

Power Sector Reforms in Odisha : Major Issues and Challenges

Padmalochan Rout

Power is a critical infrastructure for economic development and important in quality of life. It is basic input to improve the standard of living and agricultural and industrial development in the country. Electricity, now-a-days, has no more remained a luxury item only to urban elites but has become an integral part of man's life, both personal and economic. For effective implementation of various development programmes in agriculture, industry, science and technology, energy has been the most important factor in the form of electricity. Electrical energy keeps life's clock ticking on the earth. It is required to cook our food, to light our houses, to run tractors and pumps in the farms. Availability of electrical energy in adequate quantities is an indispensable condition for achieving sustained growth of industries.

India's power sector has been traditionally experiencing massive and chronic problem. The performance of this sector in the technical, commercial and financial spheres have been extremely lack-lustre and Odisha is no exception. This sector had progressively increasing demands on both state and central government budgets. The situation was no sustainable and resulted in governments taking

drastic measures to improve the sectors performance which otherwise can be termed as power sector reforms. Reforms were envisaged in the generation, transmission, distribution and utilization of power. To arrest the endemic problems of the sector, Government of India opened the sector to private investment in 1991, initially in generation.

POWER SECTOR REFORMS IN ODISHA :

Like other states, Odisha's power generation and distribution was being managed by Odisha State Electricity Board (OSEB). The pre-reform performance-technical commercials and financial of the OSEB was very dismal. Install capacity for power generation was around 2900MW dominated by 5 plants totalling 1700MW of the (OSEB) and 420MW coal fired plant of Odisha Power Generating Corporation (OPGC). There were around 1.3 Million consumers of whom less than 50% were metered. Power system losses were officially audited at around 22% but actual losses exceeded 50% consumption was dominated by industrial consumers (54%), only 6% are agriculture consumers.

FIRST PHASE OF REFORMS :

The power sector reform process was pioneered in Odisha in 1993-94. It was the first in a planned series of Government of India sponsored and world Bank financed state public sector restructuring projects supporting states willingness to undertake fundamental reforms, interalia, one involving significant private distribution, corporatization, tariff reforms and independent regulatory commission in addition to encouraging significant private participation in power generation. It was of course a daring and an opt decision of Government of Odisha. At that point of time the Government was unable to provide sustained and continued budgetary support. In November, 1993 Government of Odisha decided to go for restructuring the power sector in the state with the following objectives:-

- To improve efficiency in generation, transmission and distribution of power.
- To ensure financial viability.
- To mobilize private investment in power sector.
- To nurture competitiveness.
- To enhance consumer rights and privileges.

Reform Measures:-

The restructuring process envisaged the following steps.

- Unbundling of generation, transmission and distribution activities.
- Privatization of generation and distribution.
- Developing new generation capacities through competitive bidding.

- Undertaking tariff reforms at bulk transmission and retail levels.
- Putting in place an independent and transparent regulatory commission.

SECOND PHASE OF REFORMS:

Pursuant to the Odisha Electricity Reforms Rules,1998 the Govt of Odisha transferred the distribution assets and properties along with personnel of GRIDCO to four distribution companies with effect from 26th November 1998. These four distribution companies are CESCO, NESCO, WESCO, and SOUTHCO.

Over the years since reforms were taken up, there has been mixed opinion about the net gains to the people as well as to the State at large. In the present study an attempt has been made to assess the efficiency of the sector in terms of T & D loss status, billing and collection efficiency, financial status as well as the interest of the consumers.

A PROFILE OF POWER SECTOR IN ODISHA:

The total installed capacity as on September 2011 is 4756 MW which includes Hydro 2331 MW and Thermal 2425 MW. The per capita consumption of electricity per year 2009-10 was 874.24 Kwhl whereas the all India average was 778.71 Kwhl. The village electrification as on 31.03.2010 was 68.56%. There is 2 ombudsman, 12 GRFs, 5 special energy courts and 15 Operational Energy Police Station to take care of consumers interest. The consumers profile across the four Distribution companies is given in the table -1.

Table-1

CONSUMERS (as on Sept.2011)	CESU	NESCO	WESCO	SOUTHCO	TOTAL
EHT	22	30	24	12	88
HT	1181	379	633	185	2378
LT	1362839	764769	696815	799475	3623898
Total	1364042	765178	697472	799672	3626364

Source :-GRIDCO, Bhubaneswar

State Demand and Energy Procurement:

Table-2

(Energy in MU)

	2008-09	2009-10	2010-11	2011-12 (Projected)
Energy Requirement	20,519	21,136	22,506	25,430
Energy supplied	20,214	20,955	22,449	21,511
Deficit(-)Surplus(+)	(-)1.5%	(-)0.9%	(-)0.3%	(-)15.4%

(Demand in MW)

	2008-09	2009-10	2010-11	2011-12 (Projected)
Peak Demand	3,062	3,188	3,872	3,700
Peak Demand met	2,987	3,120	3,792	3,836
Deficit Surplus (+)	(-)2.4%	(-)2.2%	(-)2.1%	(+)3.7%

Source :CEA LGBR

- Average demand 2215 MW & 19398MU (for 2008-09), 2354 MW & 20624MU (for 2009-10)
- The Report of 17th Electric Power Survey (EPS) of India published by CEA in March, 2007 made the forecast for the power demand of Odisha for 11th, 12th & 13th Plans as shown in Table -3

Table-3

FY	2011-12 (End of 11th Plan)	2012-13	2013-14	2014-15	2015-16	2016-17 (End of 12 th plan)	2021-22 (End of 13 th plan)	Remarks
Peak Demand (MW)	4459	4783	5130	5502	5902	6330	10,074	As per Table -2 17th EPS of CEA, Energy Requirement and Peak Demand have been computed for 12th Plan @ 7.57% and 7.26% respectively.
Energy Requirement (MU)	27149	29204	31415	33793	36351	39096	63,098	
Installed Capacity Required (MW)	6670	7154	7687	8245	8828	9469	15,069	

GRIDCO and OPTCL have submitted before the Commission that PRDC, Bangalore made a study by Monte-Carlo Simulation Method as well as by Analytical Method to assess the quantum of surplus power during the terminal year of 11th Plan i.e. during FY 2011-12 and during 12th Plan period based on the forecast of demand made by OPTCL as well as in 17th EPS of CEA mentioned above and submitted their Report to GRIDCO in August, 2011 which observes as under:

“Odisha State will not be surplus up to FY 2015-16 and Odisha Power Sector would witness a surplus scenario from FY 2016-17 onwards.”

The Commission has analysed the emerging power scenario of Odisha during 12th Plan as shown in Table-4.

Table-4**Emerging Scenario of deficit/surplus of power during FY 2011-12 & 12th Plan period**

(All in MW)

FY	Peak Demand as per 17 th EPS of CEA	Maximum Peak Demand that can be met	Deficit(-) / Surplus(+)
2011-12	4459	3125	(-)1334
2012-13	4783	3650	(-)1133
2013-14	5130	4050	(-)1080
2014-15	5502	4200	(-)1302
2015-16	5902	5880	(-)22
2016-17	6330	9768	(-)3438

Odisha has signed MoU with 32 Independent Power Producers (IPPs) for setting of power plants in Odisha with a proposed capacity of 39188 MW, out of which Odisha will get a share of 8193 MW.

ACHIEVEMENTS:-

- Odisha is the first State in the country which initiated power sector reform in the State with enactment of the Odisha Electricity Reform Act, 1995 which came into force w.e.f. 1.4.1996.
- Odisha Electricity Regulatory Commission was established under Section 3(i) of the OER Act, 1995 much before the Electricity Regulatory Commission Act, 1998 and the Electricity Act, 2003.
- OERC became functional w.e.f. 1.8.1996 with joining of three Members.
- Generation was separated from transmission and distribution with formation of Grid Corporation of Odisha Limited (GRIDCO) w.e.f. 20.4.1995.
- Subsequently distribution function has been separated from GRIDCO w.e.f.1.4.1999 and at present the distribution of electricity has been entrusted to separate four private distribution Companies.
- Transmission has been separated from bulk supply and trading activity of GRIDCO from 1.4.2005.
- At present OPTCL is functioning as State Transmission Utility and SLDC but for

the 1st time Commission has issued separate Annual Revenue Requirement in tariff for SLDC starting from the year 2009-10.

- Odisha is the only State where no subsidy is being provided by the Govt. of Odisha to the power sector since 1.4.1996. Before 1.4.1996 the annual subsidy was of Rs.250 crore on the average.
- It is the only State where no budgetary support is being provided by the State Govt. to the distribution Companies whereas in other States the level of subsidy varies from 1000 crore to more than 5000 crore.
- In contrast the distribution Companies in Odisha had no transitional financial support. The Kanungo Committee recommended transitional support of Rs.3240 crore on 02.11.2001 but this has not been acted upon.
- Reduction of AT&C loss from 60.90% in 1998-99 to 42.62% in 2010-11.
- The T & D loss which had reached a level of 51.02% in 1998-99 has been decreased to 46.68% in 1999-00 and 39.93% in 2009-10 and 39.97% in 2010-11.
- The collection efficiency has increased from 79.92% in 1998-99 to 96.96% in 2009-10 and 93.06% in 2010-11.
- While the T&D loss was increasing during OSEB period, the Distribution loss as well as AT & C loss have declined from 1999-2000, though at a slow speed.

The comparative position may be seen from the Table-5

Table-5

Year	T & D Loss	Distribution Loss	Collection Efficiency	AT & C Loss	All India AT & C Loss
1990-91	45.30%	-	87.48%	52.10%	
1991-92	44.80%	-	92.02%	49.02%	
1992-93	45.01%	-	91.91%	49.05%	
1993-94	41.57%	-	86.15%	49.7%	
1994-95	46.59%	-	84.97%	54.6%	
1995-96	46.94%	-	92.12%	51.1%	
1996-97	49.47%	-	85.72%	56.7%	
1997-98	49.24%	-	81.17%	58.8%	
1998-99	51.02%	-	79.92%	60.90%	
1999-2000	46.68%	43.91%	77.19%	56.71%	
2000-01	46.90%	44.01%	78.72%	55.92%	
2001-02	50.19%	47.47%	75.55%	60.31%	
2002-03	43.78%	40.75%	82.45%	51.15%	32.54%
2003-04	43.21%	40.75%	85.49%	49.35%	34.78%
2004-05	41.59%	39.21%	91.00%	44.68%	34.33%
2005-06	42.37%	39.59%	91.58%	44.68%	33.02%
2006-07	41.67%	38.57%	92.37%	43.25%	30.59%
2007-08	41.13%	37.48%	93.41%	41.60%	29.24%
2008-09	40.33%	37.50%	92.98%	41.89%	28.44%
2009-10	39.93%	37.24%	96.96%	39.15%	NA
2010-11	39.97%	38.30%	93.06%	42.62%	NA
2011-12 (up to Sept. 2011)		38.28%	91.89%	43.29%	NA
2011-12 (Approved Business Plan / ARR)	24.75%	21.71%	99.00%	22.49%	
2012-13 (Approved Business Plan)	24.19%	21.20%	99.00%	21.99%	

Source:- GRIDCO, Bhubaneswar

Direct accrual of Revenue to the State exchequer

- Before power sector reform in Odisha was undertaken from 1.4.1996, the subsidy to power sector on the average was Rs.250 crore per annum and this has been withdrawn from 1.4.1996. If the subsidy would have continued it would have been more than Rs.1000 crore by 2009-10 per annum. This has helped keeping the revenue deficit of Odisha on a declining path.
- In 2006-07 alone different State Governments have provided the following subsidy to their power sector.

Andhra Pradesh - Rs.1973 cr.

Rajasthan - Rs.700 cr.

Tamil Nadu - Rs.1330 cr (Electricity Duty is also retained)

Gujurat- Rs.1767 cr.

Jharkhand - Rs.392 cr.

Uttar Pradesh - Rs.3105 cr.

Delhi - Rs.92 cr.

Punjab - Rs.1845.81 cr.

- Revenue from disinvestment from distribution Companies of Rs.159.00 crore have been utilized to reduce the liabilities of GRIDCO.
- Collection of electricity duties has increased from Rs.121.35 crore in 1995-96 to Rs.359.38 crore in 2008-09 and Rs.459.96 cr. in 2009-10.
- As a result of withdrawal of budgetary support to the power sector from 1996-97 together with disinvestment and other fiscal measures the State consolidated fund has been enriched and Odisha has been converted from a revenue deficit State to a revenue surplus state.

- This is not a small achievement considering various constraints/difficulties the power sector has passed through in Odisha.

Tariff

It may be noted that retail tariff in case of Odisha is one of the lowest as may be seen from Economic Survey, 2008-09 laid in the Parliament. The table and graph below explains the position.

Table-6

Comparative Tariff for a consumer at HT level for 5 MW load in various States

State	Tariff (Paise per Kwh)
Odisha	245-290
Maharashtra	390
Kerala	340
Karnataka	490
Chhattisgarh	337
Andhra Pradesh	255-287
West Bengal	245-330

During the period of OSEB – GRIDCO, there was regular revision of tariff on year to year basis. But after 2000-01 there has been no revision of tariff on the average in Odisha. This is a greatest benefit the power sector reform was provided to the State. When the tariff rise was 28.5% during the year 1993-94, 15.73% in 1994-95, 17.47% in 1995-96, 17% in 1996-97, 10.33% in 1997-98, 9.3% in 1998-99, 4.5% in 1999-2000 and 10.23% in 2000-01 there has been no rise in tariff thereafter. Recently the average tariff rise during 2010-11 is 22.20%. If we compare wholesale price index (WPI) the tariff rise from 1995-96 to 2009-10 has rather declined by 30.46%.

Table -7

Tariff Rise vis-a-vis Inflation (Wholesale Price Index)

1993-94 – 28.58% (State Govt.)

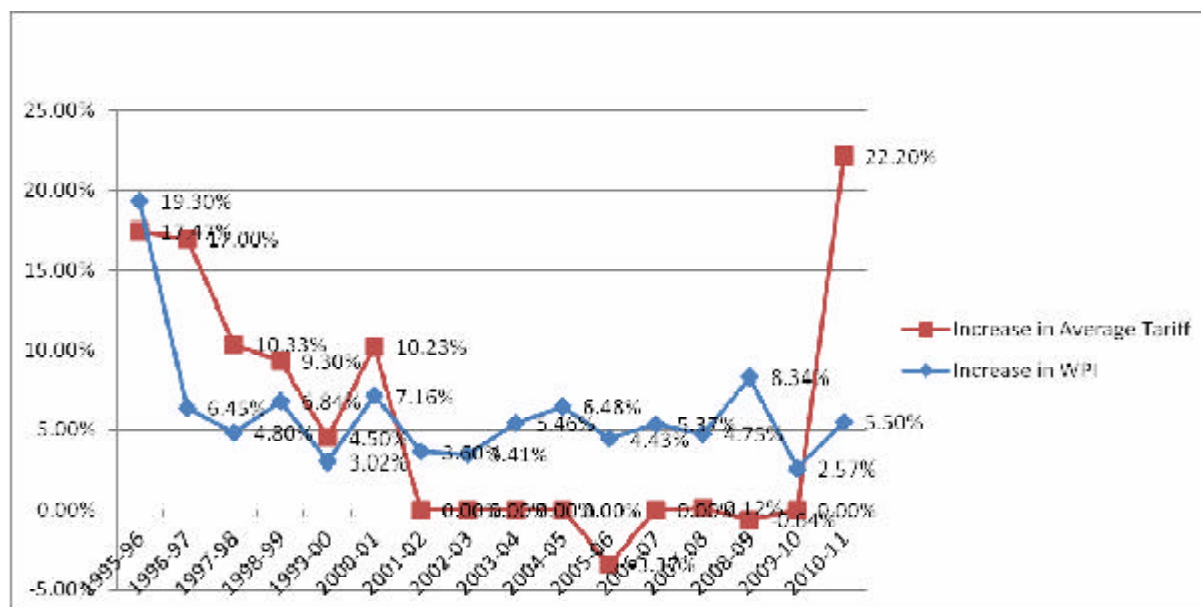
1994-95 – 15.73% (State Govt.)

Year	Increase in Average Tariff	Increase in WPI
1995-96	17.47% (State Govt)	19.30%
1996-97	17.00% (State Govt)	6.45%
1997-98	10.33%	4.80%
1998-99	9.30%	6.84%
1999-2000	4.50%	3.02%

2000-01	10.23%	7.16%
2001-02	0.00%	3.60%
2002-03	0.00%	3.41%
2003-04	0.00%	5.46%
2004-05	0.00%	6.48%
2005-06	-0.37%	4.43%
2006-07	0.00%	5.37%
2007-08	0.12%	4.75%
2008-09	-0.64%	8.34%
2009-10	0.00%	2.57%
2010-11	22.20%	5.50%

Source:- OERC, Bhubaneswar

WPI Vrs Tariff Rise (Base 1993-94 = 100)



CONSUMER INTEREST

Under the Odisha Electricity Reform Act, 1995, the Odisha Electricity Regulatory Commission is mandated to safeguard the interests of the state consumers and ensures that all consumers are provided with reliable, safe and uninterrupted power supply at reasonable rates. The Electricity Act 2003 also provides wide ranging provisions to protect the interest of consumers. It gives electricity consumers a statutory right of minimum standards of supply and service. The Commission's approach to consumer protection has been proactive from the inception & in order to fulfill its legal obligation, the OERC has undertaken a number of steps to empower electricity consumers. They are –

I. Consumer Friendly Tariff

- Abolition of Minimum Charge for all classes of consumers since 1997-98.

- Marginal rise in 2010.
 - If inflation is considered, overall tariff in 2008-09 is down by 26.38% compared to 1995-96.
 - Rationalisation of Tariff towards cost base and voltage base
- II. Standards of Performance & Grievance Redressal
 - III. Creation of 12 Grievance Redressal Fora and 2 Ombudsman to dispose of consumer complaints.
 - IV. Pro-active Consumer education.
 - V. Training & capacity building.
 - VI. Consumer Advocacy & Participation.

Metering Status

Present level of metering in the state; as ascertained from the last Performance Review Meeting held in the month of May, 2010 is as follows :-

Metering Position of the DISCOMs as on 31st March, 2010

TABLE-8

Total number of meters	1107273	557832	549845	616658	2831608
No. of working meters	999281	399311	539311	569027	2506930
Percentage of working meters	90%	72%	98%	92%	89%

Source:- OERC, Bhubaneswar

Major Areas of Concern and Policy Prescriptions.

The distribution sector is the most vital but weakest link in the entire value chain of the power sector. If the distribution sector doesn't become financially viable, the transmission and generation would be seriously affected. It is, therefore, necessary that all-out efforts should be

made to strengthen and to ensure the financial viability of the distribution sector. For this to happen, the power utilities should be allowed to operate on commercial principle. In other words the costs of generation, transmission and distribution have to be recovered from the beneficiaries.

Good governance is one of the important pillars of the reforms of power sector. The

Discoms are required to enforce strict discipline among the staff, train them regarding the need for good behaviour and prompt services to the consumers.

Coming to the Odisha's specific problems the present high level of AT&C loss of 39.15% (2009-10) and 41.50% (2010-11) is quite unsustainable. 50% of this loss can be ascribed to theft of electricity at different levels with/without the connivance of the employees of the distribution Companies. There is urgent need to tackle this menace of theft of electricity at different levels. Balance 50% of loss arising out of the old and dilapidated distribution network can be prevented by system upgradation.

Regrettably, at present out of 55 every 100 units of electricity sold to the consumers in the State, only 62 units are billed (Dist. Loss 37.96%) and sale price of only 58.50 or say 59 units is being realized (2010-11). Obviously, this business model is unsustainable and unviable. The distribution segment would be financially and operationally viable only when the energy actually consumed is metered, billed and the electricity charges are collected in full. While the billing and collection efficiency of the distribution Companies has to improve substantially; they also have to effectively tackle the malady of theft of electricity.

It is therefore, all the more necessary for the State Government to provide the required police personnel for effective functioning of the Energy Police Stations and to ensure their effective functioning by way of regular monitoring and supervision in their functioning at the level of a Sr. IPS Officer, preferably posted to Energy Department to oversee the energy related crimes in the State.

A multi pronged approach that incorporates all areas of utilities performance improvement is the need of the hour.

Conclusion :

- Odisha did the experiment in power sector and all other states have gained from the experiment and experience of Odisha in power sector. Despite various constraints, the power sector in Odisha has achieved a commendable success when compared with other States where their State govt. continue to provide budgetary support of substantial amount.
- Going by the past experience State Govt has been advised to participate actively in the day to day development of power sector in the State.
- The present system of managing or treating the power sector in the State on an 'arms-length' basis needs to be changed to a 'hand-shake' basis.
- State Govt. have started taking initiative by deciding to private budgetary support of Rs.1200.00 crore to the four distribution Companies during 2010-11 to 2013-14. The distribution Companies are also to provide Rs.1200.00 crore towards their counterpart funding.

References :

1. CEALGBR
2. Economic Survey of Odisha (2010-11)
3. GRIDCO (2011) An Overview of GRIDCO.
4. Price Water House Coopers.
5. Utkal Economic Paper- Vol-12,1999-2000.
6. Government of Odisha (1996), Power Sector development policy statement,
7. Kanungo Committee Report (2002)
8. OERC, Tariff Orders.
9. OPTCL, Bhubaneswar.
10. Odisha Budget (2010-11).

Padmalochan Rout, C/o- Dr. A.C. Nayak, Plot No.82, Suka Vihar, Bhoingar, Bhubaneswar-22.