

TAMIL NADU TRANSMISSION CORPORATION LTD
ABSTRACT

TANTRANSCO – Strengthening of 230 kV Neyveli TS I - Thiruvannamalai feeder with Kundah conductor by Zebra conductor along with DC on DC towers in Villupuram Operation circle of System Operation/Trichy by partially superseding the approval accorded vide (Per) CH.TANTRANSCO Proceedings No.34, dt.02.03.2016 – Revised administrative approval – Accorded

TECHNICAL BRANCH

(Per) CH TANTRANSCO Proceedings No: 39

Dated:08.05.2026.

Parabhaava Varudam,
Chithirai -25,

Thiruvalluvar Aandu 2057.

READ: Chairman's approval dated :08.04.2026.

PROCEEDINGS:

1. The Tamil Nadu Transmission Corporation Limited hereby approves the proposal for erection of 230 kV DC line on DC towers with ZEBRA conductor from Neyveli TSI to Periyasevalai tapping location in 230 kV Neyveli TSI to Thiruvannamalai Feeder (Loc 4 to 111) at an estimated cost of Rs. 4810.273 lakhs Gross and Rs. 1861.044 lakhs Nett. in Villupuram Operation circle of System Operation/Trichy by partially superseding the approval already accorded vide (Per) CH.TANTRANSCO Proceedings No.34, dt.02.03.2016 for strengthening the towers and conductors by replacing it. The detailed estimate and report are annexed to these proceedings.
2. The expenditure is chargeable to TANTRANSCO - Funds - Capital expenditure – Villupuram Operation Circle - 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 the budget provision.

// BY ORDER OF THE CHAIRMAN //

J.PREMALATHA
CHIEF ENGINEER /TRANSMISSION

Encl: Report and detailed estimate.

To

The Chief Engineer/ System Operation/Trichy

Copy to:

The Managing Director/TANTRANSCO/Chennai-2.

The Director/Transmission Projects/TANTRANSCO/Chennai-2.

The Director/Operation/TANTRANSCO/Chennai-2.

The Director/Distribution/TNPDCL/Chennai-2.

The Director/Finance/ TANTRANSCO /Chennai-2.

The Chief Engineer/Transmission/ Chennai-2.

The Chief Engineer/ Civil Transmission /Chennai -2.

The Superintending Engineer /Planning/Transmission/ Chennai - 2

The Superintending Engineer /System Studies /Transmission/ Chennai - 2

The Superintending Engineer / Operation / Villupuram

The Superintending Engineer /GCC /Trichy.

The Executive Engineer /TLC/Neyveli .

The Resident Audit Officer (AGO'S Unit) / Chennai -2

B .P. Section (Administrative Branch)

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FORWARDED BY ORDER

[Handwritten Signature]
08/05/2026

EXECUTIVE ENGINEER/MASTER PLAN II

Enclosure to (Per) CH TANTRANSCO Proceedings No: 39, dated. 08.05.2026.

REPORT TO ACCOMPANY THE ESTIMATE

This proposal envisages revised administrative approval for erection of 230 kV DC line on DC towers with ZEBRA conductor from Neyveli TSI to Periyasevalai tapping location in 230 kV Neyveli TSI to Thiruvannamalai Feeder (Loc 4 to 111) at an estimated cost of Rs. 4810.273 lakhs Gross and Rs. 1861.044 lakhs Nett. in Villupuram Operation circle of System Operation/Trichy by partially superseding the approval already accorded vide (Per) CH.TANTRANSCO Proceedings No.34, dt.02.03.2016 for strengthening the towers and conductors by replacing it.

Need :

Administrative approval for Strengthening of 230 kV Neyveli TS I-Thiruvannamalai feeder with Kundah conductor by Zebra conductor along with DC on DC towers has already been accorded vide (Per) CH. TANTRANSCO Proceedings No. 34, dt.02.03.2016 at an estimated cost of Rs.7641.98 Lakhs Gross and Rs.3702.33 Lakhs Nett.

The Administrative approval involves the following works and its present status are detailed as below:

Sl. No	Description	Cost in Lakhs as per BP No 34 dt.02.03.2016	Present status
1	Erection of 230 kV DC line on DC towers with ZEBRA conductor from Neyveli TS I to Periyasevalai tapping location in 230 KV Neyveli TSI to Thiruvannamalai Feeder (Loc 4 to 111)	Rs.7641.98 Lakhs Gross and Rs.3702.33 Lakhs Nett.	The subject proposal at total cost of Rs. 4810.273 lakhs Gross and Rs. 1861.044 Nett. is submitted for approval as work has not been taken up so far as stated in Sl.No.2.3 below
2.	Erection of 230 kV SC line on DC towers with ZEBRA conductor from Periyasevalai tapping location to tapping location of Thiruvannamalai		Work awarded vide LOA No.004 dt 30.05.2025 to M/s.TEEMS India Towerline Pvt Ltd., Chennai at Rs.41.67 Crores and the status as on

	230 kV SS in 230 KV Neyveli TSI to Thiruvannamalai Feeder (Loc 111 to 282)		01.04.2026 by SE/ GCCI/ Chennai is as follows: i) Survey 100 % completed ii) Foundation 177/183 Nos completed iii) Tower erection 85/183 Nos completed iv) Tower dismantling 85/173 Nos completed v) Conductor stringing 23.783 / 50.97 Kms completed vi) Conductor de-stringing 23.783/50.97Kms completed
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The Superintending Engineer/GCC/ Trichy have furnished a proposal seeking revised administrative approval for erection of 230 kV DC line on DC towers with ZEBRA conductor from Neyveli TS I to Periyasevalai tapping location in 230 kV Neyveli TSI to Thiruvannamalai Feeder (Loc 4 to 111) stating the following reasons:

i) The Neyveli - Thiruvannamalai 230 kV Grid feeder having DC and SC lines were commissioned during the year 1967.

ii) The replacement of 230 kV DC line on DC tower with Kundah conductor from Loc.1 to 111 and 230 kV SC line on SC tower with Kundah conductor from Loc.111 to 282 was sanctioned vide (Per) CH.TANTRANSCO Proceedings No.34, dt.02.03.2016.

iii) Due to establishment of Neyveli 230/110 kV SS, the Neyveli - Thiruvannamalai 230 kV Grid feeder was shifted from Neyveli TS I to Neyveli Auto SS on 09.10.2020 by erecting new link line for 230 kV Neyveli-Cuddalore and 230 kV Neyveli-Sankarapuram and linked to Loc.no.4 of the subject proposal but the work was not taken up as in sanction vide (Per) CH.TANTRANSCO Proceedings No.34, dt.02.03.2016.

iv) Due to above arrangement, if there is any disturbance in the existing aged line in the existing DC tower, it results in major grid disturbance. Moreover, the existing towers have served a life period of about 45 years and will not be able to withstand the

load of the proposed Zebra conductor. The existing towers from Loc.4 to Loc.111 are of MS material and heavily corroded due to material nature and ageing.

v) Periodical maintenance of tower foot are being carried out for the critical locations every year and it is observed that the tower stub and tower members have become weak in many locations which is a major threat to the stability of the towers.

vi) Cuddalore area is prone to cyclone and there might be a possibility of tower getting collapsed which might result in grid disturbance.

vii) Hence, it is necessary to replace the aged 230 kV Kundah conductor by Zebra conductor along with towers from Neyveli TS I to Periyasevalai tapping location in 230 kV Neyveli TSI to Thiruvannamalai Feeder (Loc 4 to 111).

The details of original sanction, its cost and details of revised estimate and cost of the subject proposal are given below:

Sl. No	Description	Cost in Lakhs	Remarks
1	Erection of 230 kV DC line on DC towers with ZEBRA conductor from Neyveli TS I to Periyasevalai tapping location in 230 KV Neyveli TSI to Thiruvannamalai Feeder (Loc 1 to 111) (Sl.No.1 of Original estimate)	Rs.3060.32 Lakhs Gross and Rs.1935.651 Lakhs Nett.	Approved vide (Per) CH. TANTRANSCO Proceedings No.34, dt.02.03.2016
2.	Erection of 230 kV DC line on DC towers with ZEBRA conductor from Neyveli TS I to Periyasevalai tapping location in 230 KV Neyveli TSI to Thiruvannamalai Feeder (Loc 4 to 111)	Rs. 4810.273 lakhs Gross and Rs. 1861.044 lakhs Nett.	The subject proposal seeking Revised administrative approval submitted for approval.
3.	Difference in cost		Difference in cost could not be arrived since

			partial work of the original BP is under progress and this proposal is partially superseding the administrative sanction already accorded
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Purpose of proposal:

Proposed Network element	Relief to the Existing congested elements (Lines) in MVA
Strengthening of 230 kV Neyveli TS I-Thiruvannamalai feeder with Kundah conductor by Zebra conductor along with towers in Villupuram Operation circle	The proposed work is primarily for replacement of corroded and structurally weakened towers and the existing Kundah conductor is being strengthened to Zebra conductor to improve the overall mechanical strength and thermal rating of the line (220 MVA).

Details of the work involved:

- Erection of 230 kV DC line on DC towers with Zebra conductor from Neyveli TS I to Periyasevalai tapping location in 230 kV Neyveli TSI to Thiruvannamalai Feeder (Loc 4 to 111) to a length of 30.80 km.
- Dismantling of 230 kV DC line on DC towers with Kundah conductor from Neyveli TSI to Periyasevalai tapping location in 230 KV Neyveli TSI to Thiruvannamalai Feeder (Loc 4 to 111) to a length of 30.80 km.


 Executive Engineer/ Master Plan II

Detailed estimate for replacement of the aged towers and Kundah Conductor in the existing Neyveli TS I to Peryasevalai tapping location in 230 kV Neyveli TSI to Thiruvannamalai Feeder (Loc 4 to 111) in Villupuram Operation circle

PART I: Chargeable to new asset 1020400			Rs IN LAKHS		
SL NO	DESCRIPTION	QUANTITY	RATE	PER	TOTAL AMOUNT
1	Erection of 230 kV DC line on DC towers with ZEBRA conductor from Neyveli TS I to Peryasevalai tapping location in 230 kV Neyveli TSI to Thiruvannamalai Feeder (Loc 4 to 111)	30.80 Kms	151.39	Km	4662.812
2	Dismantling charges				147.461
3	Gross				4810.273
4	Less credit				2949.229
5	Nett				1861.044

Part I A: Dismantling Charges Chargeable to A/c code No. 4021137 147.461

Part II : Accumulated Depreciation Chargeable to (STOCK) A/c code No. 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	Erection of 230KV DC line on DC towers with KUNDAH conductor in the existing Neyveli TS I to Peryasevalai tapping location in 230 kV Neyveli TSI to Thiruvannamalai Feeder (Loc 1 to 111)	30.80	2949.229	35	35	2654.306

PART III DEVOLUTION OF OLD EQUIPMENT TO STORES CHARGES

Part IV - Part II = 2949.229 - 2654.306 294.923

PART IV REMOVAL OF OLD ASSET CHARGABLE TO A/c No. 1010300

Sl.No	Name of the item	Qty	Original cost in lakhs	Rupees in lakhs		Original cost of Asset in lakhs
				Original Erection charges 10%	Original Centages 15%	
1	230 kV DC line on DC towers with KUNDAH conductor (Loc 1 to 111)	30.80 km	2331.41	233.14	384.682	2949.229
Total						2949.229

* Since cost data for erection of 230 kV DC line on DC towers with KUNDAH conductor is not available, 50% value of present cost data rate for Zebra conductor has been adopted

ABSTRACT

Rupees in lakhs.

PART I : New Asset	GROSS 4810.273
	NETT 1861.044
Part I (A) : Dismantling charges	147.461
PART II : Accumulated Depreciation	2654.306
Part III :Devolution of old equipment to store	294.923
PART IV :Removal of old assets	2949.229

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EXECUTIVE ENGINEER/MASTER PLAN II

Annexure - I

TAMILNADU TRANSMISSION CORPORATION LIMITED

Erection of 230 KV DC line on DC towers with ZEBRA conductor (SOR 25-26)

Sl.No.	Qty	Unit	Description	Rate in Rs.	Per	Amount in Rs.
1			Galvanised steel tower materials with extension part wherever necessary and bolts and nuts etc...	93,926.24	MT	3,79,86,589.24
a	404.43	MT	MS tower parts	1,10,160.13	MT	23,93,779.62
b	21.73	MT	Ordinary Bolts & nuts	376.80	No.	6,59,776.80
2	1,751.00	No.	90 KN Disc Insulators	500.00	No.	21,42,000.00
3	4,284.00	No.	120 KN Disc Insulators			
			Conductor & Earth wire accessories			
4	96.00	Set	Single Suspension Fittings for ACSR Zebra	1,848.50	Set	1,77,456.00
5	36.00	Set	Single suspension fittings for jumperia	1,848.50	Set	66,546.00
6	288.00	Set	Single Tension fittings for ACSR Zebra	2,315.47	Set	6,66,855.36
7	12.00	Set	Double tension fittings	4,766.58	Set	57,198.96
8	288.00	Set	Vibration Damper for ACSR Zebra	889.37	Set	2,56,138.56
9	30.00	Set	Mid span comp. joint for Zebra	584.20	Set	17,526.00
10	15.00	Set	Repair sleeve for Zebra	306.15	No.	4,592.25
11	96.00	Set	PA rod for ZEBRA	1,240.09	No.	1,19,048.64
12	60.60	KM	ACSR Zebra	3,70,141.72	KM	2,24,30,588.23
13	10.50	KM	OPGW - 48 Fibre with accessories	2,50,185.00	KM	26,26,942.50
			Earthing materials			
14	40.00	No.	Pipe type earthing	1,613.08	No.	64,523.20
15	2.00	No.	Counter poise earthing (120m length)	3,870.43	No.	7,740.86
			Tower Accessories			
16	40.00	No.	Number plate	218.76	No.	8,750.40
17	40.00	No.	Danger Board	242.95	No.	9,718.00
18	48.00	No.	Phase plate (Set of three)	252.41	No.	12,115.68
19	48.00	No.	Circuit plate	235.58	No.	11,307.84
20			TOTAL COST ON MATERIALS			6,97,19,194.15
			TOWER FOUNDATIONS			
21	16.00	No.	GR type tower	1,51,855.00	No.	24,29,680.00
22	12.00	No.	0°to 2°Suspension tower	3,40,684.00	No.	40,88,208.00
23	12.00	No.	KSR type tower			
			2°to 30°Medium angle tower	6,82,647.00	No.	81,91,764.00
			LSR type tower			

Erection of 230 KV DC line on DC towers with ZEBRA conductor (SOR 25-26)						
Sl.No.	Qty	Unit	Description	Rate in Rs.	Per	Amount in Rs.
24			30° to 60° High angle & Dead end tower Tower protection works			5,00,000.00
25			COST OF FOUNDATION WORKS			1,52,09,652.00
26			Erection charges(10% on item 20)			69,71,919.42
27			Transportation & Insurance charges (5% on Item 20)			34,85,959.71
28			Contingencies (1% on item 20, 25 & 26, 27)			9,53,867.25
29			Total amount (item 20+25+26+27+28)			9,63,40,592.53
30			Establishment & Supervision Charges at 15.0% on item 29			1,44,51,088.88
31			Total Cost of materials, Foundation and Erection charges excluding GST			11,07,91,681.40
32			GST @ 18% on total amount			1,99,42,502.65
33			TOTAL COST (Item 31 & 32)	10.00	KM	13,07,34,184.06
34	10.00	KM	Tree/Crop compensation	10,00,000.00	KM	1,00,00,000.00
35			Land compensation			1,06,50,519.03
36	10.00	KM	TOTAL COST PER	10.00	KM	15,13,84,703.09
37			TOTAL COST PER 1 KM		KM	1,51,38,470.31
38			(Rounding to nearest 1000) TOTAL COST/KM in LAKHS			1,51,39,000.00 151.39