ENERGY DEPARTMENT

POLICY NOTE

2017-2018

DEMAND No.14

Thiru. P. THANGAMANI
Minister for Electricity, Prohibition and Excise

INDEX

ENERGY DEPARTMENT

Introduction

Power sector is the most important sector among various infrastructure sectors in the country. The existence and development of adequate power infrastructure is essential for sustained growth of the economy. The availability of reliable and inexpensive power is critical for the sustainable economic development of our nation. Tamil Nadu's Energy Policy is to provide sustainable energy security to the people of the State at reasonable costs.

During the last six years the Government of Tamil Nadu has followed a detailed roadmap and scripted a remarkable turnaround in the power sector, from a State of acute deficit to a State of surplus due to the visionary efforts of **late Hon'ble Chief Minister Amma.** All Restrictions & Control measures were lifted from June 2015

and 24x7 power is being supplied to all categories of consumers.

An additional power of 10,496 MW has been added to the grid since 2011 by commissioning of new power stations in State and Central sectors, through medium and long term power purchase agreements and solar power. Due to the extraordinary lengths to which the State Government has gone to ensure the smooth commissioning of the atomic power project at Kudankulam, Unit I of Kudankulam Atomic Power Station was dedicated to the nation on 10.08.2016 by Hon'ble Prime Minister of India jointly with the President of the Russian Federation in the presence of late Hon'ble Chief Minister Amma. Further, the commercial operation of Kudankulam Nuclear Power Plant unit-2 (capacity 1000MW out of which Tamil Nadu share is 562.5 MW) commenced on 31.03.2017 and the foundation stone for units 3 and 4, has

also been laid by the Hon'ble Prime Minister of India on 15.10.2016.

Tamil Nadu is a leader in Renewable Energy. At present, the total installed capacity of renewable energy including solar, wind etc., is 10,480 MW. In the last wind season, the State has harnessed around 13,000 Million Units of energy from wind generators, which is an all time record. Also, the State has harnessed around 1,644 million units of energy from solar generators during 2016-17. Proactive steps are being taken to maintain this prominent position in renewable energy.

The present average power demand of Tamil Nadu is about 13,750 MW to 14,250 MW and the maximum demand met was 15,343 MW on 29.04.2016. Further, Chennai met an all time high demand of 3,332 MW on 30.05.2017 and the maximum consumption of 64.830 Million Units on 02.06.2017.

The daily average State consumption has increased from 200 MU during 2011 to 320 million units in 2017 and the maximum consumption was 345.617 MU on 29.04.2016.

Also, the Central Electricity Authority (CEA) in its Load Generation Balance Report (LGBR) has categorically stated that as in the previous year, Tamil Nadu will continue to be a power surplus State in the year 2017-18 also with a energy surplus of 8,663 Million Units and with a peak power surplus of 2,227 MW.

The rating of TANGEDCO which was **'C+'** during FY 2014-15 has been rated as **'B'** for FY 2015-16 in the State Distribution Utilities Annual Integrated Rating published by the Ministry of Power, Government of India because of the financial turnaround and other constructive measures initiated by TANGEDCO. Due to the improvement in the financial status of

TANGEDCO, all efforts will be taken to get **'A'** rating in this financial year.

The Aggregate Technical and Commercial losses (AT & C) losses of TANGEDCO which was 20.24 % during 2010-11 has been reduced to 14.58% in 2015-16 due to various improvement and strengthening works taken by TANGEDCO. It is further planned to reduce the losses to 13.50 % by 2018-19, through modernization, system strengthening and improvement works.

After TANGEDCO has joined the Ujwal DISCOM Assurance Yojana (UDAY) scheme initiated by the Government of India, loans of Rs.22,815 crores has been taken over by the Government of Tamil Nadu. This has given a substantial relief in interest payments/ cash flow management to TANGEDCO. Government of Tamil Nadu has also provided Government Guarantee for Rs.7,605 Crores to TANGEDCO for

mobilization of funds through issue of bonds for repayment of debts.

Apart from the above, Memoranda of Understanding have been executed with the central primary lending institutions viz., M/s. Rural Electrification Corporation (REC) and M/s. Power Finance Corporation (PFC) for financial tie up to the tune of around Rs.95,000 crores for the capital projects.

Additional generation capacities and additional power contracted through long term and medium term basis, has enabled TANGEDCO to discontinue procurement of costly power based on Naptha and Low Sulphur Heavy Stock (LSHS) fuels. Also, with the synchronization of NEW (North, East and West) grid and Southern grid, TANGEDCO is able to avail cheaper power from power exchange.

Furthermore, a saving of approximately Rs.400 crores was achieved by efficient Coal Management and Import substitution. This saving was achieved in spite of an additional expenditure of Rs.615 crores due to clean energy cess and increase in railway tariff by Government of India in the year 2016-17.

These steps have resulted in substantial cost savings resulting in TANGEDCO's losses being reduced from Rs.13,985 crores in 2013-14 to Rs.3,783 crores in 2016-17 and the gap between Aggregate Rate of Realization (ARR) and Aggregate Cost of Supply (ACS) which was Rs.2.16 in 2010-11 being reduced to Rs.0.44 (44 paise) in 2016-17. **After a long gap of 15 years, it is expected that TANGEDCO will break even during the year 2017-18.**

The following organizations are under the Administrative Control of Energy Department:

I. Erstwhile Tamil Nadu Electricity Board which has been re-organized as,

i) TNEB Limited

ii) Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO)

iii) Tamil Nadu Transmission Corporation Limited (TANTRANSCO) and

II. Tamil Nadu Energy Development Agency (TEDA)

III. Chief Electrical Inspectorate to Government (CEIG)

IV. Tamil Nadu Power Finance and Infrastructure Development Corporation Limited (TNPFC)

TNEB Limited

Tamil Nadu Generation and Distribution Corporation Limited and Tamil Nadu Transmission Corporation Limited

Tamil Nadu Electricity Board (TNEB) was restructured on 01.11.2010 into TNEB Limited; Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO) and Tamil Nadu Transmission Corporation Limited (TANTRANSCO).

Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO) is responsible for power generation and distribution. Tamil Nadu Transmission Corporation Limited (TANTRANSCO) is responsible for transmission of power. Further, the electricity network has been extended to all villages and towns throughout the State and all the villages in the State are 100% electrified.

1.1 Turnaround

Tamil Nadu has added 10,496 MW to the State grid from the year 2011, thus making the State not only self-sufficient but also a power surplus State.

Due to **the untiring efforts of the late Hon'ble Chief Minister Amma,** the demand and energy cut which had been imposed during the year 2008 was totally withdrawn from 05.06.2015 and 24x7 power is being supplied to all the categories of consumers across the State. Also, the State Government has signed the '24x7 Power for All' document on 09.01.2017 ensuring to continue to supply quality uninterrupted power to all categories of consumers.

The present average power demand of Tamil Nadu is about 13,750 MW to 14,250 MW and the maximum demand met was 15,343 MW on 29.04.2016. Further, Chennai met

an all time high demand of 3,332 MW on 30.05.2017 and the all time maximum consumption of 64.830 Million Units on 02.06.2017.

The daily average State consumption has increased from 200 MUs during 2011 to 320 million units in 2017 and the maximum consumption was 345.617 MU on 29.04.2016.

Also, the Central Electricity Authority (CEA) in its Load Generation Balance Report (LGBR) has categorically stated that as in the previous year, Tamil Nadu will continue to be a power surplus State in the year 2017-18 also with a surplus of 8,663 MUs and with a peak surplus of 2,227 MW.

Tamil Nadu has witnessed the peak surplus power in the financial year 2016-17 and has continued to move forward with adequate plans for surplus power in the forthcoming years. To evacuate the additional power generation and to provide quality and reliable supply, there has been

a significant transmission infrastructure addition. From the year 2011, 343 substations have been commissioned and 9673.27 circuit kms of EHT lines and 20,746.48 kms of HT lines have been energized. Also, 55.84 lakhs new service connections have been effected.

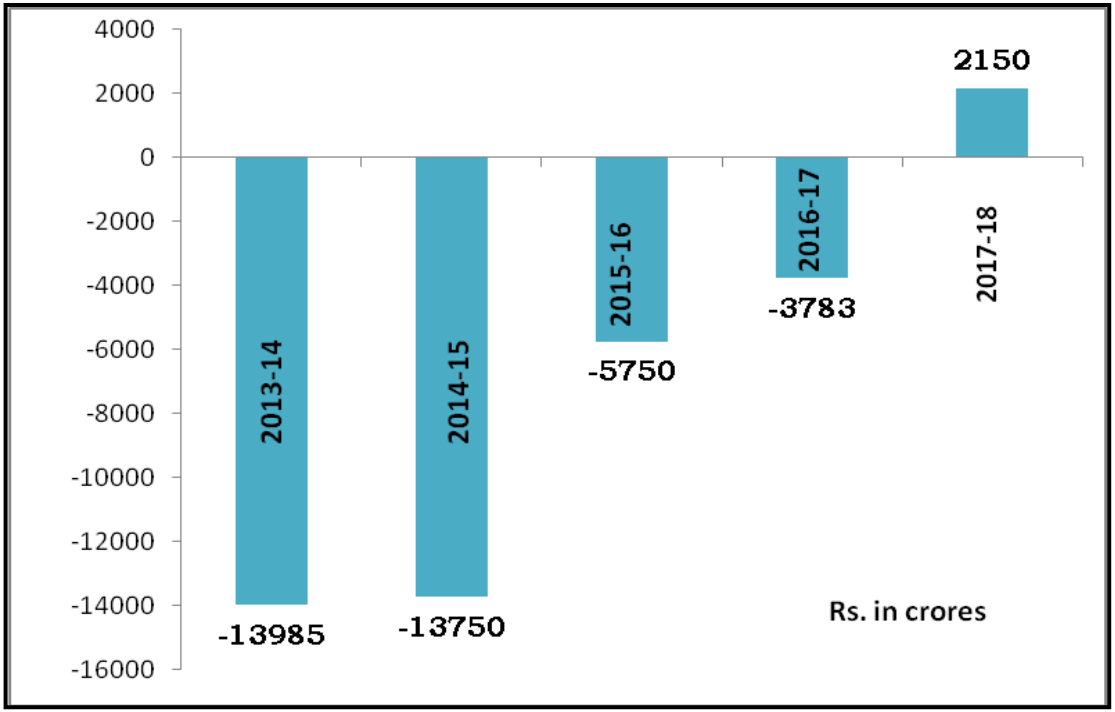
TANGEDCO has implemented several schemes in order to improve the customer oriented services. On this front, to ease the hassle of applying for a new service connection, on-line filing of applications for HT and LT electricity connections was launched on 05.08.2016 by **the late Hon'ble Chief Minister Amma.** Now, consumers can file the application for new service connection on-line.

In addition to this, the Hon'ble Minister for Electricity, Prohibition and Excise has inaugurated the 'one day service connection scheme' in Tamil Nadu in respect of LT Domestic and Commercial service connections (other than special and

multi-storeyed buildings) and also launched the customer friendly initiative 'Minsara Nanban' to share information about scheduled / unscheduled electrical power outages on 12.06.2017.

On the revenue front, TANGEDCO's losses which were Rs.13,985 crores in 2013-14 have been reduced to Rs.3,783 crores in 2016-17 and the gap between Aggregate Rate of Realisation (ARR) and Aggregate Cost of Supply (ACS) which was Rs.2.16 in 2010-11 has been reduced to Rs.0.44 (44 paise) in 2016-17. **TANGEDCO, after a long gap of fifteen years will break even during the current financial year i.e.,2017-18.**

TANGEDCO's Turnaround



This turnaround has been possible because of additional generation capacities and additional power contracted through long term and medium term basis which has enabled TANGEDCO to discontinue costly power based on Naptha and Low Sulphur Heavy Stock (LSHS) fuels. Also, with the synchronization of NEW (North, East, and West) grid and Southern grid, TANGEDCO could avail power from the power exchange at reasonable price.

Furthermore, a saving of approximately Rs.400 crores was achieved by efficient coal management and import substitution. This savings was achieved in spite of an additional expenditure of Rs.615 crores due to clean energy cess and increase in railway tariff by the Government of India in the year 2016-17.

1.2 Efforts taken by TANGEDCO and TANTRANSCO during flood and Vardah cyclone

1.2.1 Vardah

i. The cyclone Vardah struck land at Chennai Coast, Tamil Nadu on 12.12.2016 with a wind speed of 130 to 140 kmph, bringing with it heavy rain that lashed the coast of Tamil Nadu devastating the electrical infrastructure.

ii. Chennai, Kanchipuram, Tiruvallur were the worst affected districts. In these districts, EHT transmission towers and transmission lines collapsed due to the high wind speed and also the substation equipments were damaged. The power lines, poles and distribution transformers of distribution network were also affected due to high wind speed as the uprooted trees fell on the electrical network lines and structures.

iii. There were damages in other districts also like Thiruvannamalai and Vellore.

iv. 59 nos. of EHT towers collapsed and around 800 distribution transformers, 49,100 poles, 4500 pillar boxes and 15,000 km conductors were damaged.

v. On 12.12.2016 due to collapse of EHT towers feeding Chennai, the supply to entire Chennai city and its suburban areas was totally cut off from 12.00 in the afternoon.

vi. Restoration work was taken up immediately and supply was restored initially for emergency services such as Government General Hospital, Secretariat and High Court of Madras within 3 hours. Supply was also normalized for CMBT Koyambedu and Chennai airport that night itself.

vii. Staff and labour (around 15000 persons) from Chennai, other regions and also from the neighbouring State of Andhra Pradesh

were deployed to carry out restoration works on war footing from 12.12.2016 onwards.

viii. Materials were diverted from all the regions of Tamil Nadu and 10,000 poles & 100 distribution transformers were procured from Andhra Pradesh and used in the restoration works.

ix. Due to the efforts taken by TNEB in the restoration works, supply was fully restored in Chennai city on 15.12.2016 and suburban areas on 18.12.2016. Supply to all Municipalities, Town Panchayats and Panchayats was completely restored by 20.12.2016.

x. The efforts taken by TNEB were highly appreciated by the public.

Quantum of Damages caused

Quantum of Damages caused

Quantum of Damages caused – Damaged tower

Quantum of Damages caused – Damaged tower

Restoration Works

Restoration Works

Restoration Works

1.2.2 Damages during pre-monsoon – (April and May 2017)

i. Extensive damages were caused to the Electrical Distribution network in Dharmapuri, Krishnagiri, Thirupattur and Vellore of Vellore Region, Erode, Gobi, Salem and Namakkal of Erode Region, Dindigul, Madurai, Theni, Ramnad and Sivaganga of Madurai Region and Virudhunagar, Tirunelveli, Tuticorin and Kanniyakumari of Tirunelveli Region due to heavy wind and rain during April and May 2017.

ii. Along with local personnel, around 200 staff from nearby Circles were deputed with materials, JCB and lorries to carryout restoration works.

iii. 6000 Poles and 167 Distribution Transformers got damaged and the value of damages is estimated as Rs.4.20 crores.

iv. Restoration works were fully completed immediately on war footing basis.

1.3 Roadmap for the future

This Government has also taken necessary steps to meet the future power demand. On this front, it is envisaged to add 2500MW of hydel power and 13,000MW of thermal power in the forthcoming years and also to provide necessary transmission infrastructure to evacuate the generated power.

1.3.1 Solar power

Tamil Nadu has total solar installed capacity of 1702.40 MW as on 31.05.2017. Considerable quantum of solar generation is being realised during day time to a tune of around 800 MW to 1200 MW.

The State has harnessed around 1,644 million units of solar energy during 2016-17. Further, an all-time high generation of 1498 MW and the all time maximum energy of 9.40 Million

Units has been harnessed from solar generators on 27.03.2017.

It is proposed to increase the solar power installed capacity by further 5000 MW in a phased manner in the forthcoming years. In this regard a tender has been floated for the procurement of 1500 MW under reverse bidding route.

1.3.2 Wind Power

Tamil Nadu is a pioneer in promoting wind energy in the country, with an installed capacity of 7854.81 MW as on 31.05.2017 and which is the highest wind power capacity in the country and contributes to about 28.43% of the country's total installed wind power capacity.

Also the State has harnessed around 13,000 million units of wind energy during 2016-17, the highest so far. Further, an all-time high generation of 4957 MW on 05.06.2017 and the all time maximum energy of 99.46 MUs on 30.05.2017 has been harnessed from wind generators.

It is proposed to increase the wind installed capacity by further 4500 MW in a phased manner in the forthcoming years.

As Tamil Nadu is already having a huge installed capacity of wind power which satisfies the State's Renewable Energy Purchase Obligation (RPO), it is in a position to sell wind power to the other needy States who require this power to fulfill their RPO.

During the last wind season around 120MW of wind power has been scheduled daily to Odisha as sale of green power. Similarly efforts are being taken to schedule around 500MW of green power daily to the needy States.

1.4 Generation

1.4.1 Demand and supply

The present average power demand of Tamil Nadu is about 13,750 MW to 14,250 MW and the average power demand is expected to go upto 15,250 MW by the end of 2017-18. This demand

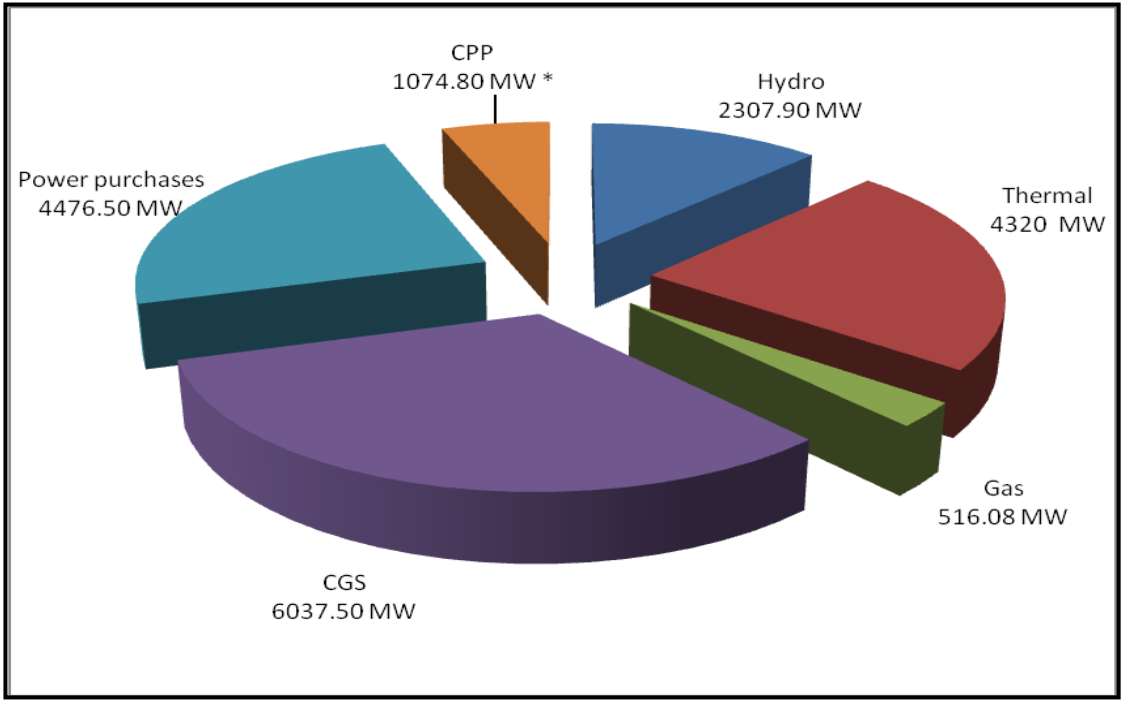
will be met by the generation from existing power stations and power projects to be commissioned. The daily average State consumption is around 320 MUs.

1.4.2 Installed capacity as on 31.05.2017

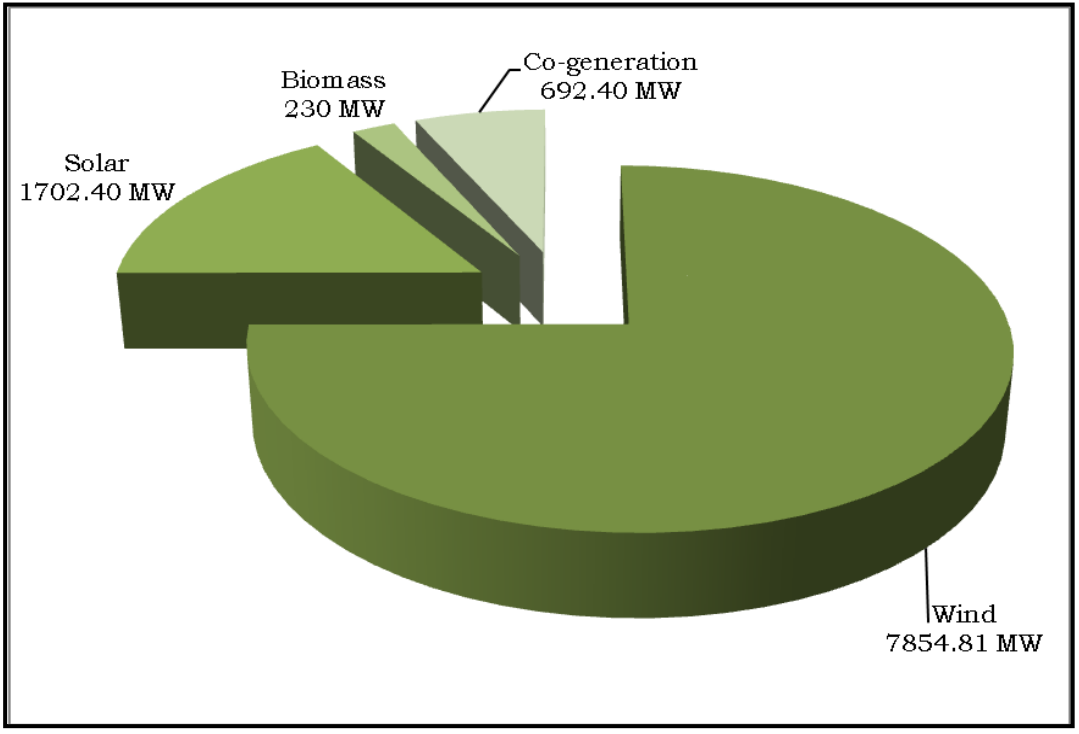
Sl No	CATEGORY	Capacity in MW
I	**Conventional energy sources**	
1	Hydro	2307.90
2	Thermal	4320.00
3	Gas	516.08
4	Central Generating Stations	6037.50
5	Power purchases	
	Independent Power Projects (IPP)	746.50
	Long Term Open Access (LTOA)	3330.00
	Medium Term Open Access (MTOA)	400.00
	Total power purchases	4476.50
6	Captive Power Projects (CPPs)	1074.80 *
	Total conventional	**18,732.78**

Sl No	CATEGORY	Capacity in MW
II	**Renewable energy sources**	
1	Wind	7854.81
2	Solar	1702.40
3	Biomass - Combustion	230.00
4	Co-generation	692.40
	Total non- conventional	**10,479.61**
	Grand total	**29,212.39**
	* These CPPs though not supplying to TANGEDCO, supply through open access to private consumers.	

Installed Capacity-Conventional Energy Sources



Installed Capacity- Non Conventional Energy Sources



1.4.3 Capacity added from the year 2011-12

Year	Projects	Capacity in MW	Commissioning date
2011-12			
	Bhavani Kattalai Barrage II	30	29.11.11
	Periyar –Vaigai SHEP II	2.5	30.01.12
	Simhadri stage II Unit 1(TN's Share)	99.5	16.09.11
	Periyar PH RMU (unit 1,35 MW to 42 MW)	7	14.07.11
2012-13			
	Simhadri stage II Unit 2 (TN's Share)	99.5	30.09.12
	TANGEDCO -NTPC JV (500 MW) unit 1 (Vallur)	359	29.11.12
	Periyar PH RMU(unit 2, 35 MW to 42MW)	7	11.09.12
	Bhavani Barrage 2 (2x5 MW)	10	26.10.12

Year	Projects	Capacity in MW	Commissioning date
2013-14			
	TANGEDCO -NTPC JV (500 MW) unit 2 (Vallur)	359	25.08.13
	MTPP Stage III	600	12.10.13
	NCTPS Stage II unit 1	600	20.03.14
	Periyar PH RMU (unit 3,35 MW to 42MW)	7	08.01.14
	Bhavani Kattalai Barrage 3	30	16.10.13
	Periyar –Vaigai SHEP III	4	11.09.13
2014-15			
	NCTPS Stage II unit 2	600	08.05.14
	Kudankulam (1000 MW) unit 1 (TN's Share)	563	31.12.14
	TANGEDCO -NTPC JV (500 MW) unit 3 (Vallur)	358	26.02.15

..contd..

Year	Projects	Capacity in MW	Commissioning date
2015-16			
	Neyveli TS 2 Expansion (2x250 MW) – Unit I , Unit II (TN's Share)	271	Unit-2 22.04.15 Unit-1 05.07.15
	TANGEDCO -NLC JV Tuticorin (2x500MW)– Unit I, Unit II	439	Unit-1 18.06.15 Unit-2 29.08.15
	Bhavani Barrage 1 (2x5 MW)	10	Unit–1 29.05.15 Unit–2 02.07.15
	Periyar Vaigai	2.5	
	Periyar PH RMU - Unit 4 (35 to 42 MW)	7	
2016-17			
	Changes in the Unallocated CGS shares	36	
	Kudankulam (1000MW) unit II (TN's share)	562.5	31.03.2017

..contd..

Year	Projects	Capacity in MW
	Total (2011-12 to 2016-17)	**5063.5**
	Long Term Open Access	**3330**
	Medium Term Open Access	**400**
	Renewable Energy - Solar	**1702.40**
	Grand Total	**10495.90**

NORTH CHENNAI THERMAL POWER STATION – STAGE II
(2X600MW)

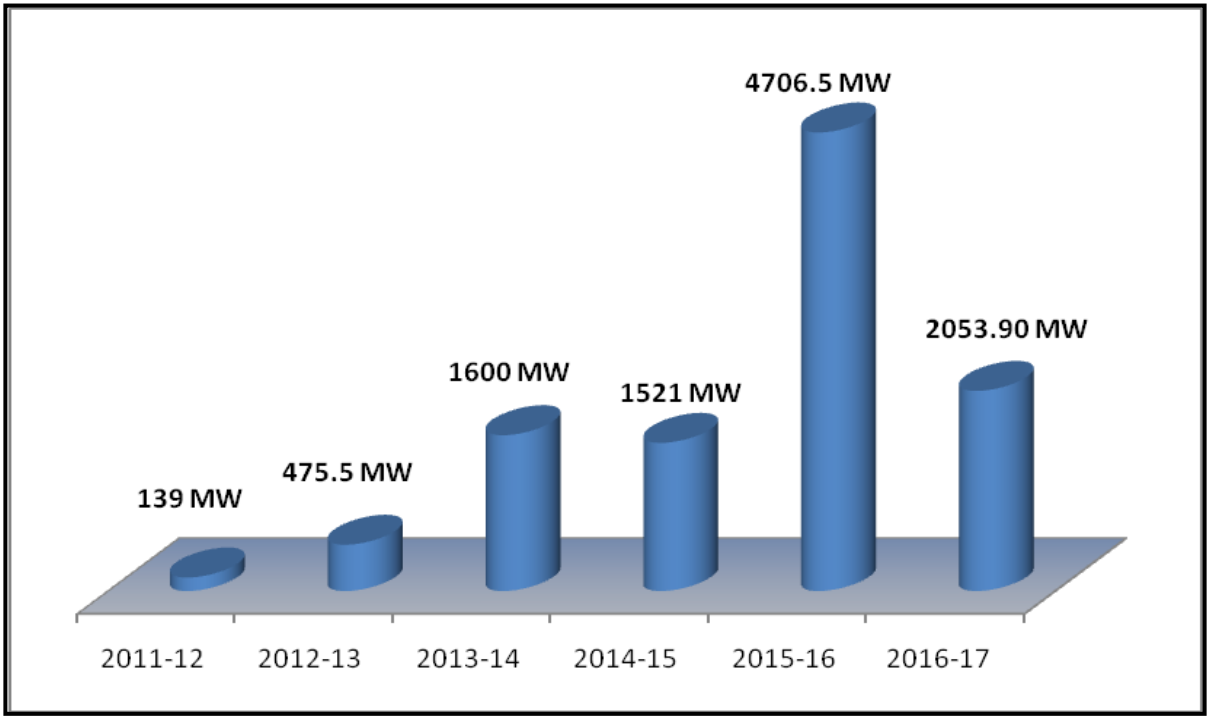
METTUR THERMAL POWER STATION – STAGE III (1X600MW)

TANGEDCO- NTPC JOINT VENTURE- VALLUR
(3X500MW) (TN's share – 1065 MW)

Capacity addition since 2011

S.No	Year	Capacity Addition (in MW)
1	2011-12	139.00
2	2012-13	475.50
3	2013-14	1600.00
4	2014-15	1521.00
5	2015-16	729.50
6.	2016-17	598.50
7	LTOA	3330.00
8	MTOA	400.00
9	Renewable Energy – Solar	1702.40
	TOTAL	**10495.90**

Capacity addition since 2011



1.4.4 Projects

1.4.4.1 Ongoing projects

Sl.No	Projects	Capacity in MW	Value in Rs. (Crores)
1	ETPS Expansion Project (1x660 MW- Super critical)	660	5,421
2	Ennore SEZ Thermal Power Project (2 x 660 MW)	1320	9,800
3	NCTPS Stage-III (1 x 800 MW)	800	6,376
4	Uppur Thermal Power Project (2 x 800 MW)	1600	12,778
5	Udangudi Thermal Power Project Stage I (2x660MW)	1320	10615
6	Kundah pumped storage hydro-electric project (4x125MW)	500	1831.29
	TOTAL	**6200**	**46,821**

1. ETPS Expansion TPP (1 x 660 MW)

The total project cost including IDC (Interest During Construction) is Rs.5,421 crores. Letter of Intent (LOI) for EPC (Engineering Procurement Construction) contract has been issued. Turbine Generator raft concreting and chimney shell work completed. Other civil works are under progress. The project is expected to be commissioned during 2018-19.

ETPS EXPANSION PROJECT-1X660MW
Chimney works under progress

Structural Erection

Piling works under progress

2. Ennore SEZ Thermal Power Project (2 x 660 MW)

The total project cost including IDC is Rs.9800 crores. LOI for EPC cum debt finance contract has been issued. Works resumed on 19.10.2016, based on the orders dated 18.10.2016, from the Hon'ble Supreme Court. Project works are under progress. The project is expected to be commissioned during 2019-20.

3. NCTPS Stage-III (1 x 800 MW)

The total project cost including IDC is Rs.6,376 crores. LOIs have been issued for BTG (Boiler, Turbine, Generator) package with allied civil works and for Balance of Plant (BOP) package with allied civil works on EPC basis. Works are under progress. The project is expected to be commissioned during 2019-20.

NCTPS Stage-III (1 x 800 MW)
Piling works under progress

4. Uppur Thermal Power Project (2 x 800 MW)

The total cost of the project including IDC is Rs.12,778 crores. LOI issued for BTG (Boiler, Turbine, Generator) package with allied civil works on Engineering Procurement Construction (EPC) basis. Geo-technical work is under progress. The project is expected to be commissioned during 2019-20.

5. Udangudi Thermal Power Project – Stage-I (2 x 660 MW)

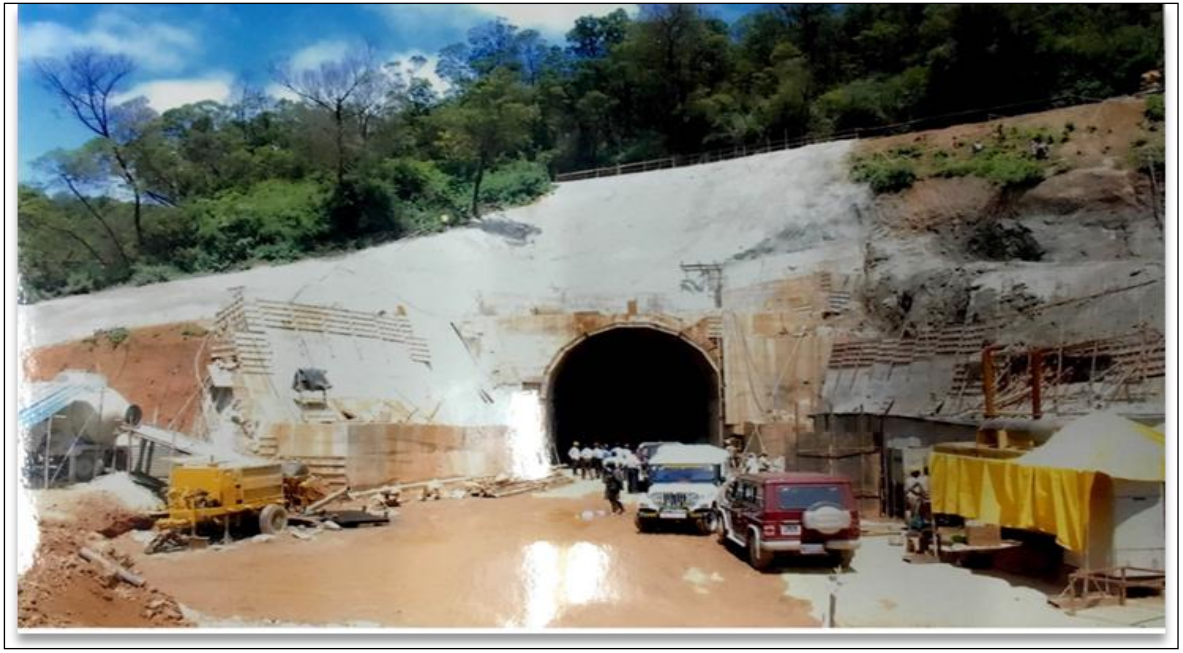
The total project cost including IDC is Rs.10,615 crores. A fresh tender was called for on 21.04.2015. The Hon'ble Madras High Court issued an interim order dt 30.10.2015 in the stay petition permitting TANGEDCO to proceed with the processing of the tender and withholding the award of tender till further orders. The final hearing of the Court case is awaited. TANGEDCO Board has accorded approval for

award of EPC contract subject to the outcome of the pending court case. The project is expected to be commissioned during 2020-21.

6. Kundah pumped storage hydro-electric project- (4x125MW)

The total cost of the project including IDC is Rs.1831.29 crores. All the statutory clearances required for the project have been obtained. This project is proposed to be executed in 3 phases. Execution of certain works such as access tunnel, cable cum ventilation tunnel and approach roads have been completed.

Kundah pumped storage hydro-electric project- (4x125MW)
Main Access Tunnel



Cable cum Ventilation Tunnel

1.4.4.2 New Projects

Sl. No	Projects	Capacity in MW	Value in Rs. (Crores)
1	Ennore Replacement Thermal Power Project (1x660 MW)	660	5400
2	Udangudi Expansion Project Stage II (2x660MW)	1320	8745
3	Udangudi Expansion Project Stage III (2x660MW)	1320	8745
4	Sillahalla Pumped Storage HEP (4x500MW)	2000	7000
5	Kadaladi Thermal Power Project (5x800 MW)	4000	24000
	TOTAL	**9300**	**53,890**

1. Udangudi Thermal Power Project Stage–II (2 x 660 MW)

The total cost of the project including IDC is Rs.8,745 crores. Land acquisition and various other related activities are under progress.

Ministry of Environment and Forest & Climate Change, Government of India has directed TANGEDCO to approach the Ministry after awarding the work of Udangudi Stage-I, for considering the issue of Terms of Reference for Stages II & III.

2. Udangudi Thermal Power Project Stage–III (2 x 660 MW)

The total cost of the project including IDC is Rs.8,745 crores. Land acquisition and various other related activities are under progress. Ministry of Environment and Forest & Climate Change, Government of India has directed TANGEDCO to approach the Ministry after awarding the work of Udangudi Stage-I, for considering the issue of TOR for Stages II & III.

3. Ennore Replacement Thermal Power Project (1 x 660 MW)

The total cost of the project with IDC is Rs.5,400 crores. LOI issued for Consultancy

services for preparation of detailed project report and tender is under evaluation for engaging the consultant for preparation of Asset Valuation report of old ETPS units. Public hearing for the project has been held on 30.05.2017.

4. Kadaladi Thermal Power Project, Ramanathapuram (5x800 MW)

The total cost of the project is Rs.24,000 crores. The Ministry of Environment and Forest in its Expert Appraisal committee meeting held on 30.08.2016 has directed TANGEDCO to explore 3 new sites as the sites already proposed fall within the buffer zone of Gulf of Mannar biosphere reserve area. It is proposed to shift the site suitably away from the buffer zone. Alternate sites are being identified.

5. Cheyyur Ultra Mega Power Project (5 x 800 MW)

The project cost including IDC is Rs. 25,970 crores. This is an project being developed by Government of India with private sector participation through Power Finance Corporation. Tamil Nadu will get 1600 MW power from the project as its share. Land acquisition is under process. The Ministry of Power has agreed to allot a coal block for this project. Government of India is in the process of modifying the bidding documents for utilization of 100% domestic coal. Ministry of Power has planned to upload the bidding documents shortly after which tender processing will be initiated.

6. Sillahalla Pumped Storage HEP (2000 MW)

The total cost of the project is Rs. 7,000 crores.

Preparation of Detailed Project Report, conducting all geo-technical investigation works, EIA study, getting all necessary clearances from Ministry of Environment and Forest & Climate Change and Central Electricity Authority, New Delhi for the Sillahalla PSHEP Stage –I (4x250MW) is being taken up.

Preliminary works such as drilling exploratory boreholes & conducting Seismic refraction survey at Sillahalla dam site and conducting detailed survey in water conductor system area have been completed.

1.5 Coal and Coal Block

1.5.1 Coal

a. Fuel Supply Agreements (FSAs) have been executed with Eastern Coalfields Limited and Mahanadi Coalfields Limited for a total quantity of 20.445 Million Tonns per Annum (MTPA) in 2009, 2012 and 2013 for

supply of Indian coal for all the thermal power plants of TANGEDCO.

b. The Ministry of Coal/ Coal India Limited (CIL) has proposed to substitute Import coal with high grade domestic coal.

Subsequently, TANGEDCO has signed Side Agreement with ECL for a quantity of 2.50 MTPA on 31.10.2016. Further, as directed by Coal India Limited under Import Substitution, TANGEDCO has signed FSA with Central Coalfields Ltd (CCL) for a quantity of one MTPA on 18.11.2016 and with Western Coalfields Ltd (WCL) for a quantity of 0.50 MTPA on 24.05.2017 transferring 1.5 MTPA from FSA – 2009 of MCL.

TANGEDCO has also executed an Memorandum of Understanding with Singareni Collieries Company Limited (SCCL) on 23.11.2016 for a quantity of one MTs for the period from 23.11.2016 to 31.03.2017. The supply against this MoU

has commenced on 23.11.2016 and the MoU has been further extended beyond 31.03.2017.

c. Savings achieved

Due to increase in clean energy cess, Railway freight charges and coal cost by Government of India during 2016-17, an additional expenditure of Rs. 615 crores towards coal cost was incurred.

Inspite of the above, by effective management of inventory, procurement, logistics and reduction in consumption of imported coal, the expenditure was curtailed in the average landed cost of coal during 2016-17 when compared to the previous financial year. Also import of coal has been totally stopped from the current year. Thereby, the net savings in the total coal expenditure works out to around Rs.400 crores.

1.5.2 Coal block allocation by Government of India

The Ministry of Coal has allocated Chandrabila coal block in Odisha on 24.02.2016 which has a reserve capacity of 550 Million Tonnes to TANGEDCO.

TANGEDCO has signed coal block development and production agreement with Ministry of Coal on 30.03.2016 for the development of Chandrabila coal block and has applied for Prospecting Licence to the District Collector, Angul. Efforts are underway to appoint Mine Developer cum Operator (MDO) for the development of the coal block.

1.6 Power Purchases

Tamil Nadu Generation and Distribution Corporation Limited had executed 11 long term Power Purchase Agreements for procurement of 3330 MW power for fifteen years from 2014.

Out of 3330 MW, 2158 MW is from inter-state generators and 1172 MW from intra-state generators. Out of 2158 MW, from inter-state generators, 1658 MW is being received. In case of intra-state generators, 1172 MW is being received.

1.7 Co-generation projects

TANGEDCO has taken up establishment of 12 co-generation plants with a total capacity of 183 MW in co-operative and public sector sugar mills along with sugar mill modernization in Tamil Nadu at a total cost of Rs. 1,241.15 crores. 18 MW capacity co-gen project at Chengalrayan Co-op. Sugar Mills Ltd., Villupuram District and the Vellore co-gen plant (15MW) were commissioned on 17.02.2016 and 19.01.2017 respectively.

Co-generation projects at Cheyyar (15 MW), Arignar Anna (15 MW) and Perambalur (18 MW) have been programmed

to be commissioned in July 2017. The balance 7 Nos. co-gen projects are likely to be commissioned before December 2017.

1.8 Transmission

TANTRANSCO has planned to develop transmission infrastructure to effectively evacuate power from the existing and new power generating stations. The existing capacity of intra state transmission system is enhanced year by year to match the capacity addition in generation and to meet the increasing demand.

In the News letter "Tarang", published by the Central Electricity Authority, TANTRANSCO has been placed as the **TOP performer** in the addition of Transmission line in the category of Intra State Transmission System for having erected 1327 ckt kms of transmission lines. Also, TANTRANSCO has been placed in 3rd position in the category of Transmission capacity addition for having added capacity of 2875 MVA.

Substations 66kV & above and EHT lines in the existing network as on 31.05.2017

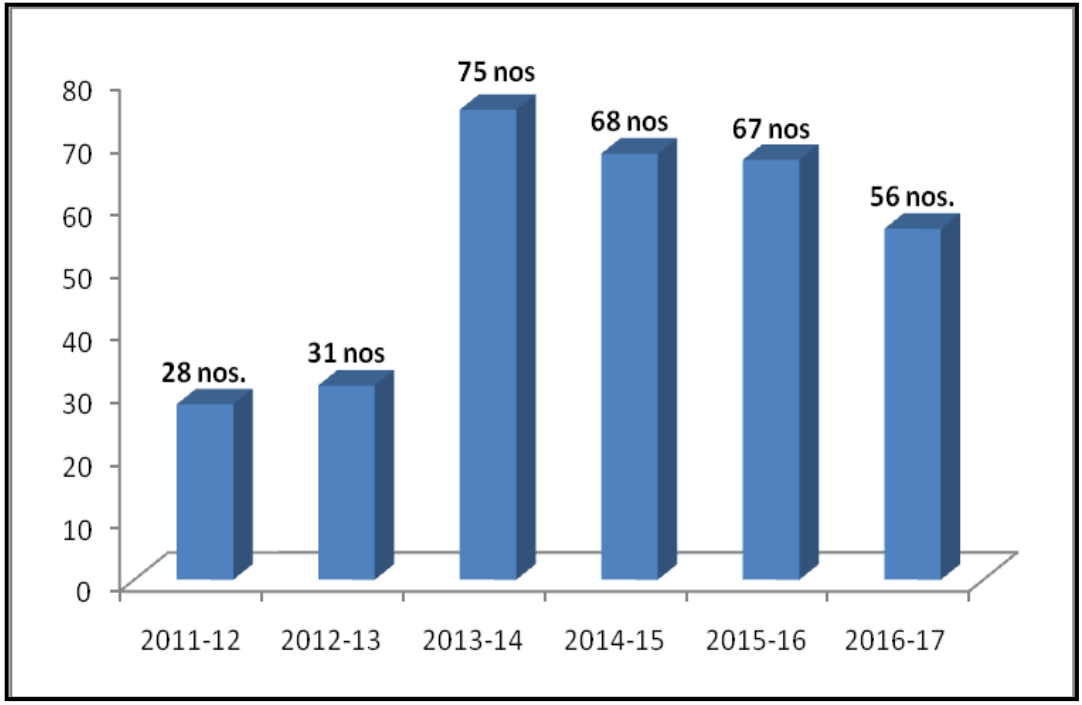
S.No	Rating	Number of substations/ EHT lines
1	765 kV	4 * (PGCIL SS)
2	400 kV	20 **
3	230 kV	96
4	110 kV	839
5	66 kV	6
	Total	**965**
	EHT lines	31,604.201 circuit kms

(Note *3 substations initially charged at 400 kV level,
**10 nos. are PGCIL SS)

Number of substations commissioned and EHT lines energized since 2011

S. No	Year	Number of substations commissioned				EHT lines Energised in circuit kms
		400kV	230kV	110kV	33kV	
1	2011-12	1	--	13	14	691.072
2	2012-13	--	2	18	11	1268.05
3	2013-14	--	4	43	28	1436.391
4	2014-15	2	4	40	22	2634.147
5	2015-16	--	9	35	23	1987.679
6.	2016-17	4	7	36	9	1487.437
7	2017-18	--	1	1	--	168.50
	Total	**7**	**27**	**186**	**107**	**9673.276**

Number of substations commissioned and EHT lines energized since 2011



1.8.1 Tamil Nadu's first digital substation

Specification is under preparation for floating tender for the 230/110 kV digital substation at Selvapuram in Coimbatore district with a scheme cost of Rs. 65 crores. By adopting digital technology in the communication network between C&R Panels and yard equipments, the time taken for rectification of fault is reduced and supply can be restored early.

1.8.2 Interstate Transmission System

NEW (North, East and West) grid has been connected to the Southern grid by means of Raichur-Sholapur 765kV DC line. Due to the concerted and tireless efforts of **the late Hon'ble Chief Minister Amma,** 765kV Narendra-Kolhapur, Raichur-Kurnool and Kurnool-Tiruvalam double circuit lines have been established, which enabled the power

transfer under LTOA to Tamil Nadu without any constraints.

In addition to the above, the commissioning of Angul – Srikakulam – Vemagiri 765kV DC lines and Wardha – Nizamabad 765kV DC lines has increased the Available Transfer Capability (ATC) between NEW Grid and Southern Grid (SR) .

1.8.3 Intra state transmission system under progress

i) During 2016-17, 4 nos. 400 kV substations at Karamadai, Kamudhi, Kanarpatty and Dharmapuri and 7 nos. 230 kV substations at Singapuram, Echur, Kinnimangalam, Thiruchuli, Ambattur III Main Road, Poyyur and Kurukkathi have been commissioned.

ii) **Among all transmission utilities in India, TANTRANSCO is the first utility to erect a 765kV network.**

TANTRANSCO has issued orders to establish a 765/400 kV Substation at Ariyalur in Sankarapuram taluk at Villupuram District to evacuate and to transfer the power generated in ongoing North Chennai and Ennore Thermal power stations to southern parts of Tamil Nadu.

Works are under progress for 765 kV DC line from Ariyalur to Thiruvalam 765 kV PGCIL substation which is programmed to be commissioned by 31.03.19.

Further tender is under evaluation for establishment of 765/400 kV pooling station at North Chennai, and land acquisition is under process for a 765 kV substation at Coimbatore.

iii) Works are under progress for 400 kV substation at Thervoykandigai and 230 kV substations at Valayapatty, Jambunathapuram, Savasapuram, Kanchipuram, Mondipatty, Samayanallur, Porur and Neyveli 230 kV

substations and will be completed by March 2018.

iv) Tenders are under various stages for Vellalaviduthi, Pulianthope and Tharamani 400 kV substations and Uddanapally, Tirupathur, Sankarapuram, Thuvakudi, Thiruvanmiyur and Narimanam 230 kV substations and these will be completed by 2018-19.

v) Initial works for floating of tenders are under process for establishment of 400kV SS at Edayarpalayam and 230 kV substations at Selvapuram, Poolavady and Erode.

1.8.4 Solar power evacuation

i) In order to evacuate solar power generation in the southern districts of the State, Kamudhi 400 kV substation and 230 kV substation at Muthuramalingapuram have been functioning from 08.09.2016 and 20.02.2017 respectively.

1.8.5 Green Energy Corridor Intra State Schemes

i) A separate corridor with three new 400 kV substations at Thappagundu, Anakadavu and Rasipalayam along with the associated 400 kV lines of length 830 Kms to be connected to Dharmapuri (Palavadi) 400 kV SS are under progress and this transmission system will be commissioned by September 2017.

ii) For evacuation of wind power, 400 kV substation has been commissioned on 09.01.2017 at Kanarpatty with connectivity to Kayathar 400 kV substation and Tirunelveli (PGCIL) 400 kV substation at a cost of Rs.248 Crores.

1.8.6 Japan International Cooperation Agency (JICA) Assistance

Establishment of five 400kV substations and twelve 230 kV substations along with the associated transmission lines

have been sanctioned at a total outlay of Rs.5,014 crores with the Official Development Assistance (ODA) Loan of JICA amounting to Rs.3,572.93 crores.

Out of the five 400 kV substations, Karamadai 400 kV substation has been commissioned. Sholinganallur and Manali 400kV substations are programmed to be commissioned shortly. Work will be commenced for Guindy and Korattur 400 kV substations during this year.

Out of the twelve 230 kV substations, 7 nos. 230 kV substations at Alandur, Karuvalur, Echur, Kinnimangalam, Ambattur III Main Road, Poyyur and R.A.Puram have been commissioned. Kumbakonam and CMRL Central 230 kV substation are programmed to be commissioned in December 2017. Works are under progress for Tiruppur,

Shenbagapudur and TNEB Head Quarters substations.

1.8.7 Schemes under KfW Funding

In order to evacuate the huge quantum of the Renewable Energy (RE), TANTRANSCO has taken up establishment of a vast network of high capacity transmission lines in the State at an estimated cost of Rs.6000 crores.

Ministry of New and Renewable Energy (MNRE) has recommended assistance for creation of the transmission network infrastructure for Rs.1593 crores to Tamil Nadu. Government of India has accorded approval for a grant of Rs.637.20 Crores (40%) under National Clean Energy Fund (NCEF). Agreement with KfW was signed on 17.12.2014 between Government of India and KfW (German Development Bank) for a soft loan of Rs.637.20 crores (40%) from KfW German funding. The balance

Rs.318.60 crores. (20%) is proposed as equity by TANTRANSCO.

The schemes under KfW funding have been taken up in five packages.

Package –I

Thennampatti 400 kV SS – Works are under progress and will be completed by 2017-18.

Package –II

400 kV DC Line connecting Thennampatti - Kayathar 400 kV SS (48 kms) and 4 Nos. 400 kV bay provision at Kayathar – Work will be taken up during 2017-18.

Package –III

400 kV DC Line connecting Rasipalayam & Singarapet (Palavadi) (195 kms) and 2 Nos 400 kV bays at Palavadi SS. Works are under progress and will be completed by December 2017.

Package –IV

230 kV Transmission lines in various regions of the State with a length of 284.9 kms are under progress and will be completed by December 2017.

Package V

Augmentation of 230/110 kV transformation capacity at existing six substations at Annupankulam, Cuddalore, Villupuram, Pudukottai, Thiruvannamalai and Sembatty. Works are under progress and will be completed by December 2017.

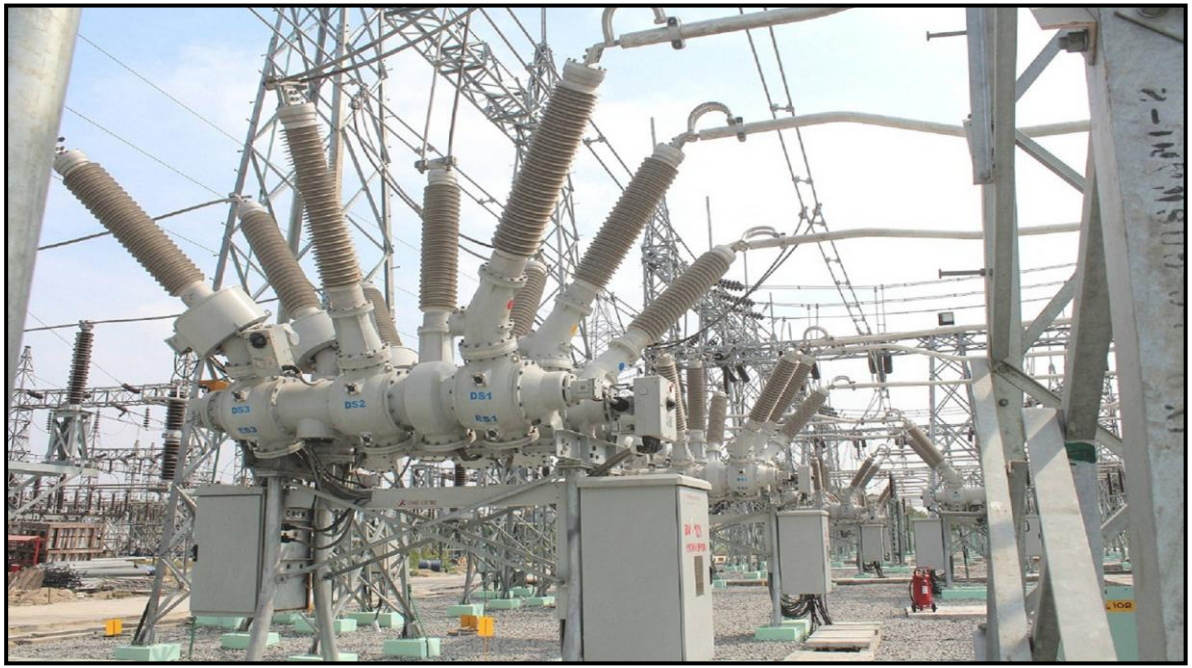
ONGOING SCHEMES ABSTRACT

S. No	Voltage Ratio	Number of substations	Total Scheme cost in Rs crores
1	765 kV	1	2131.43
2	400kV	7	2973.50
3	230kV	13	1260.74
	Total	**21**	**6365.67**

SCHEMES PROPOSED FOR 2017-18 ABSTRACT

S. No	Voltage Ratio	Number of substations	Total Scheme cost in Rs crores
1	765 kV	3	10948.80
2	400kV	7	4865.71
3	230kV	16	1685.96
4	110kV	41	527.57
	Total	**67**	**18028.04**

Thiruverkadu 230kV Hybrid substation



Kamudhi 400kV substation

Kannarpatty 400kV substation

1.9 Distribution

1.9.1 Salient Features

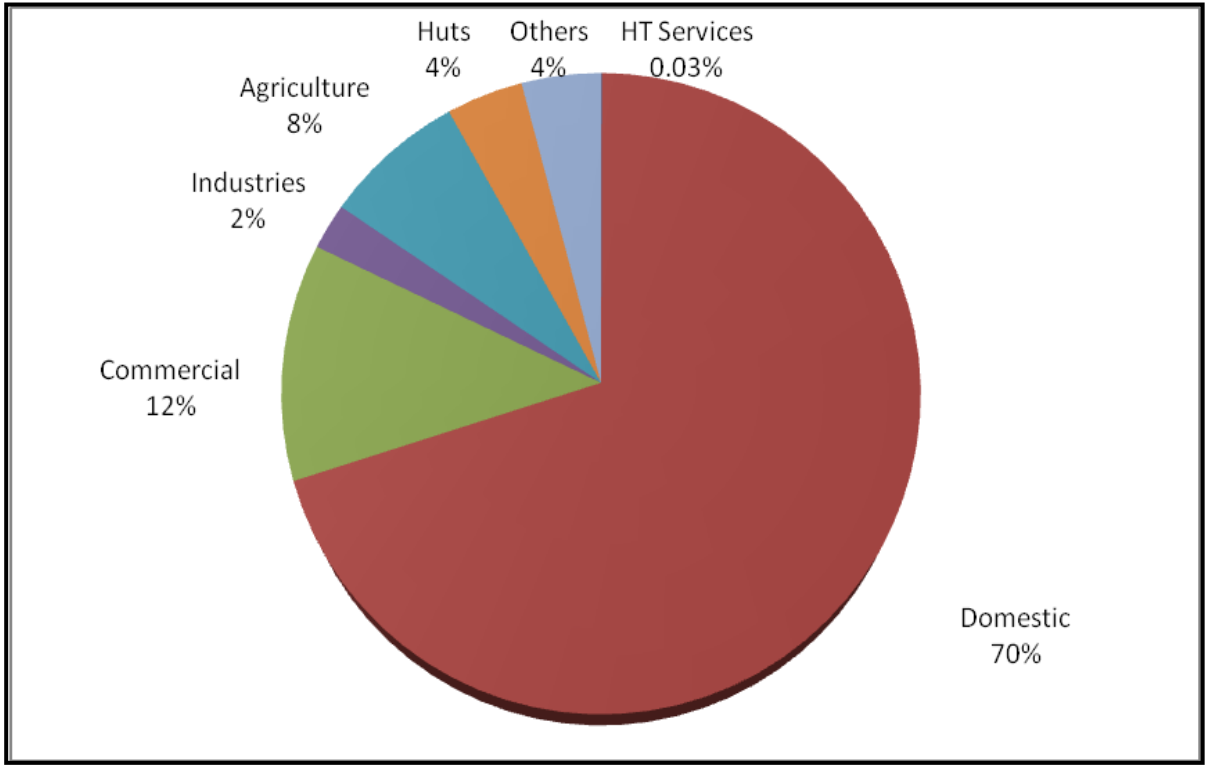
During the year 2016-17, 9nos.33 kV substations have been erected at a cost of Rs. 27 crores, 9,244 kms of LT lines and 3,426 kms of HT lines have been energized. TANGEDCO had also effected service connections to 7.98 lakhs new consumers in the year 2016-17.

During April and May 2017, 2,284 distribution transformers, 1,120 kms of LT lines and 534 kms of HT lines have been energized and 1.25 lakhs new service connections have been effected.

Category wise total number of consumers being served in the State by TANGEDCO as on 31.05.2017 is as follows:

Sl.No.	Category	Numbers in Lakhs
	HT Services	0.09
	LT Services	
1	Domestic	196.57
2	Commercial	33.68
3	Industries	6.64
4	Agriculture	20.74
5	Huts	11.25
6	Others	11.54
	Total	**280.51**

Category wise total number of consumers as on 31.05.2017



New service connections effected Since 2011

S.No	Years	Numbers in lakhs
1	2011-12	7.81
2	2012-13	11.95
3	2013-14	10.04
4	2014-15	8.58
5	2015-16	8.23
6	2016-17	7.98
7	2017-18 (till May)	1.25
	Total	**55.84**

1.9.2 Strengthening of Distribution network

TANGEDCO has taken various measures to strengthen the distribution infrastructure.

1.9.3 Re-conductoring of aged HT/LT lines

TANGEDCO has planned to replace the existing aged HT/LT lines to the tune of 2,64,315 kms and replace 3,38,867 Nos poles in 37 districts at an estimated cost of Rs.1054.22 crores in a phased manner.

M/s.REC has sanctioned for a financial assistance of Rs.679.37 crores under System Improvement.

Works are under progress and will be completed by March 2018.

1.9.4 Conversion of overhead lines into underground cables

Coastal Disaster Risk Reduction Project (CDRRP)

It is proposed to convert the HT and LT overhead lines into underground cables in

cyclone prone coastal towns of Cuddalore, Nagapattinam and Velankanni. World Bank loan for Rs.360 crores has been sanctioned.

e-Tender has been floated for 22kV Alpettai, Suthukulam and Pentasia feeders in Cuddalore Town and 11kV Velankanni town feeder in Nagapattinam town.

Further, e-tender is to be floated for 22kV Cuddalore New Town, Sellankuppam & part of Manjakuppam feeders in Cuddalore Town and 11kV Nagore, Thonithurai & Velipalayam Water works feeders in Nagapattinam District on approval by World Bank.

Proposals for Cyclone resilient Greater Chennai

a) It is proposed to convert the overhead lines into under-ground cables in extended area of Chennai city covering Chennai Corporation and Chennai suburban area at a cost of Rs. 2,567 crores funded by PFC.

Tenders have been floated for procurement of materials through e-tendering.

b) Laying 230 kV link line with underground (UG) cable between Kalivanthapattu 400 kV SS - Taramani 230 kV SS and Sriperumbudur 400 kV SS - Taramani 230 kV SS at an estimated cost of Rs.558 crores.

1.9.5 Strengthening of distribution network through Restructured-Accelerated Power Development and Reforms Programme (R-APDRP)

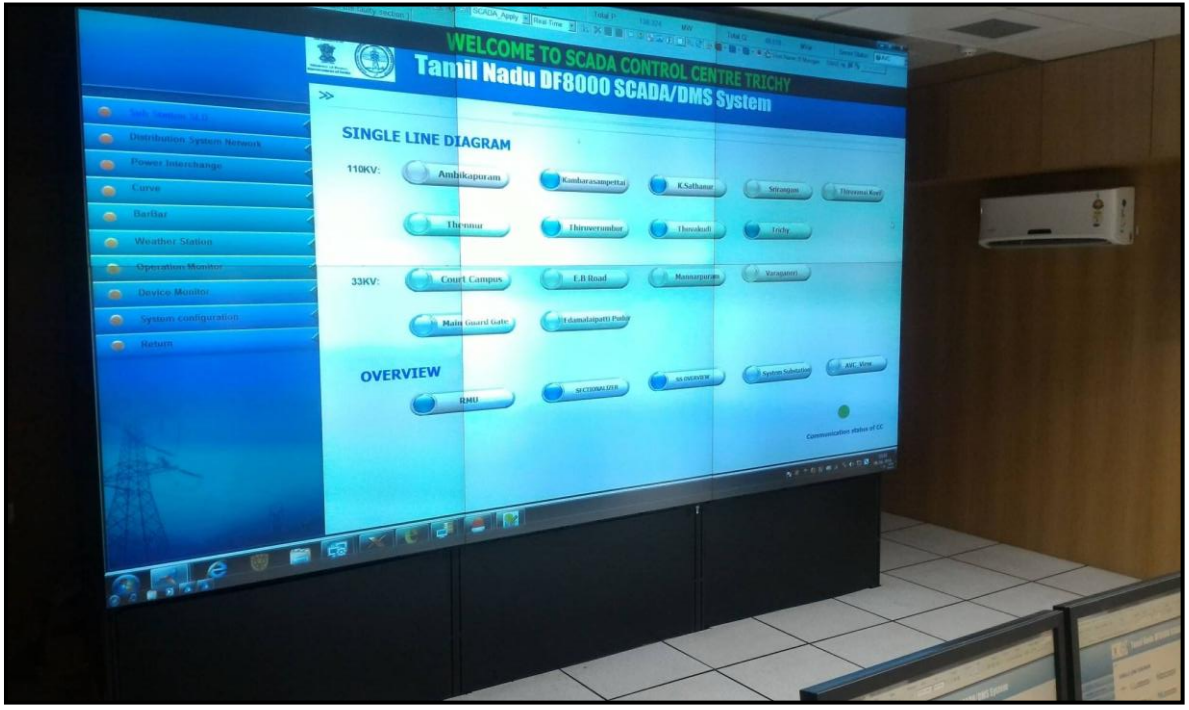
To provide quality and reliable power supply to the consumers and to bring down the AT&C losses below 15% in towns having population more than 30,000.

PART- A - (Information Technology infrastructure)

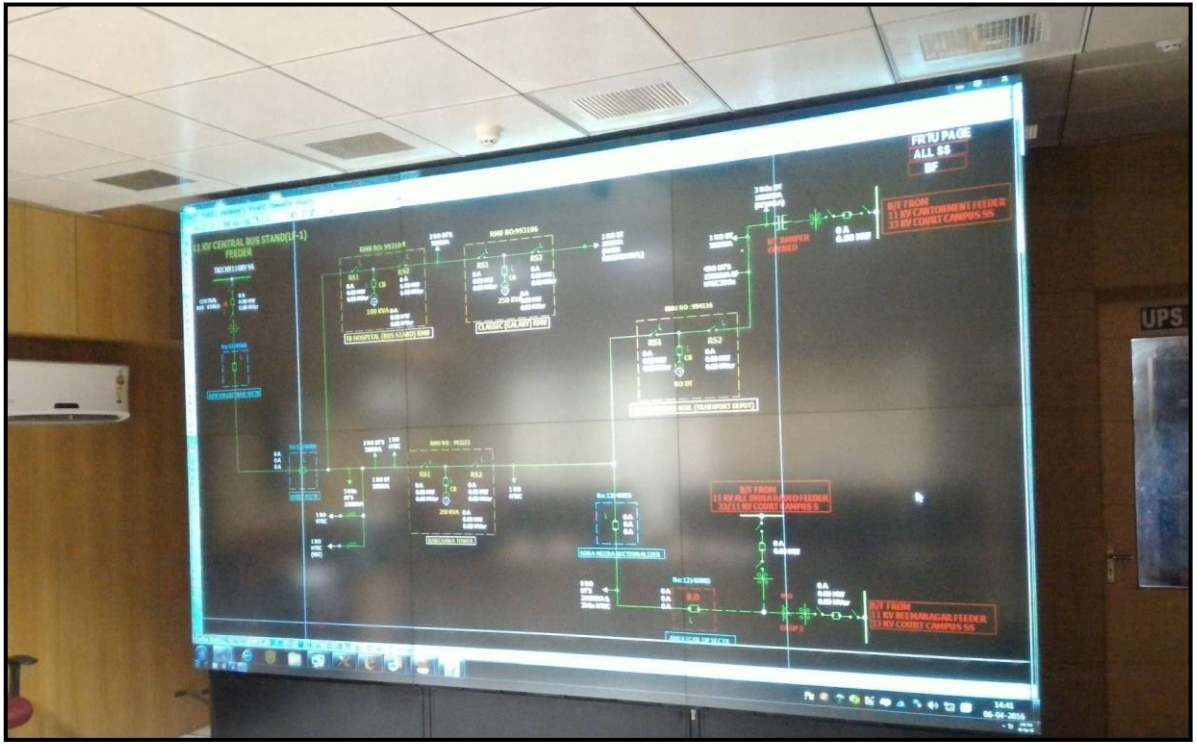
Out of 110 towns, completed in 102 towns and work in progress in 8 towns at a total cost of Rs.417 crores.

Supervisory Control and Data Acquisition (SCADA) / Distribution Management System (DMS) commissioned in all the 7 towns viz. Chennai, Tiruppur, Trichy, Salem, Madurai Tirunelveli & Coimbatore at a total cost of Rs. 182.17 crores.

SCADA Control Centre- Trichy



SCADA – Real time screen shot



PART –B: Distribution strengthening works

Strengthening of the distribution network in 100 towns at a cost of Rs. 3,595.34 crores have been sanctioned. Works have been completed in 82 towns and works are in progress in the remaining 18 towns.

1.9.6 Integrated Power Development Scheme (IPDS)

Integrated Power Development Scheme (IPDS), funded by Ministry of Power, Government of India, is implemented in urban areas of all States, with the following objectives.

(i) 24x7 Power supply for all

(ii) AT&C Losses reduction

(iii) Electrification of all urban households

Detailed project reports for a value of Rs.1,561.31 Cr., for 37 Electricity Distribution Circles, covering 522 towns comprised in 31 Districts have been approved by Monitoring

committee and will be executed with funding as below.

Sl. No.	Type of Fund	Quantum of fund (in % of Total Project Cost)
1	Grant by MoP/GoI	60%
2	Lending from Financial Institutions (FIs)	30% (of which 50% will be given as Additional grant for successful achievement of milestones stipulated)
3	Utility own funds	10%

Tripartite agreement between the Nodal Agency (on behalf of Government of India), the State Govt. and the TANGEDCO has been executed on 19th July 2016.

M/s. WAPCOS Ltd has been appointed as Project Management Agency (PMA) to assist TANGEDCO in implementing the scheme works as per guidelines. The scheme works are to be completed before 06.09.2018. Tenders have

been floated for procurement of materials through e-tendering.

1.9.7 Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY)

Government of India has launched Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) for the rural areas with the following components:

a. Separation of agriculture and non-agriculture feeders.
b. Strengthening and augmentation of sub-transmission & distribution (ST&D).
c. Rural electrification

Ministry of Power, Government of India has approved Rs.924.12 crores (including provision for PMA) under the above scheme.

Tripartite agreement between the Nodal Agency (on behalf of Government of India), the State Govt. and the TANGEDCO has been executed on 29th July 2016.

M/s. WAPCOS Ltd has been appointed as Project Management Agency (PMA) to assist TANGEDCO in implementing the scheme works. Tenders have been floated for procurement of materials through e-tendering.

1.9.8 Transmission and Distribution losses (T&D losses)

- The Transmission and Distribution losses (T & D) losses during 2010-11
    - AT & C losses (Distribution) - 20.24%
    - Transmission losses - 4.71%
    - **T&D losses - 24.95%**
- Due to various improvement and strengthening works taken by TNEB the losses has been reduced during 2015-16 as,
    - AT & C losses (Distribution) -14.58%
    - Transmission losses - 4.11%
    - **T&D losses - 18.69%**

- Through system improvements and modernization it is further planned to reduce the losses by 2018-19 as,
    - AT & C losses (Distribution)-13.50%
    - Transmission losses - 3.94%
    - **T&D losses - 17.43%**

1.9.9 Energy conservation measures

1.9.9.1 Prevention of Energy Theft

TANGEDCO has formed 43 teams (40+3 teams from 01.11.2016) of Ex-servicemen, 17 Enforcement Squads, 1 number Intelligence Wing and one flying squad for inspection and detection of theft of energy in Electricity Distribution Circles. The number of thefts detected and the amount levied towards provisional assessment and compounding charges are detailed below,

S. No		2015-16		2016-17	
		No. of case of Power theft	Penal charges in crores	No. of case of Power theft	Penal charges in crores
1	Ex-Servicemen	11,652	18.53	9,542	17.61
2	Enforcement Squads	3,600	29.27	3,744	28.39
3	Intelligence wing	203	1.99	256	3.69

1.9.9.2. Energy conservation measures (Awareness Generation)

The "Energy Conservation Day and Week" is being celebrated every year during December 14th to December 20th. As a promotional measure, slogan on energy conservation "SAVE ELECTRICITY" is being sent as SMS to about 2.6 crores consumers along with SMS on payment of current consumption (CC) charges.

Training wing of TANGEDCO also emphasizes the need of energy conservation and also

popularising the use of energy efficient lighting and star rated equipments in all training programmes / workshops / seminars.

The program of energy conservation awareness to school students has been started throughout the State from October 2014. So far (upto April 2017) about 10.25 lakh students have been enlightened on energy conservation.

Seminar/talk/lecture on Energy Conservation for disseminating the knowledge and the latest technical knowhow is being taken up for central government sectors, micro/ small/ medium enterprises, private/ public sector, MNC companies and Higher educational institutions.

1.9.9.3 Unnat Jyothi by Affordable LEDs to All (UJALA) Scheme

TANGEDCO has permitted M/s. Energy Efficiency Services Limited (EESL) to sell 9 watt LED bulbs, 20 watt LED tube lights and 50 watt energy efficient 5-star rated fans at affordable

price to the willing domestic consumers through independent kiosks all over Tamil Nadu.

On 22.03.2017, M/s. EESL had commenced the sale in Chennai Region (Phase I) through Distribution Agents (DAs).

As on date, the above sale is in progress in 67 collection centres in Chennai. So far 1.36 lakhs LED bulbs, 31,637 LED tube lights and 8,565 BEE 5 star fans have been sold.

1.9.10 Consumer Friendly Measures

In order to improve the customer oriented services, TANGEDCO has implemented several schemes for payment of electricity charges through bank counters, mobile banking, post office counters, Government e-seva centres. Further, electronically filing of applications for getting new HT and LT electricity connections "online" has been inaugurated by **late Hon'ble Chief Minister Amma** on 05.08.2016.

In addition to this the TANGEDCO has introduced the 'one day service connection scheme' in Tamil Nadu in respect of LT Domestic and Commercial service connections (other than special and multi-storeyed buildings) falling under mere service connection category with effect from 01-07-2017. The Hon'ble Minister for Electricity, Prohibition and Excise has inaugurated this scheme on 12.06.2017.

Under this scheme, the Domestic and Commercial buildings which require low tension electricity service connections should be within 100 feet from the electricity mains of TANGEDCO and if so, the electricity service connection can be effected on the same day or a maximum time of 48 hours in cases which involve road cut for laying of underground service connection cable.

1.9.11 Minsara Nanban

Minsara Nanban is a new initiative by TANGEDCO in association with Ministry of Power, Govt. of India under the Urja Mitra Scheme. This customer friendly initiative has been launched by the Hon'ble Minister for Electricity, Exercise and Prohibition on 12.06.2017.

The main objective of the scheme is to share information about scheduled / unscheduled electrical power outages in rural and urban areas directly to consumer through SMS to their mobile phones.

So far, details for 1.60 crores of TANGEDCO consumers have been uploaded. By utilizing the Rural Electrification Corporation (REC) server, a message will be sent to all the registered mobile numbers in an area about the planned shutdown and feeder level unplanned outage in that area.

TANGEDCO has the distinction of having the highest number of consumers updated in the Urja Mitra portal.

1.9.12 Call centres

Call centres for redressal of grievance on power failure are functioning at Chennai, Coimbatore, Madurai, Trichy, Erode, Tirunelveli, Nagercoil, Salem, Vellore, Kanchipuram, Karur and Tiruppur. Consumers can register their complaints by dialing 1912. The above facility will be extended to the entire State by December 2017.

Also, a 24 hrs consumer redressal centre functions in the camp office of the Hon'ble Minister for Electricity, Prohibition and Excise to attend the grievances of the consumers. The general public can contact this centre through phone number 044-24959525.

1.10 Direct Recruitment

As per the announcement of Hon'ble Minister of Electricity, Prohibition and Excise in Assembly for filling up of vacancies by Direct Recruitment, applications for 1,800 Technical Posts and 750 Non-Technical Posts were called and candidates were selected by conducting a very transparent selection process.

Out of which, 375 Assistant Engineers in various branches of Engineering, 200 Typists, 100 Tester Chemical, 50 Assistant Draughtsman, 25 Steno- typist and 25 Junior Auditor have been recruited and posting orders issued.

For, the balance 1775 posts of other categories such as Technical Assistant/ Electrical, Technical Assistant/ Mechanical, Field Assistant, Junior Assistant/Admin., and Junior Assistant/ Accounts which has been held up due to the cases pending in the High Court, posting orders will be issued based on the outcome of the cases.

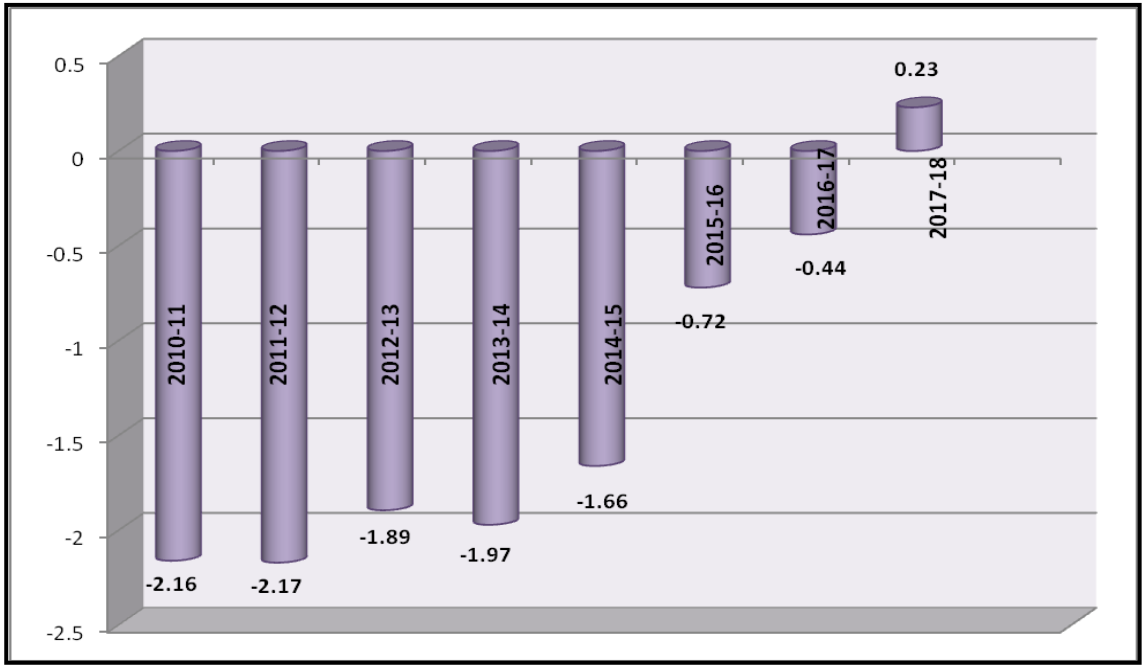
1.11 Finance

1.11.1 Financial Performance

a) Consequent to the implementation of revenue augmentation and cost control measures, the losses of TANGEDCO which was Rs.13,985 crores during 2013-14 has been reduced to Rs.3,783 crores in 2016-17. **After a long gap of 15 years it is expected that TANGEDCO will break even during the year 2017-18.**

b) Due to above, the gap between Average Rate of Realisation (ARR) and Average Cost of Supply (ACS) has been reduced from Rs.2.16 per unit during 2010-11 to Rs.0.44 (44 paise) per unit in 2016-17.

ARR – ACS Gap **Rs. per Unit**



c) In order to improve the financial position of TANGEDCO, the Government of Tamil Nadu is continuously providing financial assistance in the form of Equity Share Capital, Tariff Subsidy, Grants under Financial Restructuring Plan, Loan assistance, etc.

d) During the last financial year 2016-17, the Government of Tamil Nadu has provided a financial assistance of Rs 13,856 crores in the various heads to TANGEDCO. Out of the provision, Tariff subsidy of Rs.8132.47 crores and other assistances amounting to Rs.7258.02 crores towards Equity share capital, takeover of FRP Bonds, Interest on Bond under FRP, JICA loans etc., were released by Government of Tamil Nadu.

e) In addition to the above heads, the Government of Tamil Nadu have released to

Tamil Nadu Electricity Board, a sum of Rs.350 crores towards Vardha Cyclone relief and Rs.400 crores as Ways and Means advance for meeting the expenditure incurred in connection with Vardha cyclone.

Sl. No	Financial Years	Financial Assistance	
		Tariff Subsidy	Other than subsidy
1	2006 – 2007	1330.10	175.00
2	2007 – 2008	1457.02	490.00
3	2008 – 2009	1831.61	1170.50
4	2009 – 2010	1672.17	100.00
5	2010 – 2011	1652.58	1335.13
	Total	**7943.48**	**3270.63**
6	2011 – 2012	2071.41	5841.94
7	2012 – 2013	4457.23	4784.77
8	2013 – 2014	4985.09	3394.22
9	2014 – 2015	6953.00	6886.50
10	2015 – 2016	6695.10	5695.62
	Total	**25161.83**	**26603.05**
11	2016-2017	8132.48	8008.02

f) Orders have also been issued, to take over TANGEDCO's loan of Rs.22,815 Crores by Government of Tamil Nadu under UDAY scheme. TANGEDCO will save interest of Rs.2,882 crores per annum and Rs.2,282 crores per annum towards principal repayment.

Orders have also been issued, sanctioning Government Guarantee for Rs.7,605 crores to TANGEDCO to issue of bonds under UDAY Scheme. Because of this, TANGEDCO will save Rs.200 crores per annum.

In addition to UDAY, Government of Tamil Nadu has sanctioned, Rs.4,523.19 crores of equity share capital by converting Government loans and Electricity Tax payable and its interest.

g) Government of Tamil Nadu has sanctioned the following financial assistance to TANGEDCO in Budget Estimate 2017-2018.

(Rs.in crores)

S.No	Assistances	BE 2017-18
1	Tariff subsidy	8538.15
2	Equity Share Capital Assistance	2080.00
3	Transmission System Improvement Loans & Grants	974.20
4	Cyclone Resilient Electrical Network under Coastal Disaster Risk Reduction Project (CDRRP) Grants	195.00
5	Hydel Swing Subsidy	125.00
6	Conversion of GoTN Loans to TANGEDCO as Grants.	4563.00
7	GOTN's Ways and Means Advance	500.00
8	Allocation for TEDA and TNERC related expenditure	22.65
	Total	**16998.00**

h) The rating of TANGEDCO which was **'C+'** during FY 2014-15 has been rated as **'B'** for FY 2015-16 in the State Distribution Utilities Annual Integrated Rating published by the Ministry of Power, Government of India because of the financial turnaround and other constructive measures initiated by TANGEDCO. Due to the improvement in the financial status of TANGEDCO, all efforts will be taken to get **'A'** rating in this financial year.

i) Memoranda of Understanding has been executed with the central primary lending institutions viz., M/s. Rural Electrification Corporation (REC) and M/s.Power Finance Corporation (PFC) for financial tie up to the tune of around Rs.95,000 crores for the capital projects, power evacuation systems,

sub-transmission and distribution infrastructure strengthening works, etc., which are to be executed in the next 5 to 8 years.

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II . TAMIL NADU ENERGY DEVELOPMENT AGENCY

Tamil Nadu Energy Development Agency (TEDA), the Nodal Agency for the promotion of renewable Energy in the State was formed in the year 1985 with main objectives of identification and potential estimation of renewable energy, creation of awareness among the Public and stake holders, encouragement of Research & Development, enhancement of renewable energy contribution in the overall energy mix, rendering necessary assistance for the renewable energy development etc. Besides, TEDA is channelizing Central Financial Assistance from Ministry of New and Renewable Energy (MNRE) and assists in Renewable Energy policy formulation.

2.1 The year 2016-17 has been an eventful year for Renewable Energy in the State of Tamil

Nadu. During this year, 802.62 MW capacity has been added and 63,466 Green houses have been energized with solar lighting systems.

2.2 Tamil Nadu has emerged as an undisputed leader in renewable energy in the country. As on 31.05.2017, the total renewable energy installed capacity is 10479.61 MW.

Sl. No.	Renewable Energy Type	Installed Capacity(MW)
1	Wind	7854.81
2	Bagasse Co-generation	692.40
3	Bio Mass power	230.00
4	Solar	1702.40
Total		**10479.61**

2.3 '**Tamil Nadu Solar Energy Policy 2012**' was unveiled by the Hon'ble Chief Minister of Tamil Nadu on 20th October, 2012, with the objective of creating awareness among the Public and

stakeholders for their active participation in the promotion and use of solar energy as was done in case of rain water harvesting.

The following unique schemes in Solar sector are being implemented by the Government of Tamil Nadu, subsequent to the unveiling of the Tamil Nadu Solar Energy Policy 2012:

2.3.1 Chief Minister's Solar Powered Green House Scheme (CMSPGHS):

Government of Tamil Nadu has been implementing country's unique and largest Solar Rooftop programme for the benefit of the Below Poverty Line families living in the rural areas with the provision of 3 lakh Green Houses with Solar powered lights, to be installed over a period of 5 years from 2011-12 to 2015-16 @ 60,000 houses per year. 2,36,207 houses have already been provided with Solar powered home lights. A call centre has been functioning in the office of TEDA to register the complaints received from the

beneficiaries and to resolve them. In addition, 9606 weaver houses have been energized with Solar Lights as requested by Handlooms and Textiles Department.

2.3.2 Energising street lights with solar power:

The State has also been implementing the scheme of energising one lakh street lights through Solar Energy by replacing the existing lamps with LED lamps (with auto dimming provision from 10 p.m to 5 a.m) over a period of 5 years from 2011-2012 to 2015-2016. This project is also the first of its kind in the country. The street lights will be energized in clusters through Centralized Solar Photovoltaic (SPV) Power Plants with a grid back up and will be monitored through Remote Monitoring Unit (RMU). 39,235 street lights have been energized so far through Solar Energy.

2.3.3 Chief Minister's Solar Rooftop Capital Incentive Scheme:

Installation of 1 KWp each grid tied solar rooftops without battery targeting 10,000 domestic consumers has been undertaken. The State Government provides a Capital Incentive of Rs. 20,000 per KWp in addition to the subsidy being provided by the Ministry of New and Renewable Energy (MNRE). The generated solar power can be consumed within the house or fed into the grid through net-metering arrangement.

For individual homes/flats, the solar system capacity shall be 1 kW. For the residential flats, solar system of 5kW, 10kW capacity and multiples thereof could be applied for, as group application. 3382 installations have been commissioned so far.

2.3.4 Promotion of Solar Rooftops in Government Buildings:

For the installation of solar Roof tops in Government Buildings, technical support including bid process management is being provided by the Tamil Nadu Energy Development Agency. The Government Department may avail Achievement Linked Incentives from Ministry of New and Renewable Energy (MNRE).

S.No	Achievement vs Target allocation	Available incentive
1.	80% and above within the sanctioned period	Rs. 16250/- per kW
2.	Below 80% and above 50%(including 50%) within the sanctioned period	Rs.9750/- per kW
3.	Below 50% and above 40% (including 40%) within the sanctioned period	Rs. 6500/- per kW
4.	Below 40% within the sanctioned period	NIL

a. Solar Roof Tops in Puzhal Prison:

Installation of a cumulative capacity of 330 kW Solar Roof Tops at Puzhal Prison complex at a total cost of Rs. 224 lakhs have been completed and the power plant is about to be commissioned before end of June,2017.

b. Solar Roof Tops in Zonal offices of Transport Department:

Installation of a cumulative capacity of 69 kWp Solar Roof Tops at Zonal Office buildings of Transport Department at a total cost of Rs. 88 lakhs have been completed.

2.3.5 Solar Technicians training:

As per the announcement made by the Hon'ble Minister for Electricity, Prohibition & Excise in the year 2016-17, Tamil Nadu Energy Development Agency has programmed to develop 5000 Solar Technicians over a period of 5 years at a total cost of Rs.13.50 crores in two phases

(Pilot phase - 500 roll out phase – 4500) with funding from Tamil Nadu Skill Development Corporation. The curriculum will comply with the frame work of National Skill Quality Framework (NSQF). Central and State Government, Private Institutions having established training facilities will be selected. Trainees will be assessed by third party and certified by an accredited third party Sector Skill Council Assessment Body. This scheme aims for placement of 70% trained candidates in the solar sector. Pilot phase will be launched by end of June 2017.

2.3.6 Establishment of 10MW Wind solar hybrid power Plant:

As per the announcement made by the Hon'ble Minister for Electricity, Prohibition & Excise in the year 2016-17, TEDA has proposed to establish 10 MW wind solar hybrid plant in its own land at Kayathar through Joint Venture Partnership or Public Private Partnership(PPP)

mode. Since wind solar hybrid tariff rate is not in place, the existing respective wind and solar tariff for the power generated through the wind electric generators and solar photovoltaic power plants by installing separate generation meters will be utilised. National Institute of Wind Energy (NIWE) has been requested to prepare Detailed project report (DPR). Other preliminary works are underway.

2.3.7 Establishment of 50 MW Solar Photovoltaic Power Plant:

TEDA has also programmed to establish 50 MW Solar Photovoltaic Power Plant in its own land at Kayathar through Joint Venture Partnership or Public Private Partnership (PPP) mode. TEDA had participated in the tender floated by TANGEDGO and gave its consent to supply power at the rate fixed by TNERC.

2.3.8 Tamil Nadu Renewable Energy Action Plan, 2023 (REAP):

As per the announcement made by the Hon'ble Minister for Electricity, Prohibition & Excise in the year 2016-17, TEDA has prepared draft Tamil Nadu Renewable Energy Action Plan, 2023 document aimed at addressing the renewable energy potential of Tamil Nadu and proposes a clear road map to meet targets of Tamil Nadu Vision 2023 and achieve a number of catalyzing projects that have the scope to prepare the State for leapfrogging into a sustainable energy future. The draft document is under consideration of stakeholders.

2.3.9 A New Charter for TEDA:

To identify the areas of work to cope up with the technology driven renewable energy sector in achieving the ambitious targets set by the State and Centre as well, and to make TEDA more relevant and prominent in the field of

renewable energy, TEDA has come out with a New Charter with 10 actionable points. This is expected to strengthen this Agency both by itself and forming Special Purpose Vehicle in association with other firms / institutions, providing assistance to State Government for bringing in investors in the sector especially for manufacturing activity, capacity building to ensure that the industries may be able to identify trained personnel in the State for its revamping, enhanced publicity and awareness activity for effectively reaching the target group in grand manner throughout the State.

2.3.10 Publicity & Awareness Activities:

In order to coincide the efforts to change the functional methodology of the Agency from the present implementation strategy to strategy for accelerating the growth of renewable energy sector in the state, TEDA has launched a new logo.

TEDA has erected a pavilion in the 43rd India Tourist and Industrial Fair,2017 organised by Tamil Nadu Tourism Development Corporation in the Island Grounds which attracted approx. 1,00,000+ visitors. TEDA's pavilion has been awarded the second prize among 'State Government Undertakings'.

2.3.11 Waste to Energy Projects:

For generating energy out of wastes from sago factories and poultry farms, 15 project proposals for a cumulative capacity of 2.2MW were sanctioned by Ministry of New and Renewable Energy and a total Central Financial Assistance of Rs. 823.5 lakhs has been sanctioned. Another 17 proposals relating to generation of energy out of wastes from sago factories and poultry farms for a cumulative capacity of 2.55 MW with total Central Financial Assistance of Rs. 900 lakhs are under scrutiny.

2.3.12 Financial Assistance available for Renewable Energy Schemes

a Solar Photovoltaic Application

Following schemes with incentives are available for encouraging Solar Photo Voltaic generation. Projects for a cumulative capacity of 126.92 MW have been commissioned and a total financial assistance of Rs.227.85 crores has been received in last five years.

Sl. No.	Name of the Scheme	Available Financial Assistance/ Subsidy
1	(a) Solar Photo Voltaic (SPV) Water Pumping System -DC pumps Up to 3 HP >3 HP to 5 HP >5 HP to 10 HP	 Rs.36000/HP Rs.28500/HP Rs.28500/HP

Sl. No.	Name of the Scheme		Available Financial Assistance/ Subsidy	
2	(b) SPV Water Pumping System - AC pumps Up to 3 HP >3 HP to 5 HP >5 HP to 10 HP		Rs.30,000/HP Rs.25,500/HP Rs.25,500/HP	
3	SPV Power Plants (with battery bank @ 7.2Vah/Wp) Up to 10 kWp >10 to 100 kWp >100 kWp Upto 500kWp		Rs.60/Wp Rs.40.5/Wp Rs.18/Wp	
4	Street Lights through SPV power Plant Up to 100 kWp		Rs.60/Wp	
5	Solar lighting systems, Street lights, Home lights	LED	Up to 40 Wp	Rs.102 /Wp

The capital subsidy is applicable on the system cost inclusive of installation, commissioning, transportation, insurance, cost of 5 year maintenance and taxes.

b. Solar Thermal Applications

Financial assistance is available for various solar thermal applications for converting solar energy to heat energy. This is widely used in commercial and industrial drying and other applications.

Sanction has been accorded for the installation of 32 Nos. Solar steam cooking/process heating/space cooling systems having a total collector area of 6530 Sq.m and a sum of Rs.274.26 lakhs. Out of sanctioned 32 nos., 28 installations have been completed and the balance 4 installations are under progress.

Sl. No.	Name of the Scheme	Available Financial Assistance/ Subsidy
1	Solar collector system for direct heating applications	Rs.3600/ sq. m
2	Concentrator with manual tracking	Rs.2100/ sq. m
3	Non- imaging concentrators	Rs.3600/ sq. m
4	Concentrator with single axis tracking	Rs.5400/ sq. m
5	Concentrator with double axis tracking	Rs.6000/ sq. m

c. Bio-mass based projects

Financial assistance is available for electricity generation through solid biomass such as wood, wood waste, agricultural residue.

Sl. No.	Name of the Scheme	Available Financial Assistance/ Subsidy
1	Bio-mass power projects	Rs.20 lakh x (CMW) Maximum support of Rs.1.5 Crore/Project
2	Bagasse Co-generation by Private sugar mills	Rs.15 lakh x (CMW) Maximum support of Rs.1.5 Crore/Project
3	Bagasse Co-generation projects by cooperative/ public sector sugar mills	40 bar & above - Rs.40 lakhs/MW of surplus power
		60 bar & above - Rs.50 lakhs/MW of surplus power
		80 bar & above - Rs.60 lakhs/MW of surplus power (maximum support Rs.6.0 crore per project)
4	Biomass gasifier projects for Distributed/Off-grid power projects in Rural Areas (up to 2 MW)	Rs.15000 / KWe

Sl. No.	Name of the Scheme	Available Financial Assistance/Subsidy
5	Energy from Urban Industrial and Agricultural Wastes/ Residues	
(i)	Power generation from Municipal Solid Waste	Rs.2.00 crore/MW (Maximum Rs.10 crore/ project)
(ii)	Power generation from biogas at Sewage Treatment Plant or through bio-methanation of Urban and Agricultural Waste/ Residues	Rs.2.00 crore/MW or Bio CNG from 12000 m3 biogas/day (Max. Rs.5 crore/project)
iii)	Biogas generation from Urban, Industrial and Agricultural Wastes/Residues	Rs.0.50 crore/MWeq (12000 m3 biogas/day with maximum of Rs.5 crore/project)
(iv)	Power Generation from Biogas (engine/ gas turbine route)and production of bio-CNG for filling into gas cylinders	Rs.1.00 crore/MW or bio CNG from 12000 m3 biogas (Max. Rs.5 crore/project)

Sl. No.	Name of the Scheme	Available Financial Assistance/ Subsidy
(v)	Power Generation from Biogas Solid Industrial, Agricultural Wastes/ Residues excluding bagasse through Boiler + Steam Turbine Configuration	Rs.0.20 crore/MW (Maximum Rs.1 crore /project)

d. Small Wind Energy and Hybrid systems

Financial assistance is available for Small Wind Energy and Hybrid Systems for the installation of water pumping wind mills, aero-generators, wind-solar hybrid systems. 10 installations have been completed with a cumulative capacity of 481.8 KW and Central Financial Assistance to the tune of Rs. 481.8 lakhs have been released so far.

Sl. No.	Name of the Scheme	Available Financial Assistance/Subsidy
1	Small Wind Energy & Hybrid Systems (Aero-generators/ Wind - Solar Hybrid systems)	Rs.1,00,000/- per kW (for community users only)

2.3.13 ACCOLADES:

1. Ministry of New and Renewable Energy (MNRE) is giving away awards in the field of renewable energy among the State Nodal Agencies every year based on their performance for various categories. In those lines, on 24th Jan 2017, in New Delhi,
    a. TEDA was felicitated with an award for having installed the 2nd highest number of Solar home lighting systems across the country for the year 2015-16.
    b. TEDA was felicitated with an award for having installed the 3rd highest

number of Solar Power Packs across the country for the year 2015-16.

2. State of Tamil Nadu was felicitated with an award for being the Top Investment and Infra Excellent State in 'Sustainable Energy and Power' at 10th ENERTIA Awards 2016 on 29th December 2016 in New Delhi.
3. Tamil Nadu Energy Development Agency was felicitated with an award for being the Best Nodal Agency for Renewable Energy at 10th ENERTIA Awards 2016 on 29th December 2016 in New Delhi.

III. ELECTRICAL INSPECTORATE DEPARTMENT (CEIG)

The Electrical Inspectorate is responsible for ensuring compliance of the safety provisions in electrical installations and has also been entrusted with licensing of Lifts, testing of electrical instruments, levying and collection of Electricity Tax and promoting energy conservation.

3.1 Services Rendered by the Department

The following services are rendered by this department at the State, Regional and District level offices:

i. Scrutiny of plan and design, inspection and approval for the High Voltage, Extra High Voltage electrical installations and Multistoried buildings observing the provision of Central Electricity Authority

(Measures relating to Safety and Electric Supply) Regulations, 2010.

ii. Calibration & Testing of electrical equipments and meters for correctness.

iii. Coordinating, regulating and enforcing the provisions of the Energy Conservation Act, 2001 (Central Act 52/2001) in the capacity of State Designated Agency for energy conservation.

iv. Levying and collection of tax on consumption as well as sale of electrical energy under the Tamil Nadu Tax on Consumption or Sale of Electricity Act, 2003.

v. Licensing of the lifts under the provisions of Tamil Nadu Lifts Act, 1997.

vi. Certification of electrical fitness to cinema buildings as per Tamil Nadu Cinema (Regulation) Rules, 1957.

vii. Licensing for Electrical Contractors and certification for qualified electrical personnel through the Tamil Nadu Electrical Licensing Board attached to this department.

3.2 Performance & Revenue receipts

The performance of the Department during 2016-2017 as on April 2016 to March 2017 is as follow:

Sl.No	Services Rendered by this department	Total Nos.
1	Issued license for erection of new lifts	2845
2	Renewal of license for the existing lifts	12,824
3	Issue of permission for energisation of new electrical installations	2,213
4	Statutory inspections of High Tension installations	5156
5	Certification of electrical fitness to cinema buildings (Annual Inspection, Electrical License Renewal)	463

Sl.No	Services Rendered by this department	Total Nos.
6	Scrutiny of proposal for the new Electrical Installations and additions/Alterations of equipment in the existing installations	1908
7	Testing and calibrations of electrical meters	3874

The department mobilized Rs.14.46/- crores of revenue from its inspection and other services. It collected Rs 88.79/- crores of electricity tax from various generators supplying electricity to consumers other than Tamil Nadu Electricity Generation and Distribution Company as on March 2017.

3.3 Testing and Calibration

In order to undertake testing and calibration of electrical equipments, meters and instruments, facilities are available at

the Government Electrical Standards Laboratory attached to the Head Quarters office of the Electrical Inspectorate. The laboratory receives energy meters and other electrical instruments from various State Electricity Boards in our country for calibrating their accuracy.

3.4 Energy Conservation

i. Energy Conservation Building Code (ECBC)

The Energy Conservation Building Code (ECBC) launched by Ministry of Power, Government of India is a model document listing out mandatory requirement of energy efficiency in the building sector besides prescribing minimum energy efficiency standards for design and construction of commercial buildings. As per the powers conferred under clause 15(a) of the Energy Conservation Act, 2001 the Government of

Tamil Nadu has constituted a technical committee for evolving technical guide lines for adoption of ECBC through local body. The committee has proposed changes in ECBC to suit local climatic conditions and promotion of higher efficient lighting systems.The details of the amendment to be incorporated in the state municipal by-laws and Notification of TNECBC and amendments to the municipal by- laws will be issued shortly by the Government.

ii. Waste Heat Recovery Policy for the State and Sector Specific Energy Savings Plan for the State

The Electrical Inspectorate has prepared Waste Heat Recovery Policy and sector specific energy savings plan for the State of Tamil Nadu to get the support of BEE under "Contribution to State Energy Conservation Fund (SECF).

iii. Demonstration Project on waste heat recovery system among Public Sector Rice Mills

In order to show case energy savings potential on waste heat recovery system, demonstration project on use of waste heat recovery equipment, namely, air pre-heater will be installed in 3 units of TNCSC rice mills located in Thimmavaram/Kancheepuram District, Thirunageshvaram/ Thanjavur District and Sundarakottai/ Tiruvarur district at a total cost of INR 10 lakhs during 2017-18. The air pre-heater will recover the let out waste heat through chimney and utilize it for increasing the inlet air temperature of the boiler thereby increasing the efficiency of the boiler and reducing the fuel consumption as well as corresponding electricity consumption.

3.5 Electrical Licensing Board

As per regulation 29 of Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010 all the electrical installation works can only be carried out by the licensed contractors and workmen. The Electrical Licensing board under the Electrical Inspectorate has been designated as competent authority to issue license to the electrical contractors and to grant certificate of competency to wiremen and supervisors in order to ensure that all the electrical works are handled by licensed contractors and certified personnel. The electrical contractor's license are classified as ESA, EA, ESB and EB grade depending upon the competency in handling voltage level.

Issuance of Electrical Contractor License and Competency Certificate upto March 2017

S. No	Description	Total numbers issued
1	Electrical Contractor License	25395
2	Certificate of Competency to Wireman and Supervisor	215386

3.6 Improvement in service delivery of the Electrical Inspectorate

From this year onwards, the Electrical Inspectorate will implement, online Filing of Returns of Electricity Tax and online Lift License Management System covering the entire State of Tamil Nadu.

The application "Online Lift License Management'' enables that applicant seeking for grant of new lift license and renewal of

existing lift license to apply through online and status of their each application can be monitored. The development of software through ELCOT for the online lift licensing system is completed. This will benefit the owners of the lifts at residential apartments, commercial complexes and office buildings.

"Online Filing of Returns of Electricity Tax" enables the applicant to file the data required for collection of the Electricity taxes Online. This system will improve the collection of electricity tax. The status of each application is intimated to applicant through e-mail and message. The development of software through ELCOT for the on line filing of returns of electricity tax is also completed and this package will be implemented this year. Training on this subject has been given to all departmental

officers and staff. This system will be open to public shortly.

Permission to erect a lift (Form - B) has been issued through online from May 2017 in Chennai district.

On line Filing of Returns of Electricity Tax, permission to erect a lift (Form - B), license to work a lift (Form-F) and renewal of license for working a lift (Form-G) will be implemented within the period of 6 months throughout the state of Tamil Nadu.

IV. TAMIL NADU POWER FINANCE AND INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED

The Tamil Nadu Power Finance and Infrastructure Development Corporation Limited (TNPFIDC) was incorporated on 27.6.1991 as a Non-Banking Finance Company to fund infrastructural projects undertaken by the Tamil Nadu Electricity Board. This Company mobilizes funds for lending to schemes relating to Generation, Transmission and Distribution infrastructure of the TANGEDCO AND TANTRANSCO. TNPFIDC is classified as a Public Financial Institution by the Ministry of Company Affairs, Government of India. The authorized and paid-up share capital of the Company is Rs.90 crores. This Company has been making profits since inception.

4.1 Fixed Deposits

TNPFIDC mobilize funds from individuals as well as Institutional investors. There is a tremendous growth in the deposit base of the Company. This is mainly due to consistent profitability and higher interest rate offered by the Company. This has resulted in the substantial growth of deposits during the financial year 2016-17. This Company has mobilized a sum of Rs.2,931.17 crores as deposits from 1.4.2016 to 31.3.2017. The net deposits during the period from 1.4.2016 to 31.3.2017 have grown at a rate of 19.71%. It has gone up from Rs.14,870.48 crores at the beginning of the year to Rs.17,801.65 crores as on 31.3.2017. This includes deposits mobilized from public, Institutional deposits and the State Government Schemes. Out of the total deposits of

Rs.17,801.65 crores, the contribution from the individual investors is Rs.4,282.19 crores and the balance amount of Rs.13,519.46 crores is from Institutional investors and State Government Schemes.

4.2 Rate of Interest

TNPFIDC offers an interest rate of 7.75% for deposits for one year, 8.00% for deposits for 2 years and 8.50% for deposits with a tenure up to 5 years. The Company offers an additional interest of 0.25% p.a. for 12 months & 24 months and 0.50% p.a. for 36, 48 & 60 months on deposit made by senior citizens, aged 58 years and above.

4.3 Financial Assistance to TANGEDCO

TNPFIDC lends only to TANGEDCO for financing their infrastructural projects. From inception till the year 2016-17, a total sum of

Rs.59,432.39 crores has been sanctioned as gross financial assistance to TANGEDCO by way of hire purchase, lease and term loan. A record high amount of Rs.12,747 crores has been provided as financial assistance to TANGEDCO in the year 2016-2017. The net loan outstanding from TANGEDCO as on 31.03.2017 is Rs.21,772.59 crores.

4.4 Deposits of the State Government Schemes

1. Cash Incentive Scheme:

Government in the year 2011-12 vide G.O.Ms. No.141, School Education Department, dt.13.9.2011 ordered to implement a new "Special Incentive Scheme" for students in Government and Government – Aided Schools to prevent the school dropouts in 10^{th}, 11^{th} and 12^{th} standards. An incentive of Rs.1500/- per

student for 10th and 11th standards and Rs.2000/- per student for 12th standard is deposited by the Government in Tamil Nadu Power Finance Corporation. The School Education Department has deposited a sum of Rs.313.58 crores in the year 2016-17 to prevent dropout of students in the Schools. After appearing in class 12th examination, the incentive along with interest of Rs.6011/- per student is directly transferred to the bank account of the students. So far, cash incentives of Rs.1219.56 crores have been paid to 24,61,970 students.

2. Bread-winning Scheme:

Government vide G.O.Ms.No.195, School Education Department dt.27.11.2014, have enhanced the existing deposit amount from Rs.50,000/- to

Rs.75,000/- per student under this Scheme to provide financial assistance to students studying from 1st standard to 12th standard in Government and Government – Aided Schools, whose bread-winning parent died or permanently incapacitated in an accident. A sum of Rs.33.80 crores has been deposited by the School Education Department from the year 2005 to 31.3.2017 to provide financial assistance at the rate of Rs. 75,000/- per student studying from 1st standard to 12th standard in Government and Government – Aided Schools, whose bread- winning parent dies or permanently incapacitated in an accident. So far, 6,668 students have been provided with financial assistance under Bread-Winning Scheme.

3. Chief Minister's Girl Child Protection Scheme

Government vide G.O.Ms.No. 61, Social Welfare & Nutritious Meal Programme Department, dt.5.7.2013 have enhanced the deposit amount from Rs.22,200/- to Rs.50,000/- per child under **"**One Girl Child Scheme**"** (Scheme I) and a sum of Rs.15,200/- to Rs.25,000/- per child under "Two girl children Scheme" (Scheme II) in the name of the child. An incentive of Rs.1,800/- is given per child on completion of 5^{th} year up to 18^{th} year of deposit for her educational purposes. Under this scheme, a sum of Rs.1203.39 Crores has been deposited by the Social Welfare Department from the year 2001 to 31.3.2017, for the benefit of 6,68,115 girl children.

4. **Oru Kala Pooja Scheme**: Government vide G.O. Ms. No.197, Tamil Development Hindu Religious and Information Department, dt.20.9.2011 have enhanced the existing deposit amount from Rs.25,000/- to Rs.1,00,000/- towards "Oru Kala Pooja" scheme for performing daily pooja in the fund starved temples from the quarterly interest earned on such deposits in TNPFIDC. A sum of Rs.116.54 crores has been deposited in Tamil Nadu Power Finance and Infrastructure Development Corporation Ltd., to benefit 11,654 temples.

4.5 Financial Performance

TNPFIDC is a profit making Company since its inception. The total revenue of this Company during the financial year 2016-2017 is Rs.2,259.91 Crores. The Company has accumulated a net profit of

Rs.1015.59 crores up to 31.3.2017. The provisional gross profit and profit after tax for the year 2016-2017 are Rs.179.31 crores and Rs.128.38 crores respectively. The Company had declared dividend regularly from the year 1995-96 onwards and a sum of Rs.150.67 crores has been paid as dividend to the Government so far.

P.THANGAMANI
Minister for Electricity,
Prohibition and Excise

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