AN ANALYSIS ON THE THERMAL POWER GENERATION IN TAMILNADU BY TAMILNADU ELECTRICITY BOARD'S THERMAL POWER STATIONS FROM THE YEAR 1992-93 TO 2011-12

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Introduction: Electricity is a primary source of energy hence availability of electricity to all segments of society at reasonable price and at adequate at all time is very important for development of the economy in the state. Power development is one of the key inputs for the overall economic development of a state. Commercial supply of electricity did not began till the Binny group of companies set up a thermal power station in Chennai and sold power to the Government press, general hospital, tramways and some residential areas. In 1927, the electricity department was created, as a wing of the state Government in order to actively boost power development in the state. Generation and transmission of electricity came under the monopoly control of the department and by the end of the second plan , it was realised that over dependence on hydro power generation programmes would make the grid vulnerable at a time of low rainfall and therefore thermal power station should be established to stabalise the power supply position in the state. Tamilnadu Electricity Board ranks among top three SEBS in the country along with Maharashtra and Gujrat , in terms of the size of its operation gauged by the generating capacity as its command, the amount of energy sold and the number of consumers serviced. Hydro power stations are more when compared to thermal power stations but its generating capacity and total generation is low compared to thermal power stations. This paper attempts to analyse the generation and installed capacity i.e generating capacity of TNEB'S thermal power stations especially after post – liberalisation era.

Objectives

1. To analyse the power generation of thermal power stations of TamilNadu Electricity Board.
2. To analyse the installed capacity i.e generating capacity of TamilNadu Electricity Board's thermal power stations.

Methodology: This paper mainly attempts to study the TamilNadu Electricity Board'S (TNEB) thermal power station's generation an d installed capacity i.e generating capacity . For this , the study mainly depended on secondary data which is collected for 20 years from the year 1992-93 to 2011-12 from the following sources.

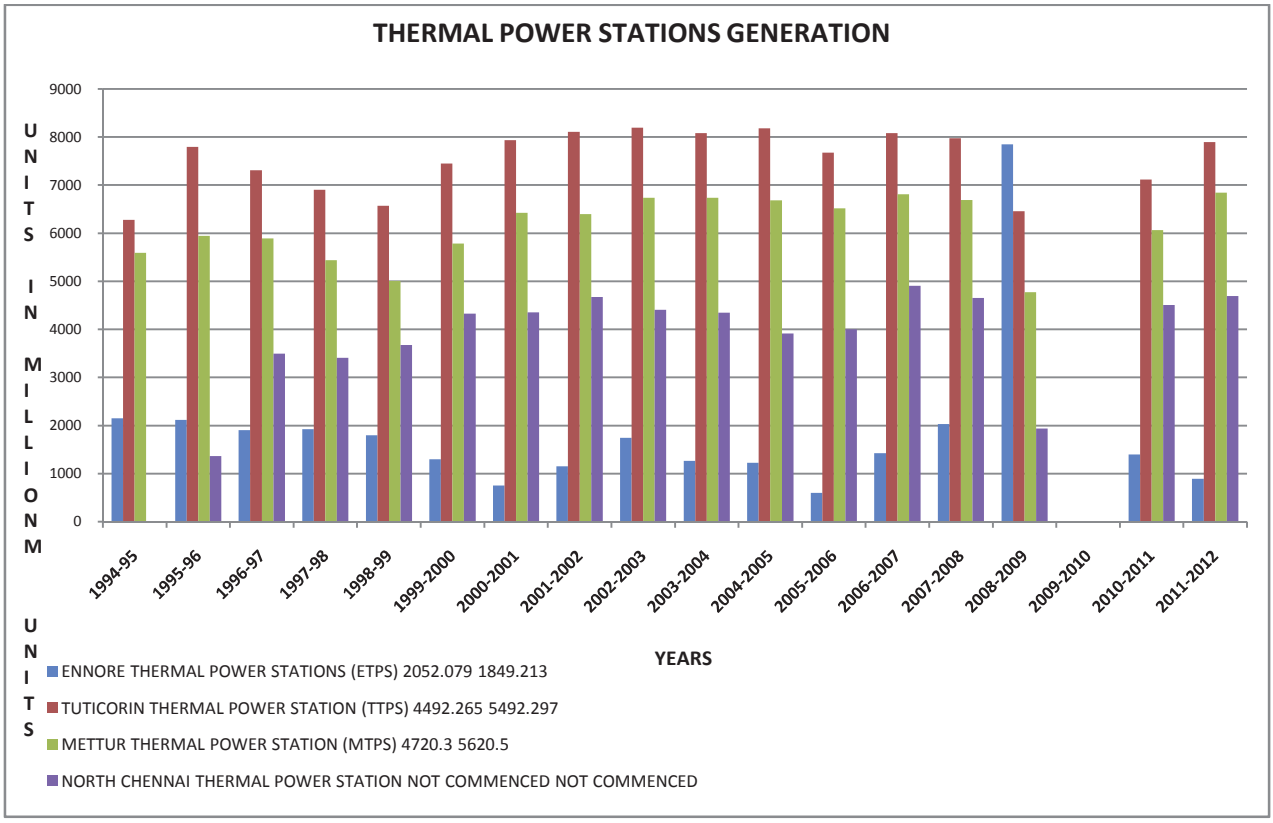
1. Statistical handbook of TamilNadu
2. TNEB, statistics at a glance 2008 report
3. TamilNadu economic appraisal

Table.1 represents the thermal power generation by TNEB'S thermal power stations and in table .2 installed capacity of thermal power stations has been shown . In this study, for table 1 and 2 bar diagram is used to show the comparison between the various thermal power stations generation and generating capacity for 20 years from the year 1992-93 to 2011-12.

Analysis

Tneb's Thermal Power Stations Generation: In table.1 TNEB'S thermal power stations generation are shown.

TABLE.1 THERMAL POWER STATIONS GENERATION (IN MILLION UNITS)				
YEARS	ENNORE THERMAL POWER STATIONS (ETPS)	TUTICORIN THERMAL POWER STATION (TTPS)	METTUR THERMAL POWER STATION (MTPS)	NORTH CHENNAI THERMAL POWER STATION
1992-93	2052.079	4492.265	4720.300	NOT COMMENCED
1993-94	1849.213	5492.297	5620.500	NOT COMMENCED
1994-95	2152.370	6278.885	5591.260	3.553
1995-96	2113.841	7795.900	5942.170	1367.748
1996-97	1900.985	7310.150	5888.830	3497.583
1997-98	1924.03	6905.66	5440.23	3411.93
1998-99	1799	6569	5004	3674
1999-2000	1295	7449	5786	4331
2000-2001	753	7934	6422	4355
2001-2002	1149.117	8105.545	6395.640	4675.149
2002-2003	1742.197	8193.01	6737.77	4406.814
2003-2004	1263.738	8083.330	6735.423	4348.069
2004-2005	1222.640	8178.190	6684.762	3918.443
2005-2006	600.518	7674.140	6518.896	4001.128
2006-2007	1427.875	8083.290	6812.833	4904.400
2007-2008	2032.410	7974.380	6691.968	4656.540
2008-2009	7850.33	6458.961	4775.092	1938.329
2009-2010	N.A	N.A	N.A	N.A
2010-2011	1396.289	7113.160	6064.696	4510.863
2011-2012	893.681	7891.940	6844.822	4693



SOURCE : STATISTICAL HANDBOOK OF TAMILNADU FROM 1992-93 TO 2011-2012

From the above table.1 we can see that in TamilNadu there are four thermal power stations namely Ennore thermal power station (ETPS), Tuticorin thermal power station (TTPS), Mettur thermal power station (MTPS), North Chennai thermal power station which is under the control of TamilNadu Electricity Board (TNEB). Initially from the year 1992-93 to 1993-94 MTPS generation was more than TTPS but from the year 1994-95 TTPS generated maximum units of power when compared to all other stations till the recent year i.e 2011-12. MTPS generation was less than TTPS but MTPS has increased its generation from 4720.300 MU to 6844.822 MU during 2011-12. North Chennai thermal power station was not in operation from 1992-93 to 1993-94 it was commenced from the year 1994-95 during that year the generation was less than other station which was 3.553MU but from the year 1996-97 North Chennai thermal power station started generating more than ETPS till 2007-2008 but during 2008-09 the power generation of North Chennai thermal power station, MTPS and TTPS was less than ETPS, during this year ETPS has shown better progress i.e 7850.33MU.

During 2002-03 TTPS has generated the maximum units i.e 8193.01MU but recently TTPS generation has been declined to 7891.940 MU during 2011-12, where as MTPS has shown an increase in its power generation during 2011-12 with 6844.822 MU than the initial study period which was 4720.300MU in 1992-93 . During 2006-2007 the North Chennai thermal power station's generation was high with 4904.400 MU but recently during 2011-12 the generation is less i.e 4693 MU . ETPS power generation is very low when compared to TTPS, MTPS and North Chennai thermal power station during 2011-12 which was 893.681 MU.

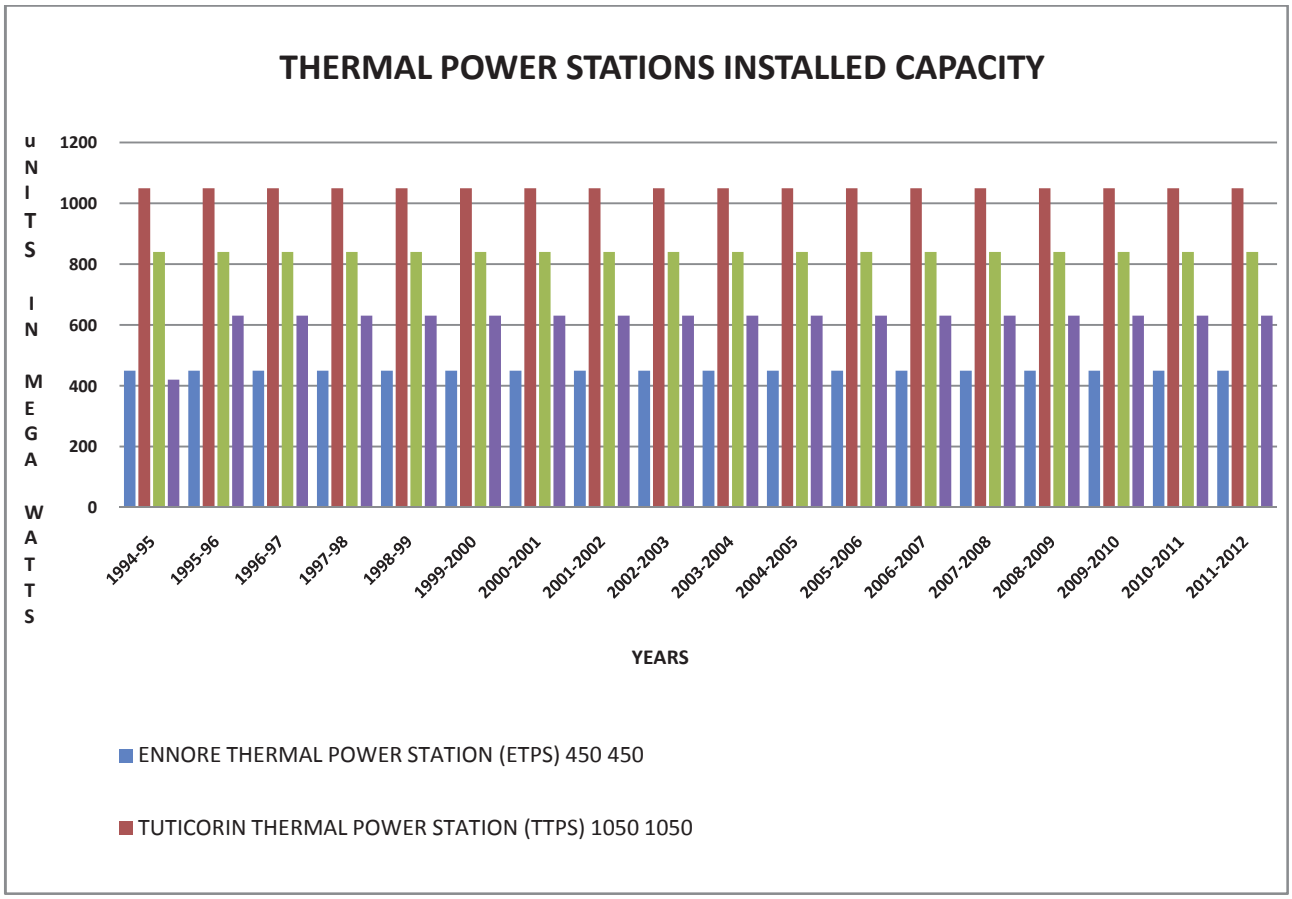
NSTALLED CAPACITY OF THERMAL POWER STATIONS

In table .2 installed capacity of TNEB'S thermal power stations are shown.

TABLE .2 INSTALLED CAPACITY OF THERMAL POWER STATIONS (IN MEGA WATTS) 9units in mega watts) ((m(units

YEARS	ENNORE THERMAL POWER STATION (ETPS)	TUTICORIN THERMAL POWER STATION (TTPS)	METTUR THERMAL POWER STATION (MTPS)	NORTH CHENNAI THERMAL POWER STATION
1992-93	450	1050	840	NOT COMMENCED
1993-94	450	1050	840	NOT COMMENCED
1994-95	450	1050	840	420
1995-96	450	1050	840	630
1996-97	450	1050	840	630
1997-98	450	1050	840	630
1998-99	450	1050	840	630
1999-2000	450	1050	840	630
2000-2001	450	1050	840	630
2001-2002	450	1050	840	630
2002-2003	450	1050	840	630
2003-2004	450	1050	840	630
2004-2005	450	1050	840	630
2005-2006	450	1050	840	630
2006-2007	450	1050	840	630
2007-2008	450	1050	840	630
2008-2009	450	1050	840	630
2009-2010	450	1050	840	630
2010-2011	450	1050	840	630
2011-2012	450	1050	840	630

SOURCE : STATISTICAL HANDBOOK OF TAMILNADU FROM 1992-93 TO 2011-2012



From the above table .2 we can study that the installed capacity of TTPS is more i.e 1050 MW when compared to other stations and there is no change in the installed capacity till 2011-12, this is followed by MTPS with 840 MW of installed capacity till 2011-12 and it remains unchanged during the study period. During 1992-93 and 1993-94 the North Chennai power plant was not in operation and it was commenced from the year 1994-95 with 420 MW of installed capacity, from 1995-96 the installed capacity of North Chennai has been increased to 630 MW till 2011-12. The ETPS installed capacity was 450 MW and it remained same during the study period 1992-93 to 2011-12.

Findings:

1. TTPS power generation is high because of its high installed capacity i.e 1050 MW when compared to other power stations but its generation has been decreased during 2011-12 than the previous year.
2. Initially from 1992-93 to 1993-94 MTPS generation was more than TTPS even with low installed capacity i.e 840 MW due to efficient utilisation of capacity and sufficient availability of coal.
3. With low installed capacity i.e 450 MW ETPS power generation was 7850.33 MU which was more than the TTPS , MTPS and north Chennai during 2008-2009.
4. Except the year 2008-09 the power generation of ETPS was very low when compared to other stations.
5. MTPS power generation is less when compared to TTPS but it has increased its generation from 1992-93 which was 4720.300 MU to 6844.822 MU in 2011-12. MTPS has shown growth in the power generation.
6. Initially when the North Chennai power station was commenced the power generation very low i.e 3.553 MU but from 1995-96 it has increased its generation which was 1367.748 MU.

Conclusion: Based on above study it is analysed that TTPS generates more when compared to MTPS this is predominantly on account of higher installed capacity of TTPS when compared with MTPS. From 2000-2001 the North Chennai station generated power uniformly with its installed capacity . In 2007-

2008 ETPS was the only thermal station that generated 2032MU while all other stations had reduced its generation due to lack of coal and inefficient utilisation of generating capacity but analysing with the thermal plants the ETPS is generating only 50% of its installed capacity this is mainly because of aged plant. So if high priority is given for renovation and modernisation of aged plants like ETPS there is possibilities of increasing the power generation and also with the increase in the installed capacity of existing plants like MTPS and North Chennai power station the power generation can be increased ,so that the TNEB can contribute maximum units of power to meet the increasing demand in state of Tamilnadu.

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