

## **TAMIL NADU TRANSMISSION CORPORATION LIMITED**

### **ABSTRACT**

TANTRANSCO - Provision of 110 KV alternate source to the existing Mariammankoil 110KV Substation by erection of 110 kV SC line on DC tower from existing Thanjavur 230 KV Sub-Station to existing Mariamman koil 110 KV SS in Thanjavur Operation Circle of System Operation/Trichy by partially superseding the administrative approval already accorded vide (Per) CH.TANTRANSCO Proceedings No. 40 dt.10.03.2015 - Revised Administrative Approval - Accorded

### **TECHNICAL BRANCH**

(Per) CH TANTRANSCO Proceedings No. 141

Dated: 22.10.2026  
Parabhaava Varudam  
Iypasi - 05  
Thiruvalluvar Aandu - 2057

**READ:** Chairman's approval dated :16.10.2026

### **PROCEEDINGS:**

1. The Tamil Nadu Transmission Corporation Limited hereby approves the proposal seeking revised administrative towards provision of 110 KV alternate source to the existing Mariammankoil 110KV Substation by erection of 110 kV SC line on DC tower from existing Thanjavur 230 KV Sub-Station to existing Mariamman koil 110 KV SS and with provision of 1 No. 110 KV bay at existing Mariamman koil 110 KV SS at an estimated cost of Rs.1540.021 lakhs Gross and Nett. in Thanjavur Operation Circle of System Operation/Trichy by partially superseding the administrative approval already accorded vide (Per) CH.TANTRANSCO Proceedings No. 40 dt.10.03.2015 subject to the following condition based on Load flow study report dt.30.07.2026.
  - i. Enhancement of 230/110 kV auto transformer capacity from 3x100 MVA to 3x160 MVA at Thiruvavur 230/110 kV SS.

The detailed estimate and report are annexed to these proceedings.

2. The expenditure is chargeable to TANTRANSCO - Funds - Capital Expenditure - Thanjavur Operation Circle (System Operation/Trichy) - 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/Trichy

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/Thanjavur Region

The Chief Engineer/Civil Transmission/Chennai -2

The Superintending Engineer /GCC / Trichy

The Superintending Engineer/Operation/ Thanjavur

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 V/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//

*[Signature]*  
22/10/2026

EXECUTIVE ENGINEER / MASTER PLAN II

Enclosure to (Per) CH TANTRANSCO Proceedings No.141, dated :22.10.2026

**REPORT TO ACCOMPANY THE ESTIMATE**

This proposal envisages revised administrative approval for provision of 110 kV alternate source to the existing Mariammankoil 110 kV Substation by erection of 110 kV SC line on DC tower from existing Thanjavur 230 kV Sub-Station to existing Mariamman koil 110 kV SS and with provision of 1 No. 110 KV bay at existing Mariamman koil 110 KV SS at an estimated cost of Rs.1540.021 lakhs Gross and Nett. in Thanjavur Operation Circle of System Operation/Trichy by partially superseding the administrative approval already accorded vide (Per) CH.TANTRANSCO Proceedings No. 40 dt.10.03.2015 subject to the following condition based on Load flow study report dt.30.07.2027:

- i. Enhancement of 230/110 kV auto transformer capacity from 3x100 MVA to 3x160 MVA at Thiruvarur 230/110 kV SS.

**Need:**

Administrative approval for provision of additional source to Mariammankoil 110 kV SS from Thanjavur 230 kV SS in Trichy Operation Circle of System Operation/Trichy has already been accorded vide (Per) CH. TANTRANSCO Proceedings No. 40, dt.10.03.2015.

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

- i) Due to ROW issues and court case the work could not be completed even after a lapse of 10 years.
- ii) Based on administrative approval accorded, 17 nos. of K2 agreements were executed out of which only 4 nos. of agreements were completed. The work could not be commenced and the sites could not be handed over to the contractors for 3 nos. agreements owing to ROW issues and hence those 3 nos. of agreements were cancelled. For the remaining 10 nos. of agreements, works were partially carried out and could not be

completed due to court cases and other ROW issues. Due to lapse of more than three to four years, the 10 nos. of agreements were short closed during 2022 itself.

iii) Now, the judgments of the court cases has come in favour of the Board and while carrying out the line inspection for proceeding with the balance work it was found that there were so many housing plot layouts, residential buildings, school building and new bore wells that have emerged along the already approved route. Since the profile approval was got during 2015, continuing the 110 kV line in the approved route in the year of 2025 is not be possible due to the above said reasons. Hence, revised survey was conducted to suit the present site conditions carrying out the above balance works for the beneficial utilization of the expenditure already made for line works and to improve the system voltage and stability of the grid.

iv) Poondi SS, Ayyampettai SS, Mariammankoil SS and Manimandabam SS are having single source fed from Thanjavur-Thiruvavur 110 kV feeder. If there is any fault tripping in the stretch between Thanjavur Grid SS to Thanjavur Urban SS there will be no supply in this delta area. Supply to these areas can be fed from Kovilvenni SS which is at a distance of 67 Km up to Thanjavur Urban SS.

v) The 110 kV Thanjavur-Thiruvavur line between Loc.1 to 17 is of Leopard conductor and could not be loaded beyond its current carrying capacity and hence maintained as radial feeder. Thiruvavur 110 kV SS feeds Kovilvenni and Poondi SS and Thanjavur 110 kV Grid SS feeds Thanjavur Urban 110 kV SS, Ayyampettai 110 kV SS, Mariammankoil 110 kV SS and Manimandabam 110 kV SS. After completion of the subject work, strengthening of Leopard by Panther between Loc.1 to 17 could be taken up.

vi) Almost 80% of the Thanjavur city supply depends on Thanjavur Urban SS, Manimandapam SS and Mariammankoil SS only. Hence, erection of 110 kV line from Thanjavur 230 kV SS to Mariammankoil 110 kV SS is very much essential as additional source.

The proposed new 110 kV SC line will be erected from Loc.13 to Mariammankoil 110 kV SS and bay extension at Mariammankoil 110 kV SS. 110 kV bay already available at Thanjavur 230 kV SS will be utilized for the proposed 110 kV line.

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

| Sl. No | Description                                                                                                                           | Cost in Lakhs as per BP.No.40 dt.10.03.2015 | Present status                                                                                                                                                                                                                                                                                                                                                                                        |
|--------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | Erection of 110 kV SC line DC towers with Panther . conductor from Loc.13 near Thanjavur 230 kV SS Mariammankoil 110 kV SS 15.16 kms. | Rs.928.10 lakhs<br>Gross and Nett.          | Work awarded vide 17 Nos. K2 agreement and partially completed for Rs.502.856 Lakhs.<br><br>Due to court cases and other ROW issues, 10 Nos agreements were short closed during 2022 and 3 Nos agreements were cancelled.<br><br>The status of work is as follows:<br><br>i. Earthwork excavation, stub setting, concreting and supply and erection of tower from Loc.1 to 91 are partially completed |
| 2.     | Provision of breakers Mariammankoil 110 kV SS                                                                                         | Rs.111.666 lakhs<br>Gross and Nett.         | Work awarded vide K2 agreement and partially completed for Rs.36.84 Lakhs (Both Civil & Electrical). The same was short closed.                                                                                                                                                                                                                                                                       |
| 3.     | Total cost as per BP                                                                                                                  | Rs.1039.76 lakhs<br>Gross and Nett.         |                                                                                                                                                                                                                                                                                                                                                                                                       |

CE/SO&TP/Trichy has reported that 110 kV spare Bay is already available at the existing Thanjavur 230 kV SS. 110 kV bay extension work has been partially completed at Mariammankoil 110 kV SS.

The CE/TP/Trichy dt. 20.08.2026 has informed the following on the status details of revised survey and existence of row issues:

**a. Status details of Revised survey and existence of ROW issues:**

The revised survey for deviating the originally approved line has been proposed in the following four stretches due to the latest developments in the thickly populated urban limits of Thanjavur City. Also, sufficient space is not available for founding conventional type towers at some locations as the sanctioned 110 kV Line towers are fully surrounded by residential plots/compound wall now.

i. From Location 9 to 9A, a fresh survey was conducted by deviating the existing location to avoid crossing the plots at the center of the layout in the already sanctioned alignment.

i. From Location 13 to 25, a fresh survey was conducted by considering the present development of residential buildings and one number school building in the already sanctioned alignment.

ii. Revised survey was conducted from location 76 to 78 considering the present development of the residential buildings, house layouts in Puthupattinam village.

iii. Revised survey was conducted from location 81 to 86 since as per the already approved route 2 nos. of KCR towers were located inside the Grand Anicut canal and the PWD officials objected to it. Also, there has been development of residential buildings, house layouts in Puthupattinam village on the right side of the Thanjavur-Thiruvavur National Highway Road.

**b. Status details of existence of ROW issues due to revised site survey:**

i. The revised route in the above line portions has been selected duly considering the clearance to be provided for various existing structures such as newly developed residential plots, town area, school building, etc., and to avoid the ROW

issues to the maximum extent possible. Suitable extensions with +6 m have been proposed at some locations in order to have adequate vertical clearance for HT/LT lines and nearby new residential buildings.

ii. The objection of land owners will be comparatively less over the approved route during 2015 and the newly selected route will not be completely free from ROW issues. On obtaining the revised administrative approval and profile approval, the work could be taken up and the ROW issues, if any, that arise in the proposed route will be resolved only at the time of execution.

**c. Details of profile approval:**

The route map for the above line has been approved by the Chief Engineer/ Transmission/Chennai vide Lr. No. 02226 CE/TR/SE/TR-1/EE/TSM/A1 / F.Route Map/ L.2872/2025, dt.23.04.2025, subject to the condition that necessary revised administrative approval to be obtained from the competent authority before execution of the work.

CE/Civil/Transmission dt 18.02.2026 has furnished the following remarks on the revised profile for the above line work:

1. To ensure the proposed route is free from ROW issues.
2. To obtain NOC from the land owners of the proposed route.
3. To sanction DCW estimates and to collect the amount from the original route land owners.
4. To obtain necessary revised administrative approval from the competent authority.
5. To execute the work based on the already approved route without any deviation to avoid further ROW issues and court cases.

SE/GCC/Trichy dt 16.09.2026 has furnished the following reply to the above remarks of CE/Civil/Transmission:

| Sl No | Remarks CE/ Civil/ Transmission dt 18.02.2026 on the revised Profile | Reply of SE/GCC/Trichy dt 16.09.2026                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.    | To ensure the proposed route is free from ROW issues.                | <p>Continuing the line work as per the already approved route during 2015 is not possible during 2026, after a lapse of more than ten years. Moreover, the District Collector, Thanjavur verbally stated in a meeting that enter upon permission would not be given if the line passes through the housing plots, layouts, and over the constructed houses/buildings. Hence, the line deviation has been now proposed in four stretches as in profile booklet.</p> <p>The proposed revised route in the above line portions has been selected duly considering the clearances to the present structures and to avoid the ROW issues to the maximum extent possible. The resistance of land owners will now be comparatively less over the already approved route during 2015. Suitable extensions for towers have also been proposed at some locations so as to have adequate vertical clearance for the newly erected HT/LT lines and nearby new buildings.</p> <p>RoW issues, if any that arise in the proposed revised route</p> |
| 2.    | To obtain NOC from the land owners of the proposed route.            | <p>As deviation is proposed by the TANTRANSCO in the four stretches, owing to the latest developments in the urban limits such as newly developed residential plots, town area, school building, etc., of Thanjavur city in the past ten years, no land owner has/will come forward to make a request to carry out the work under DCW nor will</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

|    |                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                                                                          | <p>they give NOC.</p> <p>The proposed revised route in the above line portions has been selected duly considering the clearances to the present structures and to avoid the ROW issues to the maximum extent possible. The resistance of land owners will now be comparatively less over the already approved route during 2015.</p>                                                                                                                                                                                                                                                                                             |
| 3. | To sanction DCW estimates and to collect the amount from the original route land owners. | <p>In the re-surveyed stretches, no tower foundation/tower erection/stringing works have been carried out for nearly a decade.</p> <p>If any of the above works had been carried out in those lands, then only the deviation of the line could be done under DCW by obtaining under taking from the appropriate land owners and also necessary no objection from the new land owners could be obtained.</p>                                                                                                                                                                                                                      |
| 4. | To obtain necessary revised administrative approval from the competent authority.        | <p>The estimate for obtaining revised administrative approval for completing the balance works for this line was prepared only as per the PWD and TANTRANSCO Cost data for the year 2025-26 and based on the revised survey.</p> <p>The proposed revised route map for this line has been approved in supersession of the route map already approved by the Chief Engineer/ Transmission/ Chennai vide Lr. No. 02226/ CE/TR/SE/TR-I/EE/ TSM/A1/ F.Route map/L-2872/25-1, dt.23.04.2025, with a direction that "the necessary revised administrative approval to be obtained from the competent authority before execution of</p> |

|    |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                                                                                                                   | <p>work".</p> <p>For evolving an estimate to obtain the revised administrative approval, the profile approval for the deviated line is very much required.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 5. | <p>To execute the work based on the already approved route without any deviation to avoid further ROW issues and court cases.</p> | <p>It is not possible to execute the work based on the already approved route without any deviation since the original profile was approved during the year 2015.</p> <p>In the re-surveyed stretches, no tower foundation/tower erection/ stringing works have been carried out for nearly a decade.</p> <p>In the four stretches, the line is deviated based on the latest developments in the urban limits such as newly developed residential plots, town area, school building, etc., of Thanjavur city in the past ten years.</p> <p>Hence, deviation in the four stretches is absolutely necessary to complete the balance line work and the profile approval for the deviated line is very much required.</p> |

Due to the reasons stated by CE/TP/Trichy for proposing deviation in four stretches of the original route approval of the subject proposal as above, the following remarks may be proposed for consideration while according revised administrative approval :

i. Proposed revised profile approval with deviation in four stretches of the original route approval of the subject proposal shall be considered owing to the latest developments in the urban limits such as newly developed residential plots, town area, school building, etc., of Thanjavur city in the past ten years and also that no land owner

has/ will come forward to make a request to carry out the work under DCW nor will they give NOC.

ii. As the deviation in the four stretches is absolutely necessary to complete the balance line work of the subject proposal, the revised route in the four stretches of the line portions shall be selected based on the following so that the resistance of land owners will be comparatively less over the already approved route during 2015 :

a. Duly considering the clearances to the present structures and to avoid the ROW issues to the maximum extent possible.

b. Proposing suitable extensions for towers at some locations so as to have adequate vertical clearance for the newly erected HT/LT lines and nearby new buildings.

### **LOAD FLOW STUDY REPORT:**

As per Load Flow report dt.30.07.26, load flow study has been conducted for year 2027-28 network condition. The proposed enhancement of 230/110 KV Auto Transformer capacity from 3x100 MVA to 3x160 MVA at Thiruvarur 230/110 KV SS has been considered.

### **Observation:**

In Base case, Overloading has been observed in Thanjavur – Thiruvarur 110 KV feeder.

In case1, with the proposed 110 KV SC line from Thanjavur 230/110 KV SS to Mariamman Koil 110/11 KV SS, the Overloading is found to be mitigated.

Hence, the proposed 110 KV SC line from Thanjavur 230/110 KV SS to Mariamman koil 110/11 KV SS with panther conductor may be considered.

### **DETAILS OF THE WORKS INVOLVED:**

- Erection of 110 kV SC line on DC tower with Panther conductor for a route length of 15.16 kms. from Thanjavur 230 KV SS to Mariammankoil 110 kV SS.
- Provision of 1 No. new 110 kV bay at the existing Mariammankoil 110/33-11 kV SS.

*Hein*  
22/10/2026  
EXECUTIVE ENGINEER/MASTER PLAN II

**Detailed estimate for Provision of 110 KV alternate source to the existing Mariammankoil 110KV Substation by erection of 110 kV SC line on DC tower from existing Thanjavur 230 KV Sub-Station to existing Mariamman koil 110 KV SS in Thanjavur Operation Circle of System Operation/Trichy**

|       |                                                                                 |            | Rs IN LAKHS |     |                 |
|-------|---------------------------------------------------------------------------------|------------|-------------|-----|-----------------|
| SL NO | DESCRIPTION                                                                     | QUANTITY   | RATE        | PER | TOTAL AMOUNT    |
| 1     | Erection of 110 kV SC line on DC tower with Panther conductor as per Annexure I | 15.160 Kms | 96.65       | Km  | 1465.214        |
| 2     | 110 kV Bay extension at existing Mariammankoil 110 KV SS as per Annexure II     | 1 No.      | 74.807      | E   | 74.807          |
| 3     | <b>Gross &amp; Nett.</b>                                                        |            |             |     | <b>1540.021</b> |

*[Signature]*  
22/10/2026  
EXECUTIVE ENGINEER/MASTER PLAN II

## Annexure - I

## 110 KV SC line on DC Towers with Panther conductor (SOR 25-26)

| 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                                                                                    | 93,926.24   | MT  | 2,40,53,570.80        |
|         | 56.32    | MT  | HT Steel                                                                                          | 98,607.10   | MT  | 55,53,551.87          |
| b       | 16.18    | MT  | Ordinary Bolts & nuts                                                                             | 1,10,160.13 | MT  | 17,82,390.90          |
| 2       | 686.00   | No. | 90 KN Disc Insulators                                                                             | 376.80      | No. | 2,58,484.80           |
| 3       | 1,029.00 | No. | 120 KN Disc Insulators                                                                            | 500.00      | No. | 5,14,500.00           |
|         |          |     | Conductor & Earth wire accessories                                                                |             |     |                       |
| 4       | 60.00    | Set | Single Suspension fittings for ACSR Panther                                                       | 1,074.42    | Set | 64,465.20             |
| 5       | 36.00    | Set | Sus. fittings for Jumper                                                                          | 1,074.42    | Set | 38,679.12             |
| 6       | 120.00   | Set | Single Tension fittings for ACSR Panther                                                          | 1,292.40    | Set | 1,55,088.00           |
| 7       | 6.00     | Set | Double Tension Fittings for ACSR Panther                                                          | 3,678.60    | 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                                                                  | 1,98,583.19 | KM  | 60,17,070.66          |
| 13      | 10.50    | KM  | OPGW - 48 Fibre with accessories                                                                  | 2,50,185.00 | KM  | 26,26,942.50          |
|         |          |     | <b>Earthing materials</b>                                                                         |             |     |                       |
| 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              |
|         |          |     | <b>Tower Accessories</b>                                                                          |             |     |                       |
| 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      | 20.00    | No. | Phase plate (Set of three)                                                                        | 252.41      | No. | 5,048.20              |
| 19      | 20.00    | No. | Circuit plate                                                                                     | 235.58      | No. | 4,711.60              |
| 20      |          |     | <b>Total Cost of materials</b>                                                                    |             |     | <b>4,12,90,530.16</b> |

**110 KV SC line on DC Towers with Panther conductor (SOR 25-26)**

| Sl. No. | Quantity |     | DESCRIPTION                                                            | Rate in Rs.  | Per | Amount in Rs.         |
|---------|----------|-----|------------------------------------------------------------------------|--------------|-----|-----------------------|
|         |          |     | <b>TOWER FOUNDATIONS</b>                                               |              |     |                       |
| 21      | 20.00    | No. | GCR type tower                                                         | 1,02,547.00  | No. | 20,50,940.00          |
|         |          |     | 0° to 2° Suspension tower                                              |              |     |                       |
| 22      | 8.00     | No. | HCR type tower                                                         | 2,64,604.00  | No. | 21,16,832.00          |
|         |          |     | 2° to 30° Medium angle tower                                           |              |     |                       |
| 23      | 12.00    | No. | KCR type tower                                                         | 4,69,820.00  | No. | 56,37,840.00          |
|         |          |     | 30° to 60° High angle & Dead end tower                                 |              |     |                       |
| 24      |          |     | Tower protection works                                                 |              |     | 5,00,000.00           |
| 25      |          |     | Total Cost of Foundations                                              |              |     | <b>1,03,05,612.00</b> |
| 26      |          |     | Erection charges(10% on item 20)                                       |              |     | 41,29,053.02          |
| 27      |          |     | Transportation & Insurance charges (5% on Item 20)                     |              |     | 20,64,526.51          |
| 28      |          |     | Contingencies (1% on item 20, 25 , 26 & 27)                            |              |     | 5,77,897.22           |
| 29      |          |     | Total amount (item 20+25+26+27+28)                                     |              |     | 5,83,67,618.91        |
| 30      |          |     | Establishment & Supervision Charges at 15.0% on item 29                |              |     | 87,55,143.00          |
| 31      |          |     | Total Cost of materials, Foundation and Erection charges excluding GST |              |     | <b>6,71,22,761.91</b> |
| 32      |          |     | GST @ 18% on total amount                                              |              |     | 1,20,82,097.14        |
| 33      |          |     | TOTAL COST (Item 31 & 32)                                              | 10.00        | KM  | <b>7,92,04,859.05</b> |
| 34      | 10.00    | KM  | Tree/Crop compensation                                                 | 10,00,000.00 | KM  | 1,00,00,000.00        |
| 35      |          |     | Land compensation                                                      |              |     | 7437469.11            |
| 36      |          |     | TOTAL COST PER                                                         | 10.00        | KM  | <b>9,66,42,328.15</b> |
|         |          |     | TOTAL COST PER 1 KM                                                    |              |     | 96,64,232.82          |
|         |          |     | (Rounding to nearest 1000)                                             | SAY          |     | <b>96,65,000.00</b>   |
|         |          |     | TOTAL COST/KM in LAKHS                                                 |              |     | <b>96.65</b>          |

## Annexure II

### DETAILED ESTIMATE FOR 110 KV BAY EXTENSION AT MARIAMMANKOIL 110 KV SS

Rs. In lakhs

| SL NO     | DESCRIPTION                                 | UNIT | QTY | RATE   | TOTAL         |
|-----------|---------------------------------------------|------|-----|--------|---------------|
| 1         | 110 kV AB switch 2000 A without earth       | Nos. | 1   | 1.814  | 1.814         |
| 2         | 110 kV AB switch 2000 A with earth          | Nos  | 1   | 2.300  | 2.300         |
| 3         | 110 kV SF6 Breaker 40 kA                    | Nos  | 1   | 5.648  | 5.648         |
| 4         | 110 kV CTs ( Single Phase)                  | Nos  | 3   | 1.050  | 3.150         |
| 5         | Relay & control panel                       | Nos  | 1   | 8.550  | 8.550         |
| 6         | Structure                                   |      | LS  | 15.000 | 15.000        |
| 7         | Control cables                              |      | LS  | 2.000  | 2.000         |
| 8         | Busbar arrangement                          |      | LS  | 2.000  | 2.000         |
| 9         | Foundation materials                        |      | LS  | 5.000  | 5.000         |
| 10        | Earthing, Yard lighting                     |      | LS  | 2.000  | 2.000         |
| <b>11</b> | <b>Sub total</b>                            |      |     |        | <b>47.462</b> |
|           | Contingencies 1 %                           |      |     |        | 0.475         |
|           | Cost of materials and equipments            |      |     |        | 47.937        |
|           | Labour and Transport 15%                    |      |     |        | 7.190         |
|           | Sub total                                   |      |     |        | 55.127        |
|           | Establishment and Supervision Charges @ 15% |      |     |        | 8.269         |
|           | Sub total                                   |      |     |        | 63.396        |
|           | GST @ 18%                                   |      |     |        | 11.411        |
|           | <b>Total</b>                                |      |     |        | <b>74.807</b> |