

TAMIL NADU TRANSMISSION CORPORATION LTD.,

Petition
for the Determination of
Transmission Charges for Long Term and
Short Term Open Access Consumers,
Scheduling & System Operating Charges
and
Reactive Energy Charges

NOVEMBER 2011

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FORM 1

BEFORE THE HONOURABLE TAMIL NADU ELECTRICITY REGULATORY COMMISSION

Filing No.....

Case No.....

IN THE MATTER OF : Application for the determination of
Transmission Charges for the year 2010-11 to
2012-13, Scheduling & System Operating
Charges and Reactive Energy Charges

Tamilnadu Transmission Corporation Ltd.,
No.144, Anna Salai,
Chennai-2.

.....Petitioner

--Nil--

.....Respondent

the petitioner named above respectively showeth under:

1. Tamil Nadu Electricity Board, was a State Electricity Board constituted under section 5 of the Electricity (Supply) Act,1948 and was in the business of Generation, Transmission and Distribution of Electricity in the State of Tamil Nadu.
2. Government of Tamil Nadu, in G.O (Ms) No 114 Energy Dept, dated 08.10.2008 have accorded in principle approval for the re-organisation of TNEB by establishment of a holding company, namely TNEB Ltd and two subsidiary companies, namely Tamil Nadu Transmission Corporation Ltd (TANTRANSCO) and Tamil Nadu Generation and Distribution Corporation Ltd (TANGEDCO) with the stipulation that the aforementioned companies shall be fully owned by Government.
3. Tamil Nadu Transmission Corporation Ltd., (TANTRANSCO) was incorporated on 15.06.2009 and the Certificate for commencement of

business was obtained on 11.12.2009. It is in the business of transmission of electricity in the State of Tamil nadu.

4. The Government vide G.O.(Ms.) No.100, Energy (B2) department, dt 19.10.2010 has issued Tamil Nadu Electricity (reorganisation and Reforms) Transfer Scheme, 2010 for the purpose of transfer and vesting of property, interest in property, rights and liabilities of the Tamil Nadu Electricity Board in the State Government and re-vesting thereof by the State Government in corporate entities and also for the transfer of personnel of the Tamil Nadu Electricity Board to corporate entities and for determining the terms and conditions on which such transfer and vesting will be made.

Need:

(i) The Electricity Act 2003 (the Act) allows non- discriminatory Open Access to the network of a Licensee on payment of applicable charges.

(ii) Regulation 6 of TNERC (Terms and conditions for Determination of Tariff for Intra-State Transmission / Distribution of Electricity under MYT frame work) Regulations 2009 specifies the following:

"6 (1) the State Transmission Utility / Transmission Licensee shall make an application for determination of transmission tariff for each of the control period in accordance with the provisions in Tariff Regulations 2005"

(iii) TNERC while issuing Tariff Order on determination of Tariff for Generation, Intra State Transmission and Distribution dt 31.07.2010, has provisionally approved the Annual Transmission Charges and directed to revisit and finalise the provisional Transmission Charges.

(iv) Accordingly, Tamil Nadu Transmission Corporation Ltd. (TANTRANSCO) filed a Provisional Tariff Petition before this Hon'ble Commission on 16.12.2010 and additional affidavit on 14.2.2011 for the

period 2010-11, 2011-12 & 2012-13. The same has also been admitted by this Hon'ble Commission.

(v) Now, Tamil Nadu Generation and Distribution Corporation Ltd. (TANGEDCO) has proposed to file a tariff petition for the period 2010-11, 2011-12 & 2012-13, hence necessity has arisen for TANTRANSCO to file this tariff petition before this Hon'ble Commission by duly updating the data.

(vi) This tariff petition details the proposed Transmission charges for Long Term open Access Customers and Short Term Open Access Customers, Scheduling and System Operation Charges and Reactive Energy Charges for the period 2010-11, 2011-12 & 2012-13.

(vii) This application for the determination of Transmission Charges for the year 2010-11 to 2012-13, Scheduling & System Operating Charges and Reactive Energy Charges is being filed before the Honorable Tamil Nadu Electricity Regulatory Commission hereinafter referred to as Hon. Commission.

(viii) It is submitted to approve the following charges.

1. The Transmission Charges for Long and Short-term open access customers
2. The Scheduling and System Operation Charges and Reactive Energy Charges

Further in compliance to the Various directions/Instructions/Suggestions issued by The Tamil Nadu Electricity Regulatory Commission, the actions taken by TANTRANSCO are furnished below.

I. General Issues:

As and when the TNEB is unbundled such a Regulatory Cell may be have to be created in both the TANGEDCO and TANTRANSCO. The TNEB and

their successor entities are advised to take appropriate action to create such a Regulatory Cell. The Commission may be informed of action taken within a period of six months.

Action taken

1. The Tariff Cell is now looking after the Regulatory works of Hon'ble Tamil Nadu Electricity Regulatory Commission.

2. As per G.O(Ms) No. 100 dated 19.10.2010, the Personnel of the Board shall stand assigned to the services of the relevant Transferee on deputation basis.

3. Until finalization of staff's transfer, the above Cells will look after works of both TANGEDCO and TANTRANSCO.

2. Ring fencing of SLDC

Action taken

The Load Despatch Centres (State Load Despatch Centre/ Chennai and Sub-Load Despatch Centres/ Madurai & Erode) come under the Tamil Nadu Transmission Corporation Ltd.

The separation of financial accounts are in process in parallel with the segregation of assets.

The capital expenditure plans (CAPEX) for modernization of the SLDC/Chennai and Sub-LDCs/Madurai & Erode will be submitted for

approval of the Electricity Regulatory Commission after completion of separation of financial accounts.

The rolling five year CAPEX Plans shall also be submitted subsequently. Identifying the revenue streams for Load Despatch Centres (State Load Despatch Centre/Chennai and Sub-Load Despatch Centres/Madurai & Erode) and fees payable to the LDCs by the Generating/Distribution Companies, these are being worked out after segregation of the assets and financial accounts. Subsequently ERC Petitions will be submitted. Till then guidelines of Regulatory Commission will be adopted.

3. Availability Based Tariff Compliant meters

To install Availability Based Tariff (ABT) compliant meters for the purpose of measurement of real power and reactive power at interface points in intervals of 15 minutes. The ABT compliant meters are essential for the purpose of proper grid management, sending commercial signals for ramping up/backing down of generations and increase / decrease of load.

Action taken

128 Nos. ABT meters have been provided in all CPPs, Co-Gen and Bio-Mass Generation Plants who have been permitted for Short Term Open Access.

1. At present, Neyveli TS 1 is in the purview of intra state ABT & UI regulations and Energy accounting and UI settlement

are being done based on ABT meter reading.

2. High Generating Capacity Generators are already provided with ABT compliance Meters for Energy Accounting and payments.

For others, installation of ABT Meters is to be taken up and completed before 31.07.2012.

The Interface points (about 1000 points) are being identified and also action is being taken for installation of ABT meters in the Interface points before 31.07.2012.

II. Employee Cost - Terminal Benefits

4.0 *TNEB (Now TANTRANSCO) to conduct an actual study, assess the probable amount of pension liability and submit a report at an early date. In most cases, a Corpus is created for meeting the terminal benefits of employees. For this purpose, an actuarial study may have to be carried out to decide the amount to be credited in the corpus. The TNEB (Now TANTRANSCO) is directed to examine this issue and submit a proposal for the same to the Commission. This exercise should be carried out within a period of six months.*

Action taken

1.0. The transfer scheme transferring the properties and personnel of the erstwhile TNEB was notified by the Government of Tamil Nadu vide G.O (Ms) No.100 dated 19.10.2010.

2.0 As per the G.O., All personnel of the Board (excluding Chairman and Director of the Board) shall stand transferred to and

absorbed in TANGEDCO on a provisional basis, subject to finalization of Employee Transfer scheme by the State Government in consultation with the Chairman of TNEB Limited (Clause No. 6 (2)).

3.0 The personnel of the Board shall stand assigned to the services of the relevant Transferee, on deputation basis, on "as-is-where-is" basis, namely, that they will continue to serve in the place where they are posted on the date of transfer (Clause No. 6(5))r.

4.0. As per clause 6 (17) of the Government Order, till finalization of transfer of personnel to TANTRANSCO, the payment of terminal benefits to existing pensioners will be continued to be met from the cash flow of the operations of the TANGEDCO and TANTRANSCO would reimburse its proportionate share.

5.0 The more accurate and realistic assessment of the probable amount of pension liability could be made, only when employee transfer is finalized. Hence the process of assessment of liability and creation of corpus fund could be started, by the successor entities once the employee transfer is finalized with in the due date mentioned in clause 9(1) of the Government order.

5.0 Technological up – gradation of SLDCs by June 2006.

Action to be taken for implementation of National Tariff Policy

The existing Long term service Agreement (LTSA) towards up keeping of State Load Despatch Centre/ Chennai and Sub-Load Despatch Centres / Madurai & Erode Control centre equipments (both hw / sw) expires on 31.12.2011 and the SRPC has

informed that the LTSA will be extended for another 1 or 2 years. TANTRANSCO informed SRPC that the Technological upgradation will be done by TANTRANSCO itself. TANTRANSCO initiated discussion with bidders for framing technical specification. Tender will be opened during December 2011 and P.O will be placed during March 2012 with an implementation period of 18 months.

6.0 Implementation of SCADA and Data – Base Management

Action taken

Under R'APDRP SCADA/DMS schemes are sanctioned for 7 cities viz. Chennai, Trichy, Madurai, Tirunelveli, Coimbatore, Tirupur and Salem.

At present data from 150 Sub stations are made available at SLDC by ULDC Scheme. By implementing Schemes under R-APDRP data from another 114 Sub stations will also be made available to SLDC. For the remaining 579 Substations ,RTUs will be provided from TANTRANSCO Budget after upgrading these Substations into SCADA compatibility. All these works will be completed in a period of next 18 months.

III. GENERAL

- 7. TANTRANSCO shall furnish half yearly status on Transmission Planning.*

Action taken

Half Yearly Status on Transmission Planning (From 01.10.10 to 31.03.11)

The following works have been included in the Transmission Planning for the year 2010-11 with a budget proposal of Rs. 1691.00 Crores.

No. of Substations Programmed to be commissioned: - 60 Nos
EHT lines (Associated, Improvement, Power Evacuation & link line): 2000 Kms.
Additional / Enhancement Power Transformer: - 120 Nos

Considering the tight financial conditions the projects on hand were studied in detail, prioritized and based on the above, the following Programme was revised as below.

No. of SS Programmed to be commissioned for the year 2010 -11 - 40 Nos
EHT lines (Associated, Improvement, Power Evacuation & link lines)- 1250 CKms
Additional/ Enhancement Power Transformers - 120 Nos

Half Yearly Status of Transmission works for the period from 01.10.10 to 31.03.11

No. of Substations commissioned - 31 Nos (253 MVA)
EHT lines energised - 510.964 C.Kms
Additional / Enhancement Power Transformer - 46 Nos (994.15 MVA)

Half Yearly Status on Transmission Planning (From 01.04.11 to 30.09.11)

The following works have been included in the Transmission Planning for the year 2011-12 with a budget proposal of Rs. 1365.00 Crores.

No. of Substations Programmed to be commissioned: - 55 Nos
EHT lines (Associated, Improvement, Power Evacuation & link lines): 2500 CKms
Additional / Enhancement Power Transformer : - 120 Nos

Half Yearly status of Transmission works as on 30.09.11:

No. of Substations commissioned - 10 Nos (705 MVA)

EHT lines energies - 415.637 C.Kms
Additional / Enhancement Power Transformer - 37 Nos (607 MVA)

9. ***Transmission Availability achieved.***

Action taken

Transmission Availability Factor for 230 KV feeders for the control period 2010-11 is 99.79% is achieved.

2.Issues:

2.1 Approach and Assumptions in apportionment

Government of Tamil Nadu, in G.O (Ms) No 114 Energy Dept, dated 08.10.2008 have accorded in principle approval for the re-organisation of TNEB by establishment of a holding company, namely TNEB Ltd and two subsidiary companies, namely Tamil Nadu Transmission Corporation Ltd (TANTRANSCO) and Tamil Nadu Generation and Distribution Corporation Ltd (TANGEDCO) with the stipulation that the aforementioned companies shall be fully owned by Government.

As the transfer of Assets has not yet been completed, various assumptions have been considered while apportioning the total expenses and revenue for each function.

2.2 Apportionment of total expenses in to Generation and T&D

The Tamil Nadu Generation and Distribution Corporation Ltd., (TANGEDCO) maintains separate accounts for its generation function. Hence the balance figures out of total revenue and expenditure has been taken for Transmission and Distribution function.

2.3 Apportionment of T&D expenses into Transmission and Distribution function

The following points detail the approach adopted for apportioning the expenses in Transmission and Distribution.

1. Transmission assets and depreciation has been considered as per the Board's Annual Statement of Accounts for the year 2009-10. The assets of 33 KV SS has been deducted from the transmission assets and included in the Distribution assets since, the transmission system are considered above 33 KV SS. Based on that the Transmission Assets during the control period has been arrived at.

2.4 Expense of TANTRANSCO

The following section details the expenses for transmission function, to be recovered as transmission charges from all beneficiaries.

2.4.1 Interest on Loan

The Interest and financing charges have been apportioned on the basis of actual for specific loans and for Generic loans in the ratio of 60:40.

The interest on loan for the transmission function during the control period of 2010-11, 2011-12 and 2012-13 is as below:

	Rs. Lakhs		
Description	2010-11	2011-12	2012-13
Interest on loan	129242	148223	159968

The same has been taken into account for the calculation of transmission charges.

2.4.2 Operating Expenses

The operating expenses mainly comprise of expenses under the heads of employee, repair and maintenance and administrative and general expenses

Since separate account is maintained for Generation, the Generation expenses has been segregated and removed from the total expenses upto 31.10.2010 for the financial year 2010-11. The balance expenses have been apportioned to T & D on the basis detailed below. From 1.11.2010 the actual expenses of TANTRANSCO is considered. The combined value has been taken in the projection for the year 2010-11 for the O & M Expenses detailed in clause 2.4.2 of the petition.

The Employee cost have been apportioned on the basis of number of employees. The retirement benefits have been projected considering the pension revision order.

The A & G Expenses has been apportioned on the basis of number of employees.

R&M expenses for the Transmission System have been arrived at on the basis of Gross Fixed Asset.

The O & M Expenses for ensuing period has been projected with 4% increase.

Operating expenses for Transmission Function (Rs. In Lakhs)

S. No.	Particulars	FY 2010-11	FY 2011-12	FY 2012-13
1	Net R&M Expenses	2160	2250	2344
2	Net Employee Expenses	58286	60768	63348
3	Net A&G Expenses	2065	1016	1104
4	Total Operating	62511	64034	66797

	Expenses			
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2.4.3 Gross Block and Depreciation

Transmission assets and depreciation has been considered based on the Board's Annual Statement of Accounts for the year 2009-10.

The weighted average rate of depreciation is arrived at 3.60%.

The following table details the Gross Block and Depreciation.

Gross Block and Depreciation (Rs in Lakhs)

S. No.	Particulars	FY 2010-11	FY 2011-12	FY 2012-13
1	Gross Block at the Beginning of the Year	947374	993274	1076729
2	Gross Block at the end of the Year	993274	1076729	1176849
3	Deprecation during the year	26927	28821	31252

2.4.4 Return on Equity:

In accordance with the TNERC (Terms and Conditions for Determination of Tariff) Regulations – 2005, licensee is allowed to earn return on equity @ 14% (post tax).

The Equity has been allocated to Transmission function based on Gross Fixed Assets and RoE at 14% arrived at as below:

Computation of Return on Equity for Transmission (Rs in lakhs)

S. No	Particulars	FY 2010-11	FY 2011-12	FY 2012-13
1	Equity	128992	161296	164920
2	Return on Equity @ 14%	18059	22581	23089

2.4.5 Other debts:

The expenses like material cost variance, bad & doubtful debts, extra ordinary expenses, etc., are accounted under this head.

Out of this, material cost variance and miscellaneous losses allocated to Transmission function are as detailed below:

(Rs. In lakhs)

S. No.	Particulars	2010-11	2011-12	2012-13
1	Research & Development expenses	0	0	0
2	Bad & Doubtful debts written off	0	0	0
3	Miscellaneous losses and written off/provided for	186	190	194
4	Material cost variance	55	56	57
5	Sundry expenses	0	0	0
6	Extra ordinary debits	0	0	0
	Total	241	246	251
	Less: Capitalisation	159	162	165
	Net expenses	82	84	85

3. The Total Annual transmission Charges are as below:

Sl. No	Particulars	FY 2010-11	FY 2011-12	FY 2012-13
1	Net O&M Expenses	62511.39	64033.53	66796.54
2	Interest on Loan	129242.00	148223.00	159968.00
3	Depreciation	26926.58	28820.61	31252.45
4	Return on equity	18058.82	22581.44	23088.73
5	Other Debts	81.96	83.60	85.27
6	Prior period Income	-638.14	0.00	0.00
	Annual Transmission Charges	236182.62	263742.18	281191.00

Regulation 59 of the Tariff Regulation specifies that the annual transmission charges computed as per the Regulation shall be the total annual revenue requirement and the following shall be deducted from the revenue requirement to arrive at the charges recoverable from the long term open access customers.

- a. Transmission charges collected from the short-term open access customers
- b. Revenue from other business to the extent of profits to be passed on the beneficiaries and
- c. Reactive energy charges and transmission charges accrual from CTU.

An amount of Rs. 2891.55 lakhs has been collected towards the Transmission Charges, Scheduling & System Operating Charges and Reactive Energy Charges during the year 2010-11. The amount arrived for collected for 2011-12 and 2012-13 have been calculated with 2% escalation to the preceding year.

The net Annual Transmission Charges are tabulated as below:

Sl. No	Particulars	Rs. Lakhs		
		2010-11	2011-12	2012-13
1	Total Annual Transmission Charges	236182.62	263742.18	281191.00
2	<u>Less:</u> Revenue from Transmission Charges, Sch. Charges & reactive charges	2891.55	2949.38	3008.37
3	Net Annual Transmission Charges	233291.07	260792.80	278182.63

4. The Available Transmission Capacity at the normative PLF has been arrived as below

5. Energy losses.

As per Regulation 16 of the Intra –State Open Access regulation, 2005 The open access customers shall bear average energy losses in the transmission system as estimated by the State Load Dispatch Centre. The energy losses in the transmission system shall be compensated by additional injection at the injection point(s).

The following table indicates the percentage of estimated transmission losses in the transmission network.

Percentage of losses (%)

S. No.	Particulars	% Loss FY 2010-11	% Loss FY 2011-12	% Loss FY 2012-13
1	230 KV	0.95	0.95	0.95
2	110 KV	1.50	1.50	1.50
3	33 KV	1.50	1.50	1.50
4	22 KV/11 KV	2.50/3.00	2.50/3.00	2.50/3.00
5	LT	10.90	10.50	10.10

6. Computation of various charges

(I). Transmission Charges

(a). Transmission Charges payable by the Long Term Customers:

Sl. No.	Particulars	2010-11	2011-12	2012-13
1	Total Annual Transmission Charges (Rs. Lakhs)	233291.07	260792.80	278182.63
2	Available Transmission Capacity in MW	8279.61	10646.47	12250.02
3	Transmission Charges (Rs./MW/day)	7719.61	6711.15	6221.58

(b). Transmission Charges payable by the Short Term Customers:

The transmission charges for short-term open access customers and Inter-State OA customers using Intra-State net work has been worked at 50% of the transmission charges applicable to long-term open access customer on MWhr basis.

Sl. No	Details	2010-11	2011-12	2012-13
1	Transmission Charges (Rs / MW / day)	7719.61	6711.15	6221.58
2	Transmission charges payable by Intra-State short-term OA customer and Inter-State OA customers using Intra-State net work (in Rs / MWhr)	160.83	139.82	129.62

II. Scheduling and System Operation Charges

It is prayed that Rs.2000/ - per day or part of the day, as approved by Central Electricity Regulatory Commission, may be fixed for Scheduling and System Operation Charges for Long Term and Short Term open access customers.

III. Reactive Energy Charges:

The Central Electricity Regulatory Commission has approved the reactive energy charge as 10 paise / KVARh w.e.f. 1.5.2010. It is prayed that this Hon'ble Commission may also fix the reactive Energy Charges as 10 paise / KVARh.

Prayer

The Tamil Nadu Transmission Corporation Ltd requests this Honorable Commission:

1. To approve the Transmission Charges for Long and Short-term open access customers as mentioned in para 6. I. above.
2. To approve Scheduling and System Operation Charges and Reactive Energy Charges as mentioned in para 6. II & III above.
3. To approve the assumptions considered while determining Annual Transmission Charges.

FORM 1**SUMMARY SHEET FOR CALCULATION OF TRANSMISSION CHARGES****(Rs. In lakhs)**

S. No.	Particulars	Form No.	Previous Year 2009-10	Previous Year 2010-11	Current Year 2011-12	Ensuing Year 2012-13
1	Interest on Loan	2	94429.35	129242.00	148223.00	159968.00
2	Depreciation	3	24449.66	26926.58	28820.61	31252.45
3	Operation and Maintenance Expenses	7	69117.73	62511.39	64033.53	66796.54
4	Return on Equity ./ Reasonable Return	9	11833.76	18058.82	22581.44	23088.73
5	Other Debits		266.74	81.96	83.60	85.27
6	Prior Period Income		-62.49	-638.14	0.00	0.00
5	Total Annual Transmission Charges		200034.75	236182.62	263742.18	281191.00
7	Available capacity of Transmission System (MW)	11		8279.61	10646.47	12250.02

FORM 2 CALCULATION OF INTEREST - (Rs. In lakhs)																						
S. No.	Institution	Previous year 2008-09	Previous Year 2009-10				Previous Year 2010-11					Current Year 2011-12					Ensuing Year 2012-13					
		Outstanding at the end of pr. Year	Borrowings	Repayment	Outstanding at the end of the year	Interest Rate	Interest payable	Borrowings	Repayment	Outstanding at the end of the year	Interest Rate	Interest payable	Borrowings	Repayment	Outstanding at the end of the year	Interest Rate	Interest payable	Borrowings	Repayment	Outstanding at the end of the year	Interest Rate	Interest payable
1	Public TNEB Bonds	113792	106910	23434	197268		11078	0	28136	169132	9.50%	14223	0	22143	146989	9.50%	11952	150000	0	296989	9.50%	19262
2	LIC	57871	0	5073	52798	10.75%	5011	0	6867	45931	10.75%	4506	0	8261	37670	10.75%	4544	0	10457	27213	10.75%	3315
3	REC / REC Bank	119375	36030	9434	145971	10.00%	13558	27896	12697	161170	10.00%	18893	150000	14230	296940	10.00%	24930	117500	37100	414440	10.00%	35569
4	PFC	52972	20529	7636	65865	11.75%	1029	1696	1046	66515	11.75%	2189	150000	51246	165269	11.75%	16628	130000	51546	243723	11.75%	32932
5	PFC STL	0	0	0	0		0	50000	0	50000	10.50%	693	50000	25000	75000	10.50%	8188	0	0	75000	10.50%	7875
6	TNPFC	205612	156490	82928	279174	10.65%	30733	88109	102305	264978	10.60%	35335	51550	102545	213983	10.60%	31116	100000	103045	210938	10.60%	38567
7	TNPFC Lease	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0
8	Bank Term loan	323278	45000	17311	350967	10.50%	38209	95000	34973	410994	10.50%	56668	150000	143326	417668	10.50%	51967	50000	172434	295234	10.50%	24553
9	HUDCO	55357	30000	5371	79986		6331	30000	9048	100938	12.00%	10572	0	9930	91008	12.00%	11811	0	9489	81519	12%	10261
	Interest on Borrowings for Working Capital						1368					2753					3677					4224
	Total	928257	394959	151187	1172029		107317	292701	195072	1269658		145832	551550	376681	1444527		164813	547500	384071	1645056		176558
	Less-Capitalisation						12888					16590					16590					16590
	Net Interest & Finance charges						94429					129242					148223					159968

FORM 3										
Calculation of depreciation for Transmission Assets										
(Separate statement to be furnished for previous year, current year and ensuing year)										
PREVIOUS YEAR 2009-10										
S. No.	Name of Asset	Gross Block				Depreciation				
		At the beginning of the year	Additions during the year	Deductions / Adjustment	At the end of the year	Rate of depreciation	On the Assets at the beginning	Pro rata depreciation on addition	Adjustments	Total deprn. for the year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Land and Land rights	10834	0	0	10834		0	0	0	0
2	Buildings	31666	1624	1624	31666	2.23%	4300	2	0	4302
3	Hydraulic works	223	0	0	223	2.23%	55	0	0	55
4	Other civil works	11426	0	0	11426	1.91%	1629	107	0	1736
5	Plant & machinery	367226	45681	8031	404876	3.90%	144625	11161	1555	154231
6	Lines & cables Network	418428	81236	22605	477059	3.51%	158684	16992	2299	173376
7	Vehicles	2519	0	0	2519	18.00%	2479	1	0	2480
8	Furnitures & Fixtures	2077	0	0	2077	6.00%	1187	4	0	1191
9	Office equipment	6692	3	1	6694	6.00%	1864	39	1	1902
10	Capital spare at generating stations	0	0	0	0		0	0	0	0
11	Capital Expenditure result in asset not belonging to Board	0	0	0	0		0	0	0	0
12	Spare units	0	0	0	0		0	0	0	0
13	Assets taken over from licensees pending finalisation	0	0	0	0		0	0	0	0
14	Leased assets	0	0	0	0		0	0	0	0
	Total	851092	128594	32261	947374		314824	28305	3855	339273
PREVIOUS YEAR 2010-11										
S. No.	Name of Asset	Gross Block				Depreciation				
		At the beginning of the year	Additions during the year	Deductions / Adjustment	At the end of the year	Rate of depreciation	On the Assets at the beginning	Pro rata depreciation on addition	Adjustments	Total deprn. for the year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Land and Land rights	10834	0	0	10834		0	0	0	0
2	Buildings	31666	4	0	31670	2.23%	4302	338	0	4640
3	Hydraulic works	223	0	0	224	2.23%	55	3	0	58
4	Other civil works	11426	0	0	11426	1.91%	1736	107	0	1842
5	Plant & machinery	404876	23644	4841	423678	3.90%	154231	11175	307	165099
6	Lines & cables Network	477059	28792	1708	504143	3.51%	173376	15647	180	188844
7	Vehicles	2519	0	0	2519	18.00%	2480	31	0	2511
8	Furnitures & Fixtures	2077	5	0	2082	6.00%	1191	27	0	1219
9	Office equipment	6694	5	0	6699	6.00%	1902	85	0	1987
10	Capital spare at generating stations	0	0	0	0		0	0	0	0
11	Capital Expenditure result in asset not belonging to Board	0	0	0	0		0	0	0	0
12	Spare units	0	0	0	0		0	0	0	0
13	Assets taken over from licensees pending finalisation	0	0	0	0		0	0	0	0
14	Leased assets	0	0	0	0		0	0	0	0
	Total	947374	52449	6549	993274		339273	27413	487	366200
CURRENT YEAR 2011-12										
S. No.	Name of Asset	Gross Block				Depreciation				
		At the beginning of the year	Additions during the year	Deductions / Adjustment	At the end of the year	Rate of depreciation	On the Assets at the beginning	Pro rata depreciation on addition	Adjustments	Total deprn. for the year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Land and Land rights	10834	835	0	11669		0	0	0	0
2	Buildings	31670	1669	0	33339	2.23%	4640	338	0	4977
3	Hydraulic works	224	0	0	224	2.23%	58	3	0	61
4	Other civil works	11426	0	0	11426	1.91%	1842	107	0	1949
5	Plant & machinery	423678	36720	0	460398	3.90%	165099	11694	0	176793
6	Lines & cables Network	504143	41728	0	545870	3.51%	188844	16536	0	205380
7	Vehicles	2519	417	0	2936	18.00%	2511	31	0	2542
8	Furnitures & Fixtures	2082	417	0	2499	6.00%	1219	27	0	1246
9	Office equipment	6699	1669	0	8368	6.00%	1987	85	0	2073
10	Capital spare at generating stations	0	0	0	0		0	0	0	0
11	Capital Expenditure result in asset not belonging to Board	0	0	0	0		0	0	0	0
12	Spare units	0	0	0	0		0	0	0	0
13	Assets taken over from licensees pending finalisation	0	0	0	0		0	0	0	0
14	Leased assets	0	0	0	0		0	0	0	0
	Total	993274	83453	0	1076727		366200	28821	0	395021
ENSUING YEAR 2012-13										
S. No.	Name of Asset	Gross Block				Depreciation				
		At the beginning of the year	Additions during the year	Deductions / Adjustment	At the end of the year	Rate of depreciation	On the Assets at the beginning	Pro rata depreciation on addition	Adjustments	Total deprn. for the year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Land and Land rights	11668	1001	0	12669		0	0	0	0
2	Buildings	33339	2002	0	35341	2.23%	4977	355	0	5333
3	Hydraulic works	224	0	0	224	2.23%	61	3	0	64
4	Other civil works	11426	0	0	11426	1.91%	1949	107	0	2056
5	Plant & machinery	460399	44053	0	504451	3.90%	176793	12708	0	189500
6	Lines & cables Network	545870	50060	0	595930	3.51%	205380	17904	0	223284
7	Vehicles	2936	501	0	3437	18.00%	2543	37	0	2579
8	Furnitures & Fixtures	2499	501	0	3000	6.00%	1246	53	0	1278
9	Office equipment	8368	2002	0	10370	6.00%	2073	106	0	2179
10	Capital spare at generating stations	0	0	0	0	3.27%	0	0	0	0
11	Capital Expenditure result in asset not belonging to Board	0	0	0	0		0	0	0	0
12	Spare units	0	0	0	0	5.93%	0	0	0	0
13	Assets taken over from licensees pending finalisation	0	0	0	0	3.60%	0	0	0	0
14	Leased assets	0	0	0	0		0	0	0	0
	Total	1076729	100120	0	1176849		395021	31252	0	426273

FORM 4

Operation and Maintenance expenses - Repair and Maintenance Expenses

(For Transmission System)

							Rs. In lakhs			
S. No.	Details	Actuals for previous 5 years					Average for 5 years	Previous year 2010-11	Current Year 2011-12	Ensuing Year 2012-13
		2005-06	2006-07	2007-08	2008-09	2009-10				
(1)	(2)	(3)	(4)	(5)		(6)	(7)	(8)	(9)	
1	Plant & Machinery	1193	1496	1352	1557	1711	1462	947	985	1024
2	Building	49	71	100	63	28	62	22	23	24
3	Civil Works	127	129	236	167	110	154	62	65	67
4	Hydraulic work	5	3	1	2	4	3	52	54	56
5	Lines & Cable network	1211	1712	1772	1935	2126	1751	1014	1055	1097
6	Vehicles	143	148	140	129	128	138	91	94	98
7	Furniture & Fixtures	1	1	1	3	2	2	0	0	0
8	Office equipments	186	97	76	78	179	123	71	74	77
9	Total Expenses	2914	3658	3679	3934	4287	3694	2259	2349	2443
10	Less: Capitalisation	146	128	141	100	68	117	99	99	99
11	Net Repair & Maintenance expenses	2768	3529	3538	3834	4218	3578	2160	2250	2344

FORM 5

Operation and Maintenance expenses - Employees Cost
(For Transmission System)

Rs. In lakhs

S. No.	Details	Actuals for previous 5 years					Average for 5 years	Previous year 2010-11	Current Year 2011-12	Ensuing Year 2012-13
		2005-06	2006-07	2007-08	2008-09	2009-10				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
1	Salary	12898	14657	16469	25512	28360	19579	23435	24372	25347
2	Overtime wages	174	215	306	179	173	210	931	969	1007
3	Dearness Allowance	8222	6682	6918	6123	8222	7233	9402	9778	10169
4	Other Allowances	1133	1194	1314	1512	2091	1449	1971	2049	2131
5	Bonus & Exgratia	903	1115	1062	1130	1155	1073	800	832	865
	Total 1 - 5	23331	23864	26070	34456	40001	29544	36539	38000	39520
6	Medical expenses reimbursement	85	82	72	57	61	71	42	44	46
7	Leave Travel concession	14	13	21	15	11	15	6	6	7
8	Earned Leave encashment	2058	2288	2411	2634	2727	2424	2570	2673	2780
9	Terminal benefits	13081	17969	19844	21975	26080	19790	22158	23045	23966
10	Staff welfare expenses	145	182	175	493	678	335	619	644	670
11	Payment under workmen's compensation Act	1	2	3	1	0	2	1	1	2
12	Thermal Performance/commissioning/ Golden Jubilee incentive	0	94	263	81	141	116	94	98	102
11	Grand Total	38715	44494	48859	59712	69698	52296	62030	64512	67092
	Less: Capitalisation	4049	4126	4516	4502	6864	4811	3744	3744	3744
12	Net Expenses	34666	40368	44343	55210	62834	47484	58286	60768	63348

FORM 6

Operation and Maintenance - Admn. and General Expenses

(For Transmission System)

Rs. In lakhs

S. No.	Particulars	Actuals for previous 5 years					Average of 5 years	Previous year 2010-11	Current Year 2011-12	Ensuing Year 2012-13
		2005-06	2006-07	2007-08	2008-09	2009-10				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
1	Rent, Rate & Taxes	167	173	204	195	245	197	245	159	166
2	Insurance	4	5	12	8	7	8	7	8	8
3	Telephone / Postage / Telex	192	206	206	215	181	200	181	117	121
4	Legal / Audit / Consultancy / Tech. fee / consultancy charges	203	239	360	286	409	299	409	235	245
5	Conveyance & Travel	726	751	782	781	817	772	817	819	852
6	Miscellaneous Expenses	708	774	1095	823	1039	888	1039	697	725
7	Freight	125	123	209	323	238	204	238	155	162
8	Other purchases related expenses	91	205	192	21	76	117	76	24	25
9	HQ Expenses	0	0	0	0	0		0	0	0
9	Total expenses	2216	2476	3062	2653	3012	2684	3012	2214	2303
10	Less: Capitalisation	512	578	650	591	947	656	947	1198	1198
11	Net Expenses	1703	1898	2412	2062	2065	2028	2065	1016	1104

FORM 7										
Total Operation and Maintenance expenses										
(For Transmission System)										
(Abstract of Forms 4, 5 and 6)										
Rs. In lakhs										
S. No.	Details	Actuals for previous 5 years					Average of 5 years	Previous year 2010-11	Current Year 2011-12	Ensuing Year 2012-13
		2005-06	2006-07	2007-08	2008-09	2009-10				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	'(10)	'(11)
1	Net Repair & Maintenance Expenses (Form 4)	2768	3529	3538	3834	4218	3578	2160	2250	2344
2	Net Employees Cost (Form 5)	34666	40368	44343	55210	62834	47484	58286	60768	63348
3	Net Admn. & General Expnses (Form 6)	1703	1898	2412	2062	2065	2028	2065	1016	1104
4	Total Operation and Maintenance expenses	39137	45796	50293	61106	69118	53090	62511	64034	66797

FORM 8				
Calculation of Reasonable Return / Return on Equity				
(On Transmission Assets)				
			Rs. In Lakhs	
CALCULATION OF RETURN ON EQUITY				
Description	2009-10	2010-11	2011-12	2012-13
Equity	84527	128992	161296	164920
14% on equity	11833.76	18058.82	22581.44	23088.73

FORM 9						
OTHER DEBITS (EXPENSES)						
(For Transmission System)						
Rs. In lakhs						
S. No.	Details			Previous year 2010-11	Current Year 2011-12	Ensuing Year 2012-13
		2008-09	2009-10			
(1)	(2)	(6)	(7)	(9)	'(10)	
1	Other Debits (Expenses)	2661	811	241	246	251
2	LESS: Capitalisation	2469	545	159	162	165
3	Nett Other Debits - Expenses	192	267	82	84	85

FORM 10						
PRIOR PERIOD INCOME						
(For Transmission System)						
Rs. In lakhs						
S. No.	Details			Previous year 2010-11	Current Year 2011-12	Ensuing Year 2012-13
		2008-09	2009-10			
(1)	(2)	(6)	(7)	(9)	'(10)	
1	PRIOR PERIOD EXPENSES	292	-62	-638	0	0

FORM 11									
Available Capacity of Transmission System									
S. No.	Details of Generating Stations connected to the Transmission System	Installed Capacity / Allocated Capacity MW	PLF / NAFAP approved in T.O. dt 31.07.2010	Available Capacity in MW	Auxiliary Consumption % (approved by TNERC)	Net capacity connected in MW			
						2010-11	2011-12	2012-13	
I Coal based Thermal Generating Stations									
1	ETPS	450.00	50.81%	228.65	14.48%	195.54	195.54	195.54	
2	TTPS	1050.00	90.02%	945.21	8.50%	864.87	864.87	864.87	
3	MTPS	840.00	91.75%	770.70	9.00%	701.34	701.34	701.34	
4	NCTPS	630.00	86.79%	546.78	8.50%	500.30	500.30	500.30	
Thermal Capacity Addition									
5	NCTPS Stage -II U1	600.00	80%	480.00	8.50%		439.20	439.20	
6	MTPS stage III	600.00	80%	480.00	9.00%		436.80	436.80	
7	NCTPS Stage -II U2	600.00	80%	480.00	8.50%			439.20	
8	Modernisation of Sugar Mill & Cogeneration plants	183.00						183.00	
	TOTAL	4953.00		3931.33		2262.04	3138.04	3760.24	
II Gas Thermal Gen. Stations									
1	Kuttalam GTPS	101.00	77.08%	77.85	6.00%	73.18	73.18	73.18	
2	Thirumakottai GTPS	107.88	68.71%	74.12	6.00%	69.68	69.68	69.68	
3	VGTPS -I	95.00	71.62%	68.04	6.00%	63.96	63.96	63.96	
4	VGTPS -II	92.20	78.37%	72.26	6.00%	67.92	67.92	67.92	
5	BBGTPS	120.00	5.75%	6.90	0.58%	6.86	6.86	6.86	
	TOTAL	516.08		299.17		281.59	281.59	281.59	
III Hydro Stations									
		2191.00	25%	547.75	0.50%	545.01	545.01	545.01	
IV Wind Mills									
		17.55	10%	1.76		1.76	1.76	1.76	
Total Own generation		7677.63		4780.01		3090.40	3966.40	4588.60	
V IPPS									
(A)	S.M.R.Power Corp.(pvt)Ltd(Diesel Based)	196.00	85.00%	166.60		166.60	166.60	166.60	
(b)	Samalpatil Power Co.p Ltd(Diesel Based)	105.66	85.00%	89.81		89.81	89.81	89.81	
(c)	Pillaiaperumalalur Ltd (GAS Based)	330.50	85.00%	280.93		280.93	280.93	280.93	
(d)	Madurai power corp.p.Ltd (Diesel based)	106.00	85.00%	90.10		90.10	90.10	90.10	
(e)	Neyveli ST-CMS pvt.Ltd (Lignite based)	250.00	85.00%	212.50		212.50	212.50	212.50	
(g)	Lanco Tanjore Power Company LTD(Aban)	113.20	85.00%	96.22		96.22	96.22	96.22	
(h)	Pioneer Power Ltd (PENNA)	52.80	85.00%	44.88		44.88	44.88	44.88	
	TOTAL	1154.16		981.04		981.04	981.04	981.04	
VI Central Generating Stations									
(b)	Neyveli TS 1	475.00	72%	342		342.00	342.00	342.00	
(c)	Neyveli TS II Stage -I	203.00	75%	152.25		152.25	152.25	152.25	
	Neyveli TS II - Stage -II	297.00	75%	222.75		222.75	222.75	222.75	
	Neyveli TS I Expansion	226.00	80%	180.8		180.80	180.80	180.80	
	NTPC - Ramakundam I & II	528.00	85%	448.8		448.80	448.80	448.80	
	NTPC - Ramakundam III	132.00	85%	112.2		112.20	112.20	112.20	
	Talcher STPS Stg II	496.00	82%	406.72		406.72	406.72	406.72	
(d)	Madras APS	330.00	70%	231		231.00	231.00	231.00	
(e)	Kaiga APS	220.00	70%	154		154.00	154.00	154.00	
(f)	Eastern Region								
	Farakka (1.46%)	0.00	0%	0		0.00	0.00	0.00	
	Kahalgaon (1.44%)	0.00	0%	0		0.00	0.00	0.00	
	Talcher -I (1.46%)	0.00	0%	0		0.00	0.00	0.00	
(g)	Special Allotment	75.00	85%	63.75		63.75	63.75	63.75	
	Kayankulam	180.00	85%	153		153.00	153.00	0.00	
	Kaiga APS Stage -II, U 4	36.00	70%	25.20			25.20	25.20	
	TOTAL	3198.00		2492.47		2467.27	2492.47	2339.47	
VII CGS Capacity Addition									
	Neyveli TS - II Expansion Unit -I & II	230.00	85%	195.50			195.50	195.50	
(j)	Kudankulam U1	462.00	85%	392.70			392.70	392.70	
	Simhadri U3 &U4	190.00	85%	161.50			161.50	161.50	
	NTPC -TNEB JV at Vallur Stage I	694.00	85%	589.90			589.90	589.90	
(k)	PFBR Kalpakkam	167.00	70%	116.90				116.90	
	NLC -TNEB JV at Tuticorin	387.00	85%	328.95				328.95	
	NTPC -TNEB JV at Vallur Stage II	347.00	85%	294.95				294.95	
	Kudankulam U2	463.00	85%	393.55				393.55	
	TOTAL CGS Addition	2940.00		2473.95		0.00	1339.60	2473.95	
VIII CPP									
		214.00	80%	171.20		171.20	171.20	171.20	
IX Bio-mass									
		137.05	80%	109.64		109.64	109.64	109.64	
X Co gen									
		559.9	55%	307.95		307.95	307.95	307.95	
XI Private Wind Mill									
		5887.165	19.57%	1152.12		1152.12			
		6531.29	19.57%	1278.17			1278.17	1278.17	
XII Total		28299.20		13746.54		8279.61	10646.47	12250.02	

FORM 12				
Details of Transmission and Distribution Loss				
		Percentage of loss		
S. No.	Voltage	2010-11	2011-12	2012-13
1	230 KV	0.95	0.95	0.95
	110 KV	1.5	1.5	1.5
	33 KV	1.50	1.50	1.50
	22 KV/ 11 KV	2.5/3.0 *	2.5/3.0 *	2.5/3.0 *
	LT	10.9	10.5	10.1
	Total	17.6	17.2	16.8