



## 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](http://www.kseb.in),

Phone: +91 471 2514576, 2446885, 9446008884 E-mail: [mtkseb@ksebnet.com](mailto:mtkseb@ksebnet.com), [dtkseb@kseb.in](mailto:dtkseb@kseb.in)

### ABSTRACT

Downstream works for the upcoming 220kV Substation, Thuravoor - Sanction accorded – Orders issued.

#### Corporate Office (SBU-T)

B.O.(DB)No.392/2020/D(T,SO&S)/T1/Thuravur Down Stream Works/2020-21/ Thiruvananthapuram dated 05.06.2020

- Read: 1. Letter No.CE(TS)EE1/AEEIV/19-20/1713 dated 30.10.2019 of the Chief Engineer (Trans. South)
2. Letter No.CE(TS)EE1/AEEIV/20-21/106 dated 28.04.2020 of the Chief Engineer (Trans. South)
3. Note No.D(T,SO&S)/T1/Thuravur Down Stream Works/19-20 (Agenda Item No.46/5/20)
4. Note No.D(T,SO&S)/T1/Thuravur Down Stream Works/19-20/195 of the Chairman & Managing Director.
5. Proceedings of the 53<sup>rd</sup> meeting of the Board of Directors held on 25.05.2020 (Agenda : 19-05/2020)

### ORDER

KSEBL is constructing a 220kV Substation at Thuravoor, Cherthala Taluk, under TransGrid project with 2 Nos. of 200MVA, 220/110kV Transformers and 8Nos. of 110kV outgoing feeders. The Chief Engineer (Transmission South) as per letter read as 1<sup>st</sup> above submitted a proposal amounting to Rs.77.72Cr for the downstream evacuation works of the 220kV Substation, Thuravoor.

The downstream line work includes construction of 37km of 110kV DC feeders by upgrading the existing 66KV SC Vaikom-Cherthala feeders and there after interlinking with the existing 110KV DC feeders to facilitate as outgoing 110kV feeders from the 220kV Substation, Thuravur. With the upgradation of 66kV lines to 110kV lines, a 110kV ring system will be established with the Punnapra - Alappuzha -SL Puram - InfoPark – Thycattussery - Aroor -Mattancherry - Eramalloor - Chellanam - Cherthala Substations.

The subject downstream project is aimed at evacuating power from the 220kV Substation, Thuravur, thereby, improving the transmission system in Alappuzha District especially in the northern part of the District. With the commissioning of the new 220KV Substation and completion of the downstream line upgradation works, a strong connectivity will be established between 220kV Punnapra, Kalamassery and Ettumanoor substations.

The DPR Committee meeting held on 15.01.2020 approved the proposal for the downstream works for the upcoming 220kV Substation, Thuravoor considering the necessity of evacuation from 220KV substation, Thuravur, proposed under Transgrid project, but directed to proceed only in tune with the awarding and completion of the 220KV substation.

As the DPR was prepared one year back and tendering of the works are expected on a later stage, the Chief Engineer (Trans. South) has revised the estimate based on the latest material cost data and has submitted the revised estimate amounting to Rs.83.9 Crore as per letter read 2<sup>nd</sup> above.

The project proposal comprises the following in detail

1. Interconnecting the upcoming 220kV Substation, Thuravur with 110kV Thycattussery Substation by constructing 2Nos. of 110kV feeders through the existing Tap line route of 1ARTK/1SLTK (110kV Aroor-Thycattussery) /110kV SL Puram Thycattussery) feeders for a route length of 0.2 km.
2. Drawing 1 No. 110kV DC feeder from 220kV Substation, Thuravur to Cherthala Substation through the existing ROW of 66kV VKCT (Vaikom-Cherthala feeder) for a route length of 15.8 KM.
3. Drawing 110kV feeder from 220kV Substation, Thuravur to 110kV Substation, Mattancherry through the existing ROW of 66kV VKCT feeder (Vaikom-Cherthala feeder). As Thuravur-Chavady portion is coming under the Thuravoor-Cherthala upgradation and Chavady-Illickal portion coming under Aroor-Cherthala upgradation works, upgradation is required only from Illickal to Mattancherry for a route length of 7.5 km.
4. Drawing of 110kV feeder from Cherthala Substation to Aroor Substation through the existing ROW of 66 KV VKCT feeder (Vaikom-Cherthala Feeder). As the existing ROW of Thuravur-Cherthala and Aroor-Cherthala line are the same at Cherthala-Chavady portion and the portion from Illickal to Aroor are already under 110kV standard, upgradation is required only from Chavady to Illickal for a route length of 12.3 km.
5. For interconnecting 110kV Aroor, Eramalloor, InfoPark and SL Puram Substations with the upcoming 220kV Substation, Thuravur, for a route length of 1 km from the new Substation location to the existing 110kV DC line has to be converted to 110kV Multi-Circuit using 8Nos. of M-type Multi Circuit Towers upto the tapping Tower of 110 kV Punnapra-Aroor DC feeder.
6. Interconnecting the 110kV Substation, Thycattussery with the incoming 220/110 kV MCMV line to Thuravur Substation, by upgrading the line located at the Southern side of Thycattussery Substation for a route length of 0.4km and
7. LILO arrangement to 110kV Substation, Info-park at the Tap off area :- The existing 110KV UG cables are to be extended by jointing with additional length of cables on each phase and may be connected to SLTK feeder (SL Puram-Thycattussery) on the existing tower on either side after breaking the SLTK feeder at that point.

**Part B:**Upgradation of 66kV Substation, Cherthala to 110kV level with 4 Nos. of 110kV Feeder Bays, 2x20MVA Transformers and with double bus arrangement.

**Part C:** Modification of 110kV Bus and Bay arrangements at 110kV Substation, Thycattussery for providing 110kV DC Feeder to Vaikom Substation

**Part D:** Providing 1No 110kV Feeder Bay at Aroor Substation

The abstract of the project cost is furnished in the table below.

	Project	Amount (Cr.)
Part A	Constructing the outgoing 110KV feeder lines from the proposed 220KV substation Thuravoor for linking with the existing 110KV feeders lines, Upgradation of existing 66KV feeders (VKCT/VMS) .and providing LILO arrangement to Infopark,110KV substation (37km)	53.70
Part B	Upgradation of 66kV Substation, Cherthala to 110kV Substation with 4 Nos 110kV Feeder Bays and 2x20MVA Transformers with double bus arrangement.	23.4
Part C	Modification of 110kV Bus and Bay arrangements at 110kV	6.28

	Vaikom Substation	
Part D	Providing 1No 110kV Feeder Bay at Aroor Substation.	0.52
	Total	83.90

The matter was placed before Full Time Directors as per note read as 3<sup>rd</sup> above for obtaining sanction from the Board of Directors for an estimate amount of Rs. 83.9 Cr for the downstream evacuation works of the upcoming Thuravur 220kV Substation.

The Full Time Directors in the meeting held on 22.05.2020 discussed the matter and decided to place the matter before the Director Board for approval, as the sanction is beyond the limit of the Full Time Directors.

Accordingly, the matter was placed before the Board of Directors as per note read as 4 above and after detailed discussions, the Board

Having considered the matter in detail, the Board of Directors in the meeting held on 25.05.2020, **RESOLVED** to issue Administrative Sanction for an estimate amounting to Rs.83.9Cr (Rupees Eighty Three Crore and Ninety Lakh Only) for the downstream evacuation works of the upcoming Thuravur 220kV Substation including construction of 37km 110kV lines, upgradation of Cherthala Substation to 110kV, modification of 110kV bus and bays at Thycattussery Substation and construction of a 110kV bay at Aroor Substation under Transmission Circle, Alappuzha.

Orders are issued accordingly.

By Order of the Director Board,  
Sd/  
LEKHA.G  
Company Secretary (In-Charge)

To : The Chief Engineer (Transmission South )

Copy to: The Deputy Chief Engineer, Transmission Circle Alappuzha/Poovanthuruthu  
The Financial Adviser/ The Chief Internal Auditor/ The Company Secretary  
The RCAO/ RAO.

The TA to Chairman & MD/ D(T&SO)/D(D,IT&HRM)/ D(G-C)/ D(G-E& SCM),D(P&S) PA to D(F)  
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Forwarded / By Order  
  
Assistant Executive Engineer