

RESEARCH ARTICLE

TREND ANALYSIS IN PERFORMANCE EVALUATION : A CASE STUDY OF APSPDCL

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ABSTRACT

Electricity has become one of the essential amenities of modern life. According to 2011 population census, out of 246.7 million households in the country only 67.2% have access to electricity in India. In respect of Andhra Pradesh, out of 21 million households in the state more than 19 million households have access to electricity.

APSPDCL was formed with a vision to become an efficient utility supplying reliable and quality power, promoting economic development and being self-reliant commercially. As on 31st March 2004, SPDCL has a robust distribution network to cater to customers spread across 81,331 sq. km representing 326 mandals, 6,177 villages and 86 assembly constituencies

The objective and methodology of the research article is to find out financial strengths and weaknesses of APSPDCL and to give suggestions for the better utilization of financial resources of APSPDCL. For the purpose of evaluation this research paper is divided into two parts. In the first part, the status of the power sector in India, A.P, APSPDCL has been discussed. In the second part, the performance of APSPDCL was estimated and finally concluded with recommendations.

Keywords: Power Sector, APGENCO, APTRANSCO, APSPDCL.

1. INTRODUCTION

Power is an essential infrastructure requirement for economic, industrial and agricultural development of the state. It is necessary for modern living and touches every facet of life – industry, agriculture, transport, health, education etc.

At the all India level as for as access to electricity is concerned, six decades of independence and two decades of reforms have not meant much to nearly half of rural households in India. According to 2011 population census, out of 246.7 million households in the country only 67.2% (55.8% in 2001) have access to electricity. While 92.7% (87.6% in 2001) of the urban households have access to electricity, only 55.3% (43.5% in 2001) of the rural households have access to this facility.

In Andhra Pradesh out of 21 million households in the state more than 19 million households have access to electricity. That is, 92.2% (67.2% in 2001) of the households in the state have access to electricity. While 97.3% (90% in 2001) of the urban households have access to electricity 89.7% (59.7% in 2001) of the rural households have access to electricity in the state. In the case of per capita consumption of electricity also India lags behind. Per capita annual consumption of electricity in India stands at 813 units. Compared to the all India situation the position of AP is better. Per capita electricity consumption in AP is 1050 units per year. Power is vital for every form of human activity-domestic, agriculture and industrial infrastructure such as Telecommunication and Transport. It is an important infrastructure that supports economic growth.

The electricity sector in India had an installed capacity of 233.93 GW as of December 2013, the world's fourth largest. Captive power plants generate an additional 34.44 GW. Non Renewable Power Plants constitute 87.55% of the installed capacity, and Renewable Power Plants constitute the remaining 12.45% of total installed capacity.

India total annual generation of electricity from all types of sources was 1053.9 TeraWatt-hours (TWh) in 2012. In terms of fuel, coal-fired plants account for 59% of India's installed electricity capacity, compared to South Africa's 92%, China's 77% and Australia's 76%. After coal, renewable hydropower accounts for 17%, renewable energy for 12% and natural gas for about 9%.

India's total domestic, agricultural and industrial per capita energy consumption estimate varies depending on the source. India currently suffers from a major shortage of electricity generation capacity, even though it is the world's fourth largest energy consumer after United States, China and Russia. India's network technical losses were 23.65% in 2013, compared to a world average of less than 15%.

2. ELECTRICITY SCENARIO OF ANDHRA PRADESH

The state of Andhra Pradesh (AP) forms a major constituent of the southern grid. Major electricity generation is through the thermal and the hydro power plants. These power plants are operated by Andhra Pradesh Power Generation Company (APGENCO). By Feb 2013, Andhra Pradesh was the fourth largest power

generating state in the country and also has the largest hydro power generation capacity in India.

At present, Andhra Pradesh has a total installed power generation capacity of 16,817 MW from all the sources. Out of it, 11,771 MW is from thermal, 3737 MW is from Hydro, 1036 MW is from renewable energy sources and 276 MW is from Nuclear. Andhra Pradesh has experienced increasing capacity addition in the last few years. In spite of additional installed capacity, peak demand deficit in the state has increased from 2% in 2005-2006 to 15% in 2011-2012. Despite the discovery of natural gas in Krishna Godavari basin (KG-Basin), natural gas based power plants established near coastal parts of Andhra Pradesh are running on minimum plant load factors due to lower gas production. Generation in hydro power units has also come down due to low water levels in the reservoirs as a result of seasonal variability of monsoon. Under these circumstances, power utilities are forced to impose power supply rationing. Major and medium industries in Andhra Pradesh experience increasing number of "power holidays" as the state power distribution companies are unable to meet the growing demand for electricity.

The prolonged electricity shortage is unfavorable for the overall development of the state. Industries are adversely affected and have started relying on expensive power from the DG sets. The increasing price of diesel is also a big concern for them. Any development requires electricity to support it. Capacity addition in the existing conventional power generation plants might not be the solution.

3. APSPDCL

AP Power Sector Reforms envisage creation of Distribution Companies as Government Undertakings for the first few years and privatization later on. The Government of Andhra Pradesh on 31st of March 2000 formally declared the formation of Distribution Companies. In this process, Andhra Pradesh Southern Electricity Distribution Company was formed for six districts of Andhra Pradesh. The Corporate Office and Headquarters of APSPDCL are at Tirupati city.

Quality power at economic rates acts a catalyst in transforming the state by fostering growth in agricultural, industrial and commercial areas while meeting the increasing domestic demand. On Feb 1, 1999, Government of Andhra Pradesh initiated the first phase of reforms and restructuring in AP's power sector by unbundling APSEB into APGENCO and APTRANSCO to cater to Generation and Transmission and Distribution respectively.

APTRANSCO was further reorganized into four distribution companies to cater to the needs to the different districts of AP. APSPDCL was formed in April 1, 2000 to serve Krishna, Guntur, Prakasam, Nellore, Chittoor and Kadapa districts with a vision to become an efficient utility supplying reliable and quality power, promoting economic development and being self-reliant commercially. As on 31st March 04, SPDCL has a robust distribution network to cater to customers spread across 81,331 sq. km representing 326 mandals, 6177 villages and 86 assembly constituencies

4. OBJECTIVE

The objective of the research paper is to find out the financial performance, strengths and weaknesses of APSPDCL and to give suggestions for its better performance.

5. RESEARCH METHODOLOGY

The study depends on secondary data from various sources. The secondary data was collected from annual reports of the APSPDCL for seven years period from 2006-2007 to 2012-2013. For the purpose of analysis this research paper is divided into two parts using different types of tools and techniques like averages, trend analysis, percentages and standard deviation. In the first part, the status of the power sector in India, in A.P and APSPDCL has been discussed. In the second part, the performance of APSPDCL was estimated and the paper is finally concluded with recommendations.

6. DATA ANALYSIS : OPERATIONAL PERFORMANCE OF APSPDCL

Table 1 demonstrates the operational performance of APSPDCL during 2007-2012. The unit sold by APSPDCL in 2007 was 10,360.95 million units and in 2012 it was 16,388.21 million. It shows growth of 6,027.26 million units during the assessment period. The average and standard deviation of the units sold was 12,937.40 and 2,119.71 respectively during the assessment year. The number of distribution transformers increased from 1,58,160 to 2,80,985. The growth difference was 122825. The average and standard deviation was 2,29,455.33 and 45,375.19 respectively during the assessment period. In a span of 6 years, the number of customers increased from 52,34,494 to 70,26,704. The customers' average and standard deviation was 61,75,547 and 6,11,664 respectively during the period 2007-2012

Table 1: Operational Performance of APSPDCL during 2007-2012

Key Parameters	2007	2008	2009	2010	2011	2012	Average	S.D
Units sold (million units)	10360.95	10798.24	11938.5	13697.28	14441.24	16388.21	12937.40	2119.71
No. of 33/11 KV sub stations	767	843	955	1045	1058	1125	965.50	125.72
Length of 33KV line in km	9960.1	10272.61	10891.65	11506.29	11125.52	11452.63	10868.13	576.61
Length of 11KV	70173.41	75012.36	84734.16	91863.79	95685.94	99211.66	86113.55	10610.40

line in km								
Length of LT line in km	130361.9	132688.9	139692.1	141082.9	147403.8	151798.3	140504.67	7528.85
Number of distribution transformers	158160	184972	226238	249957	276420	280985	229455.33	45375.19
Number of power transformers	1071	1147	1261	1357	1373	1440	1274.83	130.22
No. of Consumers	5234494	5656339	6021853	6397861	6716034	7026704	6175547	611664
Distribution losses %	15.97	14.73	13.52	12.98	12.75	11.29	13.54	1.49

Source: APSPDCL Annual Reports from 2007-2013

7. COMMON SIZE INCOME STATEMENTS OF APSPDCL

Table 2 denotes that the horizontal analysis of the income statement of APSPDCL during 2007 to 2013. With the base year 2007 trend was analyzed with help key parameters like income, expenditure, profit etc.

The total income increased to 4923.02 crores between 2007 and 2013. The total income increased from 100% to 248.99% during the period 2007-2013.

The revenue from sale of power and the revenue subsidies increased 4079.06 crores and 761.07 crores in the assessment years respectively. Revenue from sale of power shows continuous growth during 2007-2013. When compared to the base year 2007, the growth in 2013 was 166.08%. The revenue subsidies grants increased to 124.37%. During 2007-2013, other income increased to 35.07% during the assessment period.

Regarding to total expenditure, it increased from 3246.64 crores to 12900.25 crores. The total expenditure has been increasing continuously in all the assessment years. It increased from 100% in 2007 to 397.34% in 2013. It shows continuous increase in all the years i.e., 9653.61 crores. The purchase of power is one of the major important expenditure. It increased from 100 % to 306.80 % during the assessment period.

The employee cost and interest and finance charges also increased to 401.4 crores and 505.79 crores respectively. The employee cost showed greater growth when compare to the other factors. It increased from 100% in 2007 to 329.61% in 2013. The interested and finance charges increased to 439.29% showing negative trend. When compared to 2007, the profit increased to 144.19 % in 2008 after that the losses increased from 32.79% in 2009 to 8212.33% in 2013.

Table 2: Income Statement Analysis of APSPDCL during 2007-2013 (In Percentage)

Particulars	2007	2008-2007	2009-2007	2010-2007	2011-2007	2012-2007	2013-2007
Income							
Revenue from Sale of Power	100	123.82	130.98	155.20	201.42	245.89	266.08
Revenue Subsidies & Grants	100	111.03	309.89	285.51	257.95	282.23	224.37
Other Incomes	100	72.45	799.70	889.71	90.50	90.91	135.07
Total	100	117.77	160.47	174.60	203.95	241.53	248.99
Expenditure							
Purchase of Power	100	117.48	164.92	179.11	195.31	245.15	306.80
Electricity Duty	100	114.04	127.55	146.24	163.00	185.33	0.00
Employee Cost	100	153.21	172.91	189.39	424.75	322.69	329.61
Administration & General Expenses	100	108.50	134.93	145.47	0.00	0.00	0.00
Other Expenses	100	75.59	216.86	97.91	301.63	235.70	5591.29
Depreciation & Amortization	100	97.47	122.47	147.56	187.50	206.34	218.98
Interested & Finance charges	100	119.42	162.38	229.80	267.10	359.39	439.29
Total	100	117.31	162.66	177.50	207.42	245.59	397.34
Profit(Loss) for the Year	100	144.19	32.79	9.98	5.30	6.06	(8212.33)

Source: APSPDCL Annual Reports from 2007-2013

8. COMMON SIZE FINANCIAL STATEMENTS OF APSPDCL

Table 3 shows that the horizontal analysis of the balance sheet of APSPDCL during 2007-2013. The total sources of

application of funds increased from 100% to 206.56% during 2007-2013. The reserves and surplus increased from 106.44 crores in 2007 to 3303.67 crores in 2013. The difference was 3197.23 crores. In the sources of funds the

reserves surplus show a wonderful growth of 1162.58 % in 2012 when compared to 2007 base year (100%). But it decreases to 3103.79 % in 2013.

The cash & bank balances increased from 100% to 275.61% during the assessment period 2007-2013. The current liabilities and secured loans increased to 6118.43 crores and 752.6 crores during assessment period. The current liabilities increased from 100% to 639.35% between 2007 and 2013.

The other current assets increased from 0.65 crores in 2007 to 3020.47 crores in 2012 and it was 66.74 crores in 2013. The receivables and net assets increased to 2457.94 crores and 1590.72 crores respectively between 2007 and 2013. The receivables increased from 100% in 2007 to 652.09% in 2013.

The provisions increased from 100% to 758.03% during the assessment period. In the application of funds, net assets have been increasing in all the years, it increased by 202.62% in 2013 when compared to the base year 2007.

9. RECOMMENDATIONS

Based on the analysis the researcher recommended the following, the growth of the substations is very small, it is suggested that they must increased to be 1500

immediately. In the assessment period the 33KV line growth in kms was 14.97 %, 11KV line growth was 41.38% and LT line growth was 16.44 %. It is suggested that all the types of KVlines must be increased, particularly 33KV line and LT line in kms.

The number of distribution transformers increased during 2007 and 2012 was 122825 i.e. 77.66% growth. The number of customers increased to 17,92,210 and the growth was 34.24% only. It is suggested that the APSPDCL should concentrate on increasing its operational performance.

The increase in income during 2007-2013 was less (148.99%) when compared to the expenditure (397.34 %). It is suggested that the APSPDCL should concentrate to improve the total income and take action to reduce total expenditure.

The revenue from sale of power showed growth of 166.08% and the purchase of power showed a growth of 206.80% between 2007 and 2013. The difference of revenue from sale of power was 4079.06 crores and purchase of power was 5302.34 crores during 2007-2013. It is suggested that the purchase of power should be reduced and the APSPDCL must concentrate on production of power.

Table 3: Analysis of Financial Reports of APSPDCL during 2007-2013 (In Percentage)

Particulars	2007	2008-2007	2009-2007	2010-2007	2011-2007	2012-2007	2013-2007
Sources of funds							
Share Capital	100	100	100	100	100	100	100
Reserve & Surplus	100	228.2	263.42	149.38	1017.09	1162.58	-3103.79
Deferred capital contribution	100	113.82	134.16	189.80	0	0	0
Secured Loans	100	118.81	140.83	166.37	142.66	160.13	163.90
Unsecured Loans	100	91.52	340.72	492.35	157.38	184.24	218.61
Current Liabilities	100	104.85	140.52	164.05	400.18	501.21	639.35
Provisions	100	99.81	136.58	165.13	664.32	644.05	758.03
Total	100	111.62	164.08	201.70	235.47	278.73	206.56
Application of funds							
Net assets	100	146.14	145.33	175.35	212.90	208.57	202.62
Capital work in progress	100	50.97	110.02	101.30	45.05	57.63	108.81
Investments	100	155.38	0.46	0.46	85.87	137.40	211.83
Inventories	100	103.73	97.86	117.67	96.54	115.27	130.76
Sundry Debtors	100	103.38	95.06	159.98	0	0	0
Receivables	100	100.92	339.96	528.81	426.08	703.09	652.09
Cash & Bank balances	100	90.13	512.58	298.21	406.3	350.93	275.61
Loans & Advances	100	102.57	67.91	12.65	3.02	4.73	48.10
Total	100	111.62	164.08	201.70	235.47	278.73	206.56

Source: APSPDCL Annual Reports from 2007-2013

The employee cost shows continuous increase 401.4 crores in 7 years. It is advised that the APSPDCL must concentrate to reduce the employee cost.

The interest and finance charges are increasing rapidly; it has shown 339.29% growth during 2007 and 2013. The profits of APSPDCL showed a 2 year increase and five year decrease. The profits in 2007 was 56.93 crores

which reduced to 4675.28 crores loss in 2013, this shows a negative trend. It is recommended that the APSPDCL should take care to increase profits and reduce losses.

It is suggested that the APSPDCL should take necessary steps to increase share capital from 358.72 crores to a minimum of 750 crores to 1000 crores.

The reserves and surplus are showing continuous increase

from 106.44 crores to 1131.01 crores till 2012 and it decreases to 3303.67 crores in 2013. It is suggested the reserves and surplus must be increase.

The current liabilities show a continuous increase 6118.43 crores during 2007 and 2013. It is suggested that the APSPDCL take necessary steps to reduce current liabilities immediately.

The receivables between 2007 and 2013 showed an increase of 2457.94 crores. it is suggested that the APSPDCL take necessary steps to reduce receivables because, if the receivable funds are available there is no need to go for loans thus current liabilities reduce and it reduces interest paying burden.

10.CONCLUSION

Presently, due to power shortages, industry has been subjected to power cuts ranging from 20% to 60% during the last few years. To enhance reach of power to all consumer segments, the power sector has to get rid of the fundamental problems plaguing it and add over two lakh MW of additional capacity as well as the associated transmission and distribution system by 2015.

The company should take necessary steps to increase the current assets by keeping more cash and bank balances. The company should allocate some more funds to working capital by increasing the current assets. So that the available adequate working capital would be make the firm financially strong. The company must use total assets effectively to increase its profits.

The company should maintain effective performance and adequate working capital in order to improve profits. Necessary measures may be taken to reduce cost of supply like expenses and power purchase costs. Finally, to conclude the research article has helped the APSPDCL to know their financial strength.

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