

**TAMIL NADU POWER DISTRIBUTION CORPORATION LIMITED**  
**ABSTRACT**

Electricity – Vellore Region – Tirupattur EDC- Establishment of Peenjamandai 33/11 kV SS with 1x8 MVA, 33/11 kV power transformer - Administrative Approval - Accorded.

**TECHNICAL BRANCH**

(Per.) MD TNPDC Proceedings No:08

Dated: 05.02.2026  
Thai 22 ,  
Visuvaavasu Varudum,  
Thiruvalluvar Aandu 2057.

**READ:** Chairman cum Managing Director's approval dated. 29.01.2026

**PROCEEDINGS:**

1. The Tamil Nadu Power Distribution Corporation Ltd hereby approves the proposal for establishment of Peenjamandai 33/11 kV SS with 1x8 MVA power transformer in Tirupattur EDC of Vellore Region at an estimated cost of Rs.845.83 lakhs Gross and Nett. The detailed estimate and report are annexed to these proceedings.
2. The expenditure is chargeable to "TNPDC - Capital expenditure - Tirupattur EDC- ERP No.1020300.
3. By virtue of the provisions contained in sub-section (2) (a) of section 185 of the Electricity Act, 2003, the TNPDC being the 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 work is to be taken up after ensuring budget provision.

// BY ORDER OF THE CMD //

J.PUSHPALATHA  
CHIEF ENGINEER / PLANNING & RC

Encl: Report and detailed estimate.

To  
The Chief Engineer / Distribution / Vellore Region / Vellore

(Per.) MD TNPDC Proceedings No.08, dt.05.02.2026

Copy to:

The Director/Distribution/ TNPDC /Chennai-2

The Director/Finance/ TNPDC / Chennai -2

The Chief Engineer/MM/Chennai-2

The Superintending Engineer/ Tirupattur EDC/ Tirupattur

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

The Company Secretary / TNPDC /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 establishment of Peenjamandai 33/11 kV SS with 1x8 MVA power transformer in Tirupattur EDC of Vellore Region at an estimated cost of Rs.845.83 lakhs Gross and Nett.

**Need:**

At present, Peenjamandai hill area and its surrounding areas are being fed of Odugathur 33/11 kV SS. The details of the substation and feeder feeding the area is furnished below:

➤ Odugathur 33/11 kV SS is having 2x8 MVA Power Transformers. The peak reached on the existing Power Transformers is 15.7 MVA and is loaded to 98.12% of its capacity. Load growth in this area is 3.0 % per annum. The details of the feeder feeding the Peenjamandai hill area is furnished below:

Sl. No	Name of the feeder (#)	Length in kms	CL in MVA	Peak in MVA	Voltage regn. %	Line loss in LU
1	11 kV Melarasampet #	27.63	4.005	3.5	15.96	1.713

The voltage regulation of the feeder feeding the area have exceeded the permissible limit of 8%. Even if the above entire feeder is strengthened with Raccoon conductor, the voltage regulation could not be brought down below the permissible limit of 8%. Bifurcation of feeders also not possible since the loads are at tail end of the feeders. Further, the length of the feeder is also in the range of 27.64 kms and peak reached in 11 kV Odugathur – Melarasampet feeder is about 184 Amps.

Being a hilly area, only the single 11 kV Odugathur – Melarasampet feeder is feeding the entire Peenjamandai area. However to maintain uninterrupted supply and to improve conditions, the proposed substation is essential and hence it becomes necessary to establish a new 33/11 kV SS at Peenjamandai hilly area.

Further, the Chief Engineer/Distribution/ Vellore Region has stated that,

a) For establishment of Peenjamandai 33 kV SS, the estimated cost for the civil portion works out to Rs.230 lakhs and it is worked out considering 40% extra on the rates of labour and 25% extra over the rates of materials as per the SoR 2025-26 since Peenjamandai being a hilly area.

b) As per the land suitability report for establishment of Peenjamandai 33 kV SS, all the conditions have been fulfilled expect laying of approach/Mud

road and consent has been obtained from local bodies for formation of approach road/ Mud road to the proposed SS at the time of execution of SS works.

Further, it is to be stated that, the 33 kV source to the proposed Peenjamandai 33 kV SS is proposed to be extended by provision of 33 kV bay extension & allied works at Odugathur 110/33/11 kV SS. Since Odugathur 110 kV SS being TRANSCO SS, on approval of the above proposal, the Chief Engineer/Transmission will be requested to take necessary arrangements in this regard.

The Superintending Engineer/GCC/Salem has stated that space available at the existing Odugathur 110/33/11 kV SS is adequate and suitable for provision of 33 kV bay extension.

#### **Reduction in line loss :**

On establishment of proposed Peenjamandai 33/11 kV SS, the feeder regulation details and load to be retained in the existing feeder post establishment of the proposed SS are detailed below:

Sl. No.	Name of the feeder (#)	CL in (MVA)	Length in kms.	VR %	Line loss in LU
1	11 kV Odugathgur – Melarasampet #	2.425	8.24	4.57	0.328

On establishment of the proposed 33/11 kV SS at Peenjamandai, the savings in line loss will be 1.05 LU per annum. The financial savings due to the above is Rs.11.38 lakhs per annum.

#### **Details of power transformer capacity proposed:**

A connected load to a tune of 1.58 MVA from Odugathur 33/11 kV SS has been proposed to be transferred to the proposed Peenjamandai 33/11 kV SS. Hence, it is proposed to install 1x8 MVA, 33/11 kV power transformer at the proposed Peenjamandai 33/11 kV SS.

#### **Adequacy of Transmission system:**

##### **Details of the source SS:**

a)	Name of the substation	Odugathur 110/33-11 KV SS
b)	110/33 kV Power transformer capacity	2x16 MVA
c)	Peak reached in MVA	23.4 MVA
d)	Proposed addition in MVA	Now proposed SS: 8 MVA
e)	Anticipated peak in MVA	31.4 MVA
f)	Whether power tr. capacity of the source SS is adequate:	Adequate.

**Details of Source Feeder:**

a.	Name of the feeder	New 33 kV Odugathur – Peenjamandai feeder
b.	Size of conductor/capacity	Dog conductor - 17.78 MVA
c.	Anticipated load in MVA	8 MVA
d.	Whether size of conductor is adequate	Adequate.

**Details of works involved:**

- Establishment of 33/11 kV SS at Peenjamandai with 1x8 MVA Power Transformer with associated equipments.
- Erection of 33 kV source feeder with Dog conductor from Odugathur 110 kV SS to the proposed Peenjamandai 33/11 kV SS for a distance of 26 kms.

**Land availability:**

Government Poromboke land to an extent of 0.30.0 hectares (0.741 acre) at Peenjamandai village has been acquired. The above land is found suitable for establishing the proposed 33/11 kV SS.

  
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**DETAILED ESTIMATE FOR ESTABLISHMENT OF 33/11 KV SS AT PEENJAMANDAI WITH 1x8 MVA,  
33/11 KV POWER TRANSFORMER IN TIRUPATTUR EDC**

**Part I: Cost of new asset**

Rs. In Lakhs

SL.NO	DESCRIPTION	QTY	RATE	PER	AMOUNT	TOTAL
<b>I</b>	<b>CIVIL WORKS</b>					
1	Land Cost (actuals)				1.499	
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			LS	230.000	
3	Total				231.499	231.499
<b>II</b>	<b>Electrical Works</b>					
1	33 kV AB Switch	3 Nos	0.466	E	1.398	
2	33 kV SF6/VCB Breaker	1 No	2.930	E	2.930	
3	33 kV CTS	3 Nos	0.308	E	0.924	
4	33 kV PTs	3 Nos	0.336	E	1.008	
5	33 kV LAS stn. Type	3 Nos	0.038	E	0.114	
6	11 kV Breaker (1 LV+2 fdrs )	3 Nos	1.626	E	4.878	
7	11 kV CTS	9 Nos	0.250	E	2.250	
8	11 kV AB Switch	8 Nos	0.236	E	1.888	
9	11 kV Bus PT	3 Nos	0.511	S	1.533	
10	11 kV LAS stn. Type	3 Nos	0.018	E	0.054	
11	11 kV LAS distn. Type	6 Nos	0.008	E	0.048	
12	Earthing painting and Yard lighting			LS	10.000	
13	Control cable			LS	10.000	
14	Plinth for breakers	4 Nos.	2.000	E	8.000	
15	110 V Battery with 2 charger	1 set	8.707	set	8.707	
16	100 kVA, 11 kV/433 V Stn. Tr.	1 No	4.737	No	4.737	
17	Fire fighting equipments				3.000	
18	P&T Phone				0.100	
19	Scientific instruments				5.000	
20	C&R panel			LS	17.000	
21	DC panel	1 No	0.980	E	0.980	
22	AC panel	1 No	1.028	E	1.028	
23	110 V DC Annunciator Panel	1 No	1.145	E	1.145	
24	Sub Total				86.722	
25	Contingencies @ 1%				0.867	
26	Total for materials				87.589	
27	Labour and Transport charges @ 15%				13.138	
28	GST on labour & transport @ 18%				2.365	
29	Sub total				103.093	
30	Estt & Sup. Charges 15%				15.464	
31	Commissioning of SS equipments				2.714	
32	Total for material and labour				121.270	
33	1x8 MVA 33/11 kV Pr.Tr. with OLTC (all inclusive)	1 No	88.374		88.374	
34	Labour & transport	1 No	8.000		8.000	
35	Sub Total				217.644	217.644
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 Link line with 7/4.09 ACSR	1.3 kms.	8.055	km	10.472	
39	11 kV capacitor bank 2.4 MVAR	1 Set	27.008	set	27.008	
40	33 kV line with Dog conductor	26 km.	11.051	Loc	287.326	
41	Subtotal				396.687	396.687
	<b>Total Gross &amp; Nett.</b>					<b>845.83</b>

*[Signature]*  
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