

TAMIL NADU TRANSMISSION CORPORATION LIMITED

ABSTRACT

TANTRANSCO – Conversion of existing 110 kV SC line on SC tower with Panther conductor into 110 kV DC line on DC tower with Panther conductor of 110 KV Gurubarapally – Bagalur – Hosur Feeder (Loc No. 1 to Loc No.58) in Thiruvallam Operation Circle of System Operation/Chennai – Revised administrative approval – Accorded

TECHNICAL BRANCH

(Per) CH TANTRANSCO Proceedings No. 131

Dated: 15.09.2026
Parabhaava Varudam
Aavani - 29
Thiruvalluvar Aandu - 2057

READ: Chairman's approval dated :11.09.2026

PROCEEDINGS:

1. The Tamil Nadu Transmission Corporation Limited hereby approves the revised administrative proposal for conversion of existing 110 kV SC line on SC tower with Panther conductor into 110 kV DC line on DC tower with Panther conductor of 110 KV Gurubarapally – Bagalur – Hosur Feeder (Loc No. 1 to Loc No.58) in Thiruvallam Operation Circle of System Operation/Chennai at an estimated cost of Rs.1404.170 lakhs Gross and Rs.828.531 Nett. by partially superseding the approval already accorded vide (Per) CH.TANTRANSCO Proceedings No.9, dt.08.01.2018 in Thiruvallam Operation Circle of System Operation/Chennai.
The detailed estimate and report are annexed to these proceedings.
2. The expenditure is chargeable to TANTRANSCO - Funds - Capital Expenditure – Thiruvallam Operation Circle (System Operation/Chennai) - 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

Encl: Report and detailed estimate.

To

The Chief Engineer/TP&SO/Chennai

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 Chief Engineer/Distribution/Vellore

The Chief Engineer/TP&SO/Salem

The Chief Engineer/Civil Transmission/Chennai -2

The Superintending Engineer /GCC /Salem

The Superintending Engineer/Operation/ Thiruvalam

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//


15/9/2026
EXECUTIVE ENGINEER / MASTER PLAN II

Enclosure to (Per) CH TANTRANSCO Proceedings No. 131, dated :15.09.2026

REPORT TO ACCOMPANY THE ESTIMATE

This proposal envisages revised administrative approval for conversion of existing 110 kV SC line on SC tower with Panther conductor into 110 kV DC line on DC tower with Panther conductor of 110 KV Gurubarapally – Bagalur – Hosur Feeder (Loc No. 1 to Loc No.58) in Thiruvalem Operation Circle of System Operation/Chennai at an estimated cost of Rs.1404.170 lakhs Gross and Rs.828.531 Nett. by partially superseding the approval already accorded vide (Per) CH.TANTRANSCO Proceedings No.9, dt.08.01.2018 in Thiruvalem Operation Circle of System Operation/Chennai.

Need:

Administrative approval for conversion of existing 110 kV SC line on SC tower with Panther conductor into 110 kV DC line on DC tower with Panther conductor of 110 KV Gurubarapally – Bagalur – Hosur Feeder (Loc No. 1 to loc no.58) in Thiruvalem Operation Circle of System Operation/Chennai has already been accorded vide (Per) CH. TANTRANSCO Proceedings No. 9, dt.08.01.2018.

The Chief Engineer/SO/Chennai has furnished a proposal seeking revised administrative approval stating the following reasons:

i) At present, existing 110 kV Gurubarapally – Baagalur - Hosur feeder feeds Bagalur 110 kV SS, Nariganapuram 110 kV SS and Sevaganapalli 110 kV SS. The above feeder is with Panther conductor and the sustained peak reached on the above feeder is 60 MVA.

ii) The conversion work was not taken up as Line Clearance could not be availed as there was no alternate source to the above said 3 Nos. Substations. Under this condition the subject proposal can be taken up only after completion of the proposed 110 kV Hosur-Zuzuvadi II feeder and Bagalur 110 kV line side breaker arrangements. Now the 110 kV Hosur-Zuzuvadi II line work was completed and commissioned on

18.04.2026. All Civil and Electrical work were completed and the bay arrangement work is under progress.

iii) The conversion from SC line on SC tower to SC line on DC tower has already been completed from tower Loc.Nos.1-5,52-55 and 58.

iv) The conversion work has been carried out at tower Loc.No.1 to facilitate alternate supply to existing Nariganapuram 110 kV SS and Bagalur 110 kV SS.

v) The conversion of line work has been carried out at tower Loc.No.3,4&5 under DCW basis as per request of MP from Krishnagiri.

vi) The conversion of line work has been carried out from tower Loc.No.52-55 under DCW basis as per request of M/s.NHAI.

vii) The tower Loc.No.58 (terminal tower) existed at Bagalur SS end has already originally erected as DC tower.

viii) The above stated work stated in pts. (iii) to (vi) has been completed and the erection of line including dismantling and devolution of line materials for already converted portion of the line is not included in this proposal.

ix) Hence, the revised administrative approval is sought for conversion of SC line on SC tower to DC line on DC tower for a route length of 13.475 kms. and free arm stringing for already converted SC line on DC tower to DC line on DC tower for a route length of 1.025 kms.

After completion of the above conversion work (Loc.No. 1 to 58), 110 kV SIPCOT Phase II with M/s.Ashok Leyland EHT, M/s.Inox EHT will be transferred to 110 kV Minnagar feeder of Hosur 230 kV SS. 110 kV Bagalur SS load will in tune of 50 MVA will be transferred from 110 kV Hosur-SIPCOT feeder fed from Uddanapally 230 kV SS to 110 kV Hosur-Gurubarapally feeder.

The Administrative approval involves the following works and it's present status are detailed as below:

Sl. No	Description	Cost in Lakhs per BP.No.9 Dt.08.01.2018	Present status
1	Conversion of existing 110 kV SC line on SC tower with Panther conductor into 110 kV DC line on DC tower with Panther conductor of 110 KV Gurubarapally – Bagalur – Hosur Feeder (Loc No. 1 to loc No.58) in Thiruvalem Operation Circle of System Operation/Chennai	Rs.987.23 Lakhs Gross and Rs.646.68 Lakhs Nett.	Work awarded vide K2 agreement No.07/2020-2021 for the amount incurred on labour portion Rs.6.04 Lakhs Cost of supply of Board materials like tower and line materials : Rs.12.46 Lakhs Actual expenditure incurred : Rs.18.09 The status of work is as follows: i) Erection of 1 No.tower along with 0.08 km stringing completed as per original BP ii) Erection of 7 Nos.tower along with 0.945 km stringing completed under DCW basis

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

Sl.No	Description	Cost in Lakhs	Remarks
1	Conversion of existing 110 kV SC line on SC tower with Panther conductor into 110 kV DC line on DC tower with Panther conductor of 110 KV Gurubarapally – Bagalur – Hosur Feeder (Loc No. 1 to loc No.58) in Thiruvalem Operation Circle of System Operation/Chennai	Rs.987.23 Lakhs Gross and Rs.646.68 Lakhs Nett.	Approved vide (Per) CH.TANTRANSCO Proceedings No.9, dt.04.01.2018

2.	Conversion of existing 110 kV SC line on SC tower with Panther conductor into 110 kV DC line on DC tower with Panther conductor of 110 KV Gurubarapally – Bagalur – Hosur Feeder (Loc No. 1 to loc No.58) in Thiruvallam Operation Circle of System Operation/Chennai	Rs.1404.170 lakhs Gross and Rs.828.531 Nett.	Revised estimate submitted for approval.
3.	Difference in cost	Difference in cost could not be arrived since partial work of the original BP has already been completed and this proposal is partially superseding the administrative sanction already accorded	

In this regard, the CE/TP&SO/Chennai has stated that as the administrative approval has elapsed for more than 5 years the revised administrative approval is sought.

Details of the work involved:

- Erection of 110 kV DC line on DC tower with Panther conductor in the existing 110 kV Gurubarapally – Bagalur – Hosur feeder for a route length of 13.475-kms.
- Stringing of 110 kV SC line with Panther conductor on the free arm of the existing 110 kV 110 kV Gurubarapally – Bagalur – Hosur DC tower for a route length of 1.025 kms (from Loc.272 to Loc1-0.08 km, Loc.3 to 5- 0.24 km and Loc.52 to 55-0.705 km).


 EXECUTIVE ENGINEER/MASTER PLAN II

Detailed estimate for conversion of existing 110 kV SC line on SC tower with Panther conductor into 110 kV DC line on DC tower with Panther conductor of 110 KV Gurubarapally – Bagalur – Hosur Feeder (Loc No. 1 to loc no.58) in Thiruvalem Operation Circle in Vellore region

PART I: Chargeable to new asset 1020400

Sl. No	Description	QTY		RATE	PER	AMOUNT (Rs. in Lakhs)
1	110 kV DC line on DC towers with Panther conductor (As per Annexure I)	13.475	Kms	99.300	Kms	1338.068
2	110 kV SC line on DC towers with Panther conductor (Free arm stringing) (As per Annexure II)	1.025	Kms	36.410	Kms	37.320
3	Dismantling charges					28.782
4	Gross					1404.170
5	Less credit					575.638
6	Nett					828.531

Part I (a): Dismantling charges Chargeable to A/c code No. 4021137 = 28.782

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 = $0.9 * (\text{col.4} * \text{col.6} / \text{col.5})$
1	110 kV SC line on SC tower with Panther conductor	13.475	575.638	35	35	518.074

Part III: Devolution of old equipment TO STORES CHARGES

Part IV - Part II = 575.638 - 518.074 = 57.564

Part IV: Removal of old asset CHARGABLE TO A/c No. 1010300

Sl.No	Name of the item	Qty in kms	Original Cost *	Original Erection Charges 10%	Original Centages 15%	Original Cost of Asset
1	110 kV SC line on SC tower-with Panther conductor (As per Annexure III)	13.475	455.050	45.505	75.083	575.638
	Total					575.638

* 50% value of present cost value has been adopted

ABSTRACT

Rs IN LAKHS

Part I: Cost of new asset chargeable to capital				GROSS	1404.170
				NETT	828.531
Part I(A): Dismantling charges					28.782
Part II: Accumulated depreciation					518.074
Part III: Devolution of old equipment to store					57.564
Part IV: Removal of old asset					575.638

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EXECUTIVE ENGINEER/MASTER PLAN II

ANNEXURE I						
110 KV DC line on DC Towers with Panther conductor						
Sl. No.	Quantity		DESCRIPTION	Rate in Rs.	Per	Amount in Rs.
1			Galvanised steel tower materials with extension part wherever necessary, and bolts and nuts etc.,			
a	256.09	MT	MS tower parts	84,578.00	MT	21,659,580.02
b	16.18	MT	Ordinary Bolts & nuts	90,000.00	MT	1,456,200.00
2	1,111.00	No.	90 KN Disc Insulators	376.80	No.	418,624.80
3	2,057.00	No.	120 KN Disc Insulators	500.00	No.	1,028,500.00
			Conductor & Earth wire accessories			
4	120.00	Set	Single Suspension fittings for ACSR Panther	1,074.42	Set	128,930.40
5	36.00	Set	Sus. fittings for Jumper	1,074.42	Set	38,679.12
6	240.00	Set	Single Tension fittings for ACSR Panther	1,292.40	Set	310,176.00
7	12.00	Set	Double Tension Fittings for ACSR Panther	3,678.60	Set	44,143.20
8	240.00	Set	Vibration Damper for Panther	490.22	Set	117,652.80
9	30.00	Set	Mid span comp.joint for ACSR Panther	438.87	Set	13,166.10
10	10.00	Set	Repair sleeve for ACSR Panther	235.42	Set	2,354.20
11	120.00	Set	PA Rod for Panther	590.98	Set	70,917.60
12	60.60	KM	ACSR PANTHER conductors 1.0% sag	268,726.00	KM	16,284,795.60
13	10.50	KM	OPGW - 48 Fibre with accessories	250,185.00	KM	2,626,942.50
			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	40.00	No.	Phase plate (Set of three)	252.41	No.	10,096.40
19	40.00	No.	Circuit plate	235.58	No.	9,423.20
20			Total Cost of materials			44,310,914.40

ANNEXURE I						
110 KV DC line on DC Towers with Panther conductor						
Sl. No.	Quantity		DESCRIPTION	Rate in Rs.	Per	Amount in Rs.
			TOWER FOUNDATIONS			
21	20.00	No.	GCR type tower	103,802.00	No.	2,076,040.00
			0° to 2° Suspension tower			
22	8.00	No.	HCR type tower	257,543.00	No.	2,060,344.00
			2° to 30° Medium angle tower			
23	12.00	No.	KCR type tower	343,984.00	No.	4,127,808.00
			30° to 60° High angle & Dead end tower			
24			Tower protection works			500,000.00
25			Total Cost of Foundations			8,764,192.00
26			Erection charges(10% on item 20)			4,431,091.44
27			Transportation & Insurance charges (5% on Item 20)			2,215,545.72
28			Contingencies (1% on item 20, 25 & 26, 27)			597,217.44
29			Total amount (item 20+25+26+27+28)			60,318,961.00
30			Establishment & Supervision Charges at 15.0% on item 29			9,047,844.00
31			Total Cost of materials, Foundation and Erection charges excluding GST			69,366,805.00
32			GST @ 18% on total amount			12,486,024.90
33			TOTAL COST (Item 30 & 31)	10.00	KM	81,852,829.89
34	10.00	KM	Tree/Crop compensation	1,000,000.00	KM	10,000,000.00
35			Land compensation			7,437,469.11
36			TOTAL COST PER	10.00	KM	99,290,299.00
			TOTAL COST PER 1 KM			9,929,029.90
			(Rounding to nearest 1000)	SAY		9,930,000.00
			TOTAL COST/KM in LAKHS			99.30

ANNEXURE II						
110 KV SC line on DC towers with Panther conductor (Free arm stringing)						
Sl. No.	QTY	Unit	DESCRIPTION	Rate in Rs.	Per	Amount in Rs.
1	686.00	No.	90 KN Disc Insulators	376.80	No.	258,484.80
2	1029.00	No.	120 KN Disc Insulators	500.00	No.	514,500.00
3			Conductor & Earth wire accessories			
4	60.00	Set	Single Suspension fittings for ACSR Panther	1074.42	Set	64,465.20
5	36.00	Set	Suspension fitting for jumper	1074.42	Set	38,679.12
6	120.00	Set	Single Tension fittings for ACSR Panther	1292.40	Set	155,088.00
7	6.00	Set	Double Tension Fittings for Panther	3678.60	Set	22,071.60
8	120.00	Set	Vibration Damper for Panther	490.22	Set	58,826.40
9	15.00	Set	Mid span comp.joint for ACSR Panther	438.87	Set	6,583.05
10	10.00	Set	Repair sleeve for ACSR Panther	235.42	Set	2,354.20
11	60.00	Set	PA rod for Panther	590.98	Set	35,458.80
12	30.30	KM	ACSR PANTHER conductors 1.0% sag	268,726.00	KM	8,142,397.80
13	10.50	KM	OPGW - 48 Fibre with accessories	250,185.00	KM	2,626,942.50
14			Earthing materials			
15	40.00	No.	Pipe type earthing	1,613.08	No.	64,523.20
16	2.00	No.	Counter poise earthing (120m length)	3,870.43	No.	7,740.86

ANNEXURE II						
110 KV SC line on DC towers with Panther conductor (Free arm stringing)						
Sl. No.	QTY	Unit	DESCRIPTION	Rate in Rs.	Per	Amount in Rs.
17			Tower Accessories			
18	40.00	No.	Number plate	218.76	No.	8,750.40
19	40.00	No.	Danger Board	242.95	No.	9,718.00
20	40.00	No.	Phase plate (Set of three)	252.41	No.	10,096.40
21	40.00	No.	Circuit plate	235.58	No.	9,423.20
22			TOTAL COST OF MATERIALS			12,036,103.53
23			Erection charges(10% on cost of materials)			1,203,610.35
24			Transportation & Insurance charges (5% on cost of materials)			601,805.18
25			Total amount			13,841,519.06
26			Contingencies 1%			138,415.19
27			Total			13,979,934.25
28			Establishment & Supervision Charges at 15%			2,096,990.00
29			Total			16,076,924.25
30			GST @ 18 %			2,893,846.37
31			Total amount including GST			18,970,770.62
32			Land compensation			7437469.11
33	10.00	KM	Tree/Crop compensation	1000000.00	KM	10,000,000.00
34			TOTAL COST PER	10.00	KM	36,408,239.72
35			TOTAL COST PER 1 KM			3,640,823.97
36			(Rounding to nearest 1000)	SAY		3,641,000.00
37			TOTAL COST PER KM IN LAKHS			36.41

ANNEXURE III						
110 KV SC line on SC towers with Panther conductor						
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.,			
a	119.93	MT	b) MS 100%	84,578.00	MT	10,143,439.54
b	7.93	MT	c) Ordinary Bolts & nuts	90,000.00	MT	713,700.00
2	600	No.	90 KN Disc Insulators	376.80	No.	226,080.00
3	1029	No.	120 KN Disc Insulators	500.00	No.	514,500.00
			Conductor & Earth wire accessories			
4	60	Set	Single Suspension fittings for ACSR Panther	1,074.42	Set	64,465.20
5	12	Set	Suspension fitting for jumper	1,074.42	Set	12,893.04
6	120	Set	Single Tension fittings for ACSR Panther	1,292.40	Set	155,088.00
7	6	Set	Double Tension Fittings for Panther	3,678.60	Set	22,071.60
8	120	Set	Vibration Damper for Panther	490.22	Set	58,826.40
9	15	Set	Mid span comp.joint for ACSR Panther	438.87	Set	6,583.05
10	10	Set	Repair sleeve for ACSR Panther	235.42	Set	2,354.20
11	60	Set	PA rod for Panther	590.98	Set	35,458.80
12	30.3	KM	ACSR PANTHER conductors 1.0% sag	268,726.00	KM	8,142,397.80
13	10.5	KM	OPGW 48 fibres with accessories	250,185.00	KM	2,626,942.50
			Earthing materials			
14	40	No.	Pipe type earthing	1,613.08	No.	64,523.20
15	2	No.	Counter poise earthing (120m length)	3,870.43	No.	7,740.86
			Tower Accessories			
16	40	No.	Number plate	218.76	No.	8,750.40
17	40	No.	Danger Board	242.95	No.	9,718.00
18	20	No.	Phase plate(Set of three)	252.41	No.	5,048.20
19	20	No.	Circuit plate	235.58	No.	4,711.60
			TOTAL COST OF MATERIALS			22,825,292.39

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ANNEXURE III						
			110 KV SC line on SC towers with Panther conductor			
Sl. No.	QTY	Unit	DESCRIPTION	Rate in Rs.	Per	Amount in Rs.
			TOWER FOUNDATIONS			
20	20	No.	GCR type tower	102,547.00	No.	2,050,940.00
			0° to 2° Suspension tower			
21	8	No.	HCR type tower	264,604.00	No.	2,116,832.00
			2° to 30° Medium angle tower			
22	12	No.	KC type tower	469,820.00	No.	5,637,840.00
			30° to 60° High angle & Dead end tower			
23			Tower protection works			500,000.00
			COST OF FOUNDATION			10,305,612.00
24			Erection charges(10% on cost of materials)			2,282,529.24
25			Transportation & Insurance charges (5% on cost of materials)			1,141,264.62
			Total amount			36,554,698.25
26			Contingencies (1% on materials, foundation & erection charges)			365,546.98
			Total			36,920,245.23
27			Establishment & Supervision Charges at 15.0%			5,538,036.78
			Total			42,458,282.02
28			GST at 18%			7,642,490.76
			Total			50,100,772.78
30	10	KM	Tree/Crop compensation	1,000,000.00	KM	10,000,000.00
31	10	KM	Land compensation			7,437,469.00
			Total cost per 10 Kms			67,538,241.78
32			TOTAL COST PER 1 KM			6,753,824.18
			(Rounding to nearest 1000)	SAY		6,754,000.00
			TOTAL COST PER 1 KM IN LAKHS			67.54