F	Sub Total (A+B+C+C1+D+E)				1275.23
G	Over heads (10% of Total)				127.52
H	Tax If any (Service tax @18% for Portion B,C&,D)				161.94
I	Total(F+G+H)				1564.69
	Unforeseen				10.31
	Grand Total				1575.00
(Rupees Fifteen Crore and Seventy Five lakh only)					
					Sd/-

Director(Transmission, System Operation & Safety)