TAMIL NADU TRANSMISSION CORPORATION LTD.
ABSTRACT

TANTRANSCO - Establishment of new 110/22 kV SS at Nehruji Nagar with 2 x 10 MVA Power transformer in Madurai Operation Circle (Dindigul EDC) in Trichy Region – Administrative approval – Reg.

TECHNICAL BRANCH

(Per) CH TANTRANSCO Proceedings No:43

Dated:08.05.2026.
Parabhaava Varudam,
Chithirai-25 ,
Thiruvalluvar Aandu 2057.

READ: Chairman/TANTRANSCO approval dated 15.04.2026.

PROCEEDINGS:

1. The Tamil Nadu Transmission Corporation Limited hereby approves for Establishment of 110/22 kV SS at Nehruji Nagar 2x10 MVA Power transformer in Madurai Operation Circle (Dindigul EDC) in Trichy Region at an estimated cost of Rs. 5313.392 lakhs Gross and Nett. subject to the following conditions stated in load flow study report dated 20.08.2025 :

   (i) Conversion of Sembatty - Mondipatty 110 kV feeder from wolf to Panther conductor and

   (ii) Erection of 3rd 160 MVA, 230/110kV Auto Transformer at Sembatty 230kV SS.

2. The detailed estimate and report are annexed to these proceedings.
3. The expenditure is chargeable to "TANTRANSCO - Funds - Capital expenditure – Madurai Operation Circle - A/c code no: 1020500.
4. 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.
5. The works will be taken up after ensuring the budget provision.

// BY ORDER OF THE CHAIRMAN/TANTRANSCO //

J.PREMALATHA
CHIEF ENGINEER / TRANSMISSION

Encl: Report and detailed estimate.

(Per) CH TANTRANSCO Proceedings No:43 dated.08.05.2026.

To
The Chief Engineer/ TP & System Operation/Madurai

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 / Chennai - 2

The Superintending Engineer / Operation /Madurai

The Superintending Engineer / GCC / Madurai .

The Superintending Engineer / IV/Chennai-2

The Resident Audit Officer (AGO's Unit) / Chennai –2

B .P. Section (Administrative Branch)

Stock file

FORWARDED BY ORDER

08.05.2026

EE/MASTER PLAN II

Enclosure to (Per) CH TANTRANSCO Proceedings No:43 dated.08.05.2026.

REPORT TO ACCOMPANY THE ESTIMATE

This proposal envisages Establishment of 110/22 kV SS at Nehruji Nagar 2x10 MVA Power transformer in Madurai Operation Circle (Dindigul EDC) in Trichy Region at an estimated cost of Rs. 5313.392 lakhs Gross and Nett. subject to the following conditions stated in load flow study report dated 20.08.2025 :

(i) Conversion of Sembatty - Mondipatty 110 kV feeder from wolf to Panther conductor and

(ii) Erection of 3rd 160 MVA, 230/110kV Auto Transformer at Sembatty 230kV SS.

Need :

During 2008, land to an extent of 28,705 square feet has been acquired in Chettinayakanpatty village, Dindigul Taluk for an amount of Rs. 2,81,60,900 (Rupees Two Crores Eighty one Lakhs sixty thousand and nine hundred only) for establishment of a new 110/22 kV SS to cater the loads in and around Dindigul areas.

The land has remained idle and unutilized, since its acquisition for the following reasons.

(i) Initially, in the land suitability report of SE/GCC/Madurai dt.12.03.2008 has recommended to establish an indoor SS instead of an outdoor SS as the 110 kV line could be erected only in the Dindigul – Trichy 4 way lane.

(ii) The construction of a flyover bridge was taken up nearby the land purchased for Nehruji Nagar and Highways officials had objected for the erection of overhead lines and provision of underground cables under the bridge. As a result, the Nehruji Nagar proposal was dropped at that time.

Subsequently to meet the load growth of Dindugal Town area, Administrative approval has been accorded for establishment of 110/22 kV SS at Nagal Nagar in Madurai Operation Circle (Dindugal EDC) of Trichy Region at an estimated cost of Rs.1511.31 lakhs Gross and Nett. vide (Per) CH TANTRANSCO Proceedings No.34, dt. 24.02.2022 in the vacant land to an extent of 1.5 acres inside the premises of Nagal Nagar section office at Dindigal Town.

As per the above sanction, 110 kV source for the sanctioned Nagal Nagar SS is proposed to be extend from Dindigul 110/22 kV SS by laying 110 kV UG cable for a distance of 2 kms. along the Dindigul - Karaikudi NH Road.

However, the road has been converted into a 4-way track road by National Highways. Due to the presence of commercial complexes and residential buildings on both sides of the road, there is no space available for erecting the UG cable along the side of the 4-way track road. Further, laying the cable would require cutting through the newly formed road, which is not feasible.

Further, there is no space available for providing additional 22 kV feeders for future expansion in the land identified for the establishment of Nagal Nagar 110/22 kV SS, limiting the sub-station's capacity to meet growing demand.

At present inside Nagal Nagar SS campus, 3 Nos. section offices are functioning and they have to be shifted to various places in the Dindigul Town Area. The public agitation and the representation from Thiru. Sanchithanantham,Member of Parliament/Dindigul to Chief Managing Director /TNPDCL/Chennai were against the shifting of the existing section offices to another place of Dindigul town due to establishment of new SS at Nagal Nagar.

Meanwhile, the flyover bridge construction works near the purchased land at Chettinayakanpatty village, Dindigul Taluk had been completed and handed over to the Dindigul Corporation. On joint inspection , concurrence has been obtained from Corporation officials for erecting underground cables under the bridge.

Subsequently, in the land suitability report of SE/GCC/Madurai dt.29.01.25, it is recommended to establish new outdoor Substation by making LILO of the 110 kV incoming source by using 110 KV UG cable along the Dindigul-Eriodu Road, as the proposed land is surrounded by railway line, residential and commercial plots.

As for the reasons stated above by the Chief Engineer/Distn./Trichy Region, the already acquired land at Chettinayakanpatty village, Dindigul Taluk for Nehruji Nagar could now be productively utilized for establishment of Substation to enhance power supply reliability and to meet the future load growth is found to be genuine, the same can be considered.

At present, Dindugal Township and its surrounding area are being fed by Angu Nagar 110/22 kV SS & Dindigul 110/22 kV SS.

The details of the feeders fed from Angu Nagar 110/22 kV SS feeding the area is detailed below:

Sl. No	Name of the 22 kV feeder	C.L. in MVA	Length in kms.	Peak in MVA	Voltage regulation	Line loss in LU
1	Mill	17.499	9.07	8.955	10.11%	13.237
2	Anna Nagar	16.026	6.84	7.812	8.22%	10.042
3	Town	17.792	5.12	7.621	8.14%	9.776
4	Bus Stand	15.165	6.626	6.288	7.269%	10.256

The details of the feeder fed from Dindugal 110/22 kV SS feeding the area is detailed below:

Sl. No.	Name of the 22 kV feeder	C.L. in MVA	Length in kms.	Peak in MVA	Voltage regulation	Line loss in LU
1	Kovilur Mill	11.256	10.858	6.594	8.63%	5.963

The voltage regulation of the feeders feeding the area except 22 kV Angu Nagar – Bus Stand feeder has exceeded the permissible limit of 8%.

The existing Power Transformers at both existing Angu Nagar 110/22 kV SS and Dindugal 110/22 kV SS are loaded more than 80% of its capacity.

Hence, to give load relief to existing Angu Nagar 110/22 kV SS and Dindugal 110/22 kV SS and to facilitate maintenance of uninterrupted power supply to Dindugal Town area, establishment of a new SS inside the Corporation limit of Dindugal Town is essential.

On establishment of proposed 110/22 kV SS, the feeder regulation details and load to be retained in the existing feeder post the establishment of proposed SS are detailed below:

Sl. No	Name of the 22 kV feeder	CL in MVA	Length in kms	Voltage regn. %	Line loss in LU
1	Angu Nagar - Mill	13.935	6.69	6.95	11.636
2	Angu Nagar - Anna Nagar	5.204	3.31	1.46	0.616
3	Angu Nagar - Town	10.351	4.46	3.99	2.696
4	Angu Nagar - Bus Stand	8.402	4.232	2.94	2.464
5	Dindugal - Kovilur Mill	8.256	10.858	6.85	3.516

As per the feasibility report dt 06.01.2026 of CE/Plg & RC/TNPDCL that there is no much difference technically either in establishing already sanctioned Nagal Nagar 110/22 kV SS or the now proposed Nehruji Nagar 110/22 kV SS.

However, establishment of a new substation is essential to give load relief to the existing Angu Nagar 110/22 kV SS and Dindugal 110/22 kV SS and to cater the future load growth in Dindugal Town area and hence, establishment of new 110/22 kV SS at Nagal Nagar or Nehruji Nagar (Chettinayakanpatty) is essential based on the field condition.

DETAILS OF POWER TRANSFORMER CAPACITY PROPOSED:

A connected load of 28.59 MVA is proposed to be transferred from Angu Nagar 110/22 kV SS and 3 MVA from Dindugal 110/22 kV SS to the proposed 110/22 kV SS. The anticipated peak incident on the proposed SS will be 15.1 MVA with an average DF of 2.09. Hence, it is proposed to install 2x10 MVA, 110/22 kV Power transformers at the proposed Nehruji Nagar 110/22 kV SS.

ADEQUACY OF TRANSMISSION SYSTEM:

The 110 kV source to the proposed Nehruji Nagar 110/22 KV SS is proposed to be extended from Sembatty 230/110 kV SS by making LILO of 110 kV Sembatty – Mondipatty feeder.

Details of the source SS:

a	Name of the source SS	Sembatty 230/110 kV SS
b	Capacity of the existing auto tr.	2x160 MVA
c	Present peak reached in MVA	300 MVA
d	➢ Whether the auto transformer capacity is adequate : ➢ As per load flow study report stated in Sl No 4.1 above. ➢ The present commissioning status of 3rd Auto transformer of 160 MVA at 230/110 KV Sembatty SS : The transformer has been received at site and the erection work is under progress.	

Details of the source feeder:

a	Name of the feeder	Sembatty - Mondipatty 110 kV feeder
b	Size/Loading capacity of the conductor	Wolf : 73 MVA
c	Present loading in MVA	At Sembatty end: 30.5 MVA(E) At Mondipatty end:2.23 MVA (E)
d	Whether the conductor is adequate	➢ As per load flow study report stated in Sl No 4.1 above. ➢ The strengthening work of 110 KV Sembatty – Mondipatty feeder and 110 KV Sembatty – Renganathapuram II feeder is already sanctioned as per BP no: 51 dt: 26.05.2016. ➢ Since the sanctioned BP is more than five years, the revised administrative approval has to be obtained and it is under process.

The proposed loads that will be incident after establishment of new SS as furnished from field is given below:

i) For both High RE & Non RE scenarios the following details are required for substations & line effected by this proposal:

Load Flow study report:

The Load Flow Study has been conducted for the network condition pertaining to the year period of 2026-27 for the following case:

Base case : With out the proposed Nehruji Nagar (Santhai Road) 110/22 kV SS with 2x16 MVA, 110/22 kV Power transformer.

Case1 : Base case + With the proposed Nehruji Nagar (Santhai Road) 110/22 kV SS with 2x16 MVA, 110/22 kV Power transformer by making LILO in the Sembatty –Mondipatty 110kV feeder.

Case2 : Base case + With the proposed Nehruji Nagar (Santhai Road) 110/22 kV SS with 2x16 MVA, 110/22 kV Power transformer by making LILO in the Sembatty – Reganathapuram 110 kV feeder.

In view of the above, the following are suggested from the study results:

S. No	Name of the Proposal	Source 230kV SS	Name of the 110 kV feeder/Additional load proposed	Source SS/Line loading Adequacy
1	Establishment of new Nehruji Nagar (Santhai Road) 110/22kV SS	Sembatty 230/110kV SS	Option1: LILO in the Sembatty to Mondipatty 110kV feeder. (OR) Option2 : LILO of Sembatty to Renganathapuram 110kV Feeder.	➢ Option 1:The LILO of the Sembatty to Mondipatty 110 kV feeder at the proposed Nehruji Nagar 110/22kV SS can be considered adequate only after: ➢ (1) Conversion of Sembatty - Mondipatty 110 kV feeder from wolf to Panther conductor and ➢ (2) Erection of 3rd 160MVA, 230/110kV Auto Transformer at Sembatty 230kV SS. ➢ Till completion of above works, as an alternative measure, feasibility for enhancement of the existing Pr.Tr. Capacity from 2x16 MVA to 2x25 MVA at Dindigul 110/22 kV SS may be explored.

Name of the existing SS	PTR Capacity	Present Sustained Peak	Load expected after new SS (After load bifurcation)	Load proposed to be transferred to new SS
Angunagar 110/22 KV SS	2x16+1x25 MVA	42.25 MVA	37.477 MVA	28.59 MVA
Dindigul 110/22 KV SS	2x16 MVA	22.27 MVA	24.01 MVA	3.0 MVA
			TOTAL	**31.59 MVA**

ii)The loading of proposed SS (New SS)

Name of the SS	Power Transformer Capacity	Anticipated peak incident on the proposed new SS
Proposed New Nehruji Nagar 110/22 KV SS	2 x 10 MVA	15.11 MVA

LAND AVAILABILITY:

Private land to an extent of 28705 sqft. at SF.No. 554/A2 (old No.) New No.175/3A, Chettinaickenpatty Village, Dindigul Taluk, Dindigul Dist. has been purchased and owned by TNEB and is available for establishing the proposed substation.

As per the CE/D/Trichy report dt.03.04.25,SE/GCC/Madurai has re-examined the land at SF. No. 554/A2 (old No.) New No. 175/3 in Chettinayakanpatty village, Dindigul Taluk, and issued a suitability report dt.29.01.2025 and it confirms that the land is suitable for constructing a new sub-station.

Additionally, SE/GCC/Madurai has recommended providing a 110 kV incoming source by using 110 KV underground (UG) cable along the Dindigul-Erode Road, as the proposed land is surrounded by residential and commercial plots subject to removal all the encroachment from the site, taking the 22KV Outgoing Power cables from the

proposed 110/22KV substation through Dindigul- Trichy Road and construction of compound wall around the site to ensure the safety as the site is surrounded by Railway line, residential and commercial places.

Details of work involved:

- Establishment of 110/22 kV SS at Nehruji Nagar with 2 x10 MVA power transformer with associated equipments.
- Erection of 110 kV, 1x630 Sqmm. XLPE UG cable for a route length of 3.75 Kms. for making LILO of the existing 110 kV Sembatty - Mondipatty feeder at the proposed SS.

05/05/2026

Executive Engineer/

Master Plan II

Estimate for establishment of new 110/22 kV SS at Nehruji Nagar with 2x10 MVA power transformer in Madurai Operation circle (Dindigul EDC)

Rs in Lakhs

Sl. No	DESCRIPTION	QTY		RATE	PER	AMOUNT	TOTAL
I	**CIVIL WORKS**						
1	Land Cost (actuals)					**281.609**	
2	Construction of control room building with electrification septic tank & sewer line arrangement & bore well , Providing foundation concrete structure & equipment plinth and other related worksfor the proposed Nehruji Nagar (Santhai Road) 110 /22 KV SS.					302.020	
3	CIVIL COST (including contingencies @1%,Establishment & Supervision charges @15%, LWF@1% & GST @18%)					**415.160**	
4	**Total Civil works**					**696.769**	**696.769**
II	**ELECTRICAL WORKS**						
1	110 kV AB Switch with earth blade	2	Nos.	2.299	E	4.598	
2	110 kV AB Switch without earth blade	4	Nos.	1.814	E	7.256	
3	110 kV SF6 Breaker	1	Nos.	5.648	E	5.648	
4	110 kV CTs (Single Phase)	3	Nos.	1.665	E	4.995	
5	110 kV PTs (Single Phase)	3	Nos.	1.125	E	3.375	
6	110 kV LAS (Single Phase) station type	6	Nos.	0.323	E	1.938	
7	22 kV AB Switch	13	Nos.	0.239	E	3.107	
8	22 kV VCB (2 LV+ 5fdrs)	7	Nos.	2.483	E	17.381	
9	22 kV CTs (Single Phase)	21	Nos.	0.261	E	5.476	
10	22 kV PTs	3	Nos.	0.285	E	0.855	
11	22 kV LAS (Single Phase) - Stn type	6	Nos.	0.047	E	0.282	
12	22 kV LAS (Single Phase) - Disn.Type	15	Nos.	0.012	E	0.180	
13	Earthing,Painting and Yard lighting			14.332	LS	14.332	
14	Control and Relay panel				LS	25.000	
15	Control cable			10.000	LS	10.000	
16	110 V Battery with 2 Chargers	1	set	6.978	E	6.978	
17	Fire Fighting equipments				LS	5.000	
18	110 V DC Panel	1	set	1.275	E	1.275	

Sl. No	DESCRIPTION	QTY		RATE	PER	AMOUNT	TOTAL
19	110 V DC Annunciator Panel	1	No.	0.885	E	0.885	
20	AC Panel	1	set	1.029	E	1.029	
21	100 kVA, 22 kV/433V, Station Transformer complete set	1	No.	4.497	E	4.497	
22	P&T Phone	1	No.	0.100	E	0.100	
23	T&P materials & furnitures				LS	5.000	
24	Scientific Instruments				LS	10.000	
25	22 kV Capacitor bank with associated equipments	2.4	mvar	21.836	2.4 mvar	21.836	
26	**Sub total**					**161.023**	
27	Contingencies 1%					1.610	
28	Cost of materials					162.633	
29	Labour & transport 15%					24.395	
30	**Sub total**					**187.028**	
31	GST @ 18%					33.665	
32	**Sub total for material and labour (A)**					**220.693**	
33	10 MVA, 110/22 kV Pr.Tr. with OLTC	2	No.	123.725	E	247.450	
34	Labour and Transport	2	loc	10.00	LS	20.000	
35	Earthing	2	loc	0.55	LS	1.100	
36	**Sub total**					**268.550**	
37	Establishment and supervision charges 15%					40.283	
38	Sub total					308.833	
39	GST @ 18%					55.590	
40	**Sub total for Transformer (B)**					364.422	
41	110 kV Structure	1	set	136.721	E	136.721	
42	22 kV Structure	1	set	38.090	E	38.090	
43	**Sub total (C)**					174.811	
44	**Total ELECTRICAL SS (A+B+C)**					**759.927**	**759.927**
45	**Total SS work (Electrical & Civil)**					**1456.695**	

Sl. No	DESCRIPTION	QTY		RATE	PER	AMOUNT	TOTAL
46	**Associated Transmission Network: LILO of existing Sembatty-Mondipatty 110 KV feeeder.**						
47	Supply of 110KV, 1x630 sq.mm Aluminium XLPE UG cable and accessories for a route length of 3.75 kms as per Annexure-I					2,203.72	
48	Erection,supervision and precommisissioning charges of 110 kV, 1x630 sq.mm UG cable as per Annexure-I					39.439	
49	Civil works for laying of 110KV, 1x630 sq.mm Aluminium XLPE UG cable and accessories as per Annexure-II					297.168	
50	Sub total					**2540.327**	
51	Contingencies 1%					25.403	
52	Cost of materials					2565.730	
53	Establishment and Supervision charges 15%					384.860	
54	Sub total					2950.590	
55	GST @ 18%					531.106	
56	Road cutting charges payable to Corporation (Rs.100 lakhs per km.)					375.000	
57	**Total for ATS**					**3856.696**	
58	**GRAND Total (G&N)**					**5313.392**	**5313.392**

05/05/2021

Executive Engineer/Master Plan II

ANNEXURE-I

NAME OF WORK : Supply, Erection, testing and commissioning of 110 KV,1x630 sqmm , Al, XLPE UG cable and accessories for LILO of Sembatty-Mondipatty feeder to the proposed Nehruji Nagar110/22 KV SS.

SUPPLY OF MATERIALS

Sl. No	Name of Materials	Qty		Rate		Amount
1	1x630 Sqmm XLPE Alu cable	22.50	Km	8817915.33	Km	198403094.93
2	110 KV 1x630 Sqmm normal straight joint	16.00	Nos.	197056.98	Nos	3152911.68
3	110 KV 1x630 Sqmm insulated joint	8.00	Nos.	204836.45	Nos.	1638691.60
4	Out door terminaton kit for 110 KV 630 Sqmm XLPE cable	12.00	Nos.	528758.02	Nos.	6345096.24
5	Link box single phase with CCPU	6.00	Nos.	39154.68	Nos.	234928.08
6	Link box single phase without CCPU	6.00	Nos.	23142.11	Nos.	138852.66
7	Link box three phase with CCPU	16.00	Nos.	58338.62	Nos.	933417.92
8	6.35/11 KV , 400 sq mm Sheath bonding cable	1.00	km	4769350.010	Km	4769350.01
9	Non magnetic Spring loaded double compression loaded type clamp for 110 KV, 630 Sq.mm XLPE UG Cable	30.00	Nos.	1400.00	E	42000.00
10	Supply of 110 KV LAS with monitor	12.00	Nos.	32310.00	E	387720.00
11	Optic fibre cable 48 fibre with accessories along with HDPE pipe	8.25	KM	250185.00	KM	2064026.25
12	Earthing arrangements using 50x8 MS Flat	1.23	MT	96000.00	MT	118080.00
13	HT Tower parts	12.00	MT	98607.1	MT	1183285.20
14	MS Tower parts	3.00	Mt	93926.24	Mt	281778.72
15	Panther Conductor	2.00	Km	198583.19	Km	396570.63
16	Single Tension fitting for Panther	24.00	sets	1292.4	sets	31017.60
17	Single Suspension fitting for Panther	24.00	sets	1074.82	sets	25795.68
18	120KN Insulators	200.00	Nos.	656.13	Nos.	131226.00
19	90KN Insulators	175.00	Nos.	376.8	Nos.	65940.00
20	SB Damber for Panther	24.00	Nos.	700.46	Nos.	16811.04
21	16mm D Shackle	24.00	Nos.	160	Nos.	3840.00
22	16mm U Bolt	24.00	Nos.	160	Nos.	3840.00

ANNEXURE-I

NAME OF WORK : Supply, Erection, testing and commissioning of 110 KV,1x630 sqmm , Al, XLPE UG cable and accessories for LILO of Sembatty-Mondipatty feeder to the proposed Nehruji Nagar110/22 KV SS.

23	Number Plate	1.00	Nos.	218.76	Nos.	218.76
24	Danger Board	1.00	Nos.	242.95	Nos.	242.95
25	Phase Plate	1.00	Nos.	252.41	Nos.	252.41
26	Name Board	1.00	Nos.	403.86	Nos.	403.86
27	Mid Span Joint for Panther	6.00	Nos.	438.87	Nos.	2633.22
	Total					**22,03,72,025.44**
	LABOUR CHARGES .					
1	Erection & company supervision of straight joints and insulated joints including link box and earthing	24	Nos.	68192.00	Each	1636608.00
2	Erection & company supervision of LAS in CTT towers including earthing	12	Nos.	65611.00	Each	787332.00
3	Erection of OPGW 48 fibre with accessories along with HDPE pipe including testing and commissioning	8.25	kms.	160000.00	kms	1320000.00
3	Precomissioning testing of 110 KV UG cable as per IS standards and TNEB norms	1.00	LS	200000.00	E	200000.00
	Total					**3943940.00**
	Total COST FOR UG Cable (Rupees in lakhs)					**39.4394**

Annexure-II

NAME OF WORK : NAME OF WORK : Supply, Erection, testing and commissioning of 110 KV,1x630 sqmm , Al, XLPE UG cable and accessories for LILO of Sembatty-Mondipatty feeder to the proposed Nehruji Nagar 110/22 KV SS.

CIVIL WORKS ESTIMATE

Sl No	Quantity		Description	Rate	Per	Amount
1	420.00	M^2	Clearing of juli flora jungle disposing off to a place at-least 1km away from the site as directed by the Engineer in charge including all Labour charges, Lead, Lift, T&Ps etc., complete.	10.48	M^2	4401.60
2	1400.00	M^3	Removing of black top road and disposed away from the site as directed by the Engineer including cost of labour specification complete.	1633.00	M^3	2286200.00
3	2876.00	M^3	Earth work excavatin in hard gravelly soil, stiff black cotton soil, hard red earth, shales, murram, gravel, stoney earth mixed with small size boulders etc., complete as per standard specification complete	264.00	M^3	759263.58
4	3235.00	M^3	Earth work Excavation and depositing on bank with initial lead of 10 metre and lift of 2 metre in soft disintegrated rock, laterite soft rock or kankar not requiring blasting including all leads, lifts etc., as per standard specification complete	393.00	M^3	1271355.00
5	1078.00	M^3	Earth work Excavation in Hard rock by wedging and chiseling and trimming to proper shape where blasting is prohibited including all leads, lifts etc., as per standard specification complete.	976.00	M^3	1052128.00
6	2046.00	M^3	Supplying and filling the trench with M sand along the cable route as per standard specification, including cost of all materials, labour, lead, lift etc., complete.	2294.00	M^3	4693519.41
7	12570.00	nos.	Transporting and laying of RCC 1:1.5:3 mix UG cable cover slab from casting yard to work site placing in position as required at site.	56.00	no.	703920.00
8	10.00	M^3	PCC 1:3:6 using 20mm metal for tower foundation concrete without formwork including cost of all materials labour,curing lead lift curing etc complete.	6147.00	M^3	61460.78
9	191.00	M^3	Reinforced cement concrete in CC 1:1.5:3 mix using 12 to 20mm HBG machine crushed metal for cover slab including cost of cement and form box all materilas,labour,curing vibration charges including cost of all leads, lifts as per standard specification etc., complete (but excluding cost of steel reinforcement)	12775.00	M^3	2440037.78
10	90.00	M^3	Reinforced cement concrete in 1:1.5:3 using 20mm HBG machine crushed metal for footing concrete including cost steel shuttering, centering, cost of all materials, lead, lift , etc., complete.,but excluding cost of steel reinforcement	11278.00	M^3	1015067.03
11	6256.00	M^3	Refilling with the excavated earth other than sand including watering consolidation in 150mm layers as per standard specification etc complete.	46.00	M^3	287776.00
12	934.00	M^3	Disposal of excess earth away in low lying area with a lead of 200 meters, labour, lead, lift as per standard specification complete.	76.00	M^3	70983.70
13	17.00	MT	Supplying and fabricating and placing in position of MS/RTS steel reinforcement for RCC works including labour for cutting, bending tying and fixing in position as per specification including cost of all materials, labour, lead, lift, tools and plants etc., complete	92526.00	MT	1572975.56
14	45.00	Drum	Supplying of 110KV cable drums each weighing approximately 7T in lorries using adequate capacity truck mounted crane for both loading and unloading including labour required for loading, transporting, unloading, driver bata etc., (7 Drums at a time), all lead, Lift, labour,Tools and plants etc., complete.	10990.00	Drum	494550.00
15	2.00	Operation	Supplying and Providing of Winch, steel wire drum, cable drum stand, rollers, ramp and other T&P 's required for laying to the work site by engaging lorry and crane for site including Equipment cost,T&P cost,loading and unloading etc (No material will be supplied from department stores.) Positioning of winch , D.G.set and others rollers for cable laying on a day before laying and dismantling and resting of rollers in rollers boxes after completion of laying.	44508.00	Operation	89016.00
16	22500.00	m	Laying of 1X630 Sq.mm 110KV XLPE UG cable in trench and duct by means of winch over rollers provided by the department, dressing the cable in trefoil formation, tying the cable with nylon rope at every 3m intervals.The rate includes the cost of pulling the steel wire rope from winch side to drum side,tools & plants, labour consumables,lead,lift etc., complete.	193.00	m	4342500.00
17	45.00	Drum	Loading at site,Transporting to EB Store and unloading and devolution of balance cables if any and Empty 110KV cable drums each weighing approximately 1 to 1.5T and in lorries from various work site (3 Drums at a time) including cost of all lead, Lift, labour,Tools and plants etc., complete.	4032.00	Drum	181440.00
18	3750.00	rm	Supplying and Providing of continuous steel baricade of each size 2.4m width & 1.2m height and covered the road side barricade portion with green safety net for an height of 1.50m (From G.L.) for the entire length of the trench on vehicular movent side including cost of rent charges for barricades, transportation from Contractor's pocket store to site and from site to store, labour for loading, unloading & fixing the same in position and removal of the same, T&P, etc, complete and as directed by the Engineer at site.	299.00	rm	1121250.00
19	7500.00	km	Supplying and laying the warning grid tape to cover the entire Width of the trench including transporting, cutting and pasting the same with required adhesive etc, complete	12.00	Rm	90000.00

Annexure-II

NAME OF WORK : NAME OF WORK : Supply, Erection, testing and commissioning of 110 KV,1x630 sqmm , Al, XLPE UG cable and accessories for LILO of Sembatty-Mondipatty feeder to the proposed Nehruji Nagar 110/22 KV SS.

CIVIL WORKS ESTIMATE

Sl No	Quantity		Description	Rate	Per	Amount
20	60.00	M^3	Dismantling the brickwork, PCC, RCC inside the cable trench and cable duct wherever occurof any thickness and clearing the trench/duct free from debris and without hinderence to the cable laying work including lead, lift, labour, tools & plants etc., complete as per direction of Engineer-in-charge.	420.00	M^3	25200.00
21	60.00	M^3	Dismantling PCC inside the cable trench and cable duct wherever occurof any thickness and clearing the trench/duct free from debris and without hinderence to the cable laying work including lead, lift, labour, tools & plants etc., complete as per direction of Engineer-in-charge.	661.00	M^3	39660.00
22	60.00	M^3	Dismantling RCC inside the cable trench and cable duct wherever occurof any thickness and clearing the trench/duct free from debris and without hinderence to the cable laying work including lead, lift, labour, tools & plants etc., complete as per direction of Engineer-in-charge.	5201.00	M^3	312060.00
23	6193.75	M^2	Providing Shoring and Strutting using necessary Country Wooden Planks 40mm thick and 8cm to 10cm dia. Casurina,vertical posts at every 300mm C/C of 1.80m height duly anchored 300mm into the ground for firm support including placing and making the two rows of planks of top and bottom and one middle row of casurina with strutt arrangements at top so as to afford easy laying as cables. The rate shall also include necessary storage charges for the casurina and Country Wooden Planks at suitable place so as not to affect the traffic and movement of public transporting them to work spot lead lift besides the cost of materials etc., complete. (Any other improved method of shoring and strutting is also accelptable to TANTRANSCO. But at no extra cost to TANTRANSCO)	336.00	M^2	2081100.00
24	6875.00	M^2	Supplying and laying of wooden platform for public convenience to cross over the trench including cost of all transportation making and placing wherever required, labour lead and lift etc,complete as per the direction of Engineer at site.	300.00	M^2	2062500.00
25	600.00	Rm	Supplying & laying of HDPE ducts of 136mm Inner Diameter of DURA-GUARD or equivalent make of test method confirming to IS:14930 Part.2 and to withstand compression test with morethan 450N @ 5% deflection and Impact test with 5 Kg of weight dropped from a height of 800mm due to which there shall be no crack allowing the ingress of light or water between inside & outside. The HDPE pipes shall be jointed with necessary accessories such as Elbows, Bends, Couplers of DURA-GUARD or equivalent make wherever necessary for due connection in road crossings including all materials required for fixing in position, lead, lift labour etc. including labour for transporting the pipes, cutting and jointing the pipe, tying with 7/20 SWG G.I. wire inside the pipe and closing the ends with end cap including cost of pipe, specials, labour, lead, lift, T&P etc., complete.	677.00	Rm	406200.00
26	1.00	MT	Supplying, fabricating and Laying of MS platform with heavy angle and sturt support for laying the cable encasing MS pipe beside the road culvert to pass the cable in same alignment of cable trench without infringing and causing any hindrance to the movement of the vehicles etc. complete and as directed by the site Engineer at the time of executing the work (All materials,loading unloading, transporting to sit, labour, tools and equipment, etc. are to be supplied by the Contractor/ tenderer at his own cost only).	102802.00	MT	102802.00
27	100.00	Rm	Supplying and Laying of the manufactured MS 6 MM thick encasing pipe of 600mm (ID) over the fabricated platform beside the road culvert to pass the cable in same alignment of cable trench without infringing and causing any hindrace to the movement of the vehicles etc. complete and as directed by the site Engineer (All materials, labour, tools and equipment to jacking / drilling road, vehicle, consumable stores, etc. are to be supplied by the Contractor/ tenderer at his own cost only).	3100.00	Rm	310000.00
28	0.70	Km	Supplying and laying of 1x300sq mm Cu XLPE cable including blowing Earth Continuity Conductor 1x300sq mm cable including cost of hire charges for blower transporting , lead, lift, labour etc., complete.	17790.00	Km	12453.00
29	190.00	Rm	Supplying and laying of 160 mm dia first quality cast iron pipe including drilling of horizondal bore under railway track, including cost of CI pipe, hire charges for bore vehicle, transporting , lead, lift, labour etc., complete.	1689.00	Rm	320910.00
30	12.00	Nos	Labour charge for erection of out door termination kits suitable for 110 KV 1x 630 Sqmm Aluminium conductor XLPE lead sheathed UG cable	35000.00	Nos	420000.00
29	0.47	MT	Labour charges for machineries ,consumable for erection of earth matt and earth raisers as directed by field engineers	50064.00	MT	23430.00
30	15.00	Nos	Providing earth pit of 115mm dia bore to a depth of 6m including cost of materials and labour for fabrication of earth electrode using MS rod 40 mmdia and insert electrode in to borewell and refilling with red soil and bentonite powder of 30 kg and other sundries ,identification board of size 300 x150 mm 14 SWG lettering and 12 mm M.S round rod to be fixed in the board as directed by field Engineer.	6616.00	Nos	99240.00

Annexure-II

NAME OF WORK : NAME OF WORK : Supply, Erection, testing and commissioning of 110 KV,1x630 sqmm , Al, XLPE UG cable and accessories for LILO of Sembatty-Mondipatty feeder to the proposed Nehruji Nagar 110/22 KV SS.

CIVIL WORKS ESTIMATE

Sl No	Quantity		Description	Rate	Per	Amount
31	10.00	Nos	Supplying, Fabrication, galvanishing and fixing of GI angles for fencing coner post of size 75x75x6mm & height 2.44 m with Galvansing including cost of fixing charges, all materials, lead, lift, as per standard specification, etc., complete.	2822.00	Nos	28220.00
30	12.00	Nos	Supplying, Fabrication, galvanishing and fixing of GI angles for fencing intermediate post of size 65x65x6mm & height 2.44 m with Galvansing including cost of fixing charges, all materials, lead, lift, as per standard specification, etc., complete.	2791.00	Nos	33492.00
31	60.00	M^2	Supplying, laying and tensioning of Chain link fencing mesh size 50x50mm 10gauge & three rows barbed wire with height 1.85m and tying with the intermediate posts in GI flats using bolt & nuts including cost of all materials, lead, lift, labour, as per standard specification, etc., complete	686.00	M^2	41160.00
32	1.00	Loc	Painting with anticorrosive black paint, two coats on the tower legs upto 1 mtr height from chimney coping including all cost of materials lead lift etc complete.	856.00	Loc	856.00
31	6.00	M^2	Plastering the Chimney portion upto 0.45 m with CM 1:3, 12mm thick including all cost of shuttering charges lead lift curing labour materials etc complete	304.00	M^2	1824.00
32	2.00	Span	Transport of 6 Nos. of Panther conductor, paving out, jointing, rough sagging, tensioning, clipping, providing vibration dambers for tension locations including giving jumber connection for power conductor including transport charges, loading unloading lead lift etc complete.	29065.00	Span	58130.00
33	1.00	Span	Transport of 1 No. earthwire of 7/3.55mm, paying out, jointing, rough sagging, tensioning, including giving jumber connection including transport charges, loading unloading lead lift etc complete.	13281.00	Span	13281.00
32	700.00	Nos	Tack welding of all bolts and nuts in the erected towers from ground level to the cross arm bottom level in the tower including painting of bolts and nuts with two coats of best quality of cold galvanised paint having atleast 90% zinc content and approved by the Engineer at site including cost of paint and all other materials hire charges for diesel generator and welding transformer all labour transport charges etc complete.	17.00	Nos	11900.00
33	24.00	Set	Labour charges for Transport and hoisting of 120 KN antifoc/Ord single tension insulators of 8 units including all cost of labour lead lift T & P etc complete.	2029.00	Set	48696.00
34	24.00	Set	Labour charges for Transport and hoisting of 90 KN antifoc/Ord suspension insulators of 7 units including all cost of labour lead lift T & P etc complete.	1108.00	Set	26592.00
33	3.00	Nos	Providing temporary guys at the time of releasing and lowering and stringing of power conductor and earth wire etc., rough sagging and single tensioning with necessary excavation of pits fixing rails etc., and dismantling stay after completion of work including major & minor T&P's steel ropes with all labour lead lift as per standard specification etc., complete.	8254.00	No	24762.00
34	1.00	Tower	Design & Submission of tower drawings for 110KV Double circuit UG cable & Over head line termination tower with cable pot & 110KV LAS installation structure including design for termination of cable in the tower itself (for extensions/towers) such as any other special type of tower extension as per the site requirements with foundation details & design including soil investigation for safe bearing capacity of tower location and technical specifications, relevant latest Indian standard specification etc., complete.	380000.00	Tower	380000.00
35	1.00	Nos	Transporting & installation of stubs, cleat and assembling at site and shifting the template from loc to loc including cost of all materials, labour for fabrication, galvanising etc., lead lift complete.	29033.00	Nos	29033.00
34	15.00	MT	Supply,Transporting & Erection of towers, tightening and punching of bolts & nuts, per approved design drawing and final checking including all lead lift etc., complete. including supply of tower parts as per standards and erection if any including scaffolding arrangements for termination work and etc.,Tools & Plants all labour, lead, lift, etc., complete.	16725.00	MT	250875.00
35	1.00	span	Labour Charges for lowering and restringing existing 6 Nos Panther conductor, rough sagging, tensioning, including giving jumber connection for power conductor including lead lift etc complete.	14532.50	span	14532.50
					Total	**2,97,16,752.93**
			Total CIVIL COST FOR UG Cable (Rupees in lakhs)			**297.17**