

TAMIL NADU TRANSMISSION CORPORATION LIMITED

ABSTRACT

TANTRANSCO - Enhancement of existing power transformer capacity from 3x16 MVA to 1x25+2x16 MVA at Thiruchitrambalam 110/22 kV SS in Villupuram Operation Circle (Villupuram EDC) of Villupuram region – Revised Administrative approval – Reg.

TECHNICAL BRANCH

(Per) CH TANTRANSCO Proceedings No.119

Dated:14.08.2026

Parabhaava Varudam

Aadi - 29

Thiruvalluvar Aandu 2057

READ: Chairman's approval dated : 13.08.2026

PROCEEDINGS:

1. The Tamil Nadu Transmission Corporation Limited hereby approves the revised administrative approval for enhancement of existing power transformer capacity from 3x16 MVA to 1x25+2x16 MVA at Thiruchitrambalam 110/22 kV SS in Villupuram Operation Circle (Villupuram EDC) of Villupuram region at an estimated cost of Rs.593.727 Lakhs Gross and Rs. 534.50 Lakhs Nett. subject to the condition that no further loads shall be connected at Thiruchitrambalam 110/22 kV SS in order to maintain system reliability and meet the (N-1) condition by superseding the approval already accorded vide (Per) CH TANTRANSCO Proceedings No. 52 , dated : 08.05.2026. The detailed estimate and report are annexed to these proceedings.
2. The expenditure is chargeable to TANTRANSCO - Funds - Capital Expenditure – Villupuram Operation Circle (Villupuram EDC) - A/C code No: 1020400.
3. By virtue of the provisions contained in sub-section (2) (a) of section 185 of the Electricity Act, 2003, TANTRANSCO being the Transmission utility, Licensee and successor entity of Tamil Nadu Electricity Board will exercise the powers of the Telegraph Authority under the provisions of section 164 of the Electricity Act, 2003, which have already been conferred upon the Board under section 51 of the Indian Electricity Act, 1910.
4. The works will be taken up after ensuring necessary budget provision.

// BY ORDER OF THE CHAIRMAN//

K.SRIDHARAN

CHIEF ENGINEER/TRANSMISSION (FAC)

Encl: Report and detailed estimate.

To

The Chief Engineer/Distribution/ Villupuram Region

(Per) CH TANTRANSCO Proceedings No.119, dated : 14.08.2026

Copy to:

The Managing Director/TANTRANSCO, Chennai-2.
The Director/ Transmission Projects/ TANTRANSCO, Chennai-2.
The Director/Operation/TANTRANSCO/Chennai -2
The Director /Finance/TANTRANSCO, Chennai-2
The Director /Distribution, TNPDC, Chennai-2.
The Director /Finance, TNPDC, Chennai-2
The Chief Engineer/TP & SO/Trichy
The Chief Engineer/Civil Transmission/Chennai -2
The Superintending Engineer /GCC /Trichy
The Superintending Engineer/Operation/ Villupuram
The Superintending Engineer/ Villupuram EDC
The Chief Financial Controller/General/ TANTRANSCO, Chennai-2.
The Chief Internal Audit Officer/TANGEDCO, Chennai-2.
The Deputy Secretary,TANTRANSCO, Chennai-2.
The Superintending Engineer/Transmission -I/Chennai -2
The Superintending Engineer/Transmission -II/Chennai -2
The Superintending Engineer/System Studies/Chennai -2
The Resident Audit Officer (AGO'S Unit)/Chennai -2
B.P.Section (Administrative Branch)
Stock file

// FORWARDED BY ORDER//

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REPORT TO ACCOMPANY THE ESTIMATE

This proposal envisages revised administrative approval for enhancement of existing power transformer capacity from 3x16 MVA to 1x25+2x16 MVA at Thiruchitrambalam 110/22 kV SS in Villupuram Operation Circle (Villupuram EDC) of Villupuram region at an estimated cost of Rs.593.727 Lakhs Gross and Rs. 534.50 Lakhs Nett. subject to the condition that no further loads shall be connected at Thiruchitrambalam 110/22 kV SS in order to maintain system reliability and meet the (N-1) condition by superseding the approval already accorded vide (Per) CH TANTRANSCO Proceedings No. 52 , dated : 08.05.2026.

Need:

Administrative approval for enhancement of existing power transformer capacity from 3x16 MVA to 1x25+2x16 MVA at Thiruchitrambalam 110/22 kV SS at an estimated cost of Rs. 556.17 Lakhs Gross and Rs. 534.50 Nett. has been accorded vide (Per) CH TANTRANSCO Proceedings 52 , dated : 08.05.2026.

Now, a revised proposal for enhancement of existing power transformer capacity from 3x16 MVA to 1x25+2x16 MVA at Thiruchitrambalam 110/22 kV SS is evolved for the following reason:

SE/GCC/Trichy has stated that in the administrative approval already accorded, the estimated amount of Rs.37.558 Lakhs for Civil work was omitted and the enhancement work could not be carried out without the associated Civil work. The Gross amount is given as Rs.556.169 Lakhs due to typographical error. Hence, the corrected amount Rs.593.727 Lakhs Gross and Rs. 534.50 Lakhs Nett. has to be incorporated for further proceeding with the proposal.

Adequacy of Transmission system

Details of the source SS

a	Name of the source SS	Villupuram 230/110 kV SS
b	Capacity of the existing auto tr.	2x160 MVA
c	Present peak reached in MVA	230 MVA
d	Whether the auto tr. capacity is adequate: As per the load flow study results, source SS is adequate.	

Details of the source feeder

a	Name of the feeder	110 kV Villupuram – Madurapakkam II feeder
b	Size/Loading capacity of the conductor	Panther – 84 MVA
c	Present loading in MVA	72 MVA
d	Whether the conductor is adequate:	As per the load flow study results, 110 kV feeder overloading has been observed. However, the 110/22 kV power transformer enhancement from 3x16 to 2x16+1x25 MVA, at Thiruchitrambalam 110/22 kV SS may be considered in order to maintain system reliability and meet the (N-1) condition of 110/22 kV power transformers at Thiruchitrambalam 110/22 kV SS subject to the condition that no further loads shall be connected at Thiruchitrambalam 110/22 kV SS.

Details of work:

- Erection of 1 no. 25 MVA, 110/22 kV power transformer and its associated equipments at Thiruchitrambalam 110/22 kV SS.
- Erection of 1 No. 110 kV GC Breaker along with its associated equipments at Thiruchitrambalam 110/22 kV SS.
- Dismantling of 1 No. 16 MVA, 110/22 kV power transformer at Thiruchitrambalam 110/22 kV SS.
- Supply and erection of 110 kV, 1x630 sq.mm UG Al Cable for a route length of 0.45 km.

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Detailed estimate for enhancement of existing 110/22 kV power transformer capacity from 3x16 MVA to 1x25+2x16 MVA at Thiruchitrabalam 110/22 kV SS in Villupuram Operation circle (Villupuram EDC)

Part I: Cost of new asset chargeable 1020400

RUPEES IN LAKHS						
Sl. No.	Description	Quantity	Rate	Per	Amount in Lakhs	Total in Lakhs
I	Civil Works					
1	Civil works such as earth work - excavation,plinth for power transformer and breakers, cable duct for 110 kV UG cable,quarry duct filling, metal spreading, painting, sand filling,filling gravel,etc.			LS	31.514	
2	Total (including contingencies @1%, Establishment & Supervision charges @15% & GST @18%)			LS	37.558	37.558
II	Electrical Works					
1	110 kV AB switch w/o earth blade	4 Nos	1.814	E	7.256	
2	110 kV SF6 breaker	1 No.	5.648	E	5.648	
3	110 kV CT	3 Nos	1.665	E	4.995	
4	Control & Relay Panel			LS	5.000	
5	Control cable			LS	3.000	
6	Earthing &Yard lighting			LS	3.000	
7	110 and 22 kV Structure modification and re-engineering works (busbar arrangements, jumpering arrangements,clamps and connectors etc.) inclusive of all				20.000	
8	Cost of materials				48.899	
9	Contingencies 1%				0.489	
10	Sub total				49.388	
11	Labour and Transport charges @ 15%				7.408	
12	Sub total for material,labour & transport (A)				56.796	
13	25 MVA, 110/22 kV power transformer with OLTC	1 No	242.939	E	242.939	
14	Labour and Transport charges	1 loc	10.000	loc	10.000	
15	Earthing	1 loc	0.500	loc	0.500	
16	Sub total for material,labour & transport (B)				253.439	
17	Sub total (A)+(B)				310.235	
18	UG CABLE WORK					
19	Supply of 110KV, 1x630 sq.mm Aluminium XLPE UG cable and accessories for a route length of 0.45 kms as per Annexure-I				80.594	
20	Erection charges of 110 kV, 1x630 sq.mm UG cable as per Annexure-I				15.453	
21	Cost of cable works				96.047	
22	Contingencies 1%				0.960	
23	Sub total C				97.008	

Detailed estimate for enhancement of existing 110/22 kV power transformer capacity from 3x16 MVA to 1x25+2x16 MVA at Thiruchitrambalam 110/22 kV SS in Villupuram Operation circle (Villupuram EDC)

24	SUBTOTAL (A+B+C)				407.243	
25	Establishment & Supervision charges @15%				61.086	
26	Sub total				468.329	
27	Add dismantling charges				3.000	
28	Sub total				471.329	
29	GST @18%				84.839	
30	Total (Electrical)				556.169	556.169
31	Total (Electrical & Civil)				593.727	
32	Less credit				59.224	
33	Total (Nett)				534.503	

Part I (a):Dismantling charges Chargeable 4021137 = 3.00 lakhs

Part II: Accumulated Depreciation Chargeable 1011300

Sl.No	Description	Qty	Original cost of asset in lakhs	Full life period	Useful life period	Acc.Dep = 0.9*(col.4*col.6/col.5)
1	16 MVA, 110/22 kV Power Transformer	1	59.224	25	25	53.301
2	Total		59.224			53.301

Part III Devolution of old equipment to store

Part III = Part IV - Part II = 5.92 lakhs

Part IV Removal of old assets Chargeable 10103

Sl.No	Description	Qty	Original cost in lakhs *	Original erection charges	Original centage	Original cost of asset in lakhs
1	16 MVA, 110/22 kV Power Transformer (PO.TR.724(101)/1999)	1	46.817	4.682	7.725	59.224
2	Total					59.224

* 2000 - 2001 cost data rate

Rs. In Lakhs			
Abstract			
Part I: New Asset Chargeable	Gross		593.727
	Nett		534.503
Part I (a): Dismantling charges Chargeable			3.000
Part II: Accumulated Depreciation Chargeable			53.301
Part III: Devolution of old equipment to store			5.922
Part IV: Removal of old assets Chargeable			59.224

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