

TAMILNADU POWER DISTRIBUTION CORPORATION LIMITED
ABSTRACT

Electricity - Chennai Region – Chennai EDC/North - Establishment of Selavoyal 33/11 kV Outdoor SS with 2x8 MVA power transformers - Administrative approval - Accorded.

TECHNICAL BRANCH

(Per). MD TNPDCCL Proceedings No:51

Dated:16.07.2026

Sri Parabava Varudam

Aani : 32

Thiruvalluvar Aandu 2057

READ: Chairman cum Managing Director's approval dt.15.07.2026.

PROCEEDINGS:

1. The Tamilnadu Power Distribution Corporation Ltd. hereby approves the proposal for establishment of Selavoyal 33/11 kV Outdoor SS with 2x8 MVA, 33/11 kV power transformers in Chennai EDC/North of Chennai Region at an estimated cost of Rs.1209.30 lakh Gross and Nett. The detailed estimate and report are annexed to these proceedings.
2. The expenditure is chargeable to TNPDCCL - Funds - Capital Expenditure - Chennai EDC / North - A/C code No.10 20 300.
3. By virtue of the provisions contained in sub-section (2) (a) of section 185 of the Electricity Act, 2003, the TNPDCCL being the Licensee and successor entity of Tamilnadu 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 work is to be taken up after ensuring budget provision.

// BY ORDER OF THE CMD //

N.SIVAGAMI
CHIEF ENGINEER/PLANNING & RC (I/C)

Encl: Report and detailed estimate.

To

The Chief Engineer/Distribution/Chennai Region

(Per.) MD TNPDCI Proceedings No: 51 dt.16.07.2026.

Copy to:

The Director/Distribution/TNPDCI/Chennai-2.

The Director/Finance/TNPDCI/Chennai – 2.

The Chief Engineer/Material Management /Chennai -2.

The Superintending Engineer/Chennai EDC/North.

The Superintending Engineer/CDC/TNPDCI.

The Superintending Engineer/RE & I(D)/Chennai -2.

The Company Secretary/TNPDCI/Chennai -2.

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

B.P. Section (Administrative Branch).

Stock to file

//FORWARDED BY ORDER//


17.07.2026

Executive Engineer/Master Plan I

REPORT TO ACCOMPANY THE ESTIMATE

This proposal envisages establishment of Selavoyal 33/11 kV Outdoor SS with 2x8 MVA power transformers in Chennai EDC/North of Chennai Region at an estimated cost of Rs.1209.30 lakh Gross and Nett.

Need:

Chennai Metropolitan Water supply and Sewage Board (CMWSSB) has developed Water & Sewage treatment plants in Selavoyal with a total demand of 8.735 MVA, which are being fed at both 33 kV & 11 kV level from the existing Kodungaiyur 33/11 kV SS. In addition, supply has also been effected to bio mining plants nearer to CMWSSB complex with an aggregate demand of 5.44 MVA from Kodungaiyur 33/11 kV SS.

In this regard, it is to be stated that as per TNERC notification No. TNERC/DC/08-12 dt: 24.08.2009, space/land has to be allotted for the establishment of substation in case of group housing/commercial complex where the total demand exceeds 5 MVA or the total floor area of 30,000 Sq.m. As the total load exceeds 5 MVA, M/s.CMWSSB have allotted 4000 Sq.mtrs of vacant land to TNPDC in their premises at their Sewage Treatment Plant at Selavoyal village, Kodungaiyur to establish a substation.

At present, Selavoyal and its surrounding areas are being fed off Kodungaiyur 33/11 kV SS, Manali 33/11 kV SS and Madhavaram Leather Estate 33/11 kV SS. The details of the substations and feeders feeding the above area are furnished below:

➤ Kodungaiyur 33/11kV SS is in service with 3x16 MVA, 33/11 kV power transformers. The sustained peak reached on the power transformers is 31.32 MVA and are loaded to 65.25% of its installed capacity.

The details of the feeders feeding the above area are as below:

Sl No	Name of feeder	Length in kms	CL in MVA	Peak in MVA	Voltage regn. %	Line loss in LU
1	11 kV STP #	5.83	8.4	3.42	7.97	4.31
2	11 kV KA Koil #	3.2	5.8	2.28	2.10	1.01

➤ Madhavaram Leather Estate 33/11 kV SS is in service with 2x16 MVA, 33/11 kV power transformers. The sustained peak reached on the 33/11 kV power transformers is 25.49 MVA and is loaded to 79.65% of its installed capacity. The details of the feeder feeding the above area are as below:

Sl. No	Name of feeder	Length in kms	CL in MVA	Peak in MVA	Voltage regn. %	Line loss in LU
1	11 kV KMA Garden #	5.51	5.20	2.0	3.65	1.51

➤ Manali 33/11 kV SS is in service with 2x8 MVA power transformers. The sustained peak reached on the 33/11 kV power transformers is 14.09 MVA and is loaded to 88.06% of its installed capacity. The details of the feeders feeding the above area are as below:

Sl. No	Name of feeder	Length in kms	CL in MVA	Peak in MVA	Voltage regn. %	Line loss in LU
1	11 kV Periyasekkadu #	6.03	4.26	2.80	3.77	1.15
2	11 kV Manali #	5.59	7.41	2.85	9.11	2.46

It may be seen that the voltage regulation of the 11 kV Manali feeder of Manali 33/11 kV SS have exceeded the permissible limit of 8% and is loaded more than 150 A. Further, there is no space available for accommodating additional 11 kV bays in the above Substations.

Power requirement in and around Selavoyal, Kodungaiyur, Ezhil Nagar, Manali, Mathur, M.R.Nagar and its surrounding area is drastically increasing every year as several small scale industries, multi-storied buildings, residential colonies are emerging in and around these areas. Further, an expected load of 4.5 MVA is expected in near future from CMWSSB including the bio-mining plant for a demand of 2.527 MVA.

Transfer of load from Kodungaiyur 33 kV SS to the nearby Madhavaram Leather Estate 33/11 kV SS and Vyasarpadi Industrial Estate 33/11 kV SS are not feasible as the existing power transformers are loaded to 80% of their capacity. Likewise, load transfer from Madhavaram Leather Estate 33/11 kV SS to the nearby Gandhi Nagar 33/11 kV SS and from Manali 33/11 kV SS to the nearby Manali 110/11 kV SS are not feasible due to network orientation constraints.

Hence, in order to give relief to the above substations, to cater the upcoming loads and also to cater the loads of M/s.Chennai Metropolitan Water supply and Sewage Board (CMWSSB), establishment of Selavoyal 33/11 kV SS is essential.

Reduction in line loss:

On establishment of 33/11 kV SS at Selavoyal, the voltage regulation and line losses of the existing feeders after load transfer to Selavoyal 33/11 kV SS are furnished below:

S No	Name of SS	Name of 11 KV feeder	Length in Kms	CL in MVA	Voltage Regn %	Line Loss in LU
1	Kodungaiyur 33/11 kV SS	STP	5.02	5.1	3.97	1.29
2		KA Koil	1.92	2.25	0.52	0.12
3	Madhavaram Leather Estate	KMA Garden	3.5	1.5	0.63	0.08

	33/11kV SS					
4	Manali 33/11 kV SS	Periyasekkadu	4.37	1.2	0.52	0.07
5		Manali	3.63	2.79	1.9	0.28

On establishment of the proposed Selavoyal 33 kV SS, the savings in line loss will be of 7.38 LU per annum and yield revenue of Rs.76.82 Lakhs per annum.

Details of power transformer capacity proposed:

A connected load of 6.85 MVA from Kodungaiyur 33/11 kV SS, 3.7 MVA from Madhavaram Leather Estate 33/11 kV SS and 7.67 MVA load from Manali 33/11 kV SS is proposed to be transferred to new SS. Totally, connected load to a tune of 18.22 MVA will be incident on the proposed SS. In such condition, the anticipated peak will be 12.147 MVA. Hence, it is proposed to install 2x8 MVA, 33/11 kV Power Transformers at the proposed 33/11 kV SS.

Adequacy of Transmission System

Details of the Normal Source / Alternate source SS:

It is to be stated to extend Main Source from that the existing Mathur 110/33-11 kV SS and alternate source is proposed to be availed from Proposed KKD Nagar 110/33/11 kV SS. Accordingly, the adequacy of the Source SS are discussed below;

Sl.No.	Description	Main Source	Alternate Source
a)	Name of the source SS	Mathur 110/33-11 kV SS	Proposed KKD Nagar 110/33-11 kV SS
b)	110/33 kV Power transformer	2x25 MVA (110/33 kV)	2x25 MVA (110/33 kV)
c)	Sustained Peak reached	45.56 MVA	Proposed new SS
d)	Proposed addition in MVA	16 MVA	16 MVA
e)	Total anticipated peak in MVA	58.36 MVA	16 MVA
f)	Pr tr capacity is adequate	Not Adequate. However, the existing 1 No. 16 MVA Power Transformers at the existing Periyar Nagar 33/11 kV SS, Nermai Nagar 33/11 kV SS and New Kolathur 33/11 kV SS which were fed from Sembium 110 kV SS has been transferred to the newly commissioned Ganesh Nagar 230/33 kV SS. Cascadingly, it is proposed to feed the existing 1 No. 16 MVA Power Transformer at	Adequate

		Madhavaram Leather Estate 33/11 kV SS, Gandhi Nagar 33/11 KV SS and CMBTT 33/11 KV SS which are presently fed from Mathur 110 kV SS from Sembium 110 kV SS. On above load transfer, the existing Power Transformer capacity at Mathur 110 kV SS will be adequate to feed the proposed SS.	
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Details of Source feeder:

It is proposed to make LILO of the existing 33 kV Mathur - CMWSSB UG cable at the proposed Selavoyal 33 kV SS, so as to form 33 kV Mathur – Selavoyal feeder and 33 kV Selavoyal – CMWSSB feeder. Further, in the administrative approval accorded for establishment of MKB Nagar 33/11 kV SS vide B.P.No.201 dt.21.09.2022, provision has been made for laying of 33 kV 1x630 sq.mm. XLPE cable from proposed Selavoyal SS to MKB Nagar SS. Now, it is proposed by make LILO of the above proposed feeder at the proposed Upgraded Kodungaiyur 110 kV SS, so as to form 33 kV Kodungaiyur – Selavoyal feeder and 33 kV Kodungaiyur – MKB Nagar feeder. Accordingly, Source feeder adequacy are discussed below:

Details of Alternate source feeder:

Sl.No.	Description	Main Source	Alternate Source
a)	Name of the feeder	Proposed 33 kV Mathur – Selavoyal feeder #	New 33 kV KKD Nagar – Selavoyal SS #
b)	Size/capacity of conductor	33kV, 1x630 Sq.mm UG/ 32.29 MVA	33kV, 1x630 Sq.mm UG/ 32.29 MVA
c)	Present loading in MVA	New feeder	New feeder
d)	Proposed addition in MVA	16 MVA	16 MVA
e)	Anticipated peak in MVA	16 MVA	16 MVA
f)	Cable capacity is adequate	Adequate	Adequate

Details of works involved:

- Establishment of new 33/11 kV outdoor SS with 2x8 MVA power transformers and allied equipments.
- Laying of 3 runs of 33 kV 1x630 Sq.mm. XLPE cable for a route length of 350 mtrs. for double circuit making LILO of existing 33 kV Mathur – CMWSSB feeder at the proposed Selavoyal 33/11 kV SS.

- Laying of 3 runs of 33 kV 1x630 Sq.mm. XLPE cable for a route length of 200 mtrs. for double circuit making LILO of proposed 33 kV Selavoyal – MKB Nagar at the proposed Upgraded KKD Nagar 110/33 kV SS.
- Laying of 11 kV 3x300 Sq.mm. cable of 5 kms. for providing 11 kV link lines.

Land availability:

Land to an extent of 4000 Sq. mtrs. belonging to M/s.Chennai Metropolitan Water supply and Sewage Board (CMWSSB) has been identified for establishment of the proposed 33 kV SS at Selavoyal village. In-Principle approval has been accorded by Board of Directors of M/s.CMWSSB to allot 4000 Sq. mtrs. of land at free of cost inside Kodungaiyur STP as per the Minutes of the 340th meeting held on 08.12.2021 and land acquisition is under progress. Since being the Government dept., pending acquisition of land, this proposal may be considered as a special case.

The Superintending Engineer/CDC/TNPDCL has certified that the land is suitable for establishment of 33/11kV Outdoor SS with certain conditions and the CE/D/Chennai Region is requested to carry out the same before commencement of Substation erection works.

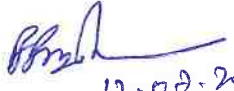

17-07-2026

Executive Engineer/Master Plan I

**ABSTRACT FOR ESTABLISHMENT OF SELAVOYAL 33/11 KV OUTDOOR SS WITH 2X8 MVA
POWER TRANSFORMERS IN CHENNAI EDC/NORTH OF CHENNAI REGION**

ABSTRACT

SL NO	DESCRIPTION	Cost in Lakhs	
		Gross	Nett
1	Establishment of Selavoyal 33/11 kv outdoor SS with 2x8 MVA power transformers	665.02	665.02
2	Erection of 33 kv & 11 kv link lines	544.28	544.28
	Total	1209.30	1209.30


12.07.2026.
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**DETAILED ESTIMATE FOR ESTABLISHMENT OF SELAVOYAL 33/11 KV OUTDOOR SS WITH
2x8 MVA POWER TRANSFORMERS IN CHENNAI EDC/NORTH OF CHENNAI REGION**

Sl. No	DESCRIPTION	QTY	RATE	PER	TOTAL in Lakh
I	CIVIL WORKS				
1	Land cost				0.00
2	Civil works such as construction of control room with lighting, cable duct, road, fencing & gate, culvert, yard filling, retaining wall, borewell & water works, watering arrangement for earth pits, power transformer plinth, provision for sand drums & sand, supply of furnitures, T & P etc. (inclusive of contingencies, labour, administrative expenses, all statutory levies etc.)				180.00
3	Total				180.00
	Electrical Works				
1	33 kV AB Switch	11 Nos	0.466	E	5.126
2	33 kV SF6/VCB Breaker	5 Nos	2.930	E	14.650
3	33 kV CTs	15 Nos	0.308	E	4.620
4	33 kV PTs	3 Nos	0.336	E	1.008
5	33 kV LAS stn. Type	6 Nos	0.038	E	0.228
6	11 kV Breaker (2 LV+ 6 fdrs)	8 Nos	1.626	E	13.008
7	11 kV CT's	24 Nos	0.250	E	6.000
8	11 kV AB Switch	15 Nos	0.236	E	3.540
9	11 kV Bus PT	3 Nos	0.511	S	1.533
10	11 kV LAS stn. Type	6 Nos	0.018	E	0.108
11	11 kV LAS distn. Type	18 Nos	0.008	E	0.144
12	Earthing painting and Yard lighting			LS	8.000
13	Control cable			LS	7.000
14	110 V Battery with 2 charger	1 Set	8.707	set	8.707
15	100 kVA, 11 kV/433 V Stn. Tr.	1 No	4.737	set	4.737
16	Fire fighting equipments				3.000
17	P&T Phone				0.100
18	Scientific instruments				5.000
19	C&R panel			LS	17.000
20	DC panel	1 No	0.98	E	0.980
21	AC panel	1 No	1.028	E	1.028
22	110 V DC Annunciator Panel	1 No.	1.145	E	1.145
23	Sub Total				106.662
24	Contingencies @ 1%				1.067
25	Total for materials				107.729
26	Labour and Transport charges @ 15%				16.159
27	GST on labour & transport @ 18%				2.909
28	Total for material and labour				126.797
29	8 MVA, 33/11 kV Pr. Tr. with OLTC	2 Nos	88.374	E	176.748
30	Labour and transport including GST	2 Loc	8.000	Loc	16.000
31	Earthing	2 Loc	0.500	Loc	1.000
32	Subtotal				320.545

**DETAILED ESTIMATE FOR ESTABLISHMENT OF SELAVOYAL 33/11 KV OUTDOOR SS WITH
2x8 MVA POWER TRANSFORMERS IN CHENNAI EDC/NORTH OF CHENNAI REGION**

Sl. No	DESCRIPTION	QTY	RATE	PER	TOTAL in Lakh
33	Estt & Sup. Charges 15%				48.082
34	Sub Total				368.626
35	Plinth for breakers	13 Nos.	2.500	E	17.500
36	33 kV Structure	1 Set	38.090	set	38.090
37	11 kV Structure	1 Set	33.791	set	33.791
38	11 kV capacitor bank 2.4 MVAR	1 Set	27.008	set	27.008
39	Sub Total				485.02
40	Total for Electrical works				485.02
41	Total for Civil works				180.00
42	Total Gross & Nett				665.02

**ESTIMATE FOR ERECTION OF 33 KV & 11 KV LINE TO THE PROPOSED SELAVOYAL 33/11 KV
OUTDOOR SS**

Sl. No	Description	QTY		Rate in Lakhs	PER	Amount in Lakhs
1	Laying of 33 kV, 1x630 sq.mm. UG cable main source double circuit by making LILO in the existing 33 kV Mathur - CMWSSB campus (0.35*2 circuits)	0.7	kms	115.70	km	80.99
2	Laying of 33 kV, 1x630 sq.mm. UG cable, alternate source double circuit by making LILO in the already sanctioned 33 kV Cable from Selavoyal SS - MKB Nagar SS at Meenambal Salai, KKD Nagar near Kodungaiyur SS campus (0.2*2 circuits)	0.4	kms	115.70	km	46.28
3	Laying of 11kV 3x300 sq.mm XLPE cable for 11kV feeder link lines approximately	5	kms	83.40	km	417.01
	Total (Gross and Nett)					544.28

