



Together, Let us light up our lives

# ORISSA ELECTRICITY REGULATORY COMMISSION



## ORISSA POWER SECTOR *At a Glance* 2009



---

# **Sparkling Efficiency. Shining Performance.**

---

For over a decade, OPGC has been the crowning jewel, efficiently generating power and making Orissa a Powerful State. Its motto of clean, reliable & affordable power has made a difference to the lives of millions and the society as a whole.

Proven track record in industrial safety  
Greentech Safety Gold Award for 2005, 2006 & 2007  
Socially responsible and environmentally conscious  
Greentech Environment Excellence Gold Award for 2005-06  
Highest dividend paying Corporation of Orissa  
Recipient of many prestigious awards  
Meritorious Productivity Award for 1999-2000 from MOP, GOI



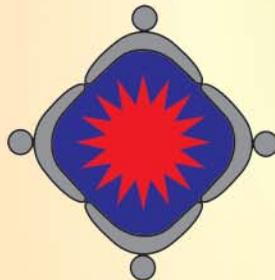
**OPGC**  
*Power for Progress*

## **ORISSA POWER GENERATION CORPORATION LIMITED**

(A Public Private Partnership of Government of Orissa & AES)  
7th Floor, Fortune Towers, Chandrasekharapur, Bhubaneswar – 751 023  
[www.opgc.co.in](http://www.opgc.co.in)

# Orissa Power Sector At a Glance 2009

## TARIFF SETTING *Vis-a-vis* SUSTAINABLE DEVELOPMENT OF POWER SECTOR IN ORISSA



Together, let us light up our lives

ORISSA ELECTRICITY REGULATORY COMMISSION  
Bidyut Niyamak Bhavan, Unit-VIII, Bhubaneswar - 751 012  
Ph. : (0674) 2396117 / 2393097 (PBX), Fax : 2393306 / 2395781  
E-mail : [orierc@rediffmail.com](mailto:orierc@rediffmail.com), Website : [www.orierc.org](http://www.orierc.org)

## ***DISCLAIMER***

While every care has been taken to ensure the accuracy of information published in this book, some errors or discrepancies might have crept in inadvertently and unintentionally. We request the readers to bring such errors / omissions to our notice such that necessary corrective action can be taken up.

Further, the views and opinions wherever expressed here in this book are those of the authors but not of the organization they belong to.

# CONTENTS

Sl. No.	Topic	Author	Page No.
i.	Foreword		
ii.	Messages		
1.	Status of Power Sector of Orissa		3
2.	Performance Review of the Licensees		25
3.	Protection of Consumer Interest in a Regulatory Framework	Shri K.C. Badu Member, OERC	35
4.	An Overview of Orissa Power Sector - From Surplus Scenario to Shortage one with a Vision to become Power Hub	Shri Bijoy K. Misra Member, OERC & Shri N.N. Mahapatra, Sr. Consultant, OERC	45
5.	Sustainability of Power Sector in Orissa	Dr. M.S. Panigrahi Director(Tariff), OERC	55
6.	Tariff Setting Principle Jt. Director(FA), OERC	Shri S.M. Patnaik	66
7.	Distribution Loss Reduction through Energy Accounting and Auditing	Shri A.K. Panda Jt. Director(T/Engg.), OERC	77
8.	Commission's Power to review and - Scope and Limitation	Dr. N.C. Mahapatra Director(Law), OERC	84
9.	Role of GRF & Ombudsman in Consumer Grievance Redressal	Shri P.K. Swain Secretary, OERC	89
10.	IT Intervention in Distribution	Shri J.C. Mohanty Jt. Director(IT), OERC	92
11.	OERC - Proactive in Consumer Interest	Ms. Purabi Das Public Affairs Officer, OERC	97

Sl. No.	Topic	Author	Page No.
12.	Legal and Regulatory Framework for Promotion of Renewable Energy and Potential in Orissa	Shri A.K. Jagadev Dy. Director(T/Eco.), OERC	103
13.	OPGC - Promises of Progress	Shri Manoranjan Mishra Company Secretary, OPGC	115
14.	OHPC - It's Past, Present & Future	Shri K.S. Biswal Dy. Director(P&A), OERC	118
15.	GRIDCO	Shri C.J. Venugopal CMD, GRIDCO	127
16.	CESU'S Role after Power Sector Reform	Shri S. K. Dasgupta, CEO, CESU	139
17.	SOUTHCO - Marching towards Excellence	Shri A.K. Vohra Ex-CEO, SOUTHCO	142
18.	Post Privatisation Scenario in WESCO - A decade in Retrospect	Shri P. K. Pradhan, CEO, WESCO	148
19.	A Presentation on "Bidyut Shulka O Unnata Manar Bidyut Seba" (in Oriya)	Shri K.C. Badu Member, OERC	151
20.	A glimpse of the Seminar on Issues & Challenges of Consumer Interest In the Power Sector		167
21.	APPENDICES Letter of appreciation from APTEL OERC Letter on the subject, " <i>Suggestions/Views/Comments of State Government on providing Subsidy/ Subvention and other important matters having a direct bearing on fixation of tariff for the year 2010-11</i> "		200

## FOREWORD



Even after more than a decade of reforms, if losses continue as before, it is indeed a matter of concern. This means that the systemic corrections that ought to have happened have still not taken place. Clearly the existing strategies and efforts are not enough. Rigorous examination of one's own way of doing things, both at the macro and the micro level is needed so that problem areas are addressed closely. And DISCOMS that do not show improvements must be heavily penalized. DISCOMs must understand that revenue requirements cannot be met unless losses are reduced and revenues enhanced on that basis. As regulators, we also need to exercise much closer scrutiny and greater control over the utilities. And above all consumers must not only be aware of their rights but also perform their duties by paying their bills in full and in time and ensure that illegal abstraction of energy does not occur. As the ultimate stakeholder of the sector, it is they who must bring about real change and a paradigm shift or else reforms may remain a mere exercise on paper.

A handwritten signature in blue ink, appearing to be 'B.K. Das', written over a horizontal line.

**(B.K. DAS)**  
CHAIRPERSON





**Murlidhar C. Bhandare**  
GOVERNOR, ORISSA



Dated : 28.12.2009

## MESSAGE

I am delighted to know that Orissa Electricity Regulatory Commission is organizing a Workshop on “Tariff Setting vis-a-vis Sustainable Development of Power Sector in Orissa” and on this occasion a souvenir is being released.

I convey my thanks and appreciation to OERC for their initiatives for enlightening the consumers and bringing various issues of power sector to the notice of different stakeholders, especially the consumers. Distribution of electricity would succeed only when quality of service to the electricity consumers is ensured. Good service includes uninterrupted supply, quality power, easy procedure, speed in delivery of service, flawless billing and efficient grievance redressal. The distribution utilities must take proactive action to improve the present level of service to the consumers. It must be remembered that if we plan good customer care, we will reap good business in years to come. Determined efforts should be made to take deterrent action against the unscrupulous consumers who are illegally extracting electricity for which the honest consumers are the sufferers.

State Government and the distribution companies in Odisha should emulate strong action taken by Government of West Bengal, Andhra Pradesh, Maharashtra and the distribution companies there in launching a broad attack on power theft through a state-wide massive anti-theft campaign.

I am sure the inputs received in workshop will help the Distribution Companies to improve their performance.

I wish the Workshop all success.

*Murlidhar Bhandare*  
(Murlidhar C. Bhandare)



**SHRI NAVEEN PATNAIK**  
CHIEF MINISTER, ORISSA



Telephone { (0674) : 2531100 (Off.)  
(0674) : 2591099 (Res.)  
Fax { (0674) : 2535100 (Off.)  
(0674) : 2590833 (Res.)  
E.Mail-cmo@ori.nic.in

D.O. No. 1685  
BHUBANESWAR  
Date : 28.12.2009

## MESSAGE

I am glad to know that Orissa Electricity Regulatory Commission, Bhubaneswar is organizing a Workshop on “Tariff Setting vis-a-vis Sustainable Development of Power Sector in Orissa” and a souvenir is being brought out to commemorate the occasion.

Sustainable development of power sector, among other things, depends on satisfactory service to the consumers and financial viability of the utilities. While the consumers should pay regularly and timely for the service provided by the Utilities, the Power Utilities must also function efficiently so that power is supplied at reasonable and affordable rates. Hence, the quality of power supplied and the financial viability should go hand in hand. But even though the consumers pay in time for the power supplied, the distribution companies must take effective steps for reduction fo Aggregate Technical and Commercial Loss (AT & C).

I hope the consumers and the distribution companies must realize their responsibilities and duties and act accordingly. While Government would continue to play its role effectively as a facilitator, the distribution companies must take initiatives in concrete terms to reduce the present unsustainable level of AT & C loss in order to ensure supply of quality power to the bonafide consumers at reasonable rates.

I hope the elected representatives, Panchayatiraj institutions, Urban local bodies, Co-operative Societies and Women Self-help Groups who are participating in the workshop will provide valuable inputs for the distribution companies, the State Government and Orissa Electricity Regulatory Commission for working out a suitable strategy to achieve sustainable development of power sector in Odisha.

I wish the Workshop all success.

**(NAVEEN PATNAIK)**



**SHRI PRAFULLA CHANDRA GHADAI**  
MINISTER, FINANCE & EXCISE, ORISSA



Phone : Office : 2536910  
PABX : 2175  
Res. : 2561655  
: 2536314

E-mail-finmin@ori.nic.in  
D.O. No. 753/ MF & E

BHUBANESWAR  
Date : 22.12.2009

## MESSAGE

I am happy to note that in the recent years Orissa Electricity Regulatory Commission have taken a number of steps to enlighten the consumers regarding their rights and responsibilities. OERC in its various publication and documents have also analyzed the various issues and identified the steps to be taken by the distribution companies, the State Government and other stakeholders for sustainable development of power sector in the State. I am happy that in continuation to these efforts OERC is organizing a workshop on “Tariff Setting vis-a-vis Sustainable Development of Power Sector in Orissa” and on this occasion a Souvenir is going to be released.

The power distribution companies in the State are a classic example of Private Public Partnership (PPP). In other words, it is the partnership of both Govt. and private, GRIDCO, the power trading company, wholly owned by the Government of Orissa, has a 49% stake in all the distribution companies. Government has a substantial stake in power generation, power transmission and in power distribution. While the regulation has its own role to play and should be played transparently and firmly, the Public Private Partnership in the power sector in the State should also move smoothly and together.

I am sure the Workshop will provide valuable inputs to all the stakeholders of the power sector to play their role sincerely and effectively.

(P.C. GHADAI)



**ATANU SABYASACHI NAYAK**  
MINISTER OF STATE (Ind. Charge)  
Energy, Orissa



Phone : Office : 0674 - 2536642 Tel/Fax  
EPABX : 2189  
Res. : (0674) 2570737

D.O. No. ....../MSE (I)  
Dated the 21.12.2009

## MESSAGE

I am glad to know that Orissa Electricity Regulatory Commission is organizing workshop on “Tariff Setting vis-a-vis Sustainable Development of Power Sector in Orissa” and a Souvenir is being published on the occasion.

Power is the essential constituent of infrastructure, the keystone of a country’s development. It needs a lot of investment in Research and Development. It needs proper cost recovery and enhancing its revenue share to make it more competitive. A national approach is required for tariff setting vis-a-vis sustainable development of power sector.

I wish the workshop all success.

**(Atanu Sabyasachi Nayak)**



Phone - (0674) : 2534300 (O)  
(0674) : 2536700 (O)  
(0674) : 2534000 (R)  
(0674) : 2536660 (Fax)  
email:csori@ori.nic.in

Dated 19.12.2009

Tarun Kanti Mishra, IAS  
Chief Secretary &  
Chief Development Commissioner  
Orissa, Bhubaneswar

## MESSAGE

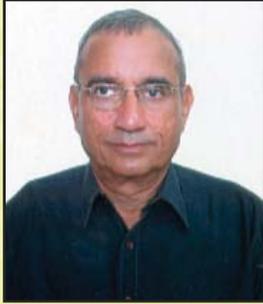
I am happy to know that Orissa Electricity Regulatory Commission is organising a Workshop on “Tariff Setting *vis-a-vis* Sustainable Development of Power Sector in Orissa” and on this occasion a Souvenir is also being released.

Orissa is the pioneer in the power sector reform in the country. While the State Consolidated Fund has benefited through direct accrual of revenue from dividend, disinvestment proceeds, electricity duty etc., much is needed for improvement of quality of service to the consumers. For improvement of service, determined efforts are to be made by the distribution companies to curb the present level of theft and at the same time they must ensure investment for improvement and upgradation of the existing aged distribution network. Government as a 49% share holder will also need to re-look into the present way of working of the distribution companies in the State. I am happy to know that OERC are trying their best to ensure better co-ordination and effective functioning between distribution companies, the State Government and Consumers.

While consumers expect better service, they must be ready to pay for the cost of service provided, failing which distribution business of electricity will not be financially viable. While tariff should ensure to recover the cost of supply, the quality of supply should also be commensurate with the cost recovered. Hence, tariff setting and sustainable development of power sector are complementary to each other. With steady reduction in the present level of Aggregate Technical and Commercial Losses, the annual rise in tariff can be kept at an affordable level.

I am sure the Workshop will provide valuable clue and suggestions for sustainable development of the power sector in the State to the benefits of the consumers at large.

(Tarun Kanti Mishra)



**Satya Prakash Nanda, IAS**

Development Commissioner-cum-  
Additional Chief Secretary &  
Secretary, Planning & Coordination  
Department, Govt. of Orissa.  
Bhubaneswar-751 001, Orissa



Phone-0674-2536882 (O)  
0674-2322617 (O)  
0674-2536792 (Fax)  
0674-2596665 (R)  
e-mail-dcplg@ori.nic.in

28th December, 2009

## MESSAGE

It is a matter of satisfaction for me to learn that Orissa Electricity Regulatory Commission is bringing out various issues on challenges in the power sector through organising a Workshop every year and publishing souvenirs highlighting the successes and failures and the road ahead for sustainable development of power sector in the State. In continuation of their efforts, they are going to organise a workshop on “Tariff Setting *vis-a-vis* Sustainable Development of Power Sector in Odisha” during 1st week of January, 2010 and on this occasion a souvenir is going to be released.

The gap between per capita income of the country on the average and that of Odisha in 2008-09 is of the order of Rs. 8716 at constant price (base year 1993-94). In order to catch up with the national growth, State Gross Domestic product has to increase more than 10% per annum. Electricity contributes about 5% of the State gross domestic product and it is a key infrastructure for overall development of the economy. Hence, focused attention is required for sustainable development of power sector in the State. While there is need for investment in the power sector by the private companies, there is also greater need for the Government to bridge the gap in investment. On the other hand, investment would not bring about the desired result for the economy unless the loss in the distribution is reduced from the present level of 41% to 15%.

While there is a need to take aggressive administrative and financial measures to reduce the present unsustainable levels of AT&C losses, there is also the need for Government to participate actively in the day-to-day development of the power sector in the State. After experimenting with private distribution companies for almost one decade, we can no longer carry on with a “business as usual” approach. A serious rethinking and reorientation of our approach is essential. It is a robust power sector which is the key to attracting investments to the State. Therefore, the State Govt. must come forward and work alongside the DISCOMs, the STU and the generators in the day-to-day development of the power sector.

I am happy to say that the State Govt. has already initiated such steps in these directions. It is the time for distribution companies to take advantage of Government support to improve their performance, bring in capital for investment to shape up the power sector; otherwise, they have to ship out.

*S. P. Nanda .*  
(Satya Prakash Nanda)



**SHRI J.K. MOHAPATRA, IAS**  
Principal Secretary to Government  
Finance Department, Orissa



## MESSAGE

I am happy to know that Orissa Electricity Regulatory Commission is holding a Workshop on “Tariff Setting vis-a-vis Sustainable Development of Power Sector in Odisha” and on this occasion a souvenir is going to be released.

Private companies were invited to run the power distribution business with the expectation that their drive for private profits would bring about improvement in commercial discipline and reduction in system losses. But this has not happened for a number of reasons. The actual loss at the ground level were more than the assessed level of losses. Further more, the existing liabilities were handed over along with assets without any transitional support unlike in case of Delhi where the liabilities were kept with a holding company and the private distribution company NDPL started with a clean balance sheet and in addition there were transitional support of Rs.3450 crore. We need to learn from our past mistakes and take immediate remedial measures so that power sector development is put on a sustainable growth path. This would be possible only when aggressive steps are taken to reduce the present level of AT&C loss. For this action is needed both on administrative and financial front. While aggressive steps are needed to curb the theft of electricity, there should be investment for system upgradation and renovation of old distribution network.

While the distribution companies are required to improve their performance in the most pressing areas of concern, namely the overall AT&C losses, the distribution losses in LT level segment and arrears of receivables, OERC may have to simultaneously enhance its own capacity to independently monitor and verify the progress as well as claims of distribution companies.

Consumers while expecting better services should also be willing to pay for quality enhancement. Sustainable development of the power sector depends on effective participation of all stakeholders with OERC playing the role of impartial Umpire and punishing the players for transgression of the agreed rules of the game.

I wish the Workshop all success.

  
(Shri J.K. Mohapatra)



Phone : Office : 0674 - 2536960  
2396605

Fax : 0674 - 2394950

Bhubaneswar

Date :

**SHRI PRADEEP KUMAR JENA, IAS**

Commissioner-cum-Secretary  
Department of Energy

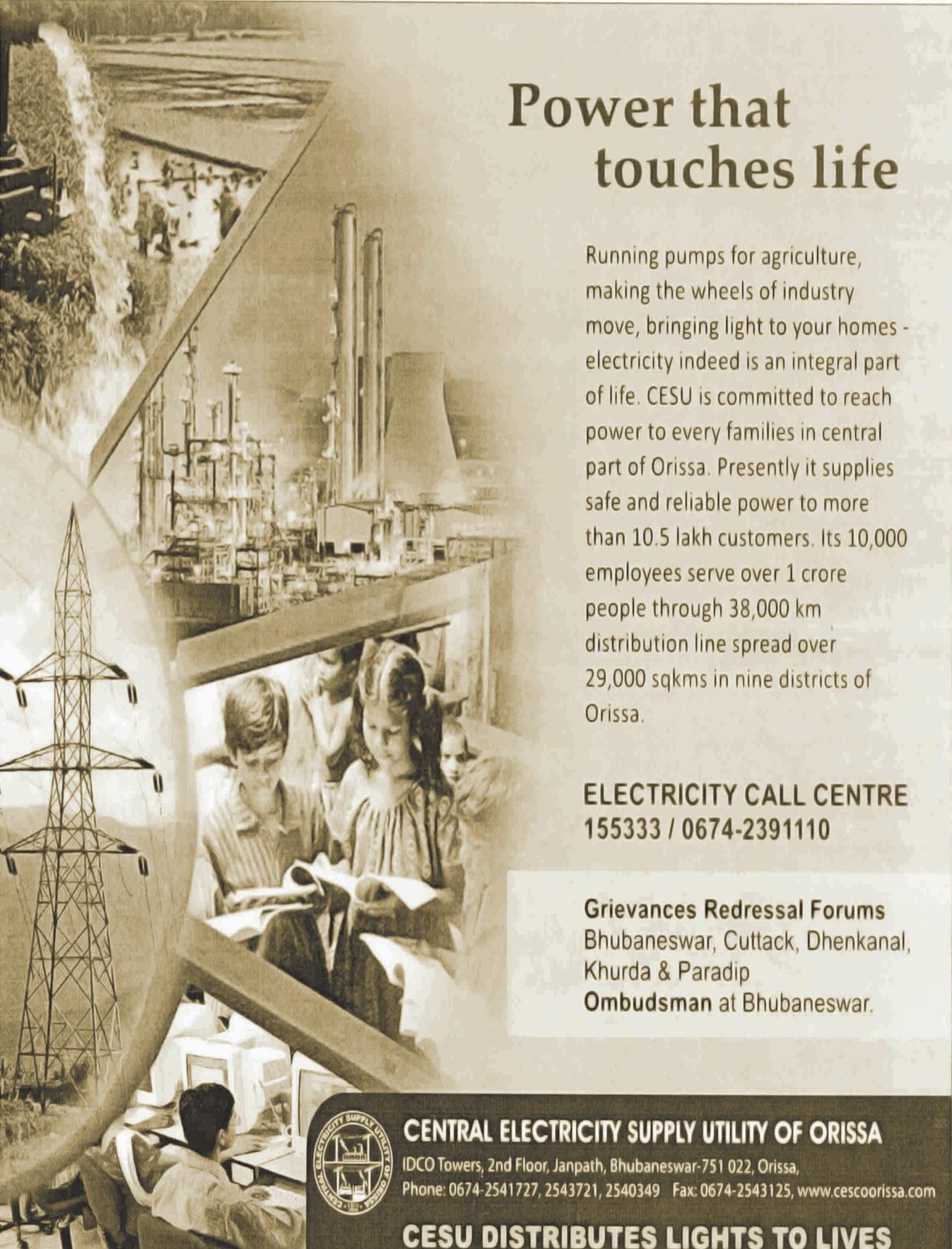
## MESSAGE

I am delighted to know that the Orissa Electricity Regulatory Commission will be releasing a Souvenir on the occasion of a workshop on “Tariff setting *vis-a-vis* sustainable development of power sector in Orissa”.

Power is one of the most critical elements of infrastructure required for the well being and positive economic growth of a nation. The Government of Orissa are keen that the power sector in the State grows on a sustainable basis to meet the increasing demand of the consumers and the State maintains its enviable status as a power surplus State. The recent flow of investment in the power sector in the state by the IPPs is really noteworthy. Besides the IPPs the state is also supporting the NTPC and UMPPs in their new initiatives. The efforts of the Government in promoting the power sector are commendable.

I wish the publication all success.

**(Pradeep Kumar Jena)**



# Power that touches life

Running pumps for agriculture, making the wheels of industry move, bringing light to your homes - electricity indeed is an integral part of life. CESU is committed to reach power to every families in central part of Orissa. Presently it supplies safe and reliable power to more than 10.5 lakh customers. Its 10,000 employees serve over 1 crore people through 38,000 km distribution line spread over 29,000 sqkms in nine districts of Orissa.

**ELECTRICITY CALL CENTRE**  
**155333 / 0674-2391110**

**Grievances Redressal Forums**  
Bhubaneswar, Cuttack, Dhenkanal,  
Khurda & Paradip  
**Ombudsman** at Bhubaneswar.



**CENTRAL ELECTRICITY SUPPLY UTILITY OF ORISSA**

IDCO Towers, 2nd Floor, Janpath, Bhubaneswar-751 022, Orissa,  
Phone: 0674-2541727, 2543721, 2540349 Fax: 0674-2543125, [www.cesoorissa.com](http://www.cesoorissa.com)

**CESU DISTRIBUTES LIGHTS TO LIVES**



# CCPPO

## Conceived in Orissa Committed to the Nation

Confederation of Captive Power Plants, Orissa (CCPPO) is an association of captive power producers in Orissa. It was formed to serve as a common platform for the issues faced by Captive Generating Plants, besides sharing of knowledge and technology within members. CCPPO today is a proud association of 25 members including industry leaders. The spectrum of parent Industry includes Aluminium, Steel, Paper, Ferro Chrome, Tyres, Fertilizers and Sponge Iron.



### CONFEDERATION OF CAPTIVE POWER PLANTS, ORISSA

IMFA Building, Bhubaneswar 751 010, Orissa. Ph: 91 674 3051000 Fax: 91 674 2580020 Email: [sanjeevdas67@gmail.com](mailto:sanjeevdas67@gmail.com)

# Status of Power Sector of Orissa



Sub total of state Hydro sector 2142 mw

State Thermal Power Stations 880 MW (Ib thermal OPGC 420 mw+Talcher Thermal NTPC 460 mw)

-----

- ◆ Sub total of state sector 3022 MW (hydro 2142 MW + Thermal 880MW)
- ◆ central sector 1059 MW (Thermal 870 MW + Hydro 189 MW)
- ◆ Total capacity 4081 MW ( Hydro 2331 MW + Thermal 1750 MW)
- ◆ Average peak demand requirement in 2008-09 3062 MW
- ◆ Average peak demand met in 2008-09 2987 MW (demand deficit 2.4%)
- ◆ Energy requirement 20519 MU
- ◆ Energy available in 2008-09 20214 MU (Energy deficit 1.5%)
- ◆ Average demand in 2008-09 2239 MW and 19615 MU
- ◆ Installed capacity of Captive Generating Plants in 3989 MW. (Not included in the total demand)
- ◆ As per 17th EPS, the energy requirement of Orissa is estimated to be 27149 MU and peak demand to be 4459 MW by 2011-12
- ◆ Orissa has signed MoU with 21 Independent Power Producers (IPPS) for setting of power plants in Orissa with a proposed capacity of 25970 MW
- ◆ 25% share thereof will be made available to Orissa for about 5221.50 MW

### 3. AVAILABILITY OF POWER FROM EXISTING STATIONS

Sl. No.	Name of Power Station	Installed Capacity	ORISSA Share	
	<b>STATE SECTOR</b>	<b>(MW)</b>	<b>%</b>	<b>(MW)</b>
	OHPC (Burla, Chiplima, Balimela, Rengali, Upper Kolab, Upper Indravati)	2028	100%	2028
	Machhkund Power House	115	50%	57
	Small Hydro Power	57	100%	57
<b>STATE HYDRO</b>	<b>TOTAL STATE HYDRO</b>	<b>2200</b>		<b>2142</b>

STATE THERMAL	NTPC TTPS (State dedicated)	460	100%	460
	OPGC	420	100%	420
	<b>TOTAL STATE THERMAL</b>	<b>880</b>		<b>880</b>
CENTRAL SECTOR THERMAL	Farakka STPS	1600	13.63%	218
	Kahalgaon STPS-I	840	15.24%	128
	Kahalgaon STPS-II	1000	0.60%	6
	Talcher STPS-I	1000	31.8%	318
	Talcher STPS-II	2000	10%	200
CENTRAL SECTOR HYDRO	Chukha Hydro Electric Project (BHUTAN)	336	15.19%	41
	Tala Hydro Electric Project (BHUTAN)	1020	4.25%	43
	Teesta H.E. Project (SIKKIM)	510	20.59%	105
	<b>TOTAL CENTRAL SECTOR</b>	<b>8306</b>		<b>1059</b>
	<b>TOTAL</b>	<b>11386</b>		<b>4081</b>

#### 4. POWER PROCUREMENT FROM CGPs INCLUDING CO-GENERATION

Supply of surplus power by CGPs/Co-generation/ SHEP :

Total installed Capacity: 3989 MW

No of CGPs supplying surplus power: 24 Nos.

Availability of power from CGPs: 276 MW Average

Power procured from CGPs :

Year	MU
2005-06	228
2006-07	807
2007-08	726
2008-09	1214
2009 -Nov '09	1657

Rate of procurement of power:

CGP : Rs. 3.10/3.40/3.70/4.05 per Unit

Co-generation: Rs. 3.20/3.40/3.70/4.05 per Unit

5. MAJOR CAPACITY ADDITION EXPECTED IN 11TH & 12TH PLAN VIS-A-VIS ORISSA SHARE

	11th Plan		12th Plan	
	Capacity		Orissa Capacity addition (MW)	Orissa Share (MW)
	addition (MW)	Share (MW)		
13 nos. of IPPs	2,400	600	15,255	3,814
8 nos. of new IPPs	-	-	9,780	1,174
NTPC, TTPS Expansion	-	-	1,320	660
UMPP, Orissa	-	-	4,000	1,300
NTPC, Darlipalli	-	-	3,200	1,020
NTPC, Gajmara	-	-	3,200	1,020
OPGC	-	-	1,320	660
OHPC (SPV)	-	-	2,000	1,000
<b>Total</b>	<b>2,400</b>	<b>600</b>	<b>30,015</b>	<b>10,648</b>

6. ACTUAL DEMAND

SL. NO.	YEAR	MAXIMUM DEMAND (MW)	AVERAGE DEMAND	
			(MW)	(MU)
1.	2003-04	2,109	1,488	13,071
2.	2004-05	2,203	1,578	13,823
3.	2005-06	2,408	1,698	14,874
4.	2006-07	2,574	1,898	16,626
5.	2007-08	2,903	2,096	18,411
6.	2008-09	3,020	2,239	19,615

7. PEAK DEMAND ~ PEAK AVAILABILITY

YEAR	Peak Demand* (MW)	Peak Availability (MW)	Energy Demand** (MU)	Energy Availability (MU)
2009-10	3,207	3,306	18,669	18,669
2010-11	3,379	3,697	20,856	20,856
2011-12	3,571	4,059	22,743	22,743
2012-13	3,917	4,076	23,013	23,013
2013-14	3,908	5,863	24,323	25,786

\* Source: OPTCL CP Forecast

\*\* Source: Business Plan of GRIDCO for 2010-11

8. POWER SITUATION FOR FY 2009-10 (projected)

	MW	MU
Demand	2,536	18,669
Availability	2,427	18,909
Shortfall	(-) 109	239

Measures to meet demand:	
Long-term (up to June'10)	<input type="checkbox"/> Maximize drawal of power from CGPs <input type="checkbox"/> Banking surplus power during rainy season to be utilized during summer (subject to favourable hydro) <input type="checkbox"/> Reduction of distribution loss by Discoms as per OERC benchmark

9. POWER TRANSMISSION (OPTCL)

- Started operation from 2005-06
- Loss incurred during first three years due to inadequate tariff
- Regular in servicing loan to FIs/ Banks
- Vision Document Released
- 10-year Transmission Planning completed
- Project financing from PFC/REC - No constraints
- Manpower recruitment is in process

(i) Existing Sub-Stations & Transmission Lines

Voltage Level	No. of Stations	Aggregate S/S Capacity in MVA	Tr. Line in Ckt. Km.
400 kV	3	1890	446
220 kV	18	3950	5165
132 kV	70	3533	5008
<b>Total</b>	<b>91</b>	<b>9373</b>	<b>10619</b>

(ii) NEW SUB-STATIONS *Planned/Completed/Under Execution*

Voltage Level	PLANNED	COMPLETED	UNDER EXECUTION	TO BE TAKEN UP
400 kV	1	-	-	1
220 kV	15	3	2	10
132 kV	34	4	9	21
<b>TOTAL</b>	<b>50</b>	<b>7</b>	<b>11</b>	<b>32</b>

This needs development of massive evacuation systems to ensure full utilization of the generation capacity and meet the deficit scenario outside the state.

(iii) System Upgradation

- A 10 YEAR PLANNING FOR SYSTEM REQUIREMENT COMPLETED BY OPTCL
- COMPREHENSIVE TRANSMISSION PLANNING FOR INTRA-STATE REQUIREMENT HAS BEEN FINALISED
- PGCIL HAS BEEN ENTRUSTED FOR COMPREHENSIVE INTER-STATE EVACUATION PLANNING
- FURTHER, MEETINGS/WORKSHOPS ARE ARRANGED FROM TIME TO TIME BY GRIDCO/OPTCL FOR DISCUSSION ON THE ISSUE

(iv) 400 kV SYSTEM STRENGTHENING under Regional Scheme [PGCIL]

400kV Sub-Station at

Bolangir

Keonjhar

Jatni (Uttara

LILO of 400 kV CTU line at DUBURI 400 kV Grid S/S

(v) INTER-STATE TRANSMISSION INITIATIVES

About 12,000 MW is programmed to be evacuated to outside Orissa\Eastern Region.

Following Transmission System are programmed for Inter-State evacuation.

- 765 kV pooling station at Jharsuguda.
- 765 kV polling station at Angul
- 765 kV polling station at Dhenkanal
- 2 x 765 kV SC line interconnecting Jharsuguda, Angul & Dhenkanal

## 10. PRESENT POWER CRISIS

- The GSDP of Orissa is growing @7% since 2000 and power demand has been increasing @ 10% since 2005.
- State is facing evening peak shortage of 1000 MW and average shortage is of 600 MW as the state grid is unable to meet the unrestricted peak demand of 3200 MW and average demand of 2600 MW.
- The state requires an additional 2700 mw by 2012, 4500 mw by 2017 & 11000 mw by 2022 to sustain a GSDP growth @7%.
- Considering the above the Govt. of Orissa has signed MoU with 21 nos. of Independent Power Producers (IPPs)
- OERC has also approved remunerative price to CGPs to release bottled up power to GRIDCO to meet State demand.
- GoO has signed 21MOU with IPPs and MPPs for producing 25970 MW of power out of which Orissa shall get about 5417MW of Power

## 11. CGP PRICING

Recently the Commission in their interim order dtd. 28.10.2009 has approved the following prices for CGP power to be drawn by GRIDCO

- (i) The price of supply of energy upto 3.6 MU/month (~ 5 MW Avg.) would be Rs.3.10/KWH.
- (ii) The price for supply of incremental energy above 3.6 MU/month upto 36 MU/month (~ 50 MW Avg.) would be Rs.3.40 per Kwh.
- (iii) In respect of supply of incremental energy above 36 MU/month upto 72 MU/month (~ 100 MW Avg.), the price would be Rs.3.70 /Kwh.
- (iv) In respect of supply of incremental energy beyond 72 MU/month, the incremental energy would be priced at Rs.4.05/Kwh.
- (v) As regards the pricing of power supply by the co-generating plants Rs.3.20 per unit would be paid up to 3.6 MU/month and for injection beyond 3.6 MU the additional unit will qualify for payment at the same rate as that of (ii), (iii) & (iv) above.

## 12. RENEWABLE ENERGY

OERC in Case No. 14/2005 has directed as follows:

- The procurement of power from non- conventional and renewable energy such as, small hydro, wind, biomass, co-generation of electricity from waste heat products etc. would be allowed by the supply licensees for use of consumers within the State upto 3% of the total purchase during the FY 07-08 to go up at the rate of 0.5% per annum for each subsequent year to reach a level of 5% by the year 2011-12.

Year	Total Power Procurement by DISCOMs	Power procured from Renewable / Co-generation sources	Actual %age of procurement	Target %age
2007-08	17211.00 MU	285.08 MU	1.60	3.0
2008-09	18787.51 MU	339.37 MU	1.80	3.5
2009-10 (Appr.)	18921.00 MU	530.00 MU	-	4.0

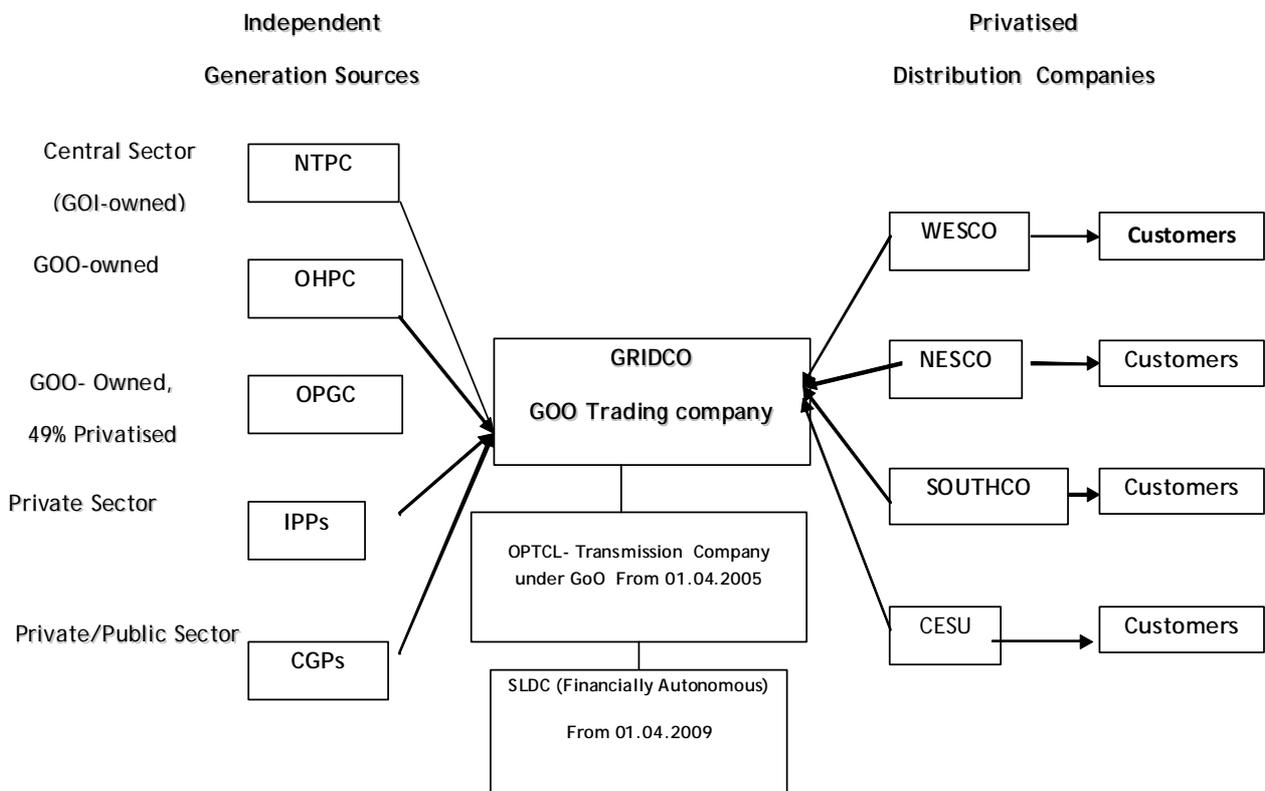
- The Commission has floated a consultative paper on pricing of Grid connected Renewable energy. M/s WISE has been engaged as consultant and Commission will come out with Renewable Energy Policy very soon.
- The Commission in their order dtd. 09.09.2009 has fixed the ceiling tariff for solar PV projects which could be established in the State by March, 2010 as follows: -

For the 1st to 12th years : Rs.15.00/KWh

For the 13th to 25th years : Rs.7.50/KWh

### 13. DISTRIBUTION

#### CORPORATE STRUCTURE OF THE ELECTRICITY SECTOR IN ORISSA



*Orissa and Delhi are the two States in India to have completed Privatisation of Distribution*

- DISCOMs of Orissa have been privatized since 1999.

14. OVERALL PERFORMANCE OF DISCOMs

	2007-08		2008-09		2009-10 (upto Sept,09)	
	OERC Approval	Actual (Aud)	OERC Approval	Actual	OERC Approval	Actual
<b>A. DISTRIBUTION LOSS (%)</b>						
CESU	29.30%	41.48%	29.30%	40.34%	26.30%	38.96%
NESCO	26.00%	31.17%	25.50%	34.57%	23.00%	32.24%
WESCO	25.00%	36.13%	25.00%	33.55%	22.50%	33.77%
SOUTHCO	30.40%	45.49%	30.40%	47.78%	27.92%	47.95%
ALL ORISSA	27.10%	37.48%	27.00%	37.50%	24.45%	36.73%
<b>B. COLLECTION EFFICIENCY (%)</b>						
CESU	92.00%	92.39%	95.00%	91.80%	98.00%	96.68%
NESCO	94.00%	93.16%	95.00%	93.84%	98.00%	90.54%
WESCO	96.00%	92.91%	96.60%	95.55%	98.00%	95.96%
SOUTHCO	94.00%	94.05%	94.00%	93.88%	98.00%	91.23%
ALL ORISSA	94.10%	92.94%	95.40%	93.90%	98.00%	94.40%
<b>C. AT &amp; C LOSS (%)</b>						
CESU	34.96%	45.93%	32.84%	45.23%	27.77%	40.98%
NESCO	30.44%	35.88%	29.23%	38.60%	24.54%	38.65%
WESCO	28.00%	40.65%	27.55%	36.51%	24.05%	36.44%
SOUTHCO	34.58%	48.73%	34.58%	50.98%	29.36%	52.52%
ALL ORISSA	31.40%	41.89%	30.36%	41.31%	25.96%	40.27%
<b>D. RATE OF REALISATION PER INPUT (P/U)</b>						
CESU	195.64	163.92	196.28	166.28	201.72	176.47
NESCO	188.85	181.12	191.62	180.66	192.07	180.17
WESCO	225.66	188.72	212.68	202.14	203.13	201.73
SOUTHCO	186.09	148.84	157.50	143.18	169.44	137.36
ALL ORISSA	202.67	174.59	195.98	179.27	196.32	180.89

15. LT PERFORMANCE

	2007-08		2008-09		2009-10 (upto Sept,09)	
	OERC Approval	Actual (Aud)	OERC Approval	Actual	OERC Approval	Actual
<b>A. LT LOSS (%)</b>						
CESU	34.40%	53.18%	36.00%	52.00%	35.04%	50.46%
NESCO	51.10%	59.30%	44.50%	59.40%	33.19%	54.57%
WESCO	52.00%	65.30%	46.70%	65.65%	35.86%	61.38%
SOUTHCO	33.20%	54.40%	33.40%	57.12%	29.50%	55.71%
ALL ORISSA	42.30%	57.90%	40.30%	58.06%	34.04%	54.99%
<b>B. COLLECTION EFFICIENCY IN LT (%)</b>						
CESU		88.00%		84.63%		95.50%
NESCO		73.00%		72.61%		60.47%
WESCO		78.00%		73.42%		66.18%
SOUTHCO		88.00%		89.10%		83.96%
ALL ORISSA		83.00%		80.63%		80.49%
<b>C. AT &amp; C LOSS FOR LT (%)</b>						
CESU	39.65%	58.80%	39.20%	59.38%	36.34%	52.69%
NESCO	54.03%	70.29%	47.28%	70.52%	34.53%	72.53%
WESCO	53.92%	72.93%	48.51%	74.78%	37.14%	74.44%
SOUTHCO	37.21%	59.87%	37.40%	61.79%	30.91%	62.81%
ALL ORISSA	45.70%	65.06%	43.05%	66.18%	35.36%	63.77%

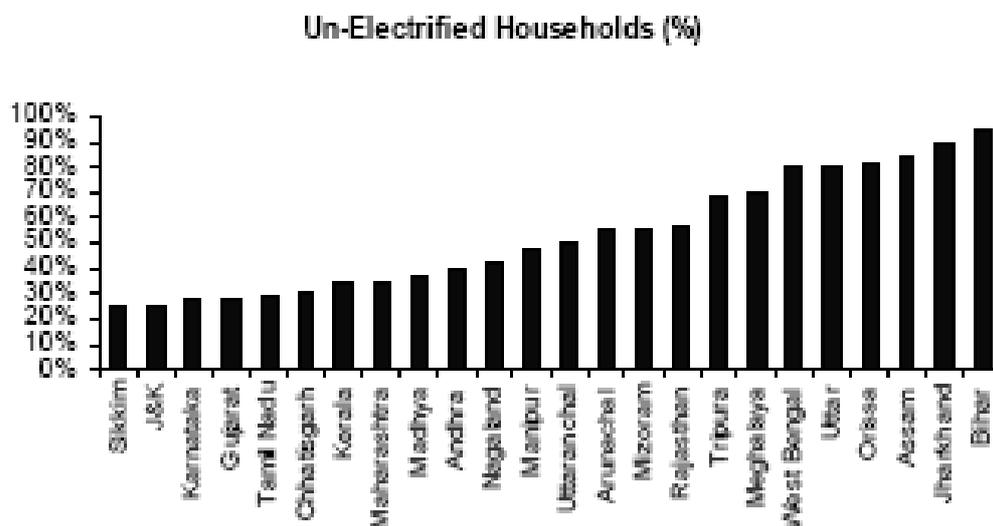
N.B. : Based on overall collection efficiency, AT& C Loss for LT(OERC approval) has been calculated.

## 16. RURAL ELECTRIFICATION

- In Orissa all the districts have been included under RGGVY, out of 30 districts, 4 districts like Angul, Nayagarh, Ganjam and Gajapati were covered under the Xth Plan and remaining 26 districts have been covered under the XIth Plan. Under the scheme 17895 un-electrified/de-electrified villages, 29222 nos partially electrified villages, 40706 nos of un-electrified habitations, 31,85,863 nos of BPL households will be covered for electrification. Total sanctioned amount of the scheme is Rs.3593.75 crore out of which 90% is grant and 10% is loan to the State Govt.
- Till 31st March, 2009 an amount of Rs.1076.53 crore has been released in favour of the CPSUs out of which Rs.123.15 Crore is towards loan to the State Govt and rest is grant. The achievement upto March, 2009:
  - (a) Village electrified:- 3867
  - (b) BPL kits installed:-1,50,922
- Orissa has more than 80% rural households without electricity.
- In Orissa around 21% households is yet to be electrified.

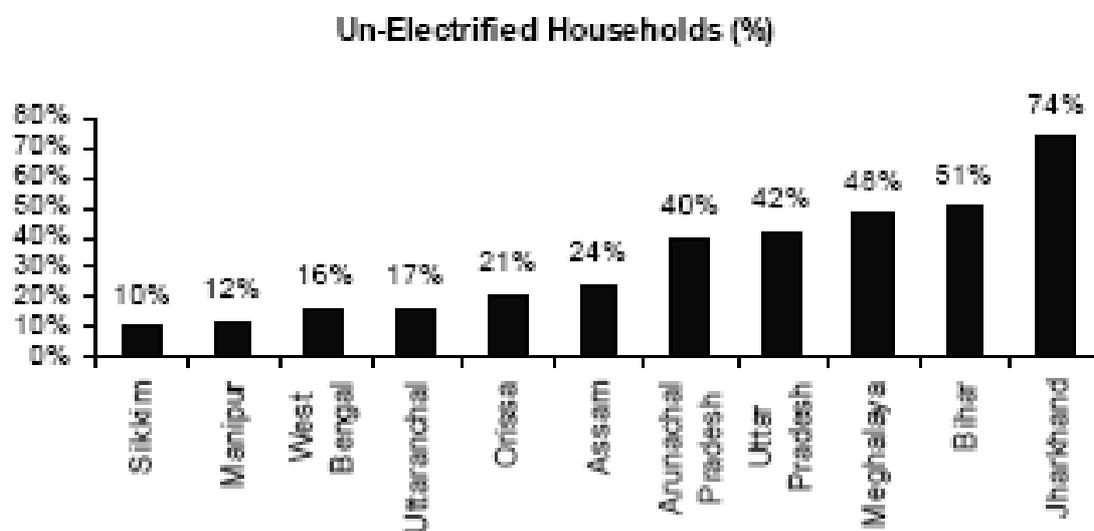
### Level of Village Electrification

#### Indian States with more than 25% of rural households without access to electricity



*Source: Ministry of Power Data on village electrification*

## Indian States with more than 10% of un-electrified villages



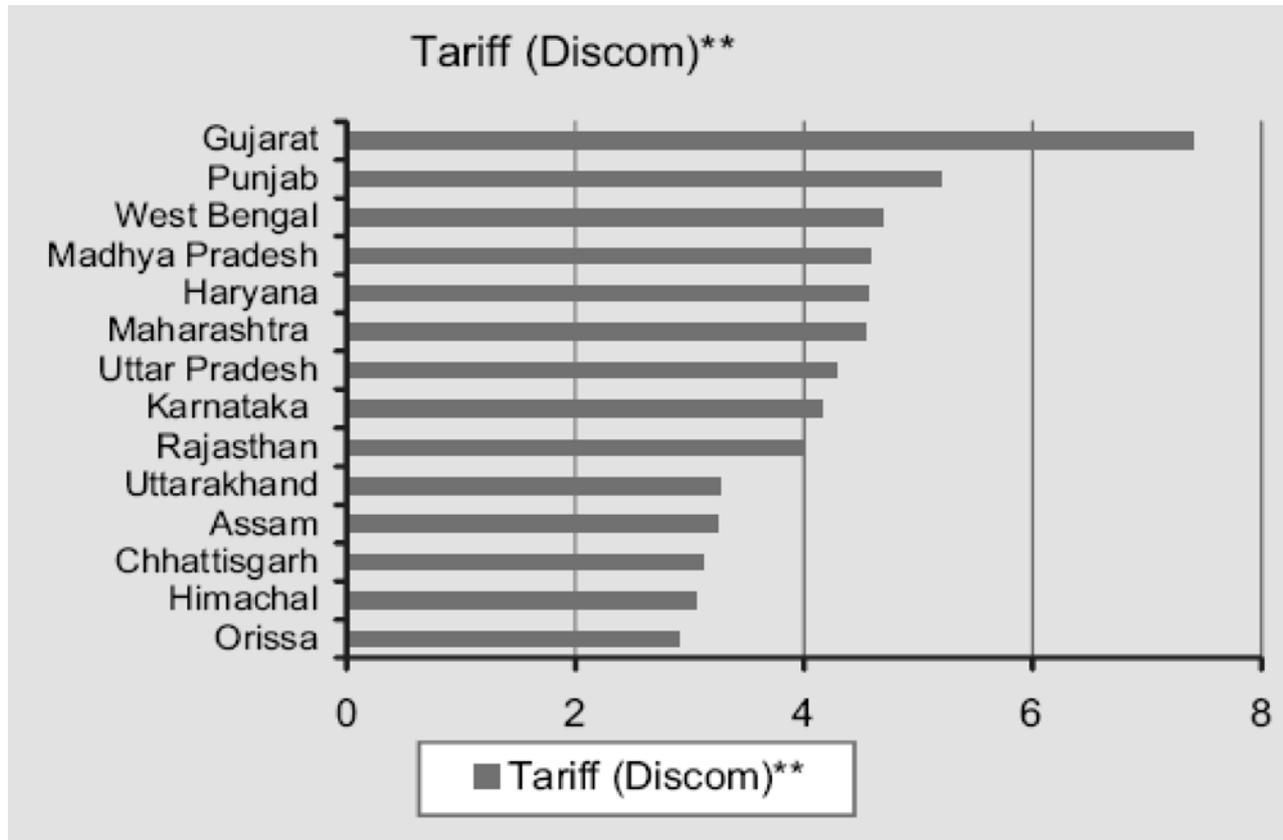
*Source: Ministry of Power Data on village electrification*

### 17. TARIFF IN ORISSA

- The tariff in Orissa is also one of the lowest in the country

State	Paise per Kwh
Orissa	245-290
Maharashtra	390
Kerala	340
Karnataka	490
Chattisgarh	337
Andhra Pradesh	255-287
West Bengal	245-330

## Comparative Tariff



- Tariff for an embedded consumer of 5MW at 11KV (33KV in some cases).
- Source - Economic Survey of India - 2008-09

### 18. CROSS SUBSIDY

- In terms of Section 61 (g) of Electricity Act, 2003 the appropriate Commission shall be guided by the objective that the tariff progressively reflects the efficient and prudent cost of supply of electricity.
- As per para 8.3.2 of National Tariff Policy notified on 06.01.2006 for achieving the objective that tariff progressively reflects the cost of supply of electricity, the SERC would notify road map within 6 months with a target that latest by the end of year 2010-11 tariffs are within +/- 20% of the average cost of supply.
- OERC in RST Tariff Order for the FY 2009-10 in case no 66-69/2008 estimated the weighted average cost of supply at 263.12 Paise/Unit.
- With the price level of 263 Paise/Unit the tariff of the subsidized category should not be lower than 210 Paise per unit and should not go beyond 316 Paise per unit by 2010-11 at the current price level.

- OERC has tried to make the tariff cost reflective as per the mandate of the reform and subsequent Acts, Regulation and National Tariff Policy. In practical terms this has meant designing tariff in such a manner that the average realization from each category converges with the overall average realization. To measure the extent to which this has been done TERI (The Energy Resource Institute, New Delhi) has developed the following index.

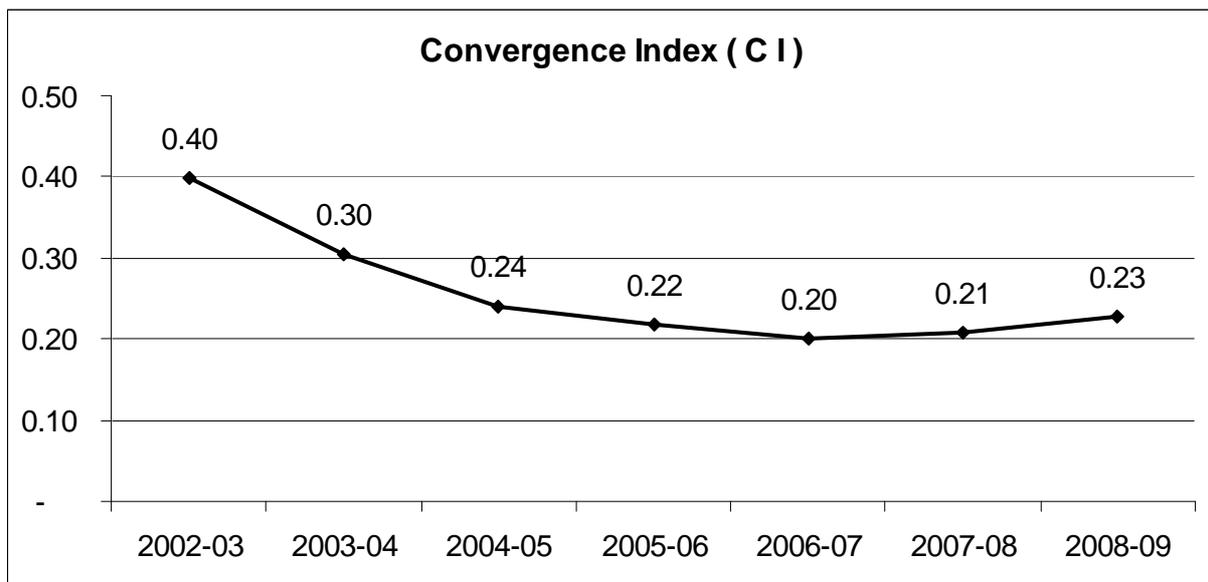
$$CI \text{ (Convergence Index)} = \sqrt{\{ N \sum C=1 [(ARc / ARo)-1]^2 / N \}}$$

Where ARc = Average realization from category C

ARo = Overall Average Realisation

N = No. of categories

- This implies that if the average realization from each category equals the overall average realization the CI would be zero, indicating that no category of consumers cross subsidizes another with reference to the average realization. Therefore, a reduction in the CI is an indicator of a reduction in the cross subsidy.
- In Orissa the electricity tariff is fully rationalized basing on three voltage level of supply such as LT, HT and EHT. That means the consumers in a particular voltage level of supply pay uniform tariff for electricity they use.
- The convergence index for Orissa pertaining to cross subsidy is indicated in the graph below:



- Cross Subsidy paid /received by EHT Industries.

Year	Average/ Approved Cost of Supply (Paise/Unit)	Tariff paid by Other EHT Industries at 80% Load Factor (Paise/Unit)	Cross-Subsidy Paid(+) / Received (-) by other EHT Industries at 80% Load Factor (Paise/Unit)
2005-06	274	279.30	5.3
2006-07	295	279.30	-15.7
2007-08	295	295.00	0.0
2008-09	272	295.00	23
2009-10	263	295.00	32

#### 19. OPERATIONALIZATION OF OPEN ACCESS

- OERC has notified OERC (Terms and Conditions) Open Access Regulation, 2005 and OERC (Determination Open Access Charges) Regulation, 2006.
- Consumers seeking open access to distribution and / or Intra-State Transmission System to avail supply of electricity from a generating company or from any licensee have been allowed above 1 MW.
- State Legislative Assembly has made certain amendments to the Open Access Regulation which was laid before it. Some of the important amendment are shown in bold letter below:
- Regulation 12(1)(a)(iii): "The application shall be accompanied by a non-refundable application fee of rupees one lakh per MW for transmission access and rupees fifty thousand per 500 KW for distribution access payable in the name and in the manner to be decided by the nodal agency;"
- Regulation 2(b) : "Allotted Transmission / Distribution Capacity" means the power transfer in MW between the fixed point(s) of injection and point(s) of drawal allowed **after concurrence of Government** to a long-term customer on the intra-state transmission or distribution system under normal circumstances and the expression "allotment of transmission or distribution capacity" shall be construed accordingly;"
- All the Short Term Open Access (STOA) applications for inter-State Open Access have been allowed by SLDC.
- No intra-State application for Long Term Open Access (LTOA) has been received by SLDC.
- One Intra-State STOA transaction of 2 MW is going on by OISL Ltd.
- Maximum 343 MW of power has been allowed to Inter-State Open Access in favour of M/s. Vedanta Ltd. in the current year. Presently M/s Vedanta Ltd. is availing 200 MW through short-term inter-State Open Access form M/s. LANCO.

- Currently M/s Nababharat Power Ltd. is sending 50 MW of power to Punjab and Delhi through short term inter-State open access.
- No application is pending with SLDC. Generally the status of the applications is conveyed to the applicant within three days by SLDC as per the Regulation.
- Most of the STOA applications have been denied by SLDC for non-compliance of SCADA and other provision of Indian Electricity Grid Code (IEGC) and Orissa Grid Code (OGC).

## 20. ORISSA POWER SECTOR REFORM HIGHLIGHTS

- Orissa is the first State in the country which initiated power sector reform in the State with enactment of the Orissa Electricity Reform Act, 1995 which came into force w.e.f. 1.4.1996
- Orissa 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 Orissa 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 for the year 2009-10.
- Orissa is the only State where no subsidy is being provided by the Govt. of Orissa 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 Delhi where distribution has been privatized the private distribution companies started with a clean balance sheet, the existing liabilities were assigned to a holding company. But in case of Orissa the assets and liabilities were transferred to the distribution companies. (Liabilities as on 31.03.2009 - Rs.1657.40 crore)
- In Delhi provision of transitional financing Rs.3450 crores which helped the private company which needed cushion and comfort levels to the sagging distribution companies.

- In contrast the distribution companies in Orissa 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.
- On the contrary the existing assets were upvalued. The old assets value of Rs.1103 crore of GRIDCO were also upvalued by 1194 crore. Similarly the OHPC assets were upvalued by Rs.767.20 crore. However, the upvaluation of assets of GRIDCO and OHPC have been held under hold by govt. till date.
- The actual T & D loss in 1998-99 before privatisation in 1999-2000 was about 51.2% against the assessed level of 29.2%.
- The present level of distribution loss is 37.50% against 43.91% in 1999-2000.
- The AT&C loss level is 41.31% in 2008-09 against 56.9% in 1999-2000.
- The high distribution together with AT&C loss is the area of serious concern for the power sector in Orissa.
- Added to high level of AT&C loss Orissa is also debarred from availing assistance under APDRP on the ground that distribution of electricity is carried out by private companies.
- Unlike in case of other States there has been no transitional financial support and on the other hand the liabilities and assets have been transferred with high level of distribution and transmission loss.
- Despite no budgetary support from the State or no capital investment by the Distribution companies, the AT&C loss level of 56.9% have been reduced to 41.31%.
- Another important significant achievement of power sector is that the tariff has remained almost constant on an average from 2001-02. There is overall tariff rise 17% during 1996-97, 10.33% in 1997-98, 9.33% in 1998-99 and 4.5% in 1999-00, 10.23% in 2000-01.
- After 2000-01 the retail tariff has remained more or less constant with minor changes here and there. The effective real rise in tariff has been of the order of (-) 26.24%. This means the tariff rise as approved by the Commission is much less as compared to price increase has meant negative rise in the real tariff.
- After 1999-2000 there has been no statutory power cut except during May-June 2009 due to poor water level.
- The most important benefit Orissa has got from the power sector reform is that though it has stopped direct investment from the state budget from 1996-97 it has immensely benefited in turn of revenue.
- The disinvestment process from OPGC of Rs.603.20 crore was utilized as general resources for State budget. OPGC was operating at PLF 55.14% in 1996-97 which has increased to 90.18% in 2006-07 82.60% in 2007-08 and 88.7% in 2008-09. It is now paying dividend of Rs. 75 crores on the average per annum and by now it has paid Rs.611.24 crore to the State Govt.

- OHPC have invested Rs.377 crore from its own internal resources and by borrowing and have completed the then incomplete Upper Indravati Project on 19.4.2001. Its installed capacity is 600 MW. Its generation has increased from 1736 MU in 2000-01 to 2948 MU in 2007-08 and 2221 MU in 2008-09.
- The revenue from sale of TTPs to NTPC in 1995 has fetched 356.00 crore to the State. TTPS which was operating at less than 30% PLF is now operating at PLF of 90% and its installed capacity is 460 MW. This power is being totally available for State consumption. Its generation has increased from 1320.82 MU in 1996-97 to 3114.63 MU in 2007-08.
- Revenue from disinvestment from distribution companies of Rs.159.00 crore have been utilized to reduce the liabilities of GRIDCO.
- The sell proceeds of TTPS of Rs.356 crore has been utilized by GRIDCO to meet its past liabilities
- Collection of electricity duties has increased from Rs.121.35 crore in 1995-96 to Rs.359.38 crore in 1998-99
- 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 Orissa has been converted from a revenue deficit State to a revenue surplus state.
- Revenue deficit in 1999-00 was Rs.2574.19 crore (-6% of GSDP) and Orissa has been converted to a revenue surplus of Rs.481.19 crore in 2005-06 and it has increased to Rs.3419.89 crore in 2008-09 (+2.80% of GSDP).
- The fiscal deficit 3836.43 crore in 1999-00 (-8.94% of GSDP) has been reduced to 584.03 crore in 2008-09 (-0.48% of GSDP).
- OERC has adopted MYT Principle much earlier vide its Long Term Tariff Strategy (LTTS) Order No. 8 of 2003 dtd. 18.06.2003 in the year 2003 with a control period of five years ending in FY 2007-08.
- This is not a small achievement considering various constraints/difficulties the power sector has passed through in Orissa.

## 21. COMPARISON OF REFORM MODELS

Issues	Orissa	Delhi
<b>Government commitment</b>	<ul style="list-style-type: none"> <li>Ø No Financial support during transition phase</li> <li>Ø Utilisation of proceeds received from Prviatisation of distribution sector in other areas</li> </ul>	<ul style="list-style-type: none"> <li>Ø Government committed to the success of reforms</li> <li>Ø Clear cut Policy Directions for 5-years</li> <li>Ø Committed support of Rs. 3450 crore</li> </ul>
<b>Prevalent Loss levels</b>	<ul style="list-style-type: none"> <li>Ø Actual loss was far higher than reported loss</li> <li>Ø Difficulty in segregating technical and commercial losses</li> </ul>	<p>Concept of AT&amp;C losses to:</p> <ul style="list-style-type: none"> <li>Ø Reduce scope for baseline data errors</li> <li>Ø Provide a more realistic figure for losses.</li> <li>Ø Provide comfort to the investors since it was approved by the Regulator</li> </ul>
<b>Funding support</b>	<ul style="list-style-type: none"> <li>Ø Commercial lenders showed lukewarm response in providing the debt support</li> <li>Ø Approved Revenue Gap of Rs.762.54 Crore before truing up</li> </ul>	<ul style="list-style-type: none"> <li>Ø Assurance sought from the Government for funds under the APDRP, PFC sanctioned schemes, etc.</li> <li>Ø Bidding structure assures guaranteed returns which facilitates commercial loan availability</li> </ul>
<b>Government Financial Support</b>	<ul style="list-style-type: none"> <li>Ø No support in spite of recommendation from various committee and consequential notification</li> <li>Ø Rs. 3240 Crs deficits as highlighted by Kanungo Committee recognized by OERC.</li> </ul>	<ul style="list-style-type: none"> <li>Ø Govt. committed Rs. 3450 crore as transition support to avoid tariff shock to the consumers. This support was provided to TRANSCO to meet the gap between the BST and the actual power purchase cost.</li> </ul>
<b>Pre-privatization liabilities</b>	<ul style="list-style-type: none"> <li>Ø Non Segregation of serviceable and unserviceable liabilities</li> </ul>	<ul style="list-style-type: none"> <li>Ø Government created a relatively clean balance sheet by retaining non-serviceable liabilities in the Holding Company</li> <li>Ø Only serviceable liabilities transferred to DISCOMS</li> </ul>
<b>Receivables</b>	<ul style="list-style-type: none"> <li>Ø Unrealistically high</li> <li>Ø Entire doubtful &amp; Bad debts not allowed by Regulator</li> <li>Ø To be considered for truing up.</li> </ul>	<ul style="list-style-type: none"> <li>Ø Limited to last month's receivables</li> <li>Ø Past receivables to the account of Holding Company, the DISCOMS were authorised to collect the past receivables (20% incentive on amount collected)</li> </ul>

<b>Audited Accounts</b>	<ul style="list-style-type: none"> <li>Ø Audited Accounts not available</li> <li>Ø Led to Post Takeover Problems with the Statutory Bodies</li> <li>Ø Unrealistic levels of recoverable</li> <li>Ø Highly undermined /suppressed terminal liabilities as on 31.03.1999</li> </ul>	<ul style="list-style-type: none"> <li>Ø Audited Accounts not available, however, clean Balance Sheets assured to DISCOMS</li> <li>Ø Business valuation approach mitigates risk of asset valuation</li> <li>Ø Stores &amp; Spares, Loans to Personnel, etc. to be based on actual Audit</li> </ul>
<b>Asset Valuation</b>	Assets re-valued at higher levels prior to bidding process by over	Ø To ensure a sustainable level of liabilities, Rs.2000 Crs assets valued through business valuation based on revenue earning potential
<b>Criteria for Privatisation</b>	DISCOMs privatised based on equity premium quoted by bidders	<ul style="list-style-type: none"> <li>Ø Equity given at par</li> <li>Ø Privatisation based on commitment towards reduction in AT&amp;C losses</li> </ul>

## 22. ROAD AHEAD

- The Area of concern - High AT&C Loss 41.31% for all consumers taken together and 66.2% for LT consumers during FY 2008-09.
- Though Orissa has gained in term of financial benefits in the power sector, power sector distribution continues to be plagued by high level of Aggregate Transmission and Commercial (AT&C) loss. The AT&C loss of 56.9% in 1999-00 has been marginally reduced to 41.31% during FY 2008-09 which is unsustainable compared to the sustainable level of 15%. (CESU - 45.23%, NESCO - 38.60%, WESCO - 36.51% and SOUTHCO - 50.97%)
- In order to make the power sector sustainable, the AT&C loss is to be reduced to 15% which can be done by strong pro-active administrative support from the State Govt. and by investment in the distribution segment for up-gradation and modernization of the old distribution network.
- High AT&C loss and high incidence of power theft continue to be the areas of concern. The State Govt. in the meantime has already established 8 Energy Police Stations and has notified establishment of another 29 Police Stations. Five Special Courts for trial of energy related cases have been designated.
- Making distribution segment of the power industry efficient and sustainable is the key to the success of power sector reform.
- Franchisee operation has started in all the four Discoms. CESU has started Revenue Based Distribution franchisee (RBDF) operation at Puri Sub-division and Orikanta Section of Salipur Division. They will extend franchise operation in Jagatsinghpur and Angul Division shortly. CESU has also explored the help of Women Self Help Group (SHG) in two villages of Bajrokot & Dharmada under Ranpur Block. NESCO has already started franchisee operation in Dharmasala & Jajpur Sub-division and expects to start the same in Khaira & Tihidi Sub-division shortly. SOUTHCO

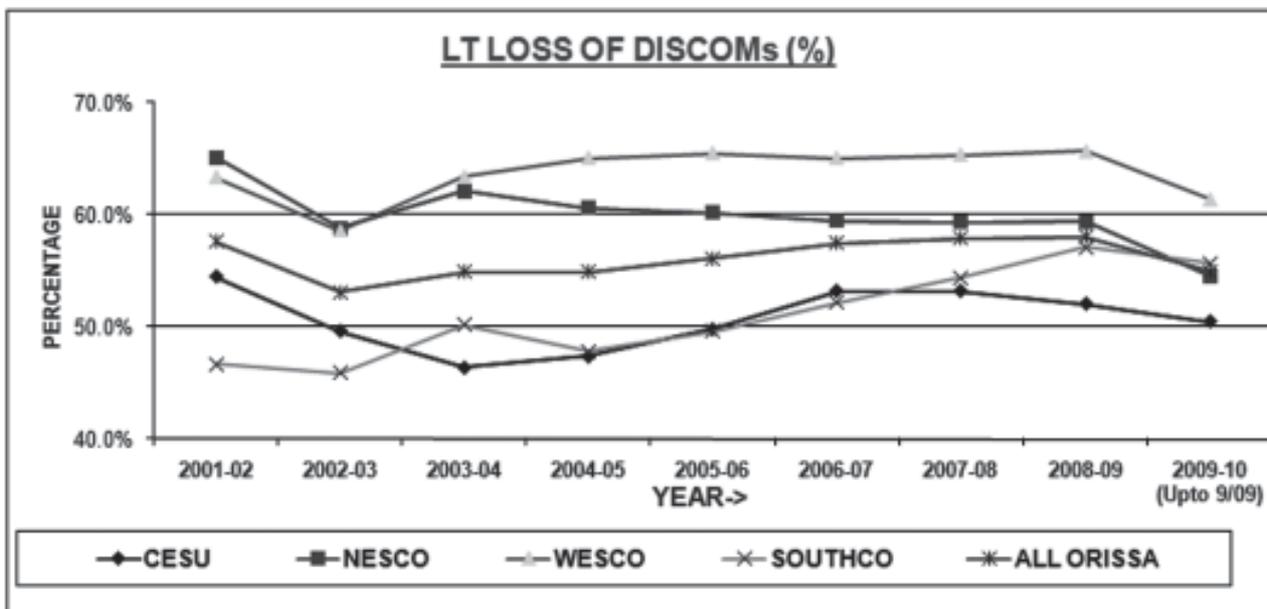
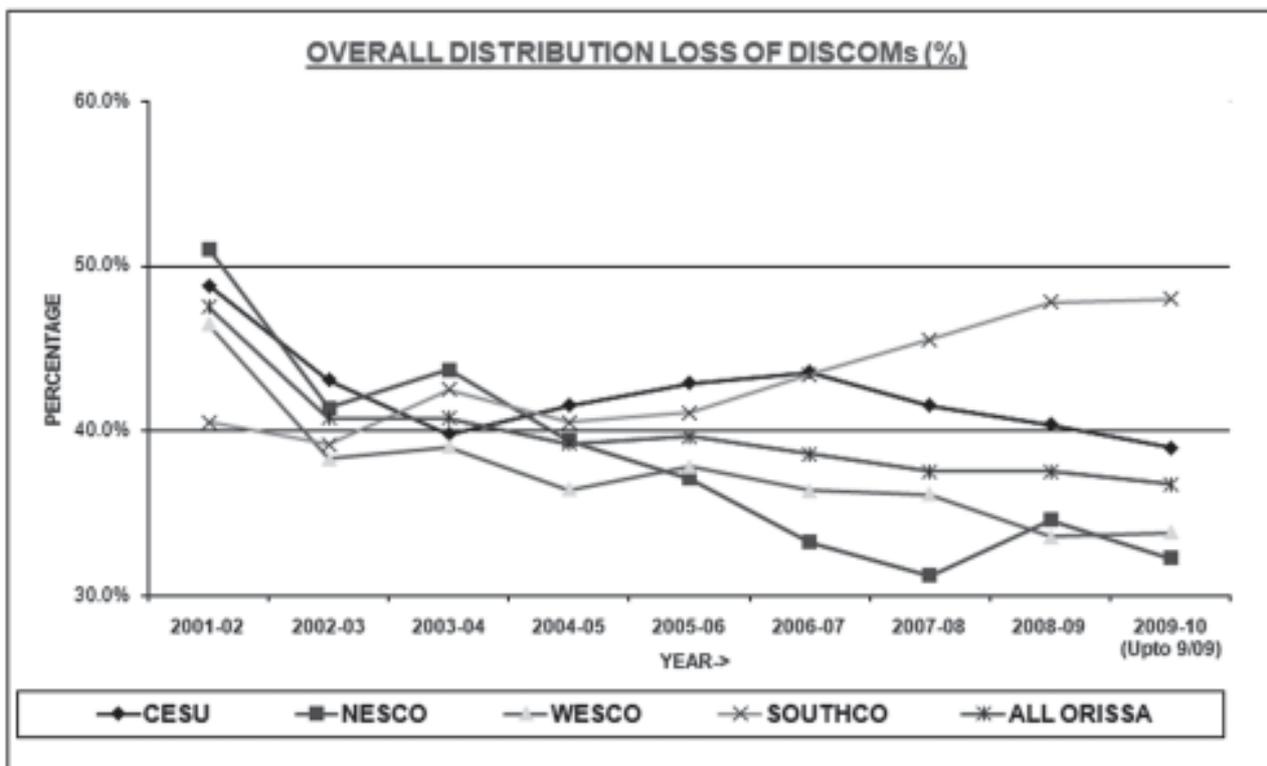
has started franchisee operation in Rambha & Khalikote Sub-division and expects to start the same in two sub-divisions each in Bhanjanagar and Aska Division. WESCO has started franchisee operation in numbers of 33/11 KV substations and 11 KV feeders in different areas of its operation. Further, they have started input base assured revenue with O & M model operation at Kantabanji and Patnagarh Sub-divisions.

- Electricity is the one of the most important basic human needs and key input for all-round economic growth of the State. The per capital electricity consumption in Orissa is 510 Kwh per year against All India average of 704.2 Kwh (2007-08). The target to be achieved by Gol is 1000 Kwh per year by the end of 11th Plan.
- Hence Govt needs to pay urgent attention to sustainable development of the power sector in the State govt. by paying a proactive role. Govt. cannot distance itself on the plea of privatisation as it holds 49% share in the distribution company.
- We should learn from Gujarat for its proactive role in developing infrastructure including electricity. The Gujarat experience is enumerated below: -
- **Gujarat Experience:** In Gujarat Jyoti Gram Yojana has been taken up which aims to provide 24 hours 3 phase quality power supply to rural households, encourage village industries, promote education and health services and eliminate disparity between villages and towns.
- Jyoti Gram Yojana was a unique initiative introduced of Gujarat Government to make available three phase quality power supply for 24 hours to all the 18,000 villages and also 9,700 suburbs attached to the villages of Gujarat for non-agricultural activities while ensuring improved quality power supply to agriculture implemented in a record time of just 30 months<sup>1</sup> Jyoti Gram Yojana has made a positive impact on the State's rural economy.
- All the villages were covered under the scheme with an expenditure of Rs.1291 crores out of which Rs.1110 crores came from Government of Gujarat.
- Electricity is the basic human need and a key input for all economic activities. It is the primary responsibility of State Govt. to provide the basic infrastructure like Roads, Electricity, Irrigation etc.

## 23. ORISSA EXPERIENCE

- Orissa did the experiment in power sector and all other states have gained from the experiment and experience of Orissa in power sector. Despite various constraints, the power sector in Orissa 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.
- The State Govt. has been advised to come forward readily and work alongside the distribution companies, the generators, the utilities in the day to day development of power sector, rather than take a 'distance aloof' approach.

# Performance Review of the Licensees



PERFORMANCE OF LICENSEES

	2005-06		2006-07		2007-08		2008-09		2009-10 (upto Sept,09)	
	OERC Appr- oval	Actual (Aud)	OERC Appr- oval	Actual (Aud)	OERC Appr- oval	Actual (Aud)	OERC Appr- oval	Actual (Per. Rev.)	OERC Appr- oval	Actual
<b>A. OVERALL DISTRIBUTION LOSS (%)</b>										
CESU	36.00%	42.85%	33.00%	43.52%	29.30%	41.48%	29.30%	40.34%	26.30%	38.96%
NESCO	35.00%	37.08%	31.51%	33.22%	26.00%	31.17%	25.50%	34.57%	23.00%	32.24%
WESCO	31.00%	37.80%	33.75%	36.36%	25.00%	36.13%	25.00%	33.55%	22.50%	33.77%
SOUTHCO	36.00%	41.07%	33.00%	43.39%	30.40%	45.49%	30.40%	47.78%	27.92%	47.95%
ALL ORISSA	34.18%	39.60%	32.81%	38.57%	27.10%	37.48%	27.00%	37.50%	24.45%	36.73%
<b>B. LT LOSS (%)</b>										
CESU	41.30%	49.80%	37.30%	53.20%	34.40%	53.18%	36.00%	52.00%	35.04%	50.46%
NESCO	52.50%	60.20%	52.90%	59.50%	51.10%	59.30%	44.50%	59.40%	33.19%	54.57%
WESCO	54.10%	65.50%	62.40%	65.00%	52.00%	65.30%	46.70%	65.65%	35.86%	61.38%
SOUTHCO	43.30%	49.60%	38.20%	52.20%	33.20%	54.40%	33.40%	57.12%	29.50%	55.71%
ALL ORISSA	47.50%	56.10%	47.60%	57.50%	42.30%	57.90%	40.30%	58.06%	34.04%	54.99%
<b>C. OVERALL COLLECTION EFFICIENCY (%)</b>										
CESU	86.00%	88.94%	89.00%	92.81%	92.00%	92.39%	95.00%	91.80%	98.00%	96.68%
NESCO	93.00%	90.21%	94.00%	88.74%	94.00%	93.16%	95.00%	93.84%	98.00%	90.54%
WESCO	92.00%	93.65%	94.00%	94.29%	96.00%	92.91%	96.60%	95.55%	98.00%	95.96%
SOUTHCO	91.00%	95.26%	93.00%	94.31%	94.00%	94.05%	94.00%	93.88%	98.00%	91.23%
ALL ORISSA	90.35%	91.58%	92.45%	92.37%	94.10%	92.94%	95.40%	93.90%	98.00%	94.40%

PERFORMANCE OF LICENSEES

	2005-06		2006-07		2007-08		2008-09		2009-10 (upto Sept,09)	
	OERC Appr- oval	Actual (Aud)	OERC Appr- oval	Actual (Aud)	OERC Appr- oval	Actual (Aud)	OERC Appr- oval	Actual (Per. Rev.)	OERC Appr- oval	Actual
<b>D. COLLECTION EFFICIENCY IN LT (%)</b>										
CESU		82.00%		89.00%		88.00%		84.63%		95.50%
NESCO		78.00%		69.00%		73.00%		72.61%		60.47%
WESCO		74.00%		77.00%		78.00%		73.42%		66.18%
SOUTHCO		86.00%		87.00%		88.00%		89.10%		83.96%
ALL ORISSA		81.00%		82.00%		83.00%		80.63%		80.49%
<b>E. OVER ALL AT &amp; C LOSS (%)</b>										
CESU	44.96%	49.17%	40.37%	47.58%	34.96%	45.93%	32.84%	45.23%	27.77%	40.98%
NESCO	39.55%	43.24%	35.62%	40.75%	30.44%	35.88%	29.23%	38.60%	24.54%	38.65%
WESCO	36.52%	41.75%	37.73%	39.99%	28.00%	40.65%	27.55%	36.51%	24.05%	36.44%
SOUTHCO	41.76%	43.86%	37.69%	46.61%	34.58%	48.73%	34.58%	50.98%	29.36%	52.52%
ALL ORISSA	40.53%	44.69%	37.88%	43.26%	31.40%	41.89%	30.36%	41.31%	25.96%	40.27%
<b>F. AT &amp; C LOSS FOR LT (%)</b>										
CESU	49.52%	58.84%	44.20%	58.35%	39.65%	58.80%	39.20%	59.38%	36.34%	52.69%
NESCO	55.83%	68.96%	55.73%	72.06%	54.03%	70.29%	47.28%	70.52%	34.53%	72.53%
WESCO	57.77%	74.47%	64.66%	73.05%	53.92%	72.93%	48.51%	74.78%	37.14%	74.44%
SOUTHCO	48.40%	56.66%	42.53%	58.41%	37.21%	59.87%	37.40%	61.79%	30.91%	62.81%
ALL ORISSA	52.57%	64.44%	51.56%	65.15%	45.70%	65.06%	43.05%	66.18%	35.36%	63.77%

NB : Based on overall collection efficiency, AT& C Loss for LT(OERC approval) has been calculated .

L.T.PERFORMANCE OF CESU FOR FY 2009-10 (Upto Sept.09)  
Divisions are arranged in descending order of AT & C Loss in LT .  
Considering HT Loss @ 8%

Sl. No.	Name of Division	No. of Consumer	Energy Input (MU) (Assuming HT Loss 8%)		Energy Sold (MU)			LOSS (%) (Assuming HT Loss 8%)		BST Bill (Rs. In Cr)	Billing to Consumer (Cr.)		Collection Received (Cr.)		Collection Efficiency (%)		AT & C LOSS (%)		LT Collection to LT Input PAU
			TOTAL	HT Loss (%)	EHT	HT	LT	TOTAL	LT		Over All	TOTAL	TOTAL	LT	OVER ALL	LT	OVER ALL		
	<b>DERG TARGET</b>																		
1	C.E.D Cuttack	60,565	200.24	21.47	32.71	49.94	104.12	48%	24.53	31.80	28.55	76%	90%	36.3%	71.8	53.3%	71.8		
2	T.E.D. Chalingal	44,034	361.47	226.62	19.88	32.67	279.17	23%	44.28	86.03	85.35	92%	99%	23.4%	70.1	23.4%	70.1		
3	D.E.D. Dhenkanal	65,217	234.37	11.62	58.53	51.16	121.31	48%	28.71	36.49	33.45	84%	92%	52.6%	72.3	52.6%	72.3		
4	N.E.D. Nimapara	69,727	131.79	-	0.91	40.90	41.81	68%	16.14	9.72	8.46	87%	87%	72.4%	67.5	72.4%	67.5		
5	A.E.D. Athagarh	47,234	218.91	114.93	15.21	23.73	153.87	30%	26.82	43.97	44.07	101%	100%	29.6%	69.9	29.6%	69.9		
6	A.E.D. Angul	37,273	126.98	-	29.44	29.09	58.53	67%	15.56	17.99	17.42	94%	97%	55.4%	87.8	55.4%	87.8		
7	PDP paradeep	42,953	161.71	82.77	13.13	24.77	120.67	25%	19.81	38.65	37.57	82%	97%	27.5%	82.2	27.5%	82.2		
8	K.E.D.(I) Marzaghal	34,391	38.67	-	0.14	12.92	13.06	64%	4.74	3.04	2.89	95%	95%	67.9%	79.9	67.9%	79.9		
9	J.E.D. Jajatsinghpur	51,537	82.51	-	32.86	32.86	32.86	57%	10.11	7.36	5.89	80%	80%	68.1%	77.6	68.1%	77.6		
10	P.E.D. Puri	76,002	157.50	-	5.88	60.68	66.56	58%	19.29	18.59	16.49	88%	89%	62.5%	103.9	62.5%	103.9		
11	S.E.D. Sallipour	48,772	61.16	-	0.33	26.91	27.24	52%	7.49	6.29	5.07	80%	81%	64.1%	88.7	64.1%	88.7		
12	N.E.D. Nayagarh	65,731	92.97	-	0.46	38.27	38.73	55%	11.39	9.05	9.21	102%	102%	57.6%	106.3	57.6%	106.3		
13	K.E.D. Khurda	75,344	211.94	21.52	49.94	57.45	128.91	39%	25.96	39.58	39.52	100%	100%	39.3%	114.7	39.3%	114.7		
14	K.E.D.(I) Kendrapara	81,647	106.78	-	0.29	49.46	49.75	50%	13.08	11.87	10.83	92%	91%	57.5%	110.1	57.5%	110.1		
15	B.E.D. Balugaon	45,437	94.62	15.97	2.93	30.58	49.48	48%	11.59	13.75	14.21	106%	103%	46.0%	107.4	46.0%	107.4		
16	C.D.D - II Cuttack	43,909	182.87	28.57	25.97	67.74	122.28	42%	22.40	40.17	38.35	95%	95%	36.2%	161.2	36.2%	161.2		
17	C.D.D - I Cuttack	46,114	167.32	-	14.04	89.58	103.62	36%	20.50	30.73	28.83	94%	94%	41.9%	173.4	41.9%	173.4		
18	B.C.D.D.-II Bhubaneswar	65,455	230.22	-	73.89	96.49	170.38	26%	28.20	52.52	52.35	108%	100%	26.2%	203.1	26.2%	203.1		
19	B.E.D. Bhubaneswar	54,384	170.26	-	29.18	95.96	125.14	25%	20.86	38.84	38.44	104%	99%	27.3%	220.9	27.3%	220.9		
20	B.C.D.D.-I Bhubaneswar	44,482	156.21	-	39.92	98.94	138.86	5%	19.14	45.51	45.73	103%	100%	10.7%	302.5	10.7%	302.5		
	<b>TOTAL CESU</b>	<b>1,100,208</b>	<b>3,188.50</b>	<b>523.47</b>	<b>412.78</b>	<b>1,010.10</b>	<b>1,946.35</b>	<b>50.5%</b>	<b>390.99</b>	<b>581.95</b>	<b>562.68</b>	<b>96%</b>	<b>97%</b>	<b>41.0%</b>	<b>124.5</b>	<b>41.0%</b>	<b>124.5</b>		

NB: Billing to the consumer is less than Bulk Supply bill.

L.T.PERFORMANCE OF NESCO FOR FY 2009-10 (Upto Sept,09)  
Divisions are arranged in descending order of AT & C Loss in LT .  
Considering HT Loss @ 8%

Sl. No.	Name of Division	Energy Input (MU) (Assuming TOTAL)	Energy Sold (MU)				LOSS (%) (Assuming HT Loss 8%)		Avg. BST Bill (Rs. in Cr)	Billing to Consumer (Cr.)	Collection Received (Cr.)	Collection Efficiency (%)		AT & C LOSS (%)		LT/Collection to Input P/U
			EHT	HT	LT	TOTAL	LT	Over All				LT	OVER ALL			
	OERC TARGET						33.2%	23.0%						34.5%	24.5%	
1	AED Anandapur	78.24		10.88	28.42	39.30	53%	49.8%	11.81	10.62	5.48	29%	87%	74.1%	32.0	
2	JTED Jajpur Town	140.48		1.09	54.41	55.50	58%	60.5%	21.21	11.92	6.08	49%	79%	79.8%	43.9	
3	BED Bhadrak (5)	66.13		0.37	31.59	31.96	48%	51.7%	9.99	6.09	2.89	41%	79%	80.0%	46.1	
4	UED Udala	37.91		0.24	14.69	14.93	58%	60.6%	5.72	3.36	1.95	56%	76%	77.2%	53.1	
5	BTD Basta	52.92			18.94	18.94	61%	64.2%	7.99	3.82	2.41	63%	75%	77.4%	49.4	
6	JRED Jajpur Road	533.39	285.38	93.29	56.29	434.96	58%	18.5%	80.54	136.99	126.96	62%	74%	24.2%	64.0	
7	RED Raingarour	69.96		3.80	22.92	26.72	62%	61.8%	10.56	7.31	5.54	69%	74%	71.1%	65.1	
8	SED Soro	87.67		1.22	39.44	40.65	50%	53.6%	13.24	9.13	5.05	53%	74%	74.4%	57.6	
9	BNED Bhadrak	256.01	134.51	2.50	51.60	188.61	53%	26.3%	38.66	52.17	57.23	57%	73%	19.2%	65.3	
10	CED Balasore	272.63	169.71	11.89	32.55	214.15	61%	21.5%	41.17	59.69	57.26	72%	72%	24.6%	65.2	
11	BED Baripada	132.71		8.66	52.60	61.27	54%	53.8%	20.04	16.44	11.38	63%	71%	68.1%	72.1	
12	JED Jaleswar	74.39	16.83	0.26	26.38	43.46	50%	41.6%	11.23	11.60	9.05	59%	71%	54.4%	59.2	
13	KED Keonjhar	444.01	121.96	169.61	55.18	346.75	56%	21.9%	67.05	114.06	110.93	77%	66%	24.0%	86.5	
14	BED Balasore	108.81	17.68	21.11	40.00	78.80	36%	27.6%	16.43	24.98	22.16	76%	51%	35.7%	134.8	
	NESCO	2,355.25	746.07	324.92	525.01	1,595.99	54.6%	32.2%	355.64	468.67	424.35	60%	73%	38.6%	64.9	

NB: Billing to the consumer is less than Bulk Supply bill .

L.T.PERFORMANCE OF WESCO FOR FY 2009-10 (Upto Sept,09)  
Divisions are arranged in descending order of AT & C Loss in LT .  
Considering HT Loss @8%

Sl. No.	Name of Division	Energy Input (MU) (Assuming HT Loss 8%)		Energy Sold (MU)			LOSS (%) (Assuming HT Loss 8%)		B5T Bill (Rs. In Cr)	Billing to Consumer (Cr.)		Collection Received (Cr.)		Collection Efficiency (%)		AT & C LOSS (%)		LT Collection to LT Input P/U
		EHT	HT	EHT	HT	LT	TOTAL	LT		Over All	TOTAL	TOTAL	LT	TOTAL	LT	TOTAL	LT	
	OERC TARGET																	
1	B.W.E.D. Bargarh (West)		2.65			30.49	33.14	69%	19.35	7.07	4.06			50%	57%	84.6%	82.8%	30.8
2	N.E.D. Nuapada		1.46			19.89	21.35	68%	11.64	5.38	3.16			53%	59%	82.3%	81.2%	41.4
3	B.E.D. Bargarh		52.49			52.94	117.40	72%	46.65	32.41	29.76			65%	92%	81.4%	59.7%	40.3
4	S.N.E.D. Sonepur		2.82			23.30	26.11	63%	12.38	5.92	3.86			57%	65%	78.6%	76.0%	44.4
5	J.E.D. Jharsuguda		418.71			55.83	549.06	16%	113.68	190.61	205.62			59%	108%	76.6%	9.1%	54.0
6	B.E.D. Bolangir		6.25			39.64	45.89	63%	21.49	11.44	8.36			66%	73%	75.7%	72.8%	55.9
7	S.E.D. Sambalpur (East)		5.74			32.97	78.17	60%	25.74	23.53	20.01			61%	85%	75.3%	55.0%	59.9
8	S.E.D. Sundergarh		27.70			20.95	48.65	68%	17.85	13.56	13.19			81%	97%	74.3%	53.7%	56.1
9	K.W.E.D. Bhawanipatna		0.23			18.18	18.41	67%	10.53	4.36	3.48			80%	80%	73.7%	75.7%	61.1
10	T.E.D. Titlagarh		10.18			34.32	52.54	60%	19.75	14.73	11.79			68%	80%	73.3%	62.9%	61.8
11	S.E.D. Sambalpur		4.53			57.52	80.51	49%	25.85	24.31	18.30			54%	75%	72.6%	59.1%	66.7
12	K.E.E.D. Bhawanipatna (E)		1.62			27.96	33.35	56%	12.99	10.30	8.14			67%	79%	70.3%	64.6%	72.0
13	D.E.D. Deogarh		-			9.72	15.59	59%	5.58	4.10	3.62			77%	88%	68.4%	57.0%	67.7
14	R.E.D. Rourkela		103.35			92.59	291.34	55%	75.31	97.19	88.92			75%	91%	66.3%	38.3%	80.2
15	R.E.D. Raigangpur		230.22			28.97	672.12	52%	129.99	216.43	212.37			88%	98%	58.3%	11.5%	111.4
	TOTAL WESCO		826.84			705.05	2,083.64	61%	548.78	661.34	634.65			66%	96%	74.4%	36.4%	59.3

NB: Billing to the consumer is less than Bulk Supply bill.

L.T.PERFORMANCE OF NESCO FOR FY 2009-10 (Upto Sept,09)  
Divisions are arranged in descending order of AT & C Loss in LT .  
Considering HT Loss @ 8%

Sl. No.	Name of Division	Energy Input (MU) (Assuming HT Loss 8%)			Energy Sold (MU)			LOSS (%) (Assuming HT Loss 8%)		BST Bill (Rs. In Cr)	Billing to Consumer (Cr.)	Collection Received (Cr.)	Collection Efficiency (%)		AT & C LOSS (%)		LT Collection to LT Input P/U
		EHT	HT	LT	TOTAL	HT	LT	TOTAL	LT				Over All	TOTAL	LT	TOTAL	
	OERC TARGET																
1	AED, Aska	149.89	-	3.02	41.35	44.37	29.5%	69%	13.64	10.57	7.83	71%	74%	78.2%	78.1%	50.6	
2	BNED, Bhanjanagar	103.83	-	0.32	32.32	32.64	66%	69%	9.45	7.73	5.83	75%	75%	74.6%	76.3%	59.4	
3	BOED, Boudh	26.73	-	1.45	8.90	10.35	62%	61%	2.43	2.77	2.14	71.7%	77%	72.4%	70.2%	67.8	
4	GSED, Digapahandi	79.64	-	0.49	26.63	27.12	63%	66%	7.25	6.47	4.92	76%	76%	72.3%	74.1%	64.8	
5	GNED, Chatrapur	154.33	27.95	39.29	30.60	97.83	60%	37%	14.04	26.91	25.53	77%	95%	69.5%	39.9%	70.0	
6	MED, Malkangiri	29.25	-	5.36	8.01	13.36	63%	54%	2.66	4.22	3.40	83%	81%	69.1%	63.2%	82.6	
7	NED, Newrangapur	63.74	-	11.67	19.42	31.09	59%	51%	5.80	9.45	8.12	89%	86%	63.1%	58.1%	99.1	
8	JED, Jeygore	164.89	54.83	28.63	32.69	116.14	55%	30%	15.01	40.41	40.52	91%	100%	59.1%	29.4%	111.0	
9	PED, Phulbani	29.20	-	0.26	14.01	14.27	47%	51%	2.66	3.74	3.02	81%	81%	57.3%	60.6%	111.3	
10	GED, Gunupur	21.04	-	0.63	9.35	9.99	50%	53%	1.91	2.62	2.35	90%	90%	55.1%	57.3%	114.6	
11	PKED, Parakhemundi	38.55	-	0.91	18.40	19.30	47%	50%	3.51	4.92	4.29	87%	87%	53.9%	56.4%	115.3	
12	BED-2, Berhampur	94.87	-	3.93	49.63	53.56	40%	44%	8.63	14.36	12.82	88%	89%	47.5%	49.6%	135.9	
13	RED, Rayagada	68.01	16.35	5.48	27.22	49.06	35%	28%	6.19	15.16	14.31	86%	94%	44.3%	31.9%	147.8	
14	BED-1, Berhampur	119.89	15.24	9.01	52.05	76.30	40%	36%	10.91	22.89	22.04	95%	96%	43.3%	38.7%	146.4	
	TOTAL SOUTHCO	1,143.86	114.37	110.44	370.57	595.38	56%	48%	104.09	172.22	157.12	84%	91%	62.8%	52.5%	93.3	

NB: Billing to the consumer is less than Bulk Supply bill.

## Details of Transmission Project During F.Y-2007-08, 2008-09 & 2009-10

*Source: AS submitted by OPTCL*

Sl. No.	Name of the Project with scope of work	Original work order No. & Date	Scheduled date of completion	Revised date of completion	Expected date of completion
1	2	3	4	5	6
<b>Transmission Projects Completed during 2007-08</b>					
1	220 KV Budhipadar-Burla D.C line (61.29 Kms.)	TR-2 B-1/S&I dt.15.9.98	09/2002		
2	2x100 MVA, 220/132/33 KV Burla Sub-station	TR-4 S&I dt.30.6.99	03/2003		
3	LILO of Chanipal-Dhenkanal 132 KV line at Meramundali sub-station [1.78 Kms]	TR-3 S&I dt.15.9.98	03/2001		
4	LILO of Chanipal-Choudwar 132 KV line at Meramundali sub-station [1.78 Kms]	TR-3 S&I dt.15.9.98	03/2001		
5	LILO of Bhanjanagar-Chandaka 220 KV line at Mendhasal sub-station [6.22 Kms]	PMU dt.15.9.98	04/2000		
6	220 KV Switchyard of 400/220 KV sub-station at Mendhasal	TR6/54I dt. 30.06.99	01/2002		
7	220 KV Ib-Budhipadar 4 <sup>th</sup> Circuit alongwith Bay Extension [25.958 Kms.]	2133 dt. 01.06.96	05/1997		
8	220 KV D.C line from Balugaon to Chandaka via Mendhasal [90 Kms.]	3674 dt. 14.04.95	11/1997		
<b>Transmission Projects Completed during 2008-09</b>					
1	Circuit -I from PGCIL s/s at Kuchei to Balasore S/s commissioned at 220kV	691 dtd. 24.03.05	10/2005		
2	2nd 20MVA transformer at 220/33kV sub station at Balimela	3197 & 2101 dt. 17.04.06	12/2006		
3	2x315MVA ICTs commissioned at 220kV at Mendhasal S/s by way of back charging	TR-6/54I dt. 30.06.99	01/2002		
4	1st 100MVA transformer commissioned at Bhadrak S/s	3785 &3789 dt.20.5.06	12/2006		
5	220kV Ib-Budhipadar 3rd circuit along with bay extension	2133 dt. 01.06.96	05/1997		
6	220kV DC line from Duburi to Paradeep	1886 dt. 23.02.96	12/1997		
7	Installation of 2nd 20MVA, 220/33kV transformer at Barkote S/s	1463 dt. 19.03.07	09/2007		
8	Construction of 2nos. Of 132kV feeder bays at Rajgangpur grid s/s	7599 dt. 11.12.07	06/2008		
9	Installation of 4th 100MVA auto transformer at Chandaka	7674 dt. 13.12.07	04/2008		
10	132kV Phulnakhara LILO on Mancheswar-Cuttack line	TR-3C-S&I dt.15.9.98	9/2001		
<b>Transmission Projects Completed during 2009-10 (Upto Sept,09)</b>					
1(a)	1 x 100 MVA Auto transformer at 220/132kV Paradeep Substation with 220 KV D.C line from Duburi to Paradeep	1886 Dt.23.2.96	12/97	12/2004	05/2009
(b)	1 x 50 MVA 220/132 KV Auto transformer at Paradeep Grid S/S	Do	Do	Do	09/2009
2	2nd 100 MVA 220/132 KV Auto-transformer at Bhadrak Grid S/S	3785 & 3789 Dt.20.5.06	12/2006	12/2007	09/2009
3	2x12.5MVA, 132/33kV substation at Karanjia with associated lines.	1416 & 1420 Dt.17.3.07	06/2008	09/2009	07 & 09/2009

4	1x20 MVA, 132/33kV substation at <b>Phulnakhara.</b>	PMU TR-7/S&I Dt/28.7.99	01/2001	-	07/2009
5	Hirakud LILO <b>Burla - Sambalpur</b> 132 KV Line	PMU TR-3C/S&I Dt/15.9.98	03/2001	06/2009	08/2009
6	132 KV Feeder bay extension work at <b>Hind Metal</b> Switching Station	2753 dt.31.3.08	10/2009	-	10/2009
7	132 KV <b>Uttara-Sijua</b> S.C line on D.C tower	PMU-WB-TR-3/C/ S&I Dt. 15.9.98 7532/5.12.07	09/1999	04/2008	09/2009
8	2 Nos. 132 KV bay at Chend	4900 Dt.26.7.06	01/2007		09/2009
9	132 KV Barapalli-LILO Bargarh-Bolangir 132 KV line (Anti-theft charged)	1235 and 1239 dt. 09.03.07	06/2008		09/2009
10	Diversion of 132 KV Denkanal-Joranda Rd. Traction line for Rengali right canal				04/2009
11	Diversion of 220 DC line from Jayanagar to Theruvalli at Rebatiguda, Rayagada.				09/2009
<b>Transmission Projects under Execution</b>					
1	2x12.5 MVA 132/33 KV Grid S/S at <b>Barpali</b>	1235 & 1239 Dt.9.3.07	06/2008	06/2009	11/2009
2	2x12.5 MVA 132/33 KV Grid S/S at <b>Basta</b>	2626 & 2630 Dt.24.5.07	10/2008	06/2009	12/2009
3	220 KV D.C line from <b>Burla to Bolangir</b>	PMU-WB-TR-2/B1 / S&I Dt. 15.9.98	09/2002	12/2003	12/2009
4	220/132 KV Grid S/S at <b>Bolangir</b>	PMU-WB-TR-4/ S&I Dt. 30.6.09	09/2003	07/2009	12/2009
5	Installation of 3rd 40MVA, 132/33kV transformer at <b>Chend S/s</b>	4900 Dt.26.7.06	01/2007	12/2007	12/2009
6	2x12.5 MVA 132/33 KV Transformer at <b>Akhusing Switching Station</b> alongwith associated bay	5985, 5989 dt.09.7.08	07/1009		12/2009
7	400 KV D.C line from <b>Meramundali to Mendhasal</b>	658 dt.18.9.98	10/1999	12/2004	11/2009
8	400 KV D.C line from <b>Meramundali to Duburi</b>	2069 dt.30.5.99 PGCIL April-06	04/1996 10/2008	03/2009	12/2009
9	2x20 MVA 132/33 KV S/S at <b>Anandpur</b> with associated line	7260 dt.18.9.08	06/2010		06/2010
10	220 kv D.C line from <b>Bidanasi to Cuttack</b>	1854 & 1858 dt.24.2.09	12/2010		12/2010
11	Installation of additional 40 MVA 132/33 KV transformer at <b>Bidanasi S/S</b>	10016 dt.20.10.08	03/2010		03/2010
12	400 KV D.C line from <b>Mendhasal to Bidanasi</b>	661 dt.18.9.98	10/1999	12/2004	03/2010
13	220 KV D/C line from <b>Budhipadar to Bolangir</b> (Burla-Bolangir portion)	PMU-WB-TR-2/B1 / S&I Dt. 15.9.98	09/2002	12/2003	12/2009
14	132 KV <b>Mancheswar-Badagada</b> S.C line on D.C tower	PMU-WB-TR-3/C/ S&I Dt. 15.9.98 3100/23.6.07 (A.K.Das Ass.)	09/1999	06/2008	10/2009
15	132 KV <b>Badagada-Uttara</b> S.C line on D.C tower	PMU-WB-TR-3/C/ S&I Dt. 15.9.98 3721/ 31.3.08 (Engg. Allied)	09/1999	09/1998	12/2009
16	220/132/33 KV Grid S/S at <b>Bolangir</b>	PMU-WB-TR-4/ S&I Dt. 30.6.99 (CGL)	09/2003		12/2009
17	400/220 KV S/S at <b>Mendhasal</b>	PMU-WB-TR-6/ S&I Dt. 30.6.99 (M/s.Jyoti)	01/2002	08/2003	10/2009
18	400/220 KV S/S at <b>Duburi</b>	PMU-WB-TR-6/ S&I Dt. 30.6.99 (M/s.Jyoti)	12/2003	08/2004	12/2009
19	132/33 KV S/S at <b>Badagada</b>	PMU-WB-TR-6/ S&I Dt.28.7.99 (M/s.IRCON)	01/2001	04/2010	04/2010

**PROTECTION OF CONSUMER INTEREST  
IN A REGULATORY FRAME WORK  
THE ORISSA POWER SECTOR EXPERIENCE**

K.C. Badu,  
Member, OERC

1. A good power network is the backbone of economic development of a nation. It is also a basic need for consumers. Being a key component of infrastructure, the availability of quality power in required quantity will be an important determinant in the success of power sector reform in the State. So all so the success of reform process will depend upon largely on the active participation of all stake holders. The participation and involvement of consumers in the reform process and governance will go a long way in achieving the basic objective of liberalization and reform.
2. Power distribution is the final and most crucial link in the electricity value chain as it directly affects the consumer who pays for the supply. The consumer is at the end of this delivery chain and is its most important node. The bottom line in power reform therefore is to provide the electricity consumer with safe, reliable and efficient supply at affordable rates. Privatisation, competition and regulation are all ultimately intended to meet the objective of providing for the needs of the consumer in terms of quantity and quality. This issue has two aspects, the technical aspect relating to the quality of supply and the management aspect relating to quality of service.
3. The Electricity Act 2003 recognized this fundamental underlying reality and made provisions to safeguard the interests of the consumers and assure them of basic enforceable standards. The Orissa Electricity Reform Act, 1995 was a precursor of reform in the country. While the state regulation did not clearly spell out the primacy of the consumer in the new dispensation, it did provide scope for protection and enforcement of consumer rights. The Orissa Electricity Regulatory Commission which took up the overall supervision of power transmission and distribution in the State following the enactment of the legislation took a proactive approach towards consumer protection and passed regulations to ensure the latter.
4. Minimum standards of service were mandated and enforced in the Distribution Conditions of Supply Regulations and through the Distribution License conditions. Realizing that the quality of supply and service left much to be desired, the OERC laid special emphasis on grievance redressal. A Complaint Handling Procedure, Consumer Rights Statement & Code of Practice on Payment of Bills were drafted and approved and the Commission set up an Alternate Dispute Resolution Forum (ADRF) in its own office by a Practice Direction to settle consumer disputes through mutual conciliation.

5. A Grievance Cell was created under the ADRF and consumer complaints to the OERC were forwarded to the licensees for disposal and closely monitored. The Commission also took up an aggressive consumer education programme through print and audio-visual media with its limited resources to create greater awareness about rights and duties.
6. The Electricity Act in 2003 institutionalized some of the suo motu measures taken up by the OERC. Provisions were made for effective participation of consumers, minimum guaranteed standards and effective grievance redressal. The preamble of the Electricity Act, 2003 itself stipulates 'protection of consumer interest' as one of the basic aims and objectives of the Act. The preamble of the Electricity Act, 2003 is reproduced below:

*An Act to consolidate the laws relating to generation, transmission, distribution, trading and use of electricity and generally for taking measures conducive to development of electricity industry, promoting competition therein, protecting interest of consumers and supply of electricity to all areas, rationalization of electricity tariff, ensuring transparent policies regarding subsidies, promotion of efficient and environmentally benign policies, constitution of Central Electricity Authority, Regulatory Commission and establishment of Appellate Tribunal and for matters connected therewith or incidental thereto.*

7. Section- 61(d) of the Electricity Act, 2003 mandates that safeguarding the consumer's interest is one of the prime guiding factor for determination of tariff by the Commission.
  61. Tariff Regulations: The Appropriate Commission shall subject to the provisions of this Act, specify the terms and conditions for the determination of tariff, and in doing so, shall be guided by the following, namely:
    - (d) Safeguarding of consumers' interest and at the same time, recovery of the cost of electricity in a reasonable manner;
8. While doing so recovery of the cost of the electricity in a reasonable manner from the concerned consumer is to be taken into account. To make the regulatory frame work succeed, it is necessary that consumers be brought into the system as a comprehensive element. This would not only solve the problems related to quality of supply but also make the consumer realize need for discipline on their part in term of payment of bills, uses of energy efficient gazettes, non-tampering of meters etc.
9. For the first time, provision was made for a separate statutory mechanism to redress grievances of electricity consumers in the Electricity Act 2003. In keeping with its consumer friendly approach, the OERC promptly enacted the (GRF & Ombudsman) Regulations, 2004 u/s 42 of the Act and thereafter twelve Grievance Redressal Fora (GRFs) were established in four distribution zones (CESU, NESCO, SOUTHCO & WESCO) of the state. The Commission also established two Ombudsman (Ombudsman-I for CESU area and Ombudsman-II for NESCO, WESCO, & SOUTHCO areas).

10. A consumer aggrieved by the order of the GRFs may make his representation before the Ombudsman. The concerned Distribution Licensee has a statutory obligation to implement the orders of the GRFs and Ombudsman. For non-implementation of these orders an aggrieved consumer may file a petition before the Commission u/S 142 of the Electricity Act, 2003. The Commission has received and disposed the following petitions u/S 142 of the Electricity Act, 2003 for alleged non-implementation of GRF/Ombudsman orders.

Sl No.	Year (Calendar)	Nos. of Cases Received	Nos. of Cases Disposed	Nos. of Cases Pending
1	2006	08	07	1
2	2007	20	12	8
3	2008	16	13	3
4	2009 upto Oct,2009	25	16	9

11. In a leading judgment, the Supreme Court has held that after the establishment of Forums & Ombudsman all individual consumer grievances should be raised before the latter (AIR 2008 SC 1044). In the aforesaid case the Apex Court has held-

"Thus a complete machinery has been provided in Sec. 42(5) and 42(6) for redressal of grievances of individual consumers. Hence wherever a Forum / Ombudsman have been created the consumers can only resort to these bodies for redressal of their grievances".

12. In another land judgment (MERC v. REL & Ors) AIR 2008 SC 976 - the Supreme Court has held that individual consumer grievances cannot be adjudicated by the Commission. The Commission's role & functions are well laid down in Sec. 86 of the Act, 2003.

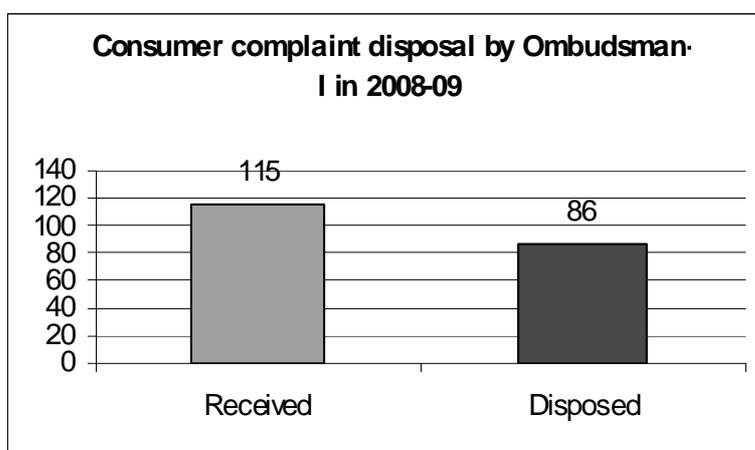
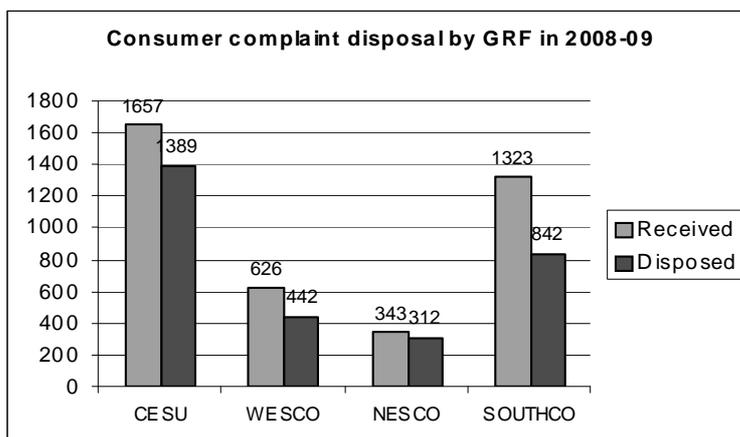
"It may be noted from a perusal of Sec. 86(1)(f) of the Act that the State Commission. has only power to adjudicate upon disputes between licensees and generating companies. It follows that the Commission cannot adjudicate disputes relating to grievances of individual consumers. The adjudicatory function of the Commission is thus limited to the matter prescribed in Sec. 86(1)(f)."

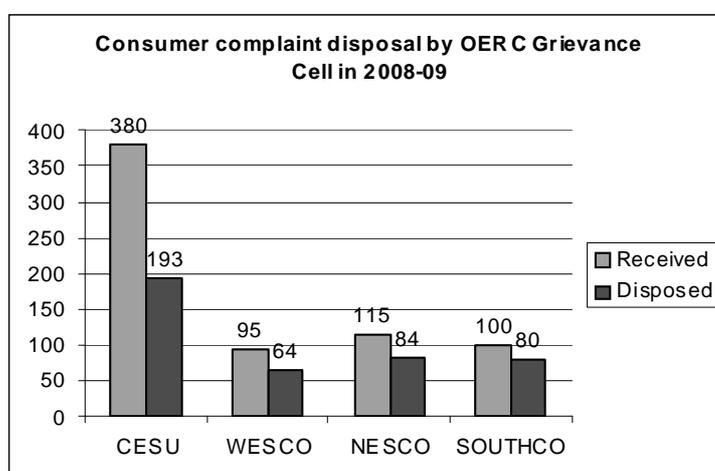
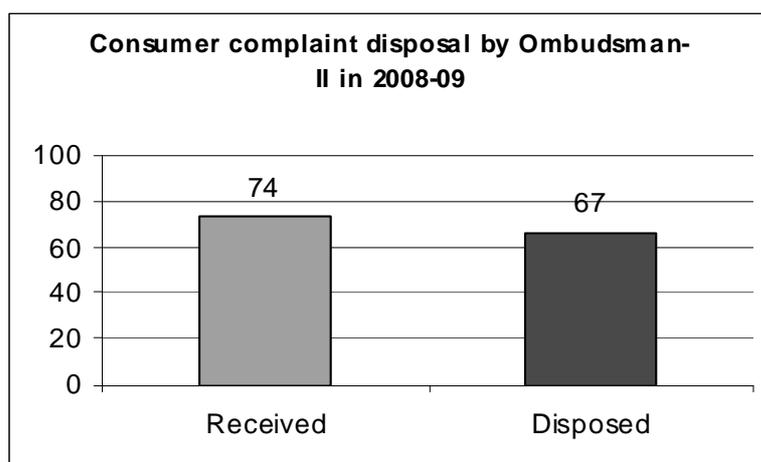
13. While carrying out its statutory obligations to the letter the OERC however at the same time, continues with its close hands-on monitoring of grievance redressal. The Grievance Cell in OERC remains functional and the disposal of grievances by the GRFs & Ombudsmen was expedited through regular reporting, inspection and interactive sessions.

14. In the meantime, the Commission stepped up its public education campaign by investing in a multi media campaign including print, radio and television. Consumers and distcom staff were targeted in an intensive campaign based on a set of Frequently Asked Questions which covered all areas of operation of the distcoms in 2007-08. The FAQ was printed in booklet form and

widely distributed among all stakeholders. Public interest messages on topics like Theft of Power & its Consequences, Rights & Duties of Electricity Consumers and Need for Conservation were published and circulated in a year long campaign in all major English and vernacular dailies of the state. The same messages were also reinforced through phone-in programmes on All India Radio. The Commission also organized workshops and consumer interface programmes to spread its message to semi-rural and rural audiences. The OERC also commissioned a Consumer Survey in 2008 to assess the level of consumer satisfaction with the services rendered by the distcoms.

15. The process of consumer grievance redressal was also sharpened and tightened in 2008-09. The GRFs heard and disposed 2568 and 2552 consumer complaints respectively in 2008-09. Similarly, the Electricity Ombudsmen of Orissa heard and disposed 189 and 153 consumer complaints respectively during the period. The OERC Grievance Cell registered and disposed a total of 690 and 421 consumer complaints respectively in the same year (Illustrated in the figures below).





16. The Commission also took cognizance of various service deficiencies reported in newspapers and forwarded them to the utilities for action. 135 such reports were forwarded and 56 of them were acted upon by distcoms in 2008-09. The OERC full bench heard 41 consumer complaints cases under section 142 of the Electricity Act and passed orders in 28 cases, respectively, during 2008-09.
17. Under the licence condition of the Distribution Licensees the Commission approved and notified the redrafted (i) Complaint Handling Procedure (CHP), (ii) Code of Practice on Payment of Bills & (iii) Consumers Rights Statement in line with the requirements of the Electricity Act 2003. These primary documents help the consumers for redressal of their grievances at licensee's level.
18. After commencement of the Electricity Act, 2003 the Commission framed OERC Distribution (Conditions of Supply) Code, 2004 and OERC (Licensee Standards of Performance) Regulations, 2004. The Distribution Code stipulates the various provision on rights and obligation of the consumers and the licensee for supply of quality power. The Standards of Performance Regulations codify the various standards which a Distribution Licensee has to observe with regard to supply

of power to the consumers. If a Distribution Licensee fails to meet the standards specified by the Commission he shall be liable for penalty and has to pay compensation to the affected parties (Annexure -1). All these measures greatly strengthened the consumer's hand.

19. Since its inception the Commission maintains transparency and involves the stake holders in its decision making process. In important matters like tariff setting, grant of license, amendment of Regulations, working protocol for regulating power supply under deficit situation etc. the Commission publishes public notices in the newspapers and in its website inviting objection/suggestions/views from the general public/ interest persons on the matter. In its public hearing the Commission provides reasonable opportunities to the interested persons for participation. Under Section 94(3) of the Electricity Act, 2003 the Commission has engaged consumer counsels to represent the interest of the various consumers during the course of hearing on tariff setting for different years.
20. The Electricity Act, 2003 which provides introduction of open access and competition in power sector has brought a significant direction for benefit of the consumers. In this regard the Commission has framed OERC (Terms and Conditions for Open Access) Regulations, 2005 and OERC (Determination of Open Access Charges) Regulations, 2006.
21. In spite of all these measures, the Commission is not satisfied with the level of consumer service provided by the distcoms. Standards of performance are frequently violated, the Complaint handling Procedure and Code of Practice on Payment of Bills still exist more on paper than on the ground and the GRFs and Ombudsmen are yet to become fully effective in delivering the goods. The OERC has therefore intensified its supervision of performance of the utilities with regard to minimum standards by quarterly reviews, inquiry and report by expert teams, Information Technology initiatives such as Complaint Analyses and Tracking System (CATS) for consumer access to details of cases filed with GRFs & Ombudsmen, and a continuing multi media media campaign involving grassroots level agencies for more widespread and lasting effect. It is expected that this multi-pronged and focused approach will reduce losses, improve standards of performance and effectively redress consumer grievances over a period of time.
22. The OERC through its independent expert team has conducted the verification of the standards of maintenance of distribution sub-stations, grid sub-stations, and the operation and maintenance of the Power Houses at Burla, Rengali, Indravati, Kolab, Balimela, etc. The deficiencies pointed out in the report are being complied with by utilities. This is being closely monitored by OERC from time to time.
23. The biggest hurdle that the power distribution companies are facing is the power theft and distribution loss. For Orissa the area of concern for sustainable development power sector in Orissa is high level of aggregate Technical and Commercial losses (AT & C) which is as high as 41.31% in 2008-09 against sustainable level of 15%. Out of 41.13% of AT and C loss about 25% is due to theft of Electricity by the unscrupulous consumers who are being aided and abetted by some dishonest employees of the Licensees. It must be borne in mind that the burden of theft is ultimately borne by the honest paying consumers.

24. Theft control requires pro-active involvement of State Government which needs to recognize the menace as the single most reason for the sickness of the Electricity industry. Wherever theft control was given the highest priority by the top leadership of the States, there has been significant turn around of the utilities and the fruits of efficiency have been passed on to consumers in terms of better quality of power at lower cost. The State Govt. and distribution companies in Orissa must learn from the exemplary action taken by Maharashtra, Andhra Pradesh and also West Bengal in taking coordinated and effective steps for curbing the theft of Electricity.
25. One percent reduction of AT & C loss in Orissa in terms of money value works out to Rs.48 crore. Control of theft of electricity will ensure quality supply of power at improved voltage and reduce the existing gap between demand and supply. On the other hand consumers of electricity have a great role to play in extending their cooperation and help in isolating and punishing the unscrupulous consumers and dishonest officials of the distribution companies.
26. The Distribution Utilities must realize that the consumers are central to the growth of their business and without giving them satisfactory service they can not expect any help, co-operation and goodwill from the consumers. While the thieves of power, be it the consumers or the employees, should be treated as thieves, the honest consumers must be properly looked after. They should be treated with respect and all dignity. There should be reorientation in our thinking and approach while dealing with the consumer grievances. We must remember that if you plant good customer care, you will reap a sustained good business for years to come. We should be honest and sincere in taking care of the consumers but not merely propagating to have done this or that for the consumers. In this connection one may recall what Mahatma Gandhi has said -
- "An error does not become truth by reason of multiple propagation nor does truth become error because nobody sees it".
27. The Distribution Utilities must have a clear vision for ensuring satisfactory service to the consumers at an affordable and competitive price. One must realize that visions of the future are better than dreams of the past. If power sector to succeed, we must have to take adequate care of the consumers in improving the quality of service. In this connection we may recollect what Mahatma had said about the importance of consumers /customers.

According to him:

- A customer is the most important visitors in our premises.
- He is not dependent on us. We are dependent on him.
- He is not an interruption to our work. He is the purpose of it.
- He is not an outsider to our business. He is a part of it.
- We are not doing a favour by serving him.
- He is doing us a favour by giving us the opportunities to do so.

28. In the words of Mahatma Gandhi, consumer is the kingpin for success or failure of any organization. Hence, if the utilities want to thrive in their business of distribution of electricity they must take proper care of the consumers in their day to day activities because without consumer they do not have any business. It is the quality of service to the consumers on which the distribution utilities will thrive.
29. At present the distribution system in Orissa is plagued by deep-rooted legacy problems of high AT&C losses triggered by rampant theft and technical issues, corruption, dilapidated networks, inadequate metering, poor recover of dues, lack of consumer orientation and poor operational and financial management. The distribution companies are required to revamp their internal administration and fix accountability at different levels to ensure to ensure quality supply of power and to improve the standard of performance. Therefore, the new mantra for the distribution companies should be "Reduce Cost, Be more efficient, Be consumer responsive or Perish".

## SCHEDULE OF COMPENSATION AND MANNER OF PAYMENT

Type of Complaint	Resolution Time	Compensation Amount (if not resolved)	Mode of Compensation
Normal Fuse-off	6 Hours in Urban Areas 24 Hours in Rural Areas	Rs.100/-	Automatically to be paid by Distco
Line Breakdown (Ordinary)	12 Hours in Urban Areas 24 Hours in Rural Areas	Rs.100/-	To be claimed by the Complainant
Line Breakdown (Major)	24 Hours in Urban Areas 48Hours in Rural Areas	Rs.100/-	To be claimed by the Complainant
Distribution Transformer DTR)	24 Hours in Urban Areas 48Hours in Rural Areas	Rs.200/-	To be claimed by the Failure Complainant
Period of Scheduled Outages	Exceeding beyond 12 hrs	Rs.200/-	To be claimed by a day the Complainant
Improve voltage	15 days if no expansion/ variation enhancement required	Rs.200/-	Automatically to be paid by Distco
Improve voltage variation	120 days for 11 kV 180 days for 33 kV	Rs.500/-	Automatically to be paid by Distco
correctness of the meter	Inspect and check 7 working days	Rs.100/-	To be claimed by the Complainant
Replace slow/ creeping/ stuck-up meters paid by Distco	30 days	Rs.100/-	Automatically to be paid by Distco
Replace burnt meters if cause not attributable to consumer	30 days	Rs 200/-	Automatically to be paid by Distco
Release of supply if no expansion/ enhancement of network required.	30 days	Rs 100/- for each day of default	Automatically to be paid by Distco

Release of L. T. supply Agriculture if expansion/ enhancement of network required	30 days	Rs 100/- for each day of default	To be claimed by the Complainant
Release of H.T. (11 kV) if expansion/ enhancement of network required	60 days default	Rs 500/- for each day of the Complainant	To be claimed by
Release of H.T. (33 kV) supply if expansion/ enhancement of network required	90 days	Rs 500/- for each day of default	Automatically to be paid by Distco
Release of E.H.T. supply if erection of sub-station is required.	As decided by the Commission	Rs 1000/- for each day of default	Automatically to be paid by Distco
Title transfer of ownership	15 days default	Rs.100/- for each day of	Automatically to be paid by Distco
Change of category	15 days	Rs.100/- for each day of default	Automatically to be paid by Distco
Conversion from LT Ph. to LT 3 Ph.	30 days	Rs.100/- for each day of default	Automatically to be paid by Distco
Conversion from LT to HT and vice-versa	60 days for 11 KV 90 days for 33 KV	Rs. 200/- for each day of default	Automatically to be paid by Distco
Resolution of billing complaints	1 month	Rs.50/- for each day of default	Automatically to be paid by Distco
Reconnection of supply following disconnection due to non-payment of bill	4 working hrs	Rs.100/-	Automatically to be paid by Distco

# AN OVERVIEW OF ORISSA POWER SECTOR - FROM SURPLUS SCENARIO TO SHORTAGE ONE WITH A VISION TO BECOME POWER HUB

*Bijoy Kumar Misra,  
Member, OERC  
Nagendra Nath Mahapatra,  
Sr. Consultant, OERC*

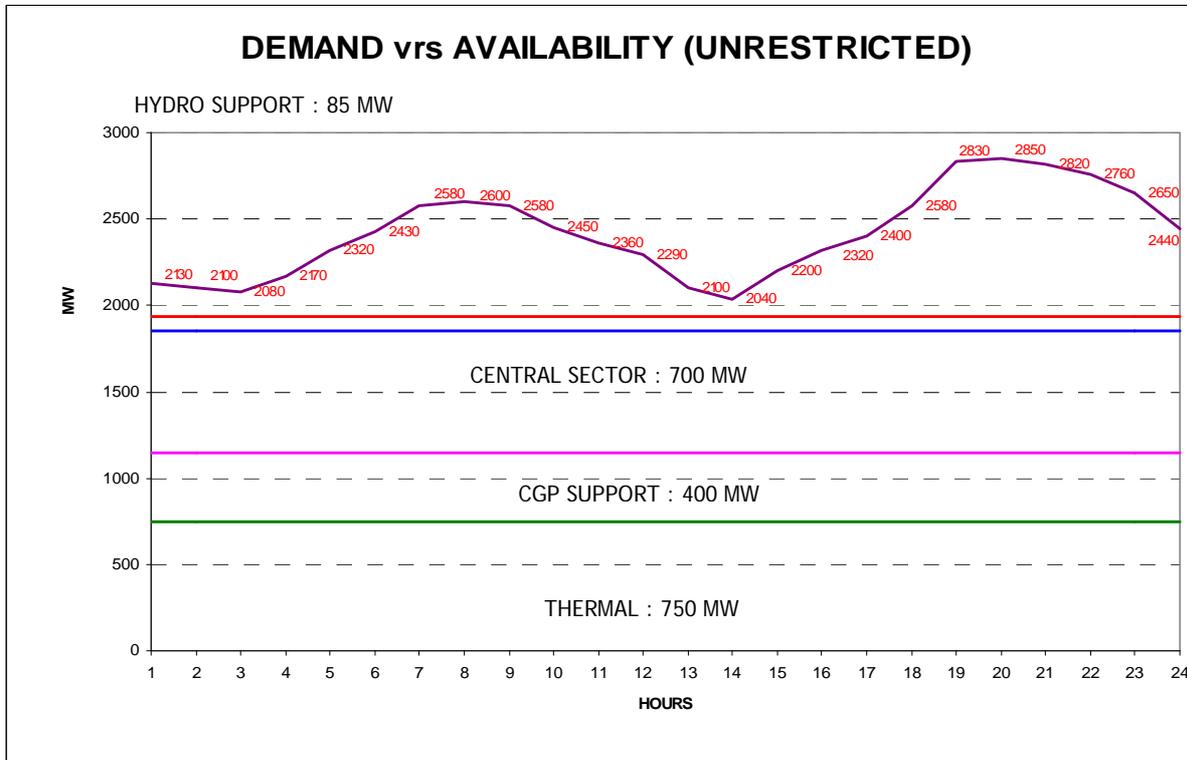
## 1.0 BACKGROUND:

- 1.1 Generation of electricity in Orissa started in the twilight years of the 20<sup>th</sup> century mostly by small private generators in Princely States of Bamanda, Deogarh, Nayagarh etc. and in some Municipality towns which reached an installed capacity of 157 MW by 1961 at the time of formation of Orissa State Electricity Board. Pit head thermal stations TTPS at Talcher and Ib Thermal Power Station at Banaharpalli and major hydro stations at Hirakud, Balimela, Rengali, Upper Kolab and Indravati have since been established. Transmission network at 400 KV, 220 KV and 132 KV in transmission of power to the various load centres have been developed. Orissa grid has become a part of Eastern Regional Grid strengthening connectivity to Southern and Western Regional Grid due to strategic location of Orissa. Since 26.8.2006, Orissa grid is operating in synchronous mode as a part of Northern-Eastern-Western (NEW) GRID.
- 1.2 Despite the capacity addition of both hydro and thermal generation as stated above, Orissa suffered from power cut during the period from 1979 to 1994 and only on 16<sup>th</sup> July 1994, the statutory power cut/area load shedding was lifted in the state; as one unit of 210 MW was commissioned at Ib Thermal Power Station, and for the first time, Chitrakonda Reservoir (Balimela P.S.) attained the Full Reservoir Level (FRL) of 1516.50 ft. in 1994. The second unit of Ib Thermal was commissioned in 1996. Thereafter 4 (four) units of Indravati Hydro Project were synchronized with the state grid between 1999-2001.
- 1.3 Orissa traded its surplus power in radial mode with Andhra Pradesh during 1999-2002 through a bilateral agreement and thereafter traded its surplus power through Power Traders like PTC India, NVVNL, Adani Exports Ltd. etc. The State earned revenue of Rs.3560 crore through bilateral trading and an amount of Rs.1886 crore from exchange of power through UI mechanism of ABT during the period from FY 2003-04 to FY 2008-09.

## 2.0 PRESENT POWER SCENARIO IN ORISSA:

- 2.1 Orissa is a classic case where about 57% of its population is languishing in poverty as per recent Suresh Tendulkar Report and 56% of households do not have access to electricity but is endowed with power potential of 1.40 lakh MW of Thermal, Hydro & Renewable power. The story of Orissa always is one of "Poverty amidst plenty". Due to mismatch in planning and implementation, Orissa is in a peculiar scenario at present with power shortage of about 900 MW during evening peak hours (from 5.00 PM to 10.00 PM) and 700 MW during morning peak hours (6.00 AM to 10.00

AM) and about 200 MW in the remaining 15 hours. The need of the hour, therefore, to regulate power in such a way for curtailing energy consumption of 10 to 11 MU/day. This general shortage condition is likely to persist upto 2013-14 and the present acute shortage will continue at least till the onset of the next monsoon i.e. upto July, 2010.



- 2.2 The whole of the country is looking towards the resource rich state - Orissa for the sustained long term power requirement not only for the State but also enough surplus power for whole of the Country. Orissa is being regarded as "POWER HUB" of the country.
- 2.3 The Report on 17th Electric Power Survey (EPS) of India published by CEA in March, 2007 made the forecast for the power demand of Orissa for 11th, 12th & 13th Plan as under:-

FY	2009-10	2010-11	2011-12 (End of 11 <sup>th</sup> Plan)	2016-17 (End of 12 <sup>th</sup> Plan)	2021-22 (End of 13 <sup>th</sup> Plan)	Remarks
Peak Demand(MW)	3633	4020	4459	6330	10,074	Installed capacity as on 31.10.09 is 4081 MW and Energy availability 20000 MU under normal monsoon.
Energy Requirement (MU)	22,211	24508	27149	39096	63,098	
Installed Capacity Required (MW)	5434	6010	6670	9469	15,069	

- 2.4 OERC, in pursuant to Section 86 of the Act advised the State Govt. in the year 2006 & 2007 to initiate appropriate action for capacity addition so that Orissa does not face power crisis. Based on the advice of OERC, the Govt. of Orissa, Deptt. Of Energy signed Memoranda of Understandings (MoU) with 3 nos. of Power Developers on 09.06.2006 and again with 10 nos. of Power Developers on 26.09.2006 to develop Thermal Power Plants of 16,190 MW at an estimated outlay of Rs. 68,299 crores. Govt. of Orissa again on 07.02.2009 signed MoU with another 8 nos. of IPPs for capacity addition of 9780 MW of Thermal Power at an investment of Rs.42023 crore for meeting its medium and long-term power demand as well as supply surplus to outside state. In a recent review of Orissa Power Scenario, at the Commission, it was noted with concern that the progress of implementations of MOU based projects are not satisfactory. The other brown field and green field thermal projects of the state and centre, as well as Hydro Power Projects are just at the initial stage . Except four units (30% of state of Orissa) of 600 MW each of M/s Sterlite Energy Ltd. - IPP, most of the projects are likely to be slipped beyond the 11th Plan period.
- 2.5 Orissa may have to face a power shortage situation upto 2013-14 for which a Road Map has now to be drawn to manage the power demand of Orissa under the shortage scenario upto 2013-14 and thereafter the position is likely to be breakeven and then surplus in power.
- 3.0 Road Map to manage immediate shortage scenario :
- 3.1 Supply Side Management (SSM)
- 3.1.1 Injection of Surplus Power by Captive Generating Plants (CGPs)
- Orissa at present is having an installed capacity of CGPs of about 3900 MW and another 2000 MW CGP capacity are in pipe line. OERC has taken a number of facilitating measures for harnessing the surplus power from the CGPs of the State which are briefly mentioned as under:
    - Due to shortage scenario and considering the prayer of GRIDCO, OERC through an interim order dated. 28.02.2009 allowed CGPs and Co-generation plants to sell @300/kWh and 310 P/kWh respectively for the period from 1st March to 30th June, 2009 through day-ahead scheduling. OERC vide order dated 30.06.2009 allowed CGPs and co-generation plants to sell through day-ahead scheduling at the above rates upto 31.03.2010.
    - The Commission vide order dt.04.08.2009 has also allowed connectivity at 33 KV for any Generator including CGP upto 25 MW for dedicated line and upto 15 MW in case of non-dedicated (non-tie) line. In case of user/consumer, the Commission has allowed connectivity at 33 KV for a contract demand upto 15 MVA for dedicated line and upto 10 MVA in non-dedicated (non-tie) line.
    - CCPPO through a review petition prayed for enhancement of price of surplus power of CGPs and during hearing in OERC on 15.10.2009 has assured to inject about 400 MW power provided CGP's surplus power is paid @ Rs.4.50/kwh as the Market Price discovered in Power Exchanges averages @ Rs. 10/kwh and has gone upto @ Rs.17/kwh for which CERC has imposed capping on the trading price for 45 days limiting it to Rs. 8/kwh. OERC vide order dt. 28.10.2009 has approved price for surplus power from CGPs as under w.e.f. 01.11.2009.

- (i) The price of supply of energy upto 3.6 MU/month (~ 5 MW Avg.) would be Rs.3.10/KWH.
- (ii) The price for supply of incremental energy above 3.6 MU/month upto 36 MU/month (~ 50 MW Avg.) would be Rs.3.40 per Kwh.
- (iii) In respect of supply of incremental energy above 36 MU/month upto 72 MU/month (~ 100 MW Avg.), the price would be Rs.3.70 /Kwh.
- (iv) In respect of supply of incremental energy beyond 72 MU/month, the incremental energy would be priced at Rs.4.05/Kwh.
- (v) As regards the pricing of supply of power by the co-generating plants Rs.3.20 per unit would be paid up to 3.6 MU/month and for injection beyond 3.6 MU the additional unit will qualify for payment at the same rate as that of (ii), (iii) & (iv) above.
- The twin incentives of ease of connectivity at 33 KV coupled with attractive price have encouraged CGPs of the State to inject over 500 MW surplus power to the State Grid at present. There is scope for further optimization of generation from the existing CGP capacity of 3900 MW, with proper co-ordination with MCL-the coal supplier and the State authorities for logistic support in coal supply and transport.

### 3.1.2 Orissa share from unallocated quota of Central Generating Stations :

Govt. of Orissa may urge upon Govt. of India, Ministry of Power to allot additional capacity to Orissa through emergency allotment from 15% unallocated quota of NTPC stations like Farakka STPS, Kahalgaoon STPS, Talcher STPS etc. to tide over the present power shortage scenario.

## 3.2 Demand Side Management (DSM)

### 3.2.1 Bachat Lamp Yojana (CDM based CFL Scheme) of BEE :

- The majority of lighting needs of households in the country is met by incandescent bulbs which are extremely energy inefficient as 95% of the electricity is converted into heat and just 5% for lighting. The domestic lighting accounts for about 25% of electricity consumption and has a significant potential for reduction of the load without compromising on the lumen output by use of energy efficient lighting in place of incandescent bulbs. Compact Fluorescent Lights (CFLs) conforming to IS:15111 Part 1 & 2 (last revision November, 2008) with lower mercury content and higher power factor of 0.85 with lower harmonics and a minimum life of 6000 burning hours now provide that energy efficient alternative to incandescent bulbs by using one-fifth as much electricity but with same lumen output. However, the penetration of CFLs in the Indian domestic sector in general and Orissa state in particular remains low at 10% largely due to almost 10-12 times the cost of CFL.
- BEE has prepared an innovative action plan namely the Bachat Lamp Yojana (BLY) which was launched in national scale by the Union Minister for Power on 25.02.2009. The Bachat Lamp Yojana promotes replacement of inefficient bulbs with CFLs by leveraging the sale of

Certified Emission Rights (CERs) under the Clean Development Mechanism (CDM) of the Kyoto Protocol. The scheme provides a unique platform for a robust Public-Private-Partnership (PPP) between the Government of India, Private sector CFL suppliers and the State level Electricity Distribution Companies (DISCOMs) and provides the framework to distribute high quality CFLs at Rs. 15 per piece to the households of the country. Under the scheme only 60 Watt and 100 Watt incandescent Lamps have to be replaced with 11 to 15 Watt and 20 -23 Watt CFLs respectively.

- The initial response to national level launch of BLY by Govt. of India on 25.02.2009 is as under:-
  - (a) BEE has empanelled 19 nos. of CFL Manufacturers and 16 nos. of CFL Traders who have shown their intent to participate in the CDM based CFL scheme under BLY.
  - (b) EPDCL and APDCL of Andhra Pradesh, UHBVNL of Haryana, UPCL of Uttarkhand and JVVNL of Rajasthan have entered tripartite agreement with BEE and CFL Manufacturers/ Traders to take up BEE sponsored CFL scheme in their area of operation.
- The tentative cost-benefit analysis of adoption of BLY Scheme in Orissa is shown in Table below:-

**Cost-benefit analysis due to adoption of BLY by Orissa DISCOMs**

Name of DISCOM	Annual saving in Energy drawal (MU)	Less drawal in Evening Peak hours from State Grid (MW)	Net profit per annum (Rs. Cr.)
CESU	803.00	155.00	20.00
WESCO	574.00	111.00	14.60
SOUTHCO	300.00	58.00	7.60
NESCO	405.00	78.00	10.30
All DISCOMs	2082.00	402.00	52.50

- As BEE will render its technical and advisory services for monitoring of the project area/ areas covered under BLY Scheme only upto March, 2012, all the 4 DISCOMs of Orissa should launch BLY Project during FY 2010-11 to take advantage of full benefits under the BLY Scheme. Govt. of Orissa and OERC are required to impress upon all the four Distribution Companies to adopt BLY of BEE in "MISSION-2010" mode and DISCOMs should complete the BLY in their command area of operation by end of 2010 so that Orissa can reduce its 40% evening peak demand by end of 2010 due to this BLY alone. **In addition, DISCOMs, in order to encourage consumers to pay electricity dues in time, may introduce a gift scheme to all the bonafide consumers who avail regular rebate, one CFL free in every alternate month.** This energy conservation measure could be given wide publicity in the print and electronic media and may be started with right earnest immediately.

### 3.2.2 SAVING OF POWER PROVIDING REACTIVE COMPENSATION :

- Effective Reactive Compensation installing shunt capacitors is very much required at present for Orissa Power system to control the losses and increase efficiency in the system.
- PRDC, Bangalore has recommended to OPTCL - STU to initiate immediate step to provide Reactive compensation of 275 MVAR in 23 nos. of Grid substations of Orissa at Bolangir, Patnagarh, Sonapur, Kendrapara, Patamundai, Rairangpur, Jajpur Town, Kesinga, Khariar, Saintala, Sambalpur, Dhenkanal, Puri, Ranasinghpur, Bidanasi, Chandikhol, Choudwar, Cuttack, Nuapatna, Paradeep, Jaleswar and Sunabeda during FY 2009-10 & FY 2010-11. OERC vide order dt.06.04.2009 directed OPTCL to install the Capacitor Banks on war footing so as to cover all the aforesaid 23 substations by FY 2010-11.
- The installation of Reactive Compensation of 275 MVAR at a normative power factor of 0.9 will save about 247.5 MW in Orissa Power System at this hour of acute power shortage.

### 3.2.3 REDUCTION IN DISTRIBUTION LOSS :

- The significant factor for the present shortage scenario is attributable to high level of T&D loss both technical and commercial. Over the years the losses in the distribution sector do not show any substantial declining trend. The actual distribution losses for the past three years for different DISCOMs are as under based on the records of the ARR & Tariff Proceedings of OERC.

#### DISTRIBUTION LOSS OF DISCOMs FROM FY 2006-07 TO FY 2008-09

DISCOM	Particulars	2006-07 (Actual)	2007-08 (Actual)	2008-09 (Actual as per 2010-11 ARR submission)
CESU	Energy Sale (MU)	2611.55	3045.11	3387.07
	Energy Purchased (MU)	4623.664	5203.61	5672.61
	Overall Distribution Loss %	43.52	41.51	40.00
NESCO	Energy Sale (MU)	2670.177	3203.777	2973.71
	Energy Purchased (MU)	3998.686	4654.929	4544.977
	Overall Distribution Loss %	33.22	31.17	34.571
SOUTHCO	Energy Sale (MU)	1034.234	1077.593	1136.211
	Energy Purchased (MU)	1832.22	1975.27	2175.933
	Overall Distribution Loss %	43.55	45.44	47.78
WESCO	Energy Sale (MU)	2972.423	3434.611	4238.247
	Energy Purchased(MU)	4671.00	5377.00	6378.00
	Overall Distribution Loss %	36.36	36.13	33.55

- The Commission took note of the dismal performance of the Distribution Licensees in reduction of Losses and has constituted three working groups for reduction of
  - (i) Technical Loss

(ii) Commercial Loss

(iii) Loss due to theft of electricity

- In order to pinpoint the accountability, the Commission has advised DISCOMs that the input energy of every Electrical Section should have to be measured and compared with the billed energy. The collection amount should be cross checked with input cost and suitable incentive/penalty structure is to be evolved for running the Electrical Section as a stand-alone profit centre.

#### 3.2.4 ENFORCEMENT DRIVE TO REDUCE LOSS DUE TO THEFT OF ELECTRICITY

The State Govt. have opened 8 nos. Special Energy Police Stations in Khurda, Cuttack, Sambalpur, Berhampur, Balasore, Kendrapara, Dhenkanal and Nayagarh districts along with 5 Special Courts in Khurda, Cuttack, Sambalpur, Berhampur and Balasore districts. Government have further plan to establish another 26 Police Stations. Electricity Act, 2003 has specific provision to initiate actions against various types of thefts of electricity, electricity lines and materials etc. Besides, theft of electricity is also to be treated as theft under the existing provisions of IPC. The instructions have been issued by the State Govt. to IICs and OICs of Police Stations to detect and register cases of theft of electricity and take appropriate action as deemed proper and various provisions of IPC as well as Electricity Act, 2003. The Distribution Companies have been advised to step up enforcement activities with a view to contain theft of electricity. Police Stations have been advised by the Govt. to render appropriate support to the DISCOM officials to control theft which will go a long way not only in reducing AT&C losses but also in savings in electricity.

#### 3.2.5 INTRA-STATE ABT IMPLEMENTATION :

- OERC (Intra-state ABT) Regulations, 2007 was in place effective from 14.02.2008, but due to various reasons, the licensees as well as SLDC were yet to implement the intra-state ABT in the State. A series of meetings were held in the Commission, the 1st meeting on 08.07.2009, the 2nd meeting on 17.09.2009 and the 3rd meeting on 25.11.2009 and the DISCOMs, GRIDCO, OPTCL & SLDC were guided step by step for implementation of Intra-state ABT in mock-exercise mode on hourly settlement basis. With the active cooperation of SLDC and OERC, the SLDC server could be up-linked with OERC website and the on-line data for all DISCOMs and the State of Orissa could be made available in 15-minute mode since November, 2009.
- The concerns of the existing system of different stakeholders like DISCOMs and GRIDCO have been taken care of during mock exercise of intra-state ABT as stated hereunder:
  - DISCOMs are incentivised to regulate its drawl dependent upon frequency for reduction of overall monthly bill.
  - GRIDCO/State Generators in association with SLDC have scope for optimisation of Generation for maximisation of UI gain through inter-state ABT.
  - GRIDCO can manage its 'UI' settlement in two tiers for maximisation of benefit.
  - With DISCOMs under 'NET ZERO' Basis for 'UI' over-drawl/under-drawl than schedule on Intra-state ABT.

- With CPSUs and Regional Grid on Inter-state ABT as per ERLDC/ERPC settlement procedure.
- GRIDCO can share its net gain/loss of Inter-state & Intra-state 'UI' with State PSUs and CGPs as per the approved procedure by OERC in the second stage of Intra-state ABT implementation.
- A full-day workshop was held in OERC on 23.12.2009 under the supervision of Members, OERC for 1st stage of Intra-state ABT implementation in mock-exercise mode. Four workstations representing DSOCs of four DISCOMs were established in the Conference Hall of the Commission and were manned by the DISCOM officials in the presence of OPTCL/SLDC and OERC officials. The result was found to be quite encouraging during the period of workshop as noted from the table below :

**Scheduled V. Actual Drawl during Mock Exercise Workshop on 23.12.2009 (all in MW)**

Time period	CESU		NESCO		SOUTHCO		WESCO		All Orissa	
	Sch.	Act.	Sch.	Act.	Sch.	Act.	Sch.	Act.	Sch.	Act.
11 AM	595	661	423	516	213	201	633	597	1864	1975
12 Noon	595	661	423	403	213	230	633	642	1864	1937
1 PM	595	621	423	415	213	231	633	506	1864	1774
2 PM	592	604	420	395	212	219	630	551	1854	1770
3 PM	592	604	420	391	212	216	630	518	1854	1728
4 PM	592	636	420	417	212	236	630	590	1854	1878

- The consensus arrived in the workshop was that the implementation of Intra-state ABT should be started from January, 2010. The management of DISCOMs should strengthen the manpower and infrastructure requirement of DSOCs to man ABT centres 24X7 hrs. for real-time operation which will bring discipline in the State Grid as well as to optimize the effective management of the power demand of the State in this hour of acute power shortage.

**3.2.6 POWER REGULATION :**

- As the availability and demand gap is quite high, even with the measures mentioned in para-3 above, the power regulation is unavoidable in the present context at least upto onset of the next monsoon i.e. July, 2010. Commission has sought opinion/suggestion from all the stakeholders including general public for imposition of equitable power regulation in the state. GRIDCO has also submitted a contingent plan of load management programme. DISCOMs have suggested for load regulation in various feeders under different scenario. Followings are the salient features of the suggestions accepted by DISCOMs in the Workshop held in the Commission on 23.12.2009:-
  - All the 11 KV feeders except the feeders supplying to essential service loads are to be divided into 5 groups and each group of feeders is to be regulated for one hour each in the morning and evening peak-hours.

- All the 33 KV feeders except the feeders supplying to District Hqrs. & State Capital and Process Industries are to be provided with UFRs, at graded settings of 49.2, 49.4 & 49.6 Hz. This is very much essential and should be introduced immediately as per the recent CERC order as any over drawl by the State below 49.2 Hz may attract 100% penalty rate i.e. at Rs.18/KWH in addition to the stricture of RLDC.

#### 4.0 CONCLUSION :

- 4.1 As Orissa is passing through a period of acute power shortage which may persist upto July, 2010, the need of the hour is to adopt all the techniques of Energy Management both in Supply Side Management (SSM) and Demand Side Management (DSM). The SSM measures include optimization of the injection of surplus power of Captive Generating Plants of the State and insisting on Govt. of India, Ministry of Power for more power allocation to the state of Orissa from 15% un-allocated quota from Central Generating Stations. The DSM measures are the adoption of the Bachat Lamp Yojana of BEE under "MISSION-2010" mode, installation of Reactive Compensation of at least 275 MVAR, reduction of both technical and commercial loss by regulating such loss making 33 KV and 11 KV feeders one hour each both in morning & evening peak-hours and implementation of Intra-state ABT by which the power shortages of the State will be greatly reduced.
- 4.2 For both medium-term measure upto 2013-14 and long-term measure thereafter, the Supply Side Management (SSM) and Demand Side Management (DSM) also need equal attention. The Demand Side Management, AT&C loss reduction, is a continuous process for improvement of financial health of Distribution sector. The location and action points for reduction of technical and commercial losses, as identified by the Working Group constituted by the Commission need to be addressed through adequate funding and administrative measures. The most effective way to minimize commercial loss is by eliminating LT lines altogether. The country like South Korea has shown to the world almost two decades ago for such reduction of its T&D loss upto 6% and they are sustaining the T&D loss at that level by adopting LT less distribution. The ultimate consumer (Domestic/Commercial) is only to be supplied power through single phase 11 KV/230 V HVDS Transformer. A programme should be made to effect supply all new connections under RGGVY & BGJY programmes only through 16 KVA/10 KVA HVDS Transformers and all new consumers are to be given connection only through HVDS Transformers. A scheme of Own Year Transformer (OYT) may have to be initiated.
- 4.3 In the SSM context, the brown field expansion projects like TTPS of NTPC (2X660 MW), IB TPS of OPGC (2X660 MW) should be taken up on priority as it takes less time, less cost and less effort than the green field projects. Serious developers of MOUs based thermal projects need to be facilitated by the State Govt. for infrastructure development and statutory clearances. The non-serious developers are to be given notice and their coal blocks/coal linkages, need to be cancelled. The full benefit of the initiative of Govt. of India for Orissa UMPP project need to be put under first-track implementation. The joint project of OTPCL (JV of OHPC & OMC) for development of 2000 MW is to be taken under first track mode. In any case, the strength of

Orissa Power Sector lies on hydro power and the hydro power development should be taken on first priority for sustained development of Orissa Power Sector in the long run.

- 4.4 For Renewable Energy Projects, the State is presently under nascent stage of development. The large potential of Solar, Wind, Bio-mass, Geothermal and, Solid & Industrial Waste based power projects also need to be harnessed. Presently the renewable sector in Orissa is being looked after by multiple Govt. agencies, like Science & Technology Deptt., OREDA, Deptt. of Energy, Engineering-in-Chief (Electricity) etc. There is a pressing need to create one new corporation (say Orissa Green Power Corporation) and bring all the Renewable Energy Projects under one umbrella with adequate power and authority for development of Renewable Energy in the State to take full advantage of Govt. of India, Ministry of New & Renewable Energy (MNRE) generation based as well as capital incentives.
- 4.5 All the short, medium and long term measures need to be initiated on war footing basis so that the State can pass through the energy shortage scenario upto 2013-14 with least power regulation and will truly become "POWER HUB" of the country from FY 2014-15 onwards.

## SUSTAINABILITY OF POWER SECTOR IN ORISSA

Dr. Madhu S. Panigrahi,  
Director (Tariff), OERC

Power sector reforms in the State of Orissa ushered in with the enactment of Orissa Electricity Reforms Act, 1995 on 01.04.1996. Following the reform process, the OSEB was dissolved and unbundled with the take over of Hydro stations by OHPC and the transmission and distribution business by GRIDCO. Thereafter, the distribution and retail supply of electricity was hived out in favour of four Distribution companies namely, CESCO (now CESU), NESCO, WESCO and SOUTHCO. The assets of the erstwhile OSEB including those of the hydro generating stations were taken over by the State Government, revalued and transferred to GRIDCO and OHPC. OPGC was earlier privatized and taken over by AES with 49% stake. The process of reform and restructuring in the Orissa's power sector paved the way for commitment for funding by World Financial Institutions like World Bank, DFID etc. Following the transfer scheme of Government of Orissa in the year 2005, OPTCL was carved out as a separate company from GRIDCO and became the State Transmission Utility (STU). GRIDCO then remained as the sole bulk supplier and power trader. Thus in the post-reform scenario we have OPGC, OHPC and TTPS (though sold to NTPC) as fully dedicated stations generating power for the State of Orissa. The State has also its own share from the Central Sector Allocations from generating stations like NTPC and NHPC. Off late Captive generating plants (CGPs) have come up with an enhanced level of injection of power to the State Grid. OERC also has taken initiatives in promoting renewable sources of energy which included bringing in cogeneration plants and encouraging Solar PV plants in the State. OPTCL as a wires company owned 400 KV, 200 KV, 132 KV lines and sub-stations and has been helping as the life line of the State by transmitting power from the generators to the 33 KV bus-bars from which interface the four Distribution companies pick up power for their retail business. The job of the four DISCOMs is to retail sale electricity to the consumers of Orissa. With the enactment of Electricity Act, 2003 the reform process in the State has further been strengthened with introduction of new concepts like Open Access, trading and market development which shall go a long way in developing a competitive environment for reduction of costs.

Though Orissa has been flirting with the idea of power sector reform for about 12 years, limited progress has been made in terms of achieving widespread sector liberalization and to an extent privatization. There has been poor financial performance of utilities with complete absence of subsidy from the State Government. Though tariff has been partly rationalized, full cost recovery until now remains a dream. There has been mismatch of supply and demand of power. While the per capita power consumption in the country stood at 612 kWh as on March, 2009, the per capita generation stood at 600 kWh. Besides that a 1% growth in GDP requires a 1% growth in generation of power, whereas growth in generation capacity in the Orissa sector has remained a misnomer during the post-reform era. Besides that, the Government of India has an ambitious mission of POWER FOR ALL BY 2012. This mission would require that our installed generation capacity should be at least 200,000 MW by 2012 from the present level of 155,859.23 MW.

The transmission lines and sub-stations of OPTCL need substantial upgradation in capacity and adequate renovation and modernization to cater to the upcoming demand on account of rise in the State GDP,

proliferation of rural electrification and growing industrialization and urbanization. Electricity market reform has not increased access levels, and the upcoming IPPs and rise of captive power generation is likely to have an adverse impact upon the natural environment. Therefore, there are obvious doubts about the sustainability of reform measures, highlighting a need to find policy alternatives. At the root of all this is the financial viability of the utilities in general and distribution companies in particular.

Let us look at rise in generation cost first as reflected in the bulk supply cost of GRIDCO which DISCOMs should bear while buying power. The bulk supply cost is the pooled cost of power purchase which GRIDCO incurs while buying power from various generators, CGPs and Cogeneration plants. Before we go into a historical perspective, it should be observed that availability of hydro power is not consistent in nature. For instance, in the FY 2006-07 & 2007-08, there was very good rainfall and adequate inflow to the reservoirs of OHPC power stations, whereas in the year 2008-09 and 2009-10 there has been scanty rainfall and very less inflow resulting in depletion in reservoir levels and low generation. Further, the hydro electric projects in our state are multi-purpose projects, where irrigation and drinking water get the first priority as compared to power generation. Hence, generation of OHPC power stations is regulated in low hydro conditions. Though low hydro generation in a year does not have substantial impact on hydro tariff, it has a great impact on bulk supply price of GRIDCO. Because GRIDCO has to purchase high cost power from outside to the extent of reduced hydro generation for meeting the state requirement. Further, as per the CERC Tariff Regulation, 2009, in case there is a reduction in design energy of a hydro station due to hydrology failure, it will be factored into, while determining the tariff for the 3rd year, the year of low generation being the 1st year. In addition to this, OHPC has applied for reduction of design energy in four of its generating stations which shall have an impact on rise in OHPC tariff to the tune of 8 paise per unit. Besides the uncertainty relating to vagaries of nature and reduction of design energy, generating stations of OHPC are very old and need substantial R&M which shall be factored into hydro tariff in near future.

Further, the impact of up-valuation of assets on OHPC tariff was kept in abeyance by the State Govt. till the FY 2005-06. The Commission had advised the State Govt. to extend the same for a period of another five year i.e. till FY 2010-11. If the same is not further extended beyond 2010-11, the interest on Govt. loan to OHPC, depreciation and ROE on up valued assets will be loaded in the ARR in the future years which shall cause a rise in OHPC tariff and finally in Bulk Supply Price.

There have also been rise in coal and oil prices which had and will have direct impact on Bulk Supply Price. As per recent filing of GRIDCO, rise in coal and oil prices of NTPC stations alone was of the order of 35.13 P/U during April-July, 2009. This has translated to a fuel price adjustment to the tune of Rs.315.80 cr. on an annual basis during 2009-10.

There has been noticeable gaps between Bulk Supply cost approved by the Commission and that actually incurred by GRIDCO while purchasing power from various generators. This increasing gap is reflected in the following Table.

Table-1

Year	Power purchase cost per Unit estimated by the Commission payable by GRIDCO to generators (P/U)	Bulk Supply Price Fixed by the Commission realized from DISCOMs by GRIDCO excl. Tr. Charge (P/U)	Actual power purchase cost incurred by GRIDCO (P/U)	Total gap allowed by the Commission for the GRIDCO incl. Repayment Liability (Rs. in cr.)	Total actual gap in the GRIDCO at the end of year (Rs. in cr.)
1	2	3	4	5	6
2001-02	94.60	107.21	95.27		74.50
2002-03	106.71	97.71	134.89		-598.08
2003-04	115.52	96.93	111.47		411.12
2004-05	103.67	98.76	109.78	217.35	348.56
2005-06	110.36	100.84	119.69	15.72	25.82
2006-07	113.97	120.85	114.03	-504.52	236.88
2007-08	119.91	121.59	121.60	-464.86	566.05
2008-09	127.40	122.15	146.52	-410.05	NA
2009-10	148.27	122.20		-882.85	NA
% Rise (2001-02 to 2008-09)	34.7%	13.9%	53.8%		

While the power purchase cost as estimated by the Commission had gone up by 34.7% during 2001-02 and 2008-09, the bulk supply price approved by the Commission had gone up only by 13.9%. In fact the actual power purchase cost had gone up by 53.8% during the period under review leaving substantial gaps in the GRIDCO's ARR. In addition to it, GRIDCO now does not have surplus power to trade outside the state to fill up these gaps in its ARR, due to the fact that the internal demand for power has gone up substantially and this increase in the demand has not matched with adequate generation partly due to no addition to generation capacity and partly due to hydrology failure.

Though the State Government had signed MoUs with 13 IPPs and later 8 IPPs, not a single one has come up until now. CGPs have been injecting historically less than expected quantum of power *albeit* at a progressively increasing tariff rates. As stated above, thermal generation in the State has not gone up nor also has a single MW capacity been added in the State. Also Orissa's share in Central Sector power has not gone up proportionately in the recent past. There has also not been sincere efforts towards conservation of energy / avoided generation which should have helped in energy saving. In fact one unit of energy saved amounts to three units of energy generated.

Transmission of electricity is defined as bulk transfer of power over a long distance at high voltage, generally of 132kV and above. In regard to the State's transmission system, there has been huge time and cost overrun in implementing different projects of lines and substations. At the same time, fresh investments in lines and substations, capacitor banks are required in the form of capital expenditure for reduction of system loss and improvement in the voltage profile at 220 KV / 132 KV across the State. This is going to take a heavy toll on the revenue requirement of OPTCL in the coming one or two years

in the form of increase in cost due to cost overrun, loss of revenue due to time overrun and increase in the IDC amount on account of delay in the gestation period.

As far as SLDC function is concerned, this has been ring fenced based on Girish Pradhan Committee recommendations. As a result, a new organizational structure has emerged which requires investments for establishment of EBC, ULDC/SCADA which are required for SLDC to become an ISO 9000 organization and an independent market operator. Besides that new staffs have to be recruited for effective management of SLDC and also training has to be imparted for development of their skills in order to enable them for appropriate load management and dispatch.

The worst segment is the distribution sector which suffers from a number of maladies which need to be addressed in order to improve upon quality and reliability of supply of electricity to a variety of consumer class. The performance of distribution licensees has been lack-lustre despite substantial growth in EHT and HT load as compared to LT load across various zones contrary to our expectations. This is noticeable from the following table.

**Table -2**  
**Energy Sale (in MU)**

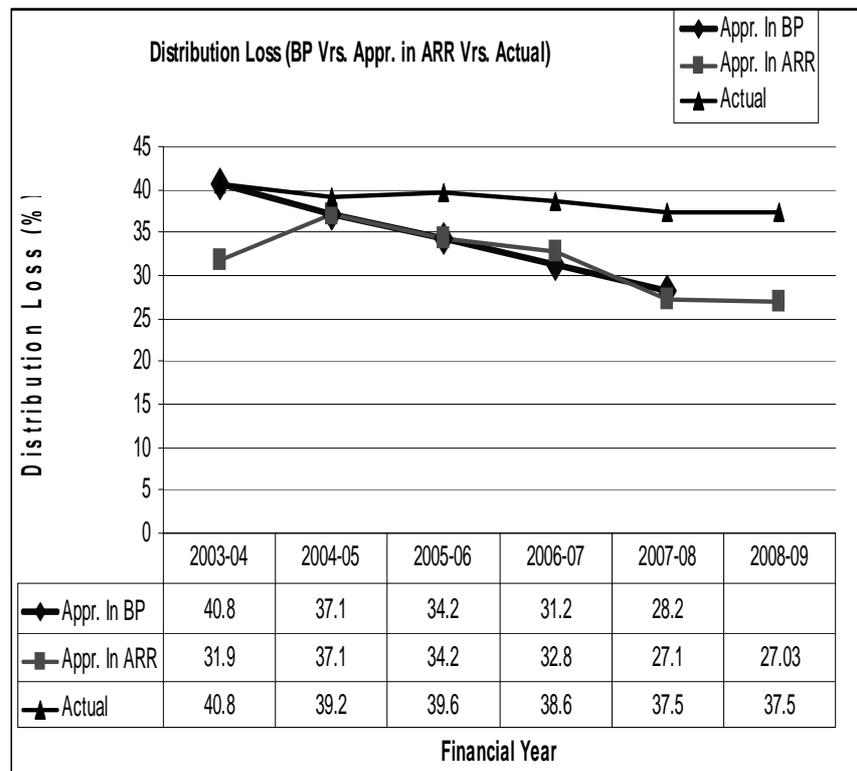
<b>CESU</b>	<b>1999-00</b>	<b>2008-09</b>	<b>% Rise</b>
EHT Sale	320.00	904.1	182.5
HT Sale	338.00	720.3	113.1
LT Sale	1332.00	1759.9	32.1
<b>NESCO</b>			
EHT Sale	461.00	1448.6	214.2
HT Sale	312.00	620.5	98.9
LT Sale	506.00	904.6	78.8
<b>WESCO</b>			
EHT Sale	491.6	1921.8	290.9
HT Sale	352.4	1383.2	292.5
LT Sale	656.8	933.3	42.1
<b>SOUTHCO</b>			
EHT Sale	129.00	224.8	74.2
HT Sale	185.00	248.3	34.2
LT Sale	519.00	663.2	27.8
<b>All Orissa</b>			
EHT Sale	1401.6	4499.2	221.0
HT Sale	1187.4	2972.2	150.3
LT Sale	3013.8	4261.0	41.4

During the period 1999-00 and 2008-09, the EHT sale in the State has gone up by 221%, HT sale by 150.3% (and LT sale by merely 41.4% not shown in the table). The major beneficiary of this EHT and HT load growth has been WESCO whose EHT sale had gone up by 290.9% and HT sale by 292.5%. The other major beneficiary is CESU in which case EHT sale had gone up by 182.5% and HT sale by 113.1%. The next in order comes NESCO which registered a growth rate of 214.2% in EHT sale and 98.9% in HT sale. The poorest growth in EHT and HT sales was noticed in case of SOUTHCO which were of the order of 74.2% and 34.2% respectively.

Though Orissa is the pioneering state for introducing the reforms process in power sector, the state has been debarred from the APDRP benefits available from the Central Govt. due to the fact that the DISCOMs have been privatized and also non-availability of counterpart funding. This is a serious loss to the state power sector. The distribution network now we see around has been inherited from the OSEB regime and not much investment has been done to upgrade and expand the distribution network. The existing fragile distribution network cannot sustain the upcoming load growth both in the LT and High Tension segments. This, therefore, requires huge investments in the form of CAPEX for upgradation of lines and substations, expansion of network system, installation of VCBs, upgradation of conductors, etc. which shall have significant bearing on retail tariff.

Retail tariff is a price which depends upon several volatile factors such as BSP, distribution loss, O&M cost and investment for expansion and upgradation etc. Although MYT principles make the tariff predictable, it can't fix it at a particular level. Rise and fall in tariff can take place at any particular year depending upon the components which go into the tariff. One such component is distribution loss. As per MYT principle approved by the Commission, distribution loss is a controllable input of tariff. The Commission had approved a loss reduction trajectory in its Business Plan Order for the control period 2004-05 to 2007-08. As per these principles, any loss incurred by DISCOMs beyond the level approved in Business Plan shall be purely borne by them. Let us see how the DISCOMs have fared on the loss reduction front. The table below shows that in none of the years the DISCOMs have achieved Business Plan loss levels or loss levels approved for them in the tariff orders (ARRs).

**Table -3**  
**All Orissa Distribution Loss Level**



Therefore, the DISCOMs have been bearing the non-achieved part of the reduction of distribution loss. The quantum of unachievable loss eats into their approved amount of O&M, Return on Equity and investment, etc. As the revenue of DISCOMs is escrowed with GRIDCO, they have nothing left in their account after full BSP is paid to GRIDCO. The liquid cash crunch has made them helpless to arrest huge distribution loss which can be met only through investment in a number of technological fronts like replacement of bare conductors with AB cable, adoption of HVDS, upgradation of loaded distribution transformer, phase balancing, energy audit including pole scheduling and consumer indexing etc. The liquidity crunch not only affects their loss reduction drive but also affects the quality of supply. As a result of poor or negligible maintenance, the snapping of old conductors, uprooting of poles and burning of transformers have become order of the day. This has led to plaguing of vast areas with frequent power interruption. To add to the woes of DISCOMs, there have been continuous upward trend in LT consumer base due to rural electrification, regularization of hooking and general increase in number of households. The number of consumers under LT category has reached a staggering 2437655 by FY 2007-08 from a mere 1693636 in FY 2001-02. Due to massive implementation of rural electrification and ambitious target of electrifying all the households by 2011-12, there will be again huge addition of low end consumers to the already over-crowded LT consumer base of DISCOMs. As this category is a major contributor to the overall loss of the DISCOMs, huge addition in this category has also jacked up the distribution loss.

**Table - 4**  
**Distribution Loss at LT Level (in %)**

(Based on Filing of Licensees)

	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09
<b>NESCO</b>	65.1	58.8	62.1	60.6	59.2	59.5	59.3	59.4
<b>WESCO</b>	63.3	58.6	63.4	65.0	65.5	65.0	65.3	65.6
<b>SOUTHCO</b>	46.7	45.9	50.2	47.8	49.6	52.4	54.9	57.1
<b>CESU</b>	54.5	49.6	46.4	47.4	49.7	53.2	53.8	52.0
<b>ALL ORISSA</b>	57.6	53.1	54.9	54.9	55.8	57.5	58.2	58.1

There has always been a clamour in different fora for better quality of electricity service. DISCOMs have completely failed in meeting the expectation of the consumers. This issue can only be addressed if State Govt. or private investors step in by providing some financial support. As this option has not materialized yet, the DISCOMs have to raise funds either from the consumers in shape of tariff hike or go to institutional lenders like PFC and REC or bankers for loan by mortgaging their distribution assets. But since the assets of the majority of the DISCOMs such as WESCO, NESCO & SOUTHCO are hypothecated to GRIDCO as a first charge against the bonds issued by the DISCOMs to GRIDCO, the rehypothecation of these assets is not possible unless GRIDCO cedes the first charge against the hypothecated assets. Even if the DISCOMs go for loan this will come with a cost which will be eventually passed into the tariff.

The DISCOMs have proposed different proposal for investment in their Business Plan for FY 2008-09 to 2012-13. These have been summarized as follows:

As far as the APDRP Scheme is concerned, the Ministry of Power will consider the participation of private utilities after 31.07.2010. In Orissa as all the utilities are privatized they shall not be eligible for APDRP assistance within that period. So they have to arrange their own funds from REC/PFC. The cost of the debt fund shall have to be passed on to the tariff. The projected expenses are presented in the following Table:

**Table - 5**  
**APDRP Projected Expenses**

(Rs in Crore)

DISCOMs	2008-09	2009-10	2010-11	2011-12	2012-13	Total
CESU	120.00	180.00	180.00	60.00	200.00	739.00
NESCO	25.76	68.71	68.71	17.18	17.18	197.54
WESCO	22.20	59.18	59.18	14.80	14.80	170.16
SOUTHCO	27.04	22.11	22.11	18.02	18.02	107.3

All the DISCOMs shall embark upon ambitious plan to provide better quality service to the consumer and reduce their distribution loss. The benefit of reduction in distribution loss shall ultimately be passed on to the consumers. For this they have to invest in the following areas.

- a) Increase in 33 kV and 11 kV lines to bring down LT/HT line ratio.
- b) Use of AB cable
- c) Increase in numbers of 33 kV substations to improve voltage levels and extend reach areas.
- d) Installation of breakers on 33 kV and 11 kV side.
- e) DTR meters and Consumer indexing to support energy audit.
- f) Automation of the processes by IT intervention in technical as well as commercial areas.  
Introduction of distribution SCADA
- g) Strengthening Energy Police Stations
- h) 100% consumer metering and Automated Meter Reading system (AMR)
- i) Franchisee operation
- j) Installation of capacitor banks

Apart from APDRP which covers basically urban areas, DISCOMs have also proposed the following expenditure in system improvement, SCADA and DTMS.

Table-6

(Rs. in Crore)

	2008-09	2009-10	2010-11	2011-12	2012-13	Total
<b>NESCO</b>						
System Improvement Scheme	10.00	10.00	30.00	50.00	60.00	160.00
SCADA and DTMS	3.31	8.85	1.08	0.00	0.00	13.23
<b>WESCO</b>						
System Improvement Scheme	9.00	10.50	12.50	12.50	12.50	57.00
SCADA and DTMS	3.23	10.92	1.37	0.00	0.00	15.53
<b>SOUTHCO</b>						
System Improvement Scheme	20.74	15	0.00	0.00	0.00	35.74
SCADA and DTMS	1.89	6.56	1.16	0.00	0.00	9.61

CESU has ambitious target to reduce technical loss by 7% during the ensuing Business Plan period with capital investment of Rs.843 cr. and for capacity expansion CESU would invest around Rs.1500 cr. Out of this CESU will incur an expenditure of Rs.632 cr. which shall be funded from internal resources and through loan. This will have its own impact on tariff.

As far as Rural Electrification in the State is concerned, out of 30 districts, 4 districts like Angul, Nayagarh, Ganjam and Gajapati were covered under the Xth Plan and remaining 26 districts have been covered under the XIth Plan in RGGVY scheme. Under the scheme 17895 un-electrified/de-electrified villages, 29222 nos. partially electrified villages, 40706 nos. of un-electrified habitations, 31,85,863 nos. of BPL households will be covered for electrification. Total sanctioned amount of the scheme is Rs.3593.75 crore out of which 90% is grant and 10% is loan from the State Govt. Till March 2009 about 3867 villages have been electrified under this scheme and 150922 BPL kits have been installed (Source: GoO). It can be well imagined from the above schemes of things that rural electrification will have tremendous impact on the primary substation capacity (in terms of MVA capacity), R&M expenditure, additional employee cost and A&G expenses.

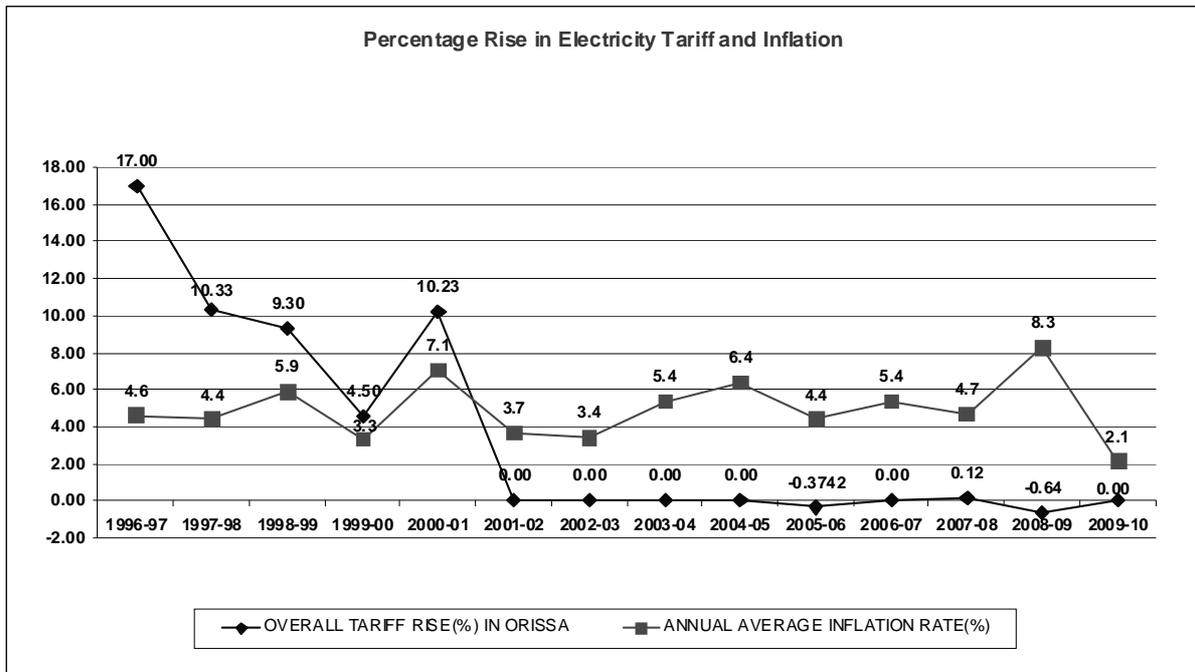
In each year number of newly electrified villages are being transferred to DISCOMs in phases. DISCOMs have to bear R&M cost of those newly added assets. OERC is to allow 5.4% of the asset value as per MYT principle on R&M to those DISCOMs so also the depreciation. This will have their own impact on tariff which will have to be borne by the consumers.

There is further apprehension that there may be a likely increase in A&G cost due to spot billing, energy audit, opening customer care centres, consumer indexing, pole scheduling, energy audit and receivable audits etc. This has been necessitated for better consumer service and for arresting distribution

loss level. With the increase in activities, there may be a requirement of additional A&G cost beyond the normative of 7% as per MYT principles.

Currently retail tariff has been kept within  $\pm 20\%$  of average cost of supply following National Tariff Policy. Now, that the cost of supply to the retail consumers shall go up substantially, the retail tariff may have to increase accordingly to keep the cross subsidy within  $\pm 20\%$  of average cost of supply as prescribed in National Tariff Policy.

As far as tariff rationalization in the State is concerned, OERC has been following the voltage based tariff system making tariff a function of cost of supply. There have been no retail tariff rise since 01.02.2001 except some minor changes here and there. In fact the annual increase in retail tariff has been much smaller and some time negligible as compared to the prevailing average rate of inflation in the post-reform period. Normally tariff should at least keep pace with inflation otherwise the investors are likely to get negative return. The historical movement of inflation rates and average increase in tariff are depicted in the following graph which clarifies the point.



If we consider the price rise as measured by the increase in the Wholesale Price Index (WPI), it would be seen that the effective real rise in tariff has been of the order of (-) 29.76% as on today. This means the tariff rise as approved by the Commission is much less as compared to the rise in general prices.

The above analysis clearly points to the fact that while the general price level including power purchase cost, transmission cost and distribution cost had gone up during post-reform period, the hikes approved by the Commission in electricity tariff were not commensurate and as a result there has emerged a grand mismatch between the actual revenue requirement and the revenue requirement approved by the Commission. This has been reflected in the growing revenue gap of GRIDCO. Of course, there exists noticeable gaps in the revenue requirement of DISCOMs. But then there are uncollectible arrears both

in HT and EHT and also largely in LT to the tune of Rs.3149.93 crore as on 31.03.2009. GRIDCO does not have the surplus as it used to have earlier for trading purposes. In fact there is a shortage of about 400 MW of power every day. OPTCL may have huge revenue requirement needs due to time overrun, cost overrun, increase in gestation period of the on-going projects and the need for fresh Capex in lines and Sub-stations to meet the evacuation requirement of tomorrow. OHPC as a low cost generator needs funds for R&M of its older stations. Besides that due to various reasons the design energy of OHPC has gone down according to OHPC sources. The DISCOMs' fragile distribution network which has been inherited from the OSEB regime needs a reincarnation, renovation and modernization in all its spheres so that the consumer continues to avail of quality power at affordable tariff. With all these problems around particularly with a huge revenue gap in GRIDCO and with a large quantum of arrear to be collected by DISCOMs along with the sector's needs for fresh investments in a variety of areas, what are the policy alternatives available for sustainability of State's power sector ? This needs to be debated across the State by policy makers so that viable alternative policy measures are worked out to sustain and maintain the expected growth of power sector which would match with the requirements of growth of the State economy. Some of the policy options are highlighted below to sustain power sector reforms in the State.

1. The actual gap in the revenue requirement of the power sector has to be met by increase in tariff, be it bulk supply price, transmission tariff and/or retail tariff. That is because GRIDCO does not have surplus power to trade in the market in order to bridge its revenue gap. On the contrary, it is purchasing high cost power at marginal cost from both inside and outside the State to meet the power requirement. This is increasing the revenue gap every day and every month. There is no alternative to hike in bulk supply price during FY 2010-11.
2. Even if it is decided that tariff must rise, then the next question is to what extent there can be a tariff rise so that GRIDCO is able to meet its entire shortfall in the revenue requirement. A quick glance at the tariff figures reveal that even if there is a rise in the average tariff of the order of 10%, which may be almost double the rate of inflation expected during 2010-11, the revenue gain at the present consumption level shall be of the order of Rs.300 crore to Rs.400 crore. The question now is how much will be passed on to GRIDCO, how much to OPTCL, and how much towards the Capex requirements of DISCOMs.
3. There is another part option to mitigate the sorrow of GRIDCO at least marginally. That is to opt for Load Restriction in a planned manner through out the State. Here again, there is a possibility that the peak of the load curve might shift to some other time of the day depending on the timing of the load restriction as the consumers can't stop the use of electricity for their essential requirement. Therefore, opting for load restriction in a planned manner may partly solve GRIDCO's problem by reducing its purchase of power from marginal sources.
4. The other option is that the State Government bails out the power sector by injecting subsidy equivalent to the gap in the power purchase cost of GRIDCO. In such a case tariff rise may not be required.

5. DISCOMs need to collect their arrears from HT, EHT and LT sources so that resources to the tune of gaps in GRIDCO's revenue requirement may be collected in which case tariff rise is not required.
6. DISCOMs also should endeavour to minimize distribution loss and improve their billing and collection efficiencies by following a massive loss reduction drive so that at least they are able to meet their Capex requirement from internal sources. There is no need to load this Capex requirement or its interest component in the revenue requirement of DISCOMs in that case.
7. If none of the alternative works out, then opting for a stiff tariff rise appears to be the only solution. But in that case also, honest consumers will be penalized at the cost of dishonest consumers. If DISCOMs are prepared to collect the electricity charges even from the dishonest consumers, both from arrear as well as current dues, then a marginal rise in tariff for the present may solve the problem at least partly.

The issues need to be debated as a significant tariff rise is imminent. This possible rise in consumer tariff has also become inevitable due to various changes in the recent Tariff Regulation of CERC and also publication of Terms and Conditions for Tariff Determination for Renewable Energy Sources Regulations, 2009. For instance, rise in ROE, O&M escalation etc. in the Tariff Regulation shall have direct impact on tariff. Similarly, the CERC Regulations on renewables, though have a noble intention of enhancing renewable purchase obligations, have an upward impact on tariff of renewable energy sources and finally shall jack up the tariff at consumer end.

(Views expressed are personal)

## TARIFF SETTING PRINCIPLE

S.M. Patnaik,  
Jt. Director(FA), OERC

### TARIFF :

- Means a schedule of standard prices or charges for specified services.
- Applicable to the type of customers specified in the regulation.

### TARIFF IN FORCE :

- Bulk supply Tariff
- Transmission Tariff
- SLDC
- Retail supply and Distribution

### BULK SUPPLY TARIFF :

- Applicable to licensee for purchase in bulk.
- Distribution Companies to purchase power from GRIDCO under this Tariff.
- Covers cost of generation and transmission.

### TRANSMISSION TARIFF :

- Applicable for use of EHT system by user other than a licensee i.e CPP sending power to its industries at a distance, industries getting power from outside the State.

### SLDC :

- Determination of Annual fee and operating charges of State Load Despatch Centre.

### RETAIL TARIFF :

- Applicable to the consumers of electricity bundled cost of generation, transmission, SLDC and distribution.

### STANDARD CHARGES (TARIFF) :

- Demand charges
- Energy charges
- Customer Services Charges
- Meter Rent.

- Electricity Duty
- Delayed Payment surcharge
- Rebate
- Power factor Penalty
- Minimum Charges
- Other Charges

**PROCEDURE FOR TARIFF SETTING :**

- Submission of Revenue requirement and expected revenue
- Proposal for Tariff Revision
- Notice inviting objections and perusal of tariff proposal.
- Filing objections.
- Public Hearing
- Consultation with SAC
- Commission's Order approving revenue requirement and Tariff.

**ELEMENTS OF REVENUE REQUIREMENT :**

**A. BULK SUPPLY:**

**(a). Expenditure :**

1. Cost of power purchase from Generators & CPP,
  - GRIDCO as a deemed licensee procure power from generating station to meet the requirement of the consumer of the State.
  - Cost of power purchase for GRIDCO have been considered on merit-order basis (Least cost power being allocated first)
  - Hydro generation cost being computed based on Design Energy of the power station as per norms of the PPA/CERC Guidelines.
  - State thermal generation cost being considered as per norms of the PPA/CERC Guideline.
  - Availability from Eastern CGSs has been considered as per allocation of shares in these Stations and the applicable CERC Regulation.
  - Drawls from CGPs have been maximized as well.

- Tariff determination involves various assumption to arrive at ARR and hence liable to be at variance.
- Commission there for has accepted the concept of truing-up in order to insulate the licensee from any eventuality.

**2. Employees Cost :**

- This includes Basic pay.
- Dearness allowance approved by Govt. of Orissa from time to time.
- House rent allowance,
- Medical reimbursement,
- Terminal benefit such as pension Gratuity, Leave salary based on Acturial valuation.
- Pay revision impact.
- Commission estimates the basic pay based on audited accounts and assuming normal rise of 3% over the base years basic pay.

**3. Repair & Maintenance:**

- GRIDCO has no asset of its own.
- Commission, therefore, disallows any claim towards repair and maintenance.

**4. Administration and General expenses :**

- A&G broadly covers conveyance, Traveling, Telephone, Professional Charges, Audit fees, Licensee fees etc.
- Normally audited figure for previous year is taken as base to determine the fore cast of A&G expenses for ensuing year.
- The escalation over base figure is allowed at the prevailing average rate of WPI & CPI taken together.

**5. ERLDC Charges:**

- Commission allows the same as a part of Revenue Requirement.

**6. Interest on Loan:**

- The Commission allows interest on approved loans as an element of revenue Requirement.

**(b) Special Appropriation :**

- Commission under takes truing exercise of expenses as well as revenue of GRIDCO of the past periods to determine any un-controllable expenses to be passed on to Tariff.

- Commission recognizes the approved Gap of expenses and revenue regulatory assets and allows the carrying cost there on. The regulatory asset is amortized over a period of time.
- (c) **Return on Equity :**
- Commission allows return as equity on the capital infused by the licensee into business.
  - No return on equity/grant contributed by State Government is allowed by Commission.
- (d) **Miscellaneous receipt :**
- This includes revenue from non. Core activities of GRIDCO namely earning from export of power, earning from unscheduled inter changes, Receivable from DISCOMs towards arrear BSP dues; emergency sale to CGP etc.
  - The above miscellaneous revenue are adjusted from the aforesaid elements of revenue requirement. (a. expenditure + b. special Appropriation + c. Return as Equity) to arrive at the Total revenue requirement of GRIDCO.
  - The above amount is taken into consideration to arrive at the BSP to be recovered from DISCOMs.
- B. Transmission Tariff :**
- (a) The Commission, for approval of ARR and determination of transmission tariff for OPTCL for the FY 2009-10 continues to follow the same principles as laid down in CERC Tariff Regulations, and guided by the provisions of the National Tariff Policy as well as other statutory notifications and directives, while giving due considerations to the complexities of the Orissa Power Sector.
- (b) **Expenditure:**
- 1) **Employees Cost :**
- Includes the following elements:
- Includes Basic Pay of the employees.
  - Commission estimates the basic pay based on audited account and assuming normal rise of 3% over the base year's basic pay.
  - Dearness allowance approved by Govt. of Orissa from time to time.
  - House rent allowance.
  - Medical reimbursement.
  - Terminal benefit such as pension, Gratuity, Leave salary etc.
  - Terminal liability of OPTCL is assessed based on actuarial valuation done by independent actuary.
  - Pay/wage revision impact.

2) **Repair & Maintenance :**

- Transmission licensee i.e OPTCL estimates its requirement on repair & maintenance under four components:-
  1. R & M expenses on O & M wing.
  2. Telecom R & M including ULDC.
  3. Information Technology.
  4. Civil works.
  5. Commission allows the same amounts spent by OPTCL in previous year and capability to spend amount in future.

3) **Administration & General expenses :**

- A&G expansion includes property related expenses, Communication, professional charges, conveyance and traveling. Licensee fees and material related expenses.
- Commission allow escalation factoring average rate of WPI & CPI taken together during that year.
- For determining the base for allowing escalation, Commission takes into consideration the approved figure of the previous year.
- However, Commission takes into account audited figure as a reference to justify its prudence, while projecting the A & G expenses.

4) **Interest on Loan :**

- The loan on which Commission allows interest are asset-related loans.
- Commission allows interest on all loans transferred to OPTCL from GRIDCO as a result of unbundling of GRIDCO to GRIDCO & OPTCL vide GoO notification dated 9.6.2005.
- As on 1.4.2005 GRIDCO transferred an amount of Rs. 1397.14 crore on which Commission allows interest excepting loan from State Govt. as per GoO notification dtd. 29.1.2003.
- Interest on new loans taken after 1.4.2005 are allowed by the Commission, subject to the condition that the project for which OPTCL availed loan are approved by the Commission.

5) **Depreciation :**

- Depreciation is allowed at pre 1992 as per notification dated 31.01.1992 rate on book value of the asset base approved by Commission as per the direction of the Hon'ble High Court.
- Effect of up valuation of asset is kept in abeyance till the sector turns around or by 2011 which is earlier.

**6) Advance against depreciation :**

- Over and above the normal depreciation as stated above Commission allows Advance to meet the debt service obligation, if repayment of loan during the year is more than the normal depreciation amount.
- For this purpose, the computation of depreciation is done in line with CERC Tariff Regulation of 20.1.2009.
- From the figure so arrived, the normal depreciation allowed by the Commission as stated above is adjusted.
- Balance amount is treated as advance against depreciation.

**(b) Return on Equity :**

- Return on equity is allowed by the Commission, on the capital infused by licensee.
- Return on State Govt. equity/Grant is not allowed by the Commission.

**(c) Contingency reserve :**

- Commission allows the contingency reserve as a part of revenues requirement after review of the audited actuals of previous period.

**(d) Pass through of past Losses :**

- Commission allows the same as a regulatory asset above reviewing the audited accounts of the licensees, while under taking the truing up exercise.

**(e) Miscellaneous Charges :**

- Commission forecasts the miscellaneous charges of the licensee for the ensuing year on the basis of their audited data and other financial statement such as cash flow to be adjusted from the revenue requirement of OPTCL as stated in item b to e to determine the net revenue requirement, to be recovered from DISCOMs through transmission charges.

**C. SLDC :**

- For determining the operating charges of SLDC, following items are taken in the consideration.
  - i. Employees Cost.
  - ii. Compensation structure for SLDC personnel.
  - iii. Administration & General Charge
  - iv. Repair & Maintenance.

v. Depreciation

vi. Any other relevant costs and expenses deemed appropriate by Commission.

**D. Retail Supply Tariff :**

- For retail supply the Commission has set principles by which Annual Revenue Requirement shall be determined for a control period. Although the control period is over by 2007-08, the principle set by the Commission has not undergone any amended some change provision for bad & doubtful debt.
- Element of revenue requirement.

**E. Employee Cost :**

- The base year value of basic pay is escalated by 3% annually.
- Dearness allowances are escalated based on Govt. of Orissa notification from time to time.
- Provision of terminal liabilities like Pension and gratuity liabilities are done based on periodic actuarial variation in line with Accounting Standard.
- Pay revision impact is allowed by the Commission as per Govt. of Orissa notification.

**F. Repair & Maintenance :**

- 5.4% on opening book value of gross fixed asset allowed are to words repair and maintenance expenditure.

**G. Administration and General Expenditure :**

- The base year value is escalated by 7% every year for the control period. This benchmark was also been followed while approving ARR for 2008-09 & 2009-10.

**H. Depreciation :**

- Depreciation is calculated for the assets in accordance with the Dept. of Energy notification No. 1068/E, Dtd. 29.1.2003 and at pre-92 norm as notified by Govt. of India.
- Effect of Upvaluation of asset is excluded for the purpose of calculating depreciation. (Upvalued amount only in excluded)

**I. Interest on Long-term Liabilities :**

- Commission allows interest on loans to be availed for approved capital investment plan.
- Commission allows interest on loans existing at the beginning of the financial year as per the audited accounts.

- For all loans the permitted interest cost shall be linked to prime lending rate of a Schedule Bank plus a pre-determined margin that realistically reflect the rate at which the licensee can raise debt from market.

**J. Interest on Working Capital :**

- Commission allows interest on working capital to cover short fall in cash collection beyond the target set for collection efficiency during control period.

**K. Provision for Bad & Doubtful debt :**

- Commission allows provision for bad debts as a prudent commercial practice in the revenue requirement of licensee.
- This provision for bad debt is considered as a percentage of sales revenue.
- In the last control period 2003-04 to 2007-08, the provision for bad & doubtful debt was 2.5% of the sales revenue.
- In 2009-10 ARR Commission allowed 2% of sales revenue towards bad & doubtful debt.

**L. Return on Equity:**

- Commission allows 16% return on equity on the equity infused by licensee.

**M. Amortizations of Regulatory asset :**

- Depending on the amount is Regulatory Asset submitted by the licensee, the Commission after undertaking truing up exercise stipulates amortization & financing rules of regulatory asset.
- Regulatory assets are allowed as pass through in revenue requirement to take care of force majeure or cost variation due to uncontrollable factors.

**N. Miscellaneous receipt :**

- Miscellaneous receipt of DISCOMs is mainly on account of meter rent, commission for collection of Electricity Duty, interest on advances, interest on bank deposits, DPS, over-drawal penalty etc.
- This is estimated by examining the trend in audited accounts of past period.
- The same got adjusted to arrive at the Total Revenue requirement of the licensee.

Based on the above principle the revenue requirement of the licensee as proposed by them and approved by the Commission are depicted in the tables below:

REVENUE REQUIREMENT OF DISTCOS FOR THE F.Y. 2009-10

Rs in Crore

Expenditure	WESCO		NESCO		SOUTHCO		CESU		TOTAL	
	Propo.	Appro.	Propo.	Appro.	Propo.	Appro.	Propo.	Appro.	Propo.	Appro.
Cost of Power Purchase	863.30	990.22	519.85	557.05	164.50	151.27	613.54	613.57	2,161.19	2,312.11
Transmission Cost	132.09	135.03	91.51	89.99	49.35	45.38	126.94	126.95	399.89	397.34
<b>Total Power Purchase &amp; Transmission Cost (A)</b>	<b>995.39</b>	<b>1,125.25</b>	<b>611.35</b>	<b>647.04</b>	<b>213.85</b>	<b>196.65</b>	<b>740.48</b>	<b>740.52</b>	<b>2,561.07</b>	<b>2,709.45</b>
Employee costs	182.79	138.88	163.12	114.28	172.28	98.59	229.35	194.85	747.54	546.60
Repair & Maintenance	94.91	27.01	105.47	27.88	106.22	20.73	51.46	40.46	358.06	116.08
Administrative and General Expenses	37.05	22.81	30.66	15.75	33.74	14.79	50.96	28.82	152.41	82.17
Provision for Bad & Doubtful Debts	47.78	26.66	36.20	16.80	18.20	7.47	60.61	24.89	162.79	75.81
Depreciation	27.44	17.87	24.11	18.53	24.45	13.83	73.46	26.63	149.46	76.86
Interest Chargeable to Revenue including Interest on S.D	46.20	30.01	58.88	24.94	46.41	14.05	81.46	47.45	232.95	116.45
<b>Sub-Total</b>	<b>436.17</b>	<b>263.24</b>	<b>418.44</b>	<b>218.18</b>	<b>401.30</b>	<b>169.46</b>	<b>547.30</b>	<b>363.10</b>	<b>1,803.21</b>	<b>1,013.97</b>
Less: Expenses capitalized	2.47	2.47	0.93	0.55	2.38	2.38			5.78	5.40
<b>Total Operation &amp; Maintenance and Other Cost</b>	<b>433.70</b>	<b>260.77</b>	<b>417.51</b>	<b>217.63</b>	<b>398.92</b>	<b>167.08</b>	<b>547.30</b>	<b>363.10</b>	<b>1,797.43</b>	<b>1,008.57</b>
Return on equity	9.03	7.78	12.23	10.55	8.11	6.03	11.64	11.64	41.01	36.00
<b>Total Distribution Cost (B)</b>	<b>442.73</b>	<b>268.55</b>	<b>429.74</b>	<b>228.18</b>	<b>407.03</b>	<b>173.11</b>	<b>558.94</b>	<b>374.74</b>	<b>1,838.44</b>	<b>1,044.57</b>
Amortisation of Regulatory Asset	181.58	-	184.39	-	185.27	19.00	-	151.00	551.24	170.00
True up of Past Losses	128.83	-	71.87	-	64.67	-	-	-	265.37	-
Contingency reserve	2.88	-	2.52	-	2.55	-	-	-	7.95	-
<b>Total Special Appropriation (C)</b>	<b>313.29</b>	<b>-</b>	<b>258.78</b>	<b>-</b>	<b>252.49</b>	<b>19.00</b>	<b>-</b>	<b>151.00</b>	<b>824.56</b>	<b>170.00</b>
<b>Total Cost (A+B+C)</b>	<b>1,751.41</b>	<b>1,393.80</b>	<b>1,299.87</b>	<b>875.21</b>	<b>873.37</b>	<b>388.76</b>	<b>1,299.42</b>	<b>1,266.25</b>	<b>5,224.07</b>	<b>3,924.02</b>
Less: Miscellaneous Receipt	16.89	22.15	9.95	35.79	9.72	15.81	17.27	22.79	53.83	96.54
<b>Total Revenue Requirement</b>	<b>1,734.52</b>	<b>1,371.65</b>	<b>1,289.92</b>	<b>839.42</b>	<b>863.65</b>	<b>372.95</b>	<b>1,282.15</b>	<b>1,243.46</b>	<b>5,170.24</b>	<b>3,827.48</b>
Expected Revenue(Full year)	1,388.87	1,332.75	905.01	839.80	364.00	373.63	1,212.27	1,244.27	3,870.15	3,790.45
<b>GAP(+/-)</b>	<b>(345.65)</b>	<b>(38.90)</b>	<b>(384.91)</b>	<b>0.38</b>	<b>(499.65)</b>	<b>0.68</b>	<b>(69.88)</b>	<b>0.81</b>	<b>(1,300.09)</b>	<b>(37.03)</b>

REVENUE REQUIREMENT OF GRIDCO FOR FY 2009-10

(Rs. in Crore)

A	Expenditure	2008-09	2009-10	
		Approved	Proposed	Approved
	Cost of Power Purchase	2351.75	2863.15	2923.80
	Employee costs	3.33	6.80	3.80
	Repair & Maintenance	-	0.50	0
	Administrative and General Expenses	2.41	5.14	3.03
	Other expenses (ERLDC Charges)	1.32	1.32	1.32
	Interest Chargeable to Revenue	127.72	128.49	101.62
	Sub-Total	2486.53	3005.4	3033.57
	Less: Expenses capitalized	-	-	-
	<b>Total expenses</b>	<b>2486.53</b>	<b>3005.40</b>	<b>3033.57</b>
<b>B</b>	<b>Special appropriation</b>			
	Carry forward of Previous Losses	-	399.66	-
	Repayment of principal	-	394.09	-
	Arrear payment of OPGC	-	72.57	-
	Power Purchase related cost of OHPC	-	-	16.08
	Power Purchase related cost of TTPS	-	-	73.45
	<b>Total</b>	<b>-</b>	<b>866.32</b>	<b>89.53</b>
<b>C</b>	<b>Return on Equity</b>	<b>-</b>	<b>60.62</b>	<b>-</b>
	<b>TOTAL (A+B+C)</b>	<b>2486.53</b>	<b>3932.34</b>	<b>3123.10</b>
<b>D</b>	Less Miscellaneous Receipt	3.30	3.30	3.30
<b>E</b>	Less receivable from DISCOMs	219.83	-	170.00
<b>F</b>	Less receivable from outside States	16.24	-	-
<b>G</b>	Total Revenue Requirement	2247.16	3929.04	2949.80
<b>H</b>	Expected Revenue (Full year) from DISCOMs	2152.23	2288.10	2312.11
<b>I</b>	<b>GAP (+/-)</b>	<b>(-)94.93</b>	<b>(-)1640.94</b>	<b>(-)637.69</b>

REVENUE REQUIREMENT OF OPTCL AND SLDC FOR FY 2009-10

(Rs. in Crore)

ITEMS	Proposal for 2009-10			Approval for 2009-10		
	Charged to OPTCL	Charged To SLDC	Total	Charge d to OPTCL	Charged to SLDC	Total
<b>(a)FIXED COST</b>						
O&M Expenses						
Employees Cost including Terminal Benefits and Compensation for personnel of Load Dispatch Centre (LDC)	484.66	6.72	491.38	173.11	5.45	178.56
R&M Cost	122.74	1.00	123.74	47.00	1.00	48.00
A&G Cost	36.94	2.90	39.84	14.35	1.15	15.50
Interest on Loan Capital	189.51	0.00	189.51	70.53	0.00	70.53
Depreciation	66.69	0.06	66.75	66.07	0.06	66.13
Advance Against Depreciation (Repayment obligation)	52.19		52.19	44.36	0.00	44.36
Return on Equity	13.30		13.30	0.00	0.00	0.00
Interest on Working Capital	26.39	0.00	26.39	0.00	0.00	0.00
Provision of Reinvestment for infrastructure development for EBC		2.00	2.00	0.00	2.00	2.00
<b>Sub-Total (a)</b>	<b>992.42</b>	<b>12.69</b>	<b>1005.10</b>	<b>415.42</b>	<b>9.66</b>	<b>425.08</b>
<b>b) Pass Through Expenses</b>	51.41	0.00	51.41	0.00	0.00	0.00
<b>Total Trans. Cost (a+b)</b>	<b>1043.83</b>	<b>12.69</b>	<b>1056.51</b>	<b>415.42</b>	<b>9.66</b>	<b>425.08</b>
<b>c) Additional Expenses</b>						
Contingency Reserve	15.01	0.00	15.01	9.08	0.00	9.08
Bad & doubtful debt Debts	0.02	0.00	0.02	0.00	0.00	0.00
GCC Expense	0.15	0.00	0.15	0.15	0.00	0.15
<b>Sub-Total (c)</b>	<b>15.18</b>	<b>0.00</b>	<b>15.18</b>	<b>9.23</b>	<b>0.00</b>	<b>9.23</b>
<b>d) Total Annual Revenue Requirement (a+b+c)</b>	<b>1059.01</b>	<b>12.69</b>	<b>1071.69</b>	<b>424.65</b>	<b>9.66</b>	<b>434.31</b>
<b>e) Less Misc. Receipts</b>	<b>0.50</b>	<b>0.00</b>	<b>0.50</b>	<b>30.50</b>	<b>0.00</b>	<b>30.50</b>
<b>f) Annual Revenue Requirement to be recovered from LTOAC (i.e. DISCOM and CPP) (d-e)</b>	<b>1058.51</b>	<b>12.69</b>	<b>1071.19</b>	<b>394.15</b>	<b>9.66</b>	<b>403.81</b>
<b>g) Rebate 2% Annual Revenue Requirement</b>	<b>21.60</b>	<b>0.00</b>	<b>21.60</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>h) Net Annual Revenue Requirement (f+g)</b>	<b>1080.11</b>	<b>12.69</b>	<b>1092.80</b>	<b>394.15</b>	<b>9.66</b>	<b>403.81</b>

## **DISTRIBUTION LOSS REDUCTION THROUGH ENERGY ACCOUNTING AND AUDITING**

**Anil Kumar Panda**  
Joint Director(T/Engg.), OERC

### **INTRODUCTION :**

Energy Accounting and Auditing in Power Sector are two potent weapons for the Distribution Utilities for achieving energy efficiency in the Power System. These techniques are essentially required to establish the current status of energy efficiency in a system and there by to identify the opportunities for the Conservation of energy, which is a prerequisite for energy saving campaign. Demand Side Management is the least cost option for the DISCOMs for improving the energy efficiency in the system.

2. Energy Audit involves identifying the energy losses, quantifying them, segregating the losses into technical and commercial losses, estimating energy conservation potential and proposing visible and economically attractive solutions. It attempts to balance the total energy input with its use and helps to identify the total losses of the Distribution utilities besides quantifying energy usage according to its discrete function. The ultimate end result of such an exercise is to improve system performance, increase its efficiency and introduce design changes leading to renovation, modernization and up-gradation of the system. However all solutions shall be subject to cost benefit analysis with a lesser pay back period. Cost benefit analysis shall be followed by devising implementation plan covering major steps and designate the right person to implement it.

### **SIGNIFICANCE OF ENERGY AUDIT AND ACCOUNTING :**

3. Energy Audit and Energy Accounting programmes attain significance at present due to the following reasons:
  - Government of India has envisaged to make available of nearly 10,000 MW of power by 2012, through energy efficiency programmes in the power sector in lieu of capacity addition of about 20,000 MW.
  - To embark upon energy efficiency drive in the country, Energy Conservation Act 2001 (52 of 2001) was enacted for providing legal framework, institutional arrangement and regulatory mechanism at the Central and State level.
  - Bureau of Energy Efficiency (BEE), created under the 2001 Act, with the primary objective of reducing energy intensity of the Indian Economy has powers to direct the designated consumers, including utilities in the power sector, to abide by energy consumption norms and to get their energy consumption audited regularly.

- National Electricity Policy notified in 2005, vide Para 5.4.6 makes energy accounting and publishing results mandatory for power sector utilities from March, 2007. An action plan for reduction of the losses with adequate investments and suitable improvements in governance should be drawn up. Standards for reliability and quality of supply as well as for loss levels shall also be specified, from time to time, so as to bring these in line with international practices by year 2012.
- State Regulatory Commissions have to stipulate a time bound programme for the segregation of Technical and Commercial losses by the utilities and for bringing down the T&D losses to that prevailing at International level, by 2012.
- Demand Side Management (DSM) is one of the thrust areas identified for implementation under Energy Conservation Act 2001, with a requirement that each Power Utility has a DSM Cell.

#### **ANALYSIS OF DISTRIBUTION LOSS :**

4. Power is a critical infrastructure for the growth of the economy. Acceleration in the economic growth will depend upon a financially and commercially viable power sector that is able to attract fresh investments. However, the financial health of State Electricity Boards (SEBs)/ DISCOMs has become a matter of grave concern considering that their losses have reached an alarming level, which is equivalent to about 1.5% of GDP. Out of total energy generated, approximately 55% is billed and only 41% is realized resulting in aggregate technical and commercial losses of the Order of 45-50%.
5. With the large amount of electricity now being handled by the power utilities, 1% reduction in AT&C losses would provide substantial financial benefits to the utilities. To realize the benefits, a systematic approach to reduce commercial and technical losses would be necessary. The reduction of technical losses can be achieved through system improvement and up-gradation schemes to reduce overloading of lines, transformers, improvement of voltage profile, etc. but require large capital investments. However, reduction in commercial losses can be achieved at a much lesser cost and in a shorter time frame through administrative and legislative action. Development of comprehensive energy accounting system would enable quantification of losses in different segments of the system and energy auditing would provide the means to identify the areas of leakage, wastage or inefficient use. This would help in identifying measures suitable for reduction of T&D losses.
6. OERC is concerned about the high distribution loss in the State. Time to time the Commission has been passing orders to DISCOMs directing them to reduce their distribution losses. In fact OERC had approved a Business Plan for all the four DISCOMs for the control period 2003-04 to 2007-08 in which target for distribution loss reduction has been clearly laid out. But during the mid-term review it was seen that there was wide gap between target and achievement in distribution loss by one and all the DISCOMs.

7. EHT sale is a zero loss business for DISCOMs as technical loss due to extra high transmission goes to transmission licensee's account. In case of EHT consumers, distribution licensees do not face any commercial loss because the business of DISCOMs is limited to metering, billing and collection of revenue. Of course, Distribution Licensees have cakewalk in this business. Then comes the HT sales. OERC has been assuming a loss of 8% in case of HT after sample energy audit since early days of reform but this has not been confirmed thereafter through actual analysis. In tariff setting, OERC follows Purchase Driven Approach that means after considering zero loss for EHT and 8% loss for HT, rest of the units are considered as input to the LT network. Then Sales to the LT consumers are found out after factoring in the targeted LT loss. As loss target is fixed for DISTCOs on the total input to their system, licensees generally find a leeway to camouflage huge loss in LT sectors by raising EHT sale. Hence, there is a need to fix loss target voltage wise. Simultaneously, there is also a need for benchmarking of technical loss voltage wise considering network configuration. The distribution loss figure for Orissa is as shown in Table-1:

**Table-1**  
**Distribution Loss (%)**

DISCOMs	Actual for 2006-07		Actual for 2007-08		Actual for 2008-09		Approved by OERC for 2009-10	
	Overall	LT	Overall	LT	Overall	LT	Overall	LT
CESU	43.52	58.35	41.48	58.80	40.34	52.00	26.30	35.04
NESCO	33.22	72.06	31.17	70.29	34.57	59.40	23.00	33.19
WESCO	36.36	73.05	36.13	72.93	33.55	65.65	22.50	35.86
SOUTHCO	41.39	58.41	45.49	59.87	47.78	57.12	27.92	29.50
<b>All Orissa</b>	<b>38.57</b>	<b>65.15</b>	<b>37.48</b>	<b>65.06</b>	<b>37.50</b>	<b>58.06</b>	<b>24.45</b>	<b>34.04</b>

8. On Micro-analysis, it is observed that the performances of some distribution divisions in Orissa are very dismal. Out of 63 Distribution Divisions, 19 divisions are not able to collect even for 30 % of the energy consumed. The performance of some of the distribution divisions in Orissa having AT & C Loss more than 70% for FY 2008-09 is shown in Table -2.

**Table-2**  
**LT Performance of Distribution Divisions of Orissa for FY 2008-09**

Sl. No.	Name of Division	Total Energy Input	Total Energy Sold	LOSS (%) (Assuming HT Loss 8%)		Collection Efficiency (%)		AT & C LOSS (%)	
		MU	MU	LT	Over All	LT	Over All	LT	Over All
1	N.E.D. Nuapada	138.12	31.49	76.9%	77.2%	76.0%	78.6%	82.5%	82.1%
2	B.W.E.D. Bargarh (West)	218.03	59.44	72.7%	72.7%	62.0%	68.2%	83.1%	81.4%
3	AED Anandapur	151.55	49.43	68.7%	67.4%	49.4%	60.8%	84.5%	80.2%
4	BED Bhadrak (S)	131.64	56.42	53.5%	57.1%	46.6%	46.7%	78.3%	80.0%
5	JTED Jajpur Town	293.29	98.78	64.0%	66.3%	57.8%	59.5%	79.2%	79.9%
6	AED, Aska	273.60	80.82	69.3%	70.5%	72.3%	74.8%	77.8%	77.9%
7	J.E.D. Jagatsinghpur	178.16	77.26	53.0%	56.6%	52.4%	52.6%	75.4%	77.2%
8	UED Udala	79.14	26.86	63.5%	66.1%	66.3%	67.3%	75.8%	77.2%
9	BNED, Bhanjanagar	199.27	59.48	67.9%	70.2%	76.4%	76.7%	75.5%	77.1%
10	N.E.D. Nimapara	243.34	78.15	65.6%	67.9%	76.5%	77.6%	73.7%	75.1%
11	K.W.E.D. Bhawanipatna	118.34	36.06	67.1%	69.5%	82.1%	81.8%	73.0%	75.1%
12	S.N.E.D. Sonepur	141.55	48.84	65.3%	65.5%	66.6%	73.8%	76.9%	74.5%
13	B.E.D. Bolangir	241.27	82.08	66.7%	66.0%	66.1%	75.3%	78.0%	74.4%
14	BTED Basta	100.52	34.56	62.6%	65.6%	74.7%	74.7%	72.1%	74.3%
15	SED Soro	165.71	67.82	56.2%	59.1%	63.3%	64.3%	72.3%	73.7%
16	BOED, Boudh	51.84	19.93	61.5%	61.6%	68.5%	73.8%	73.6%	71.6%
17	GSED, Digapahandi	145.99	50.60	62.8%	65.3%	81.1%	81.9%	69.8%	71.6%
18	S.E.D. Salipur	113.88	45.32	56.8%	60.2%	72.8%	72.4%	68.5%	71.2%
19	K.E.D.(I) Kendrapara	199.62	83.72	54.6%	58.1%	71.2%	71.1%	67.7%	70.2%

Source: Performance Review

NB : Data are descending based on AT & C Loss

## ENERGY ACCOUNTING

9. Energy Accounting is conceptually simple. It involves preparation of accounts of the energy flow to various segments and its consumption by various categories of consumers as well as energy required for meeting the technical requirements of the system out of total available quantum over a specified time period. This helps in accurate measurement of energy generated, energy consumed and energy lost.

## ENERGY ACCOUNTING PROCEDURE

10. The fundamental approach to energy accounting should be bottoms-up and related to organizational and responsibility structure of the utility. Each Junior level Engineer should be entrusted with responsibility of covering 11 KV feeder(s), which could be feeding a number of consumers. He would be responsible to account for the energy received by the feeder and billing of their connected consumers. The exercise would involve establishment of energy measurement system and preparation of energy balance related to the different responsibility areas in the field for billing and revenue collection.

## PREPARATION OF AN EFFECTIVE ENERGY ACCOUNT WILL BE POSSIBLE ONLY IF :

- Meters are installed on both sides of each elements of the network
- All the consumer installations are installed with accurate energy meters.
- Energy meter readings are taken at sending end and at all the consumer installations simultaneously.
- Similar accuracy class meters are installed both for measuring input to system and energy sales.
- Meters are regularly tested and calibrated.
- Electronic meters with data logging facilities are provided on the 11 KV feeders/ secondary side of distribution transformers to record load curve which facilitates assessment of load factors and loss load factors.

## ENERGY AUDIT

11. Energy Audit is the technique to establish the current status of energy efficiency of a system. It involves identifying energy losses, quantifying them, segregating the losses into technical and commercial losses, estimating energy conservation potential and proposing visible and economically attractive solutions. The ultimate end result of such an exercise is to improve system performance, increase its efficiency and introduce design changes leading to renovation, modernization and up-gradation. The energy accounting gives the overall picture of energy availability and its use. The energy audit would enable analyzing the data in meaningful manner to evolve measure to introduce checks and balances in the system to reduce leakages and losses

and also to improve technical performances. Energy audit should be carried out with the following objectives:

- Review and up-gradation of procedure for energy accounting.
- Review of technical efficiency of distribution network.
- Analysis of the techniques for measuring energy received, energy billed and revenue collection.
- Review of performance of equipment, meter, and distribution transformers etc.
- Audit the segregation of technical and non-technical losses.
- Establishment of norms for checking the consumption of various categories of consumers and overall energy balance.

#### PROCEDURE FOR ENERGY AUDIT

12. In the process of supplying electricity to consumers, energy losses are occurring on account of technical and commercial reasons. The Technical losses are due to energy dissipation in the conductors and the equipments used for transmission and distribution of power. Commercial losses are caused due to pilferage of energy, defective meters, meter reading errors and energy not accounted for. The energy losses are to be computed for each element of the network on the basis of actual energy sent out and actual consumption as recorded by the meters installed on both sides of the elements.
13. It may not be possible to conduct energy audit for the entire power systems of a utility in one go due to financial, organizational and logistical constraints. Hence it has to be conducted in stages. A compact area of the power system would have to be identified and energy audit studies are taken up. It is very difficult to get a very accurate picture due to the following reasons:
  - The energy meters provided on 11 KV feeders and consumer installations meters are of different class of accuracy.
  - All the energy consumed is not recorded due to illegal tapping, theft, pilferage etc.
  - The sending end readings are taken on a particular day whereas the readings for consumers are taken in a staggered manner.
  - The meter readings of some consumers are not taken due to locked premises / defective meters.
  - Meters are not reading at light load.
  - Meters not recording within prescribed accuracy limits.
  - Assessment of consumption in respect of un-metered consumers.

Proper and accurate meters, meter reading, meter testing & calibration, billing and collection systems are essential for effective and accurate energy accounting.

## CONCLUSION

14. Accounting and Audit form the basis for detail and complete evaluation of the system which is the need of the hour. The T&D losses for the country as a whole are reported to be around 27% in 2007-08 as per data received from the utilities. However, the actual losses in the country are still a matter of conjecture in the absence of adequate metering at various voltage levels. So, there is a potential for reduction of losses by 10-12%. This reduction could be achieved by reduction in both technical and commercial losses.
15. The adoption of proper energy accounting and audit would ultimately facilitate increased revenue realization for the energy supplied to the consumers, identification of areas and causes of high energy losses and cutting down on its own expenses on account of the operational inefficiencies. It also helps the distribution utilities in bringing accountability and efficiency in its working. This would enable improving the financial health of the utility and would contribute substantially towards overall development of the power sector as a whole.

## COMMISSION'S POWER TO REVIEW SCOPE AND LIMITATION

N.C. MAHAPATRA  
DIRECTOR (LAW), OERC.

Once an order is signed and pronounced it is a general principle that the court / quasi-judicial authority has no jurisdiction to alter it. But power to review is an exception to this general rule. Power to review is a statutory power conferred by the concerned statute on the Authority. The power of review is not an inherent power it must be conferred by law. Power to review is the creature of statute.

### 2. STATUTORY PROVISIONS :

The concept and scope of review is derived from Code of Civil Procedure, 1908. Section 14 of the said Code gives a substantive right of review in certain circumstances and Order 47 of the said Code provides the procedure for filing of review application. A person aggrieved by the decree or order may apply for review of judgment where no appeal is allowed or where an appeal is allowed but no appeal has been filed against such decree or order. A '*person aggrieved*' means a person who has suffered a legal grievance or against whom a decision has been pronounced which has wrongfully deprived him of something or wrongfully refused him something or wrongfully affected his right, title and interest to something.

### 3. PROVISION IN ELECTRICITY ACT, 2003 :

The Electricity Act, 2003 by its Section 94(1)(f) vested the power on CERC and SERC which needs as follows:

*94. (1) The Appropriate Commission shall, for the purpose of any inquiry or proceedings under this Act, have the same powers as are vested in a civil court under the Code of Civil Procedure, 1908 (5 of 1908) in respect of the following matters, namely:*

XX

*(f) Reviewing its decisions, directions and orders;*

XX

From the above statutory provisions it appears that the Commission not only has power to review its orders but also it can review its decisions, directions. In this respect the Commission's power to review is much wider in its scope.

### OERC (CONDUCTS OF BUSINESS) REGULATIONS :

Regulation 70 of OERC (Conducts of Business) Regulations, 2004 provides the procedure for review which is reproduced below:

70. *Review of the decisions, directions and orders - (1). The Commission may on its own motion, or on the application of any of the person or parties concerned, within 90 days of the making of any decision, direction or order, review such decision, directions, or orders and pass such appropriate orders as the Commission thinks fit.*
- (2) *An application for such review shall be filed in the same manner as a petition under Chapter II of these Regulations.*
- (3) *The application shall be accompanied by such fee, if any, as may be laid down by Commission.*
5. **FROM THE ABOVE REGULATION IT REVEALS THAT - A REVIEW PROCEEDING CAN BE INITIATED BY THE COMMISSION**

- (a) On its own motion (suo-motu)
- (b) Or an application of any person or parties concerned.
- (c) The application for review should be file within 90 days of Commission's decision, direction or order.
- (d) The manner of filing review should be in the manner prescribed under Chapter-II of OERC (Conducts of Business) Regulations, 2004.
- (e) The application for review should be accompanied by fees as prescribed by the Commission.

A person who is filing a review petition has to give an undertaking that he has not preferred any appeal/petition before any Tribunal/Court against the order of the Commission in which the review is sought for.

6. **FEES FOR REVIEW:**

The Commission vide its Notification dtd. 31.08.2009 has prescribed fees for review application as follows:

- (i) Application for review of ARR / Tariff order file by an institution / association / company - Rs.5000/-
- (ii) Application for review of ARR / Tariff order file by an individual consumer - Rs.1000/-
- (iii) Application for seeking review of any order on grounds of clerical error/mistake. - Nil.
- (iv) Application for review of other orders of Commission - Rs.5000/-

7. **WHO CAN APPLY:**

A person or parties concerned, who is aggrieved by order, decision, direction of the Commission can file a review petition. The Commission by its own motion can initiate a review proceeding for review of its decision, direction or order. After hearing the parties the Commission may pass any appropriate order as its thinks fit. As a principle there can not be review of an review order. (Second Review)

**8. QUORUM FOR REVIEW:**

The provisions of the Electricity Act, 2003 is silent about the quorum for review of Commission's order. But Sec. 9(4) of the Orissa Electricity Reform Act, 1995 provides the quorum for review shall be three.

**9. GROUNDS OF REVIEW :**

An application for review may be made on the following grounds:

- (i) Discovery of new and important matter or evidence; or
- (ii) Mistake or error apparent on the face of record; or
- (iii) Any other sufficient reason.

**10. (I) DISCOVERY OF NEW AND IMPORTANT MATTER OR EVIDENCE :**

A review is permissible on the ground of discovery by the applicant of a new and important matter or evidence which, after exercise of due diligence, was not within his knowledge or could not be produced by him by the time the order was passed. Utmost care ought to be exercised on allowing a review on this ground as the party who has lost his case may agitate the same points in a different colours by procuring new irrelevant evidence to fillup the gaps. The object on this provision is not to write a second order or give a second chance to the parties concerned to reargue the matters due to their negligence or indifferent. The new evidence adduced in a review proceeding must be conclusive and relevant. There must be sufficient evidence of diligence in getting all the evidence available. An application for review should be refused when such evidence could have been produced had reasonable care and diligence been exercised. *In Satrunjit V. Mohd. Azmat, AIR 1971-SC 1474* the Supreme Court has held that the review can not be granted on the ground of discovery of new points of law or authorities.

**11(ii). MISTAKE OR ERROR APPARENT ON THE FACE OF THE RECORD :**

In *HariVishnu Kamath V. Ahmed Ishaque, AIR 1955 SC 233* the Supreme Court decided that what is an error on the face of the record can not be defined precisely exhaustively, and it should be determined judicially on the facts of each case. No error can be said to be an error apparent on the face of the record if it is not self evident and requires an examination or argument to establish it. In other words, an error cannot said to be apparent on face of the record where one has to travel beyond the record to see if the judgment is correct or not. In case *Thungabhadra Industies (Pvt.) V. Government of AP, AIR 1964 SC 1372* the Supreme Court has rightly observed -

*A review is by no means an appeal in disguise whereby an erroneous decision is reheard and corrected, but lies only for patent error. We do not consider that this furnishes a suitable occasion for dealing with this difference exhaustively or in any great detail, but it would suffice for us to say that where without any elaborate argument one could point to the error and say there is a substantial point of law which stores one in the face, and*

*there could reasonably be no two opinions entertained about it, a clear case of error apparent on the face of the record would be made out.*

Mere erroneous decision are not liable to be reviewed and only errors apparent on the face of the record are liable to be reviewed. (*Chandrakant Jagannath Manjerekar V. Shripad Vaikunth AIR 1989 Bombay 91*).

*When error is apparent on the face of the record, review is competent; no other consideration is necessary. (Shakuntalabai V. State of Maharashtra AIR 1986 Bombay 308)*

*Review can not be allowed on the ground that the principle of law on which the decision was founded has since been reversed by subsequent decision of the Supreme Court (Gyan Chandra V. Addl. D.J. Kanpur, AIR 1987 Allahabad 40)*

#### 12 (III). ANY OTHER SUFFICIENT REASON :

The ground for review may be for any other sufficient reason. The expression '*any other sufficient reason*' has not been defined in Code of Civil Procedure. The Supreme Court has held that the words '*any sufficient reason*' must mean '*a reason sufficient in grounds, at least analogous to those specified in the rule*'. It must be remembered that the main objective of review is to prevent miscarriage of justice or to correct grave and palpable errors in the order. *In Northern India Caterers Ltd. V. Lt. Governor of Delhi ' AIR 1980 SC 674 the Apex Court observed as follows:*

*.....Whatever the nature of the proceeding, it is beyond dispute that a review proceeding cannot be equated with the original hearing of the case, and the finality of the judgment delivered by the court will not be reconsidered except where a glaring omission or patent mistake or like grave error has crept in earlier by judicial fallibility.*

The object of review is not to enable a Judge to write a second judgement because the first one was wrong (*Krishna V. Narayanan AIR 1951 Madras 660*). In review matter the Court is to see whether any evident error or omission needs correction or is otherwise requisite for end of Justice. When a review is granted on a particular ground, the Court has discretion to rehear the case if it thinks necessary.

#### 13. PUBLIC INTEREST :

The Commission as regulator discharges its statutory functions according to the provisions of applicable laws. Its functions like tariff setting, grant of licence, setting service standards etc affect public at large. So, in public interest, the Commission, in certain cases, may review its orders and directions by initiating a sou-motu proceeding on the application of affected consumers/general public. The expression public interest 'in common parlance means an act beneficial to the general public. An action taken in public interest necessarily mean an action taken for public purpose. The requirements of public interest vary from case to case basis. A thing is said to be in public interest where it is or can be made to appear to be contributive to

the general welfare. In *State of Bihar Vrs. Kameswar Singh (AIR 1952 SC 252)* the Supreme Court has held that the expression is not capable of a precise definition and has not a rigid meaning and is elastic and take its colours from the statute in which it occurs, the concept varying with the tie and the state of society and its needs. Thus, what is public interest today may not be so considered a decade later. In any case, the expression can not be considered in vacuum, but must be decided on facts and circumstances of each case. A subject may become one of the public interest if the public or a section of the public become interested in it. This is a wide expression and would comprise within its ambit the interest of public health and morals, economic stability of the country, equitable distribution of essential commodity and fair prices, maintenance of purity in public life, prevention of fraud, implementation of Directive Principle as codified in Indian Constitution.

**14. APPEAL AND REVIEW :**

- (i) An appeal against the order of the Commission lies to the Appellate Tribunal for Electricity u/s 111 of the Electricity Act, 2003, while an application for review is to be filed before the Commission u/s 94(1)(f) the Electricity Act, 2003 read with Regulation 70 of the OERC (Conduct of Business) Regulations, 2004.
- (ii) Review of the Commission's order involves reconsideration of the same subject matter by the Commission, while an appeal is heard by Appellate Tribunal for Electricity on question of law and fact.
- (iii) The grounds of appeal are wider than the grounds of review.
- (iv) The second appeal against the order of the Appellate Tribunal for Electricity can be filed before the Hon'ble Supreme Court on question of law u/s 125 of the Electricity Act, 2003. There is no provision to file an application for review of an review order. (Second Review).

## ROLE OF GRF & OMBUDSMAN IN CONSUMER GRIEVANCE REDRESSAL

Er. P.K. Swain  
Secretary, OERC

To successfully implement power reform in the country, it is necessary to understand that the key to a turnaround lies in power distribution which is not only technology intensive but also service oriented. Given the hapless rundown conditions of distribution networks and the wholly unprofessional method of their operation in India, the problem has to be addressed in terms of technology as well as service upgradation. For the first time in the history of Indian Electricity Legislation (1903-2003) therefore the Electricity Act 2003 recognized the primacy of consumer service and provided for statutory Standards of Performance and Grievance Redressal. A two-tier mechanism consisting of Consumer Grievance Redressal Forums (CGRF) & Ombudsman was instituted under Sections 42 (5 & 6) of the Act.

While the concept of Ombudsman originated in Sweden in 1809, the CGRFs are novel to the Indian electricity sector. These institutions were set up with the primary objective of improving levels of service to consumers and safeguarding their interests and rights. As per provisions of the Act, every distribution utility was required to establish a forum for redressal of grievances of the consumers in accordance with the guidelines specified by the State Electricity Regulatory Commission (SERC).

In line with the above, OERC drafted & notified the OERC (GRF & Ombudsman) Regulations, 2004 which came into force on 5th April, 2004. These Regulations provide guidelines for the establishment of Forums by the Distribution Utilities & appointment/designation of Ombudsman by the Commission. Twelve GRFs & two Ombudsmen were eventually set up in different parts of the state, to address grievances of electricity consumers. The aim of these organizations is to provide a cheap & effective mechanism for redressal of consumer grievances, to settle consumer disputes within a specified time limit & to provide simplified procedures for filing/disposal of the consumer disputes.

The GRF & Ombudsman are the second phase in an escalated consumer redressal system which begins with the distcoms' internal complaint handling mechanism. The distcoms are required to dispose consumer grievances at their level through a Complaint Handling Procedure adopted by them & approved by the Orissa Electricity Regulatory Commission. While the GRFs are set up, funded and manned by officers of the utilities themselves, the Ombudsmen are appointed by the OERC.

The GRF is a three member body, two of whose members are appointed by the distcoms from among their serving officers with approval of the Commission and a third member is co-opted by the DISTCOs from among the Members of SAC/Member of District consumers/recognized consumer association duly nominated by the Commission. The latter approves appointment and removal of members who serve for a three year term. The forums work on the lines of the state consumer redressal forums where judicial procedures and paraphernalia are dispensed with. Only electricity consumers can approach the forum. A simple handwritten application is treated as a petition and matters are disposed within 45 days. Forums can pass interim orders. Records of the Forum can be inspected by the Consumer/Complainant. Licensees are to implement decision of the Forum.

The Electricity Act, 2003 provides for the institution of Ombudsman under Sec42(6) & (7) which was earlier found in Insurance, Banking & Securities sectors. The Ombudsman is appointed by the Commission and there can be a common Ombudsman for two or more licensees or two or more Ombudsmen for one licensee. The appointment of the Ombudsman is made by the Selection Committee for tenure of three years and can be removed on specific grounds.

Only consumers can file representation against the orders of GRF before the Ombudsman. At the first instance, the Ombudsman attempts to settle the matter through process of conciliation and mediation. If the conciliation fails, it conducts hearing and passes award within two months from the date of receipt of the complaint. The licensee is to comply with the award within 15 days. The Ombudsman can pass order for payment of compensation.

The Commission has general powers of superintendence and control over the GRFs. It can issue circulars/ orders for the implementation of the provisions of the Regulations. In appropriate cases it can give direction to the Utilities for removal of the members of the G.R.F. The Utility however can not remove any member of the Forum without prior approval of the Commission. The Forums are required to furnish quarterly reports and annual reports of their performance to the Commission. Their records are inspected by designated officers of the Commission and they are required to comply with directions issued.

In case of the Ombudsmen, they are appointed by the Commission and their procedure of functioning is decided by the Commission through guidelines. They can be removed by the Commission on specific grounds. Their expenses are decided & borne by the Commission. They too are required to furnish quarterly reports and annual reports of their performance to the Commission and their records are subject to annual inspection.

Let us now assess how effectively, the above mechanism addresses consumer grievances in Orissa. It must be appreciated that the GRF & Ombudsman are more or less appellate in nature. Ideally speaking, the internal grievance disposal system of the Utility should be robust in order to dispense with the necessity for appeal. Consumer complaints are of two types, those that relate to quality of power involving issues such as voltage, outage and restoration of power, and those that relate to quality of service such as new connection, billing, etc. Statutory Standards of Performance for all these areas is clearly laid down and if they are scrupulously adhered to, then there would be little need for grievance redressal.

Moreover, grievances, if any, of both technical & non-technical nature are meant to be addressed through a Complaint Handling Procedure adopted by the utilities and approved by the Commission. Therefore, the existence of such a number of GRFs & Ombudsman presupposes a failure on the part of the Utility to address the core issue of minimum standards. These can at best be a transitory arrangement and are not supposed to address routine complaints on a regular basis. The cost of establishment & operation of the former is much better utilized if it is invested in the Utility's internal grievance redressal.

The structure of the GRFs which according to the Govt of India Electricity Rules lay down that only serving officers of utilities can become President & members of the former. It leads to a conflict of interest situation where an officer has to choose between passing orders against his employer at a risk to his future career prospects. This obstructs the impartial functioning that is aspired for as GRFs hesitate to grant compensation to consumers or penalize utilities for failure to implement minimum standards.

Often, it has been found that instead of taking the benefit of these organizations to reduce litigation and consequent loss of time & money, the Utilities are maintaining an adversarial approach to the GRFs & Ombudsmen. They obstruct proceedings by delay or failure to produce records & do not comply with or delay compliance of orders. These cases then revert to the Ombudsman or to the OERC on the mistaken notion that they are appellate bodies and thereby increase the burden on the latter to dispose of a large number of cases. Since the Commission is not supposed to deal with such cases, there is a breakdown of the basic purpose of the GRF & Ombudsman which is to provide an effective, speedy and simple mechanism for redressal of consumer grievances.

As far as Orissa is concerned, it is unfortunate that in spite of a statutory Complaint Handling Procedure and the largest & most widespread network of GRFs & Ombudsmen in the country, consumer grievance redressal leaves much to be desired. Consumer awareness is low, so consumers either fail to approach the GRFs/Ombudsmen and where they do their grievances are not redressed either due to delay in or lack of compliance of orders of the latter by the Utility. The GRFs/Ombudsmen have also granted limited orders for compensation & few of those have been complied with. The Utilities in number of cases filed writ petitions before High Court against the order of GRF/Ombudsman; thus dragging the consumers to unnecessary litigations.

Perhaps during this transition period, the OERC needs to take a more proactive role in energizing the system. Closer and more hands on monitoring; a carrot & stick policy whereby performance in grievance disposal is rewarded & non-performance penalized; intensive consumer education and empowerment of VCOs; and strict enforcement of provisions of law can in due course make the system more responsive to the needs of consumers. However, for real results, the will and cooperation of all stakeholders including consumers themselves, utilities & the state government are called for.

## IT INTERVENTION IN DISTRIBUTION

J.C. Mohanty,  
Jt. Director(IT), OERC

The strategy for IT intervention should be in synchronization with the overall Business Plan of the Discom for a control period. The business plan of a Discom primarily focuses on the following:

- Gradual reduction of AT&C loss
- Improvement in System Reliability
- Improvement in Consumer Service

In order to achieve this end, the Discoms are required to have IT intervention in a systematic and phased manner. In the first two years, they should build and implement robust and integrated IT systems spanning the following primary areas (referred to as ABC) at an estimated capital expenditure of Rs.200 lac for efficient management of the distribution functions.

### A - ACCOUNTING

- » Financial
- » Stores
- » Meter

### B - BILLING & COLLECTION

- » Consumer and DT Indexing
- » Billing
- » Collection
- » MIS

### C - CUSTOMER CARE & MANAGEMENT

- » Consumer Complaints
- » Call Centres

### A. ACCOUNTING

Any commercial organisation for its smooth functioning requires

- Financial Accounting (centralised)
- Stores Accounting

These activities without IT intervention can not be efficient, timely, responsive to changes in practice / procedures or situations. Distribution Management is no exception.

#### **FINANCIAL ACCOUNTING :**

It requires the Financial Accounting System to have the following additional capabilities

- Should integrate with the Billing and Collection system
- Web-centric and integrate with Stores Accounting System
- Circle / Division wise preparation of Books of Accounts

#### **STORES ACCOUNTING :**

It requires the Stores Accounting System to have the following additional capabilities

- Should support sub-stores
- Should monitor and locate inventories, provide price information, vendor rating and segregation between idle and fast-moving inventories.

#### **METER ACCOUNTING :**

Further, Power Distribution Companies need to have a system for proper accounting of Meters. Each and every meter that is procured, tested, installed, is required to be monitored for its life cycle. This can not be done systematically and efficiently without the intervention of IT.

#### **CONSUMER AND DT INDEXING :**

Consumer database need to have information about the pole and distribution transformer (DTs) associated. Moreover, the relationship of DTs with the 11 KV feeders is required to be captured in this system.

The cost of implementing the accounting systems is estimated at 60 lac rupees.

### **B. BILLING & COLLECTION**

#### **BILLING MODULE :**

IT intervention is a must for this activity. A robust Billing System should have the following features / capabilities

- Web-centric and centralized billing
- Seamless integration with Hand Held Device, Automatic Meter Reader etc.
- Consumers can view bill, view consumption graph and print duplicate bill on website
- Ability to handle revision of bills, penal bills and of course, single and two-part tariffs.

## COLLECTION MODULE :

The intervention of IT in this module can usher in a new era in customer satisfaction. This module may entail the following features:

- Payment can be through automatic cash and cheque collection machines
- Consumers can pay on website through credit / debit cards.
- Ability to handle partial payment, apportionment of payment towards various heads including Govt. taxes/ duties.

## MIS

MIS module would furnish reports corresponding to the following areas:

- AT & C Loss, Billing efficiency, Collection efficiency
- Energy Audit and Accounting
- Regulatory compliance
- Continuous monitoring of theft-prone feeders / areas / consumers

The cost of implementing the billing & collection systems is estimated at 70 lac rupees.

## C. CUSTOMER CARE & MANAGEMENT

Implementation of CRM (Customer Relationship Management) software will help in achieving the following

- Automatic tracking of complaints
- Automatic escalation of the complaint to higher authority if adequate action is not taken within a stipulated period.
- Automatic sending of alerts to the workforce concerned
- Ensuring Overall and Guaranteed Standards of Performance as mandated in the Regulations.
- Grievance Redressal and Case tracking system.

The cost of implementing the customer care & management systems is estimated at 70 lac rupees.

## NEXT LEVEL IT INTERVENTION :

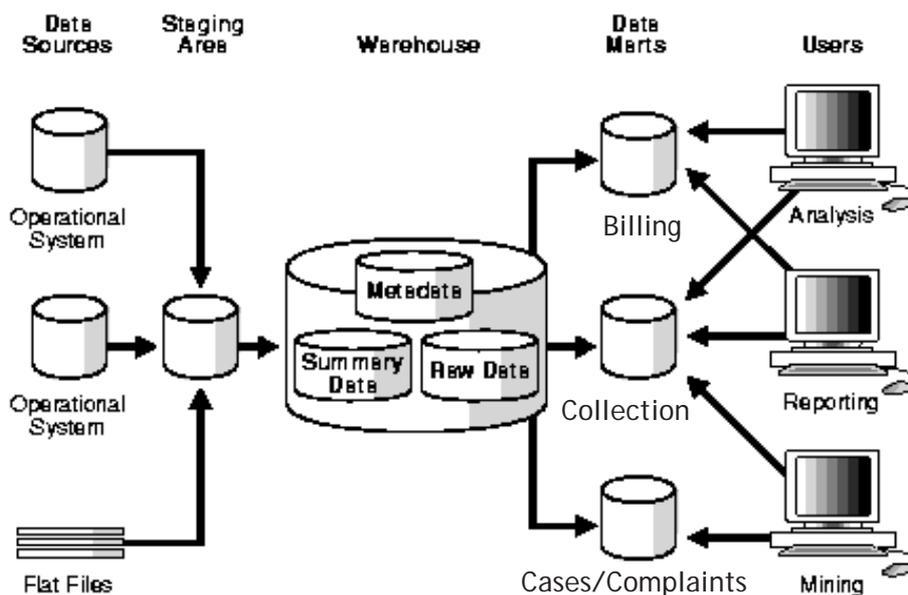
In addition to the ABC Systems mentioned above, the following Systems may be implemented in the next phase for making the IT Systems tightly integrated and intelligent making the Distribution Utility deliver quality service efficiently and profitably.

1. Data Warehouse on Billing, Collection and CRM Database.

2. Geographic Information System (GIS)
3. Supervisory Control and Data Acquisition System (SCADA) and Distribution Transformer Management System (DMS)
1. Data Warehouse on Billing, Collection and CRM Database :

A repository of historical data for many years on consumers, billing, collection and complaints / cases may be built up by making the data received from disparate sources consistent.

Fig. 1 - Architecture of the Data Warehouse



The benefits of this data warehouse are as follows:

- A data warehouse provides a common data model for all data of interest regardless of the data's source. This makes it easier to report and analyze information than it would be if multiple data models were used to retrieve information such as billing efficiency, collection efficiency, AT&C loss etc.
- Prior to loading data into the data warehouse, inconsistencies are identified and resolved. This greatly simplifies reporting and analysis.
- Data warehouses facilitate decision support system applications such as trend reports (e.g., the improvement in AT&C loss in a particular division over the last five years), exception reports, and reports that show actual performance versus targets set by the regulator. The system would be able to predict load and consumer growth by analysis of consumer and consumption profile over many years and also, provide trends in consumption pattern and hence, improve upon the Demand Side Management

The time and cost of implementing the aforesaid data warehouse for billing, collection and complaints is estimated at 12 months and 100 lac rupees respectively.

## 2. **Geographic Information System (GIS) :**

The implementation of a GIS in distribution management involves the following:

- High Resolution Satellite pictures procured for the discom's license area.
- Global Positioning System (GPS) used for taking ground control points required for geo referencing and ortho-rectification.
- Geo-referenced image then digitized for extracting land base features as per data model.
- All Utility network assets including Grids, Substations, Feeder Networks mapped.
- Extensive field survey conducted for improving quality and accuracy.
- All Consumers as available in revenue system of the discom captured and linked with the database.

The benefits of this GIS are as follows:

- Facilitating the automation of several processes and thus, responding to consumer requirements (e.g. providing new connection) faster and in an efficient manner.
- Utilisation of workforce by efficiently attending to faults, interruption and maintenance work.
- Enabling the Utility to provide quality service to consumers and adopt new technologies (like pre-paid meters etc.) faster.

The cost of implementing the GIS in a distribution company depends on the geographical area under consideration. In general, it will require around 24 months for implementing a Geographic Information System costing not less than 500 lac rupees.

## 3. **Supervisory Control and Data Acquisition System (SCADA) and Distribution Transformer Management System (DMS)**

The implementation of SCADA system will provide centralized data acquisition thus assisting in faster and precise decision-making and control of the distribution system. The Distribution Transformer Management System (DMS) will help in proper accounting of input and output at each stage thus helping in energy audit. These systems will facilitate online data acquisition of system at grid sub-station and remote operation of breakers, thus reducing manual dependencies and errors and leading to overall improvement in system efficiency. It will also ensure quality and reliability of power supply for the consumers.

In the first phase, SCADA system for all grid stations may be implemented after the EHV stations, DTs (Distribution Transformers) and HT/EHT consumers are properly mapped. The time and cost involved in implementation of such a system is not less than 6 months and 300 lac rupees respectively.

In the second phase, DMS may be implemented and integrated with the SCADA system. Moreover, several other business processes may also be integrated with the SCADA system. The time and cost for the aforesaid implementation is estimated to be not less than six months and 200 lac rupees respectively.

## OERC - PROACTIVE IN CONSUMER INTEREST

Purabi Das,  
PAO, OERC

### A. STATUTORY PROVISIONS (PRE-REFORM)

- Indian Electricity Act, 1910
  - Main thrust on supply of electricity in a safe manner
  - No overt provisions for protection of consumer interest
- Electricity (Supply) Act, 1948
  - Constitution of SEBs to provide universal coverage
  - Local Advisory Committee to advise the Board
- Indian Electricity Rules, 1926
  - General safety requirement
  - Basic quality of supply
  - Conditions for use of energy

### B. STATUTORY PROVISIONS (POST-REFORM)

- Orissa Electricity Reform Act, 1995
  - Sec 26, 2(c) - protection of consumer interest in tariff setting
  - Sec 32 - Consumer Advisory committee
  - Sec 33 - Consumer protection & standard of performance with penalty/compensation for violation
  - Sec 34 - Overall performance standards
- Electricity Act, 2003
  - The Preamble
    - mentions "protecting the interest of the consumers" as an integral aspect of the legislation
- Definition of consumer Sec 2 (15)
  - any person supplied with electricity for his use by a licensee
  - any person whose premises are connected for receiving electricity with the works of a licensee

- Right of Non-discrimination Section 45 (4)
  - all consumers to be treated equally
  - No discrimination or undue preference
- New applicant Section 43
  - supply must be granted within one month if due procedure is followed
- Distribution Code Section 50
  - covers all aspects of interface of the Distribution Licensee with the consumer
- Standards of Performance Section 57
  - mandates for provision of specified performance standards for utilities & compensation for failure to meet them
- Determining tariff, Section 61
  - Stipulates that consumer interest be protected while determining tariff
- Functions of SERC, Section 86 (3)
  - mandates transparency in discharge of functions
- State Advisory Committee, Section 87
  - SAC the common platform to voice consumer issues
- Consumer Counsel, Section 94(3)
  - stipulates engagement of consumer counsel in the proceedings of the Commission to protect consumer interest
- Appeal, Section 111
  - any person aggrieved by order of the Commission/ Adjudicating Officer can approach Appellate Tribunal for Electricity
- Enforcement, Section 142/146
  - violation of Commission orders by any person in any form is liable for penalty
- District Committees to look after consumer issues
- GRF/Ombudsman, Section 42 (5),(6)
  - mandate establishment of Grievance Redressal Forum & Ombudsman for disposal of consumer complaints

- Condition 9 of Distribution License Conditions mandates approval & Implementation of Consumer service documents by licensees

#### C. WHAT OERC HAS DONE

##### Regulations

- OERC (Conditions of Supply) Code, 28th May,2004.
- OERC (Licensees Standards of Performance) Regulations, 28th May 2004.
- OERC (Grievances Redressal Forum and Ombudsman) Regulations, 17th May 2004.
- OERC (Terms and Conditions for Determination of Tariff) Regulations, 10th Jun 2004.
- OERC (Procedure for filing appeal before the Appellate Authority) Regulations, 28th May 2004.
- OERC (State Advisory Committee) Regulations,28th May 2004.
- OERC (Conduct of Business) Regulations, 28th May 2004.
- OERC (Terms and Conditions for Open Access) Regulations, 21st June 2005.
- OERC (Determination of Open Access Charges) Regulations, 18th July 2006.
- Orissa Grid Code(OGC) Regulations,14th June 2006.
- OERC(ABT) Regulations,2007.

##### Tariff

- Abolition of Minimum Charge for all classes of consumers since 1997-98
- No tariff rise after 01.02.2001
- If inflation is considered, overall tariff in 2008-09 is down by 26.38% compared to 1995-96
- Introduction of Multi Year Tariff(MYT) in 2003
- Rationalisation of Tariff towards cost base and voltage base
- Reduction of cross subsidy
- Quantification of T&D loss and benchmarks in tariff for restricting loss in Business Plan, 2003
- Introduction of Time of Day (ToD) tariff for all three phase consumers in 2004
- Introduction of spot billing and meter cards
- Introduction of Voluntary Disclosure Scheme for unauthorized consumers
- Appointment of Consumer Counsel in Tariff Proceedings in 2007
- Tariff of Agro-industrial consumers was reduced

## Standards of Performance

- Introduction of guaranteed overall and individual Standards of Performance
  - Performance Standards published annually
  - Vigorous monitoring of licensees performance
  - Proceedings conducted by Commission to penalise the Distribution licensees' for non-compliance of GRF/Ombudsman orders
  - Inspection by independent enquiry teams regarding the maintenance of transmission and distribution system
- Compensation for violation of standards

## Grievance Redressal

- Three tier grievance redressal mechanism
- Complaint Handling Procedure, Consumer Rights Statement & Code of Practice on Payment of Bills of Distcoms approved by OERC
- Grievance Cell functioning in OERC since 1998
- Creation of 12 Grievance Redressal Fora and 2 Ombudsman to dispose of consumer complaints
  - Cesu - Bhubaneswar, Khurda, Cuttack, Dhenkanal, Paradeep
  - Nesco - Balasore, Jajpur
  - Southco - Berhampur, Jeypore
  - Wesco - Burla, Bolangir, Rourkela
  - Ombudsman I - Cesu
  - Ombudsman II - Nesco, Southco & Wesco
- Rigorous monitoring of GRF/Ombudsman
  - Inspection of GRF done by Commission officers
  - Interactive workshops for Presidents/Members of GRF/ Ombudsman
  - Online complaint disposal filing being implemented

## Consultative decision making

- Open public hearings for major decisions
- Suo motu proceedings in consumer interest

- SAC representing cross-section of consumers in state constituted
  - Frequent Meetings are held for constructive advice
- State Co-ordination Forum formed by Govt. of Orissa
  - Chairperson & Members of OERC are Chairperson and Members of Forum
- District Committees notified in Oct, 2004

#### Pro active Consumer education

- Direct consumer interface programs
  - regular public meetings by OERC with consumer representatives in all divisions
- Print & audio-visual campaign
  - Phone in programmes on radio
  - AV spots telecast on TV
- Publication & wide dissemination of consumer booklets & brochures
  - Bilingual FAQ distributed among consumer groups & staff of discoms
- Translation of regulations into local languages
- Compilation of Regulations published in English and Oriya
- Comprehensive Book on Orissa Power Sector compiled & published in December 2008

#### Training & capacity building

- Networking with consumer groups
  - Inspection of Standards of Performance of Discoms by NGOs
- Extensive training for Distcom staff by OERC on regulations/Electricity Act, 2003
- Gramsat used to sensitise senior government functionaries on state power sector issues
- Introduction of intra state open access
- State wide Consumer Satisfaction Survey
- State level workshop on consumer rights
- Consumer counsel engaged for analyses and presentation of Tariff applications for FY 2007- 08 & FY 2008- 09

## IT Solutions for Consumers

- First website in India power sector created in 1998
- Development of Regulatory Information Management System in 2005
- Case Tracking through OERC web portal in 2006
- OERC becomes E-Commission in 2007
- OERC wins IDG Media business excellence award for innovation in IT solutions

## D. THE ROAD AHEAD

- Discoms to self regulate in maintenance of standards
- Automatic compensation to be dispensed for violation of standards
- Empowerment of GRFs/Ombudsmen for their effective functioning
- Massive consumer awareness programmes through Print/Audio-Visual media
- Engagement of consumer counsel in PPA/License/consumer related Proceedings
- Follow up on training of field staffs of Discoms & consumer organisations
- Frequent consumer interface & networking with consumer right groups
- Implementation of web based Complaint Analysis & Tracking System at GRFs & Ombudsmen's offices
- Development of Data warehouse for the Orissa Power Sector

# LEGAL AND REGULATORY FRAMEWORK FOR PROMOTION OF RENEWABLE ENERGY AND POTENTIAL IN ORISSA

Ashok Kumar Jagadev  
Dy. Director (T/Engg.), OERC

## INTRODUCTION:

The demand for electricity has substantially increased in India due to increase in population, industrial growth, agricultural needs, transportation needs etc. As on 31st March, 2009 the installed capacity of power plants in India stood at 1,49,392 MW and Ministry of Power, Government of India plans to add 78,500 MW of additional power plants in the XI Plan ending FY 2012. The power projects in India are pre-dominantly coal based and the trend showing further increase in coal-based power generation. Now, the great concern the world over including India, is emission of Green House Gases (GHG) from the use of fossil fuels such as coal, natural gas and oil, causing global warming that results in rising of sea level, Glacier retreat, arctic shrinkage, extreme weather events and also drastic economic impact. World Energy projections have estimated that GHG emission is expected to increase by 50% from 2005 levels by 2030. This increasing environmental concerns and climate change risks associated with fossil fuel-based power generation have created political momentum and Governments around the world have implemented a variety of policy initiatives to accelerate the development and adoption of Renewable energy Sources to combat the GHG level to save the planet Earth.

Presently, India has huge shortage both in energy and demand but the power demand is growing @ 9% per annum to sustain the GDP growth. Even after more than 60 years of independence one out of six Indian villages still do not have access to electricity. Hence, it is necessary to harness power from all viable sources with developed technology to bridge the gap between demand and supply. The indigenous resources of fossil fuels are limited and would get exhausted in a few decades, if it is used for power generation at the present rate. Generation of electricity from renewable sources such as Wind, Solar, Small Hydro, Bio-mass and Bagasse based cogeneration etc, is therefore, most desirable to the extent of techno-economic feasibility. Further, the climate change concerns are at an all time high and the Government is striving to change their energy mix in favour of renewable energy sources. As on 31st March, 2009 the capacity mix of power generation is as indicated below :

Sources	MW	%age
Coal	77,949	53.3
Gas	16,003	10.5
Oil	1,200	0.9
Total Thermal	95,152	64.6%
Hydro	36,878	24.7
Nuclear	4,120	2.9
Renewables	13,242	7.7
Grand Total	1,49,392	100

## MINISTRY OF NON CONVENTIONAL ENERGY SOURCES INITIATIVES

In India, the utilization of renewable energy technologies for electricity generation has a long history. The wind demonstration projects were set up in early 80's in the states like Tamil Nadu, Gujarat, and Maharashtra etc. The Ministry of Non-Conventional Energy Sources (MNES) in 1993, prepared policy guidelines for promotion of power generation from renewable energy sources. The MNES guidelines were valid for a period of 10 years. Power being a concurrent subject between the central and the state governments in India, different states adopted the MNES guidelines to varying degrees i.e. some states giving additional benefits to renewables while some states have even diluted the benefits that were proposed in the MNES guidelines. Now MNES has renamed as Ministry of New and Renewable Energy (MNRE). The Indian Renewable Energy Development Agency (IREDA), the nodal agency of MNRE is to promote, develop and extend financial assistance for Renewable Energy and energy efficiency/conservation projects and also assist the ministry in funding, monitoring and other associated activities.

### ENABLING PROVISIONS UNDER ELECTRICITY ACT, 2003

Although Indian Electricity Act, 1910; the Electricity (Supply) Act, 1948 and the Electricity Regulatory Commission (ERC) Act, 1998 have several provisions for the power sector in India, but do not have any specific provisions for Renewables. The Electricity Act (EA), 2003 extinguishes previous legislation covering electricity in India and paved the way for development of renewable energy in the country.

**Section 3** of the Electricity Act, 2003 explicitly stated the requirement of optimal use of resources including renewable sources of energy. It requires the Central Government to develop the National Electricity Policy and the National Tariff Policy to ensure optimal use of resources. Similarly, **Section 4** of the Act recognized that to ensure provision of electricity to all, grid expansion may not always be the best strategy and therefore, visualized the development of mini-grid and off-grid applications.

Further, **Section 61(h)** and **Section 86(1) (e)** of the EA 2003 enable the SERCs to promote renewable energy within their area of jurisdiction. For the first time, promotion of cogeneration and generation of electricity from renewable sources of energy have been made the explicit responsibility of the SERCs. Section 61 of the Act prescribes the philosophy to be followed by the SERCs while determining tariffs whereas Section 86 prescribes the functions of the SERCs. Both these Sections are mandatory and therefore put significant responsibility on the SERCs for renewable sources of energy.

### PROVISIONS UNDER NATIONAL ELECTRICITY POLICY (NEP)

In pursuance of the provisions of the EA 2003, the Government of India has notified the National Electricity Policy on 12.02.2005, which stresses on the need for the promotion of Non- Conventional Energy Sources. The extract of the relevant provisions of the National Electricity Policy is given below.

**Para 5.2.20** provides for exploiting potential of renewable energy sources to increase the share of renewable energy in the electricity mix and encourage private participation.

**Para 5.12.1** provides for introduction of competition within the renewable energy projects in order to reduce cost of capital and development of technologies.

Para 5.12.2 provides for promotion of cogeneration and renewable energy sources through grid connectivity and fixing a progressively increase percentage of total consumption of the licensees applicable to tariff. SERCs to facilitated competitive bidding of the procurement of renewable energy and determine appropriate differential prices to promote renewable energy technologies.

Para 5.12.3 provides for SERCs to promote cogeneration to harness surplus power, energy efficiency and grid stability.

#### **PROVISION UNDER NATIONAL TARIFF POLICY (NTP)**

The NTP notified on 6 January 2006 further elaborates the role of regulatory commissions, the mechanism for promoting the use of renewable energy, time frame for implementation, etc. Clause 6.4 of the NTP addresses various aspects associated with the promotion and harnessing of renewable energy sources. The salient features of the said provisions of NTP are as follows.

- Pursuant to provisions of section 86(1)(e) of the Act, the Appropriate Commission shall fix a minimum percentage for purchase of energy from such sources taking into account availability of such resources in the region and its impact on retail tariffs. Such percentage for purchase of energy should be made applicable for the tariffs to be determined by the SERCs latest by April 1, 2006.
- Procurement of power from renewable energy sources by distribution companies shall be done at preferential tariffs determined by the Appropriate Commission.
- Procurement of renewable energy for future requirements through competitive bidding process within suppliers offering energy from same type of sources so that in the long-term, these technologies could compete with other sources in terms of full costs.
- The Central Commission should lay down guidelines for pricing non-firm power, especially from non-conventional sources, to be followed in cases where such procurement is not through competitive bidding.

#### **PROVISIONS UNDER INTEGRATED ENERGY POLICY**

The Integrated Energy Policy, prepared by the expert Committee constituted under the Chairmanship of Dr Kirit Parikh, Member (Energy), Planning Commission, Govt of India, was notified in August 2006. Some of the relevant provisions outlined in the Integrated Energy Policy are summarized below.

- Renewable energy may need special policies to encourage them. This should be done for a well-defined period or up to a well-defined limit and should be done in a way that encourages outcomes and not just outlays.
- Phase out capital subsidies, which only encourage investment without ensuing outcome, by the end of the 10th Plan linked to creation of renewable grid power capacity

- Power regulators must seek alternative incentive structures that encourage utilities to integrate wind, small hydro, cogeneration, etc., into their systems. All incentives must be linked to energy generated as opposed to capacity created.
- Respective power regulators should mandate feed-in laws for renewable energy, where appropriate, as provided under the Electricity Act and as are mandated in many countries.

#### PROVISIONS UNDER NATIONAL ACTION PLAN ON CLIMATE CHANGE

The National Action Plan on Climate Change (NAPCC), prepared by Prime Minister's Council on Climate Change, was released on 30th June, 2008. The NAPCC has ambitious plans for the development of grid connected solar power projects as well as decentralized solar applications. The NAPCC has also outlined an important regulatory provision which will overcome the issue of uneven development of renewables across the state due to resource specific nature of renewables. Clause 4.2.2 in the NAPCC states that

- At National level for FY 2010, target for RE Purchase may be set at 5% of total grid purchase, to be increased by 1% each year for 10 years. SERCs may set higher target than this minimum at any point of time.
- Appropriate authorities may issue certificates that procure renewable power in excess of the national standard. Such certificates may be tradable, to enable utilities falling short to meet their RPS.
- Penalties as may be allowed under EA 2003 may be levied, if utilities are still falling short in RPS.
- SERCs to ensure greater use of RE and increased access to energy in areas where distributed and decentralized forms of energy are economically superior to conventional forms. In doing so, State government may employ fiscal instruments to promote appropriate options and measures.
- Without regard to scheduling, renewable power may be enabled to compete with conventional generation on equal basis (whether bid tariffs or cost-plus tariffs) All else being equal, in such cases, the renewable power should be preferred to the competing conventional power
- Central & State Governments may set up a verification mechanism to ensure that renewable power is actually procured.

#### CLEAN DEVELOPMENT MECHANISM (CDM)

To strengthen the developed countries' commitments under the United Nations Framework Convention on Climate Change (UNFCCC), the parties adopted Kyoto Protocol in 1997, which commits developed country Parties to return their emissions of greenhouse gases to an average of approximately 5.2% below 1990 levels over the period 2008-12. CDM is a mechanism under the Kyoto Protocol for promoting technology transfer and investment from industrialized countries to the developing world for projects focused on mitigating emissions of greenhouse gases. It provides for industrialized countries to invest in emission-reducing projects in developing countries and to use the resulting Certified Emissions

Reductions (CER) credits towards their own compliance with the emission limitation targets set forth by the Kyoto Protocol.

Renewable energy projects which promote a transition from carbon-intensive to less carbon-intensive fuels are the basic CDM projects. The CDM potential in India represents a significant component of global CDM market. Hence, a greater thrust is being given in India for adoption of programme activities under CDM.

#### **REGULATORY MEASURES TAKEN BY CENTRAL ELECTRICITY REGULATORY COMMISSION (CERC)**

CERC had issued a discussion paper on "Promotion of Cogeneration and Generation of Electricity from Renewable Sources of Energy" on May 16, 2008 under which various modes of inter-state sale of renewable energy had been discussed. Based on the comments, objections and suggestions received from various stakeholders, CERC engaged the services of ABPS Infrastructure Advisory Pvt. Ltd. to develop and recommend appropriate tariff structure, benchmark norms for capital cost along with the indexation formulae to take care of the market variations of the project parameters for various renewable sources of energy. The objective was to evolve norms for determination of tariff for generation of electricity from renewable sources of energy and which could also act as guiding principle for SERCs in terms of Section 61 (a) of the Act.

Finally, CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations has been notified on 16.09.2009. The Tariff Regulations are expected to promote new investments in renewable electricity sector and to meet the goals stipulated in the National Action Plan on Climate Change for achieving minimum renewable purchase of 5% of the total power purchase in the year 2010 and thereafter increase by 1% each year for the next 10 years.

Some important features of the new Regulations are:

- Specifying capital norms for different renewable technologies
- Fixing upfront tariff for the whole tariff period to ensure regulatory certainty.
- Giving a preferential tariff for the projects based on new technologies during the period of debt repayment
- Adopting levelized tariff model for certain technologies to avoid front loading
- Allowing project specific tariff for solar and other new evolving technologies

CERC would also play a supportive role for designing and regulating the registry of Renewable Energy Certificate (REC) and its market at national level, as agreed by the Forum of Regulators to implement REC mechanism which will be an alternative route for fulfilling renewable purchase obligations (RPO). This mechanism is mainly aimed at addressing the mismatch between renewable sources availability in the local region and the RPO. Further, CERC has constituted an expert Task Force to address the technical problems relating to absorption of large volumes of non-firm power in the grid and to give recommendation in respect of forecasting of generation from renewable technologies, ensuring grid

reliability and equitable sharing of costs involved in ensuring reliable operations. The Task Force would also recommend appropriate grid connectivity standards for renewable sources based generating stations.

## **POLICY AND REGULATORY FRAMEWORK IN ORISSA**

### **Present Policy Guidelines of Govt. of Orissa on Power Generation from Renewable Energy Sources**

The Science and Technology Department, Govt of Orissa has notified policy guidelines on power generation from renewable energy sources on December 3, 2005. The objectives were to promote generation of grid quality power from renewable sources for meeting the peak load, encourage entrepreneurial investment and to reduce the use of fossil fuels for safeguard the environment. Some of the provisions from the above policy guidelines are given below:

- Any public sector, private entrepreneur, registered NGOs, Cooperatives will be allowed to set the project under IPP or CPP mode.
- The expenditure required for grid interfacing , substations , connecting lines should be borne by the RE developer
- The captive RE developer can generate power for its own use or can wheel the power to desired destination using transmission / distribution system of GRIDCO (now OPTCL / DISCOMs) after paying the necessary charges as determined by OERC.
- Banking of energy generated through captive RE projects shall be allowed on annual basis. GRIDCO is allowed to deduct 2.5% energy towards banking charges.
- Sale of energy to GRIDCO is allowed on the basis of PPA approved by OERC
- RE power plant owners are exempted from payment Electricity Duty.
- Government land earmarked for Industry under the land bank scheme was allowed for allotment in case of RE power projects.
- OREDA is designated as nodal agency for entire programme to function as Single window for facilitation of the projects.
- Mandate for implementation of Small Hydro Projects (SHP) programme is given to the Energy department , Govt of Orissa
- State Technical Committee (STC) is set up for techno economic evaluation and clearance of the RE projects
- The policy would remain in force for a period of 10 years from the date of issue.

### **REGULATORY MEASURES BY ORISSA ELECTRICITY REGULATORY COMMISSION (OERC)**

The OERC, for the first time, used the power vested under EA 2003 to initiate the regulatory process for promotion of renewable energy sources in Orissa while disposing of the petition filed by M/s Greenpeace

India Society (Case No 151 of 2004). The Commission, in its order dated 23.04.2005, has directed the electricity supply utilities / GRIDCO to purchase 200 MU from the renewable energy sources during FY 2006-07 and the unit cost of such energy should not exceed the highest generation cost of thermal power stations of the eastern region. Later on, dealing with the same subject, the Commission in its order dated 20.08.2005 (Case No 14 of 2005) has directed the supply licensees to purchase power from renewable energy sources including waste heat recovery cogeneration projects for use of the consumers within the state upto 3% of the total purchase during FY 2007-08, to go up at the rate of 0.5% per annum in the subsequent years so as to reach 5% by the year 2011-12. In the same order the Commission has also directed that the generating companies of non-conventional and renewable sources may be permitted by DISTCOs/OPTCL to deliver the power at 11 KV or 33 KV as the case may be. Depending upon the techno-commercial viability of the project, the interconnection point for delivery of power may be at 132 KV.

Now, by recognizing the need for accelerating the growth of renewable sources of energy in the state, the OERC has initiated actions to formulate a comprehensive policy on RE / Co-generation for the State of Orissa, specifying the issues like optimal power mix, appropriate connectivity and pricing of various RE sources etc. In this regard, a consultative paper had been floated by OERC in May 2008, outlining the regulatory approaches for development of RE in some other states in India, the issues related to determination of minimum purchase obligation and tariff for RE sources etc. Consequent upon the views/suggestions received on the consultative paper from various stakeholders in the public hearing held on 19.07.2008, the Commission has engaged World Institute of Sustainable Energy (WISE) for formulating a comprehensive approach paper addressing the tariff fixation, RE purchase obligation and grid connectivity etc for various RE sources in the state of Orissa, which is at the final stage. The Commission would like to formulate the RE policy for the state soon on the basis of the approach paper prepared by WISE.

However, in the meantime, based on the applications of some developers of Solar PV projects and considering the dead line set up by the MNRE for availing the subsidy and in the absence of data required for cost plus tariff setting, OERC in its order dtd. 09.09.2009, has fixed the ceiling tariff of Rs.15.00/kWh (for the 1st to 12th years) and Rs.7.50/kWh (for the 13th to 25th years) for Solar PV projects which could be established in the State by March, 2010. The above tariff is provisional and generic in nature and all the incentives /subsidies received by the developers from MNRE/GOI/GOO shall be factored into the same.

#### **PRESENT STATUS OF RENEWABLE ENERGY SOURCES IN ORISSA**

Though Orissa has shown the path to the other states by initiating power sector reforms for the first time in India , the state has found itself on the back foot as far as development of grid connected renewable energy is concerned, despite the availability of huge potentials viz. hydro, wind, solar, bio-mass etc. The Orissa Renewable Energy Development Agency (OREDA) is the nodal agency for the promotion and implementation of renewable energy sources in the state. As per the recent estimation

of OREDA, the renewable energy power potential in the state is around 16230 MW. However, as per assessment of WISE Institute, Pune considering 10% of utilisable waste land for wind and solar power development, the renewable energy potential in the State is about 7874 MW as indicated in Table below:

Source	Potential assessed by OREDA (MW)	Potential assessed by WISE (MW)
Wind Energy	1700	2430
Biomass Power	350	240
Micro/Mini/Small hydro	160	184
Municipal solid waste	20	20
Solar	14000	5000
<b>Total</b>	<b>16230</b>	<b>7874</b>

The power potential assessment by WISE for Wind, Solar, Small Hydro and Bio-mass sources in Orissa is as follows:

#### Wind Energy

- Computation of probable average annual energy generation and normative CUF from selected WEGs (4 model) at C-WET certified wind potential sites in Orissa (Chandipur, Chatrapur, Damanjodi, Gopalpur, Paradeep & Puri).
- Used three different methods: Weibull method, Thumb rule method and certified power curve method for calculation of probable annual energy generation.
- Potential assessment in terms of MW considering the availability of waste land (7 categories out of 28 categories) in the vicinity of the windy sites using the Waste land Atlas prepared by NRSA, Gol.

#### Computation of CUF at potential sites

Site	Enercon 800 KW	Suzlon 1250 KW	ReGen 1500 KW	Vestas 1650 KW
Chandipur	17.3	20.4	18.0	20.0
Chatrapur	19.4	17.9	17.7	18.4
Damanjodi	19.4	19.6	18.6	19.1
Gopalpur	15.6	15.0	20.4	20.7
Paradwip	16.9	16.5	18.3	18.9
Puri	15.2	14.7	18.1	19.2
<b>Average</b>	<b>17.3</b>	<b>17.4</b>	<b>18.5</b>	<b>19.4</b>

**Assessment of Wind Power potential (MW)**

District	Mast Site	Utilizable waste land area (from 7 categories) for wind power projects (Sq.km)	Wind power potential with 1% of utilizable waste land (MW)	Wind power potential with 5% of utilizable waste land (MW)	Wind power potential with 10% of utilizable waste land (MW)
Balasore	Chandipur	98.88	9.89	49.44	98.88
Cuttack	Paradeep	200.62	20.06	100.31	200.62
Ganjam	Chatrapur Gopalpur	1091.76	109.18	545.88	1091.76
Koraput	Damanjodi	1023.23	102.32	511.65	1023.23
Puri	Puri	15.37	1.54	7.68	15.37
<b>Total</b>		<b>2429.86</b>	<b>260.81</b>	<b>1214.93</b>	<b>2429.86</b>

Land requirement: 1 Sq. Km for 10 MW installations

**Solar Energy**

- Computation of probable average annual energy generation and normative CUF for SPV (fixed axis , 2-axis ) and Solar thermal power technologies at potential sites (Angul, Dhenkanal, Jharsuguda, Talcher, Titlagarh)
- Use of METEONORM and SAM (Solar Advisor Model) software's. The former generate a solar radiation file for given location while the later use it as a input file and compute the annual energy generation from the system at the given location.
- Potential assessment in terms of MW considering the availability of waste land ( 7 categories out of 28 categories) in the vicinity of the potential solar sites using the Waste land Atlas prepared by NRSA, Gol

**Computation of insolation & CUF at potential sites**

Sl. No	Location	Gh Kwh/sq.m/day	Di Kwh/sq.m/day	Dh Kwh/sq.m/day	Capacity Utilization Factor (%)		
					SPV Fixed Axis	SPV 2-Axis	Solar Thermal
1	Angul	5.136	4.416	2.256	15.92	20.44	23.37
2	Dhenkanal	5.04	4.2	2.28	15.46	19.78	22.08
3	Jharsuguda	5.208	4.824	2.112	16.10	20.88	25.99
4	Talcher	5.136	4.416	2.232	15.87	20.34	23.39
5	Titlagarh	5.256	4.8	2.136	15.93	20.71	26.17

### Assessment of Solar Power potential (MW)

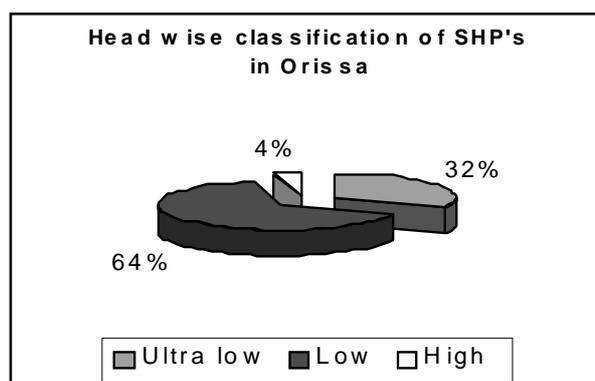
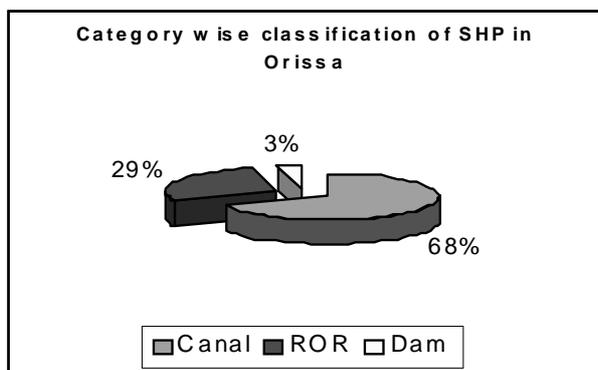
District	Site	Utilizable waste land area for Solar power projects (Sq.km)	Solar Thermal		
			Potential with 1% of Utilizable waste land (MW)	Potential with 5% of Utilizable waste land (MW)	Potential with 10% of Utilizable waste land (MW)
Angul	Angul	263.75	107.83	540.58	1081.17
	Talcher				
Dhenkanal	Dhenkanal	290.48	118.9	594.4	1189
Jharsuguda	Jharsuguda	129.03	52.89	264.45	528.9
Balangir	Titlagarh	541.83	221.81	1109.05	2218.1
Total		1225.09	501.43	2508.58	5017.17

Land required for 1MW Solar PV power project: 5 Acres

Land required for 1MW Solar Thermal power project: 7 Acres

### Assessment of SHP potential

- Total SHP potential in state is around 185 MW ( 224 sites)
- The data provided by Engineer in Chief (Electricity) , Govt. of Orissa is used to analyze the characteristics of future SHP schemes suppose to be commissioned in Orissa
- Characteristics of future SHP schemes



- Majority of identified SHP schemes are fall under low head schemes which requires higher capital cost than the RoR schemes. The normative CUF of 35% is recommended by analyzing the DPR data provided by EIC and operational experience of low head schemes in other states.

### Assessment of Biomass power potential

The important aspects studied for potential assessment:

- Area under agricultural crops and cropping pattern in the state of Orissa

- Agricultural crop residue production
- Current use of crop residues (fodder, fuel, rural housing )
- Availability of surplus crop residues for power generation
- Biomass Assessment data provided by OREDA and IISc, Bangalore (for MNRE) is used for assessment
- As per district-wise surplus biomass availability in the state 240 MW capacity Biomass power projects can be commissioned.

However, harnessing of the grid quality power from such vast renewable energy potential is practically negligible in the State and not very much in focus due to the lack of pro-active and transparent steps by the relevant departments of the State Government and lack of enthusiasm in the government agencies responsible for development of renewable energy. In addition, the complex procedure in present renewable policy guideline and mini/micro/small hydro policy of the State Government make the private developers difficult for any progress in setting up the renewable power projects. Currently from year 2009-10, GRIDCO, the bulk power supplier to the DISCOMs in the State, is procuring renewable power from Middle Kolab SHEP (25 MW) and Lower Kolab SHEP (12 MW) of Meenaskhi Power Ltd. and Samal Barrage SHEP (20 MW) of Orissa Power Consortium Ltd. The present capacity mix of power generation in the State is as indicated below.

Sources	MW	%age
State Thermal	880	21.56
Central Sector Thermal (State Share)	870	21.32
<b>Total Thermal</b>	<b>1750</b>	<b>42.88</b>
State Hydro	2085	51.09
Central Sector Hydro (State Share)	189	4.63
<b>Total Hydro</b>	<b>2274</b>	<b>55.72</b>
Renewables (Small Hydro)	57	1.40
<b>Total</b>	<b>4081</b>	<b>100</b>

As revealed from the above table, GRIDCO procures only 57 MW of renewable power which is about 1.5% of the total capacity mix. Since the total RE potential in the State is enormous there is an urgent need for development of RE potential in the State which is untapped.

In view of the present opportunities in terms of attractive tariff provisions in CERC Regulations, CDM benefits and trading of Renewable Energy Certificate etc., many RE developers have shown their interest for implementation of RE projects in Orissa. OERC has already approved five numbers of PPAs between GRIDCO and the small hydro power developers for an install capacity of 49 MW which is

expected to be implemented in near future. Apart from this, many other developers have already approached to EIC electricity with DPR for implementation of small hydro projects in the State which are under consideration of STC. Further, proposal for eleven nos. of solar PV power projects (64 MW) and 10 nos. of bio-mass power projects (70 MW) have already been cleared by STC and DPR of other Solar PV and Bio-mass power projects are pending for clearance by STC. Moreover, many Solar PV project developers have approached to OERC for a suitable tariff policy for Solar PV power generation.

**CONCLUSION :**

In the present scenario, there is a need for amendment in RE policy of the State Government for smooth clearance of DPR, land acquisition, financial incentive and grid connectivity for the RE developers to implement the projects without any hassles. An integrated approach through a conducive policy statement by the Government and favourable tariff for RE can accelerate the growth of renewable projects in the State in order to serve the dual purpose of meeting the renewable obligations and a clean & green environment along with meeting the increased demand of the State.

## **ORISSA POWER GENERATION CORPORATION LIMITED - PROMISES OF PROGRESS**

**Manoranjan Mishra  
Company Secretary,  
OPGC**

### **FORMATION :**

Orissa Power Generation Corporation (OPGC) was incorporated as a Company under the Companies Act in the year 1984 to pursue its objectives of power generation thermal power generation being its prime focus. Establishment of OPGC, a generating utility, independent of OSEB in those days was a departure from the convention as the entire gamut of activities stretching from generation of power to its retail distribution used to fall in the domain of state SEBs of the country. This innovative step of the State govt. which was a deviation from the trend then prevailing, had in fact made a quiet beginning of reforms in the State power sector. Though the pressing need to solve the financial problems of OSEB and to meet the requirement of funds for investment in generation, transmission and distribution system triggered restructuring of the power sector of the state, establishment of OPGC as an independent generating company way back in 1984 reflected the visions of people at the helms of the State power sector. As a matter of fact, the visionaries of the state power sector had foreseen the reforms of the sector as early as 1984 and sensed the unbundling of OSEB as the inevitable consequence thereof. The vision ultimately turned in to reality with enactment of OER Act 1995 which set the trend of countrywide reform of the power sector.

### **POST-REFORM CHANGES :**

Under the reforms in the state power sector, 49% of the equity in OPGC was divested in favour of a strategic investor AES Corp., USA through global competitive bidding in the year 1998. The objective of bringing in the strategic investor was to achieve better operational efficiency, optimal financial performance and future growth. OPGC today has emerged as a successful Public Private Partnership in the power sector of the country with excellent track record of operating efficiency, profitability and an ambitious growth plan.

### **OVERALL PERFORMANCE :**

In the above back ground, a close look at OPGC's performance would reveal that the objectives of establishing an independent generating utility and induction of a strategic partner to a great extent have been realised. OPGC, presently the only thermal generating power company in the state sector, has set up 2x210 MW power plant at Ib Thermal Power Station which have been operating successfully since their synchronisation to the state grid in the year 1994 (Unit#I) and 1996 (Unit#II). In the course of operation, OPGC has set many milestones of operational excellence and safety and emerged as one of the best 30 thermal power plants of the country. At plant availability of over 90% it ranks among top 20 power plants comparable to NTPC plants. At present, Ib Thermal Power Station is one of the cheapest sources of power for the state supplying power to GRIDCO at around Rs.1.40 per unit. On the commercial front, OPGC has also displayed excellence by making the company a profitable concern yielding handsome dividends on the investments of its shareholders. During the past five years ITPS has registered an average PLF of around 86% and about Rs.614 crore has gone to state exchequer as dividend till date.

## AWARDS & RECOGNITION :

Consistent plant performance and exemplary work done in the field of Environment, Safety & Health have brought many accolades to the Company and following are a few to cite. The Company has till date completed more than 2000 accident free days which is a rare achievement for any power plant in the country.

- ◆ GREENTECH Environment and Safety GOLD Award from Greentech Foundation for last 3 consecutive years.
- ◆ Safety and Environment Awards from Directorate of Factories & Boilers, Orissa for "1st Prize in Longest Accident Free Period category".
- ◆ "CII-Orissa Award for Best Practices in Environment, Safety & Health (ESH)-Runner".
- ◆ OHSAS 18000 certification from BVQI
- ◆ ISO 14001 certification by BVQI
- ◆ State Pollution & control Excellency Award
- ◆ Meritorious performance award from Ministry of Power, Govt. of India and CEA

## CORPORATE SOCIAL RESPONSIBILITY :

As a part of social responsibility, the company has always taken a lead in periphery development which includes implementation of several projects such as Drinking Water, Education, Road, Electricity infrastructure, Small Irrigation, Health care, Parks & Traffic Lighting etc in the state of Orissa. Facilities such as Hospital and Schools at ITPS have been extended to the people of peripheral villages.

## CAPACITY ADDITION :

The company is pursuing further capacity addition in terms of setting up of new Units 3&4 at the same location. Though 2x250 MW units were initially planned, OPGC is presently looking at setting up of 2x660 MW units with super-critical technology in view of various advantages like improved plant efficiency, operating flexibility, fuel cost saving and reduced emission for each Kwh of electricity. Half of the capacity addition will be committed to GRIDCO and the remaining half will be sold directly by OPGC.

For the above expansion, OPGC has also been allotted Captive Coal block in Manoharpur area of Sundargarh District with an estimated coal deposit of 531.68 million metric ton. This Captive mine shall ensure the fuel security for the new units at a highly competitive cost.

Development of new units and coalmine together would require an investment of around Rs.8000 crore. Various clearances and permits for the above projects are in advanced stage and OPGC is pursuing an early financial closure.

The Company is hopeful and optimistic about making fast progress in setting up of the new units which are long awaited and it is expected that this would not only reduce the demand-supply gap but also help the state to source electricity at a reasonable price to keep the retail tariff low.

#### **MINI-HYDEL PROJECTS :**

Construction of seven Mini Hydel Projects (MHP) with a total installed capacity of 5075 KW was undertaken during the year 1990 with an investment of around Rs.20 crores. Two of the MHPs at Kendupatna and Biribati were operational till they were badly damaged by super cyclone in 1999 and the rest were at various stages of completion. Now the MHPs are being revived in phases. In the first phase Kendupatna, Biribati and Andharibhangi MHPs have been revived and synchronised to grid. PPA for sale of power to GRIDCO from these projects is being worked-out. Revival of the rest of the units is planned in the second phase.

#### **DIVERSIFICATION & GROWTH OPPORTUNITIES :**

OPGC's activities, with its thermal plants located at IbTPS, are presently confined to a single location of the state. In the interest of growth of the company and to have its presence in other areas of the state, setting up of thermal power plant in the second location is being explored. Further, based on its mini-hydel experience, the company is looking for opportunity to develop hydro power projects at Sindol and the proposal is under active consideration of the Department of Energy.

In November 2008, OPGC has stepped into its 25th year of existence and during the past years has proven its competence in the field of project development, operation & maintenance and developed itself as a matured player in the energy sector. With its present plan of growth and diversification it is poised to stand out as a power generating utility in the coming decade and carries the promise of serving as a catalyst of progress of the state.

## OHPC: IT'S PAST, PRESENT & FUTURE

K. S. BISWAL  
Dy Director (Pnl. & Adm.)

### INTRODUCTION :

The availability of adequate infrastructural facilities is vital for acceleration of economic development & sustainable growth of a Country. Power is the most important infrastructure & is widely regarded as an essential determinant of growth. With the advent of independence and the necessity for rapid development of metallurgical & other natural resources of the State, it was then necessary to utilize the plentifully available water resources for the production of electricity. Hydropower stations are generally located where water is available plentifully with low Dams to form a large regulating storage, aiming for less submergence with short water conductor system to constitute a high head for power generation. Hydro power is more eco-friendly, clean, emission-free and the cheapest power available in the World

### A. IT'S PAST :

With the growing demand of electricity from year to year for industrialization and rural development, the very idea of constituting the State Electricity Board came in terms of Electricity Supply Act, 1948. Accordingly, the erstwhile Orissa State Electricity Board was constituted under Section-V of the Electricity Act, 1948 w.e.f. 01.03.1961. In order to carry out its functions, under the act, the Board was empowered to frame its own Rule & Regulations & make other administrative arrangement. The Board was getting annual grant-in-aid from Govt. of Orissa. But the system failed to deliver the desired result as the monolithic Board combining the functions of generation, transmission and distribution was perceived as deficit ridden, inefficient, lacked in consumer orientation.

The failure of the Board was due to poor quality of supply, frequent & pro-longed interruption of power supply, wider frequency and voltage fluctuations in the system causing damage to the equipments of both producers and consumers, high transmission & distribution loss, thefts & pilferage of electricity, poor revenue collection & billing, inefficient management system, inability to raise resources to meet the future demand and supply to areas, not electrified, increasing dependency on budgetary support etc. With this background, the Govt. was forced to change its policies as the social sectors taken priority over the power sector. In order to promote efficiency, self-reliance and accountability and to attract investment in the sector, reform and restructuring of the erstwhile OSEB was thought of.

Accordingly, Orissa Electricity Reform Act, 1995 was enacted and came into operation w.e.f 01.04.1996. It unbundled the generation, transmission and distribution and established an independent and transparent regulatory regime in Orissa. OER Act, 1995 is a mile stone in the history of Utility regulation in India and signaled the emergence of regulatory jurisprudence, which is the combination of administrative, economic and legal systems. Accordingly OHPC was incorporated under the companies Act, 1956 on the 21st day of April 1995 to carryout the business of Hydro Power generation & other related activities in the state of Orissa consequent upon the decision of the GoO to restructure the power sector. The certificate to commence business was obtained on 12.07.1995.

The authorized share capital of OHPC is Rs. 1000 crores and the entire paid up capital is held by the state Govt. OHPC signed a corporatisation Agreement with State Govt. on 27.03.1996 by which it gives full autonomy to OHPC to operate in an efficient, economic & commercial manner.

**B. IT'S PRESENT :**

In exercise of the Powers conferred under Subsections (2), (6) & (7) of Section 23 of OER Act, 1995 (Act 2 of 1996) and Rule 5 of the Orissa Electricity Reform (Transfer of Undertakings, Assets, Liabilities, Proceedings & Personnel) Scheme Rules, 1996, the State Govt transferred the Hydro Power Stations under the jurisdiction Of the Govt. and OSEB to the control of Orissa Hydro Power Corporation Ltd. w.e.f 01.04.1996. With this transfer, the operational activities of the corporation started from April, 1996. The Orissa share of Machhkund Hydro Electric (Joint Scheme) project of GoO & Govt. of A.P was transferred to OHPC w.e.f 01.04.97.

After formation of OHPC, there has been many capacity additions from time to time i.e. the installed capacity has increased from 1272 MW to 2062MW within a span of 12 years. The share of Hydro Power in the country is 25% of the generating capacity whereas Orissa contributes 52.04% of the Hydro Power installed capacity of the Eastern Region. OHPC also meets more than 50% of Orissa power Demand. The situation is such that if OHPC makes losses due to monsoon failure, the Gridco and the four DISCOMs not only face tough situation in meeting Energy demand of Orissa but also their profit & sustainability will be uncertain. Due to OHPC, the Electricity Consumers of Orissa are getting Electricity at one of the cheapest tariff in the country and Gridco could able to minimize the past liability of Erstwhile OSEB through trading of surplus power.

Table-1.  
The details of generating stations before their transfer to OHPC.

Sl No.	Name of the Projects/under control of.	Name of the River	Commissioning Period	FRL/MDDL	No. & size of Units	Installed capacity	Design Energy	Total no. of Employees	Employee per MW
1	Rengali HEP /Govt.	Brahmani	1985-92	123.50M /109.72M	5x50 MW	250MW	525MU	1064	4.3
2	Upper Kolab HEP /Govt.	Kolab	1988-93	858M/ 844M	4x80 MW	320MW	832 MU	449	1.4
3	Burla Power Station/OSEB	Mahanadi	1957-64, Unit-7 in 1990	630Ft/ 590Ft	5x37.5 MW+2x 24 MW	235.5 MW		913	3.00
4	Chiplima P.S. /OSEB	Power Channel	1962-64	---	3x24 MW	72MW	1174MU		
5	Balimela HEP /OSEB	Machhkund - Silure	1973-77	1516Ft/ 1440Ft	6x60 MW	360 MW	1183 MU	779	2.16
<b>Subtotal</b>						<b>1237.5MW</b>	<b>3714MU</b>	<b>3205</b>	<b>2.6</b>
6	Machhkund Joint Scheme (Orissa share)	Machhkund	1955-59	2750Ft/ 2685Ft	34.5 MW	34.5 MW	300 MU	166	4.8
<b>Total</b>						<b>1272MW</b>	<b>4014MU</b>	<b>3371</b>	<b>2.65</b>

Table-2  
The Present details of Hydro Power Projects under OHPC

Sl. No.	Name of the power Stations	Installed capacity as on 1.4.09	FRL/MDDL	Firm Power (mw)	Design Energy (mu)	Man power position as on 1.10.08	Employees per MW as on 01.10.08
1	Rengali HEP	250MW	123.5/ 109.72M	60	525	531	2.12
2	Upper Kolab HEP	320MW	858/844 M	95	832	355	1.11
3	Hirakud PS	347.5MW	630/590 ft.	134	1174	569	1.64
4	Balimela HEP	510MW	1516/1440 ft.	135	1183	398	1.11
5	Upper Indrabati HEP	600 MW	642/625 M	224	1962	513 113	1.04
6	Machkund Joint Scheme (30% share)	34.5MW	2750/2685 ft.	60	262.5	117	3.39
7	Corporate Office					157	
	<b>Total</b>	<b>2062MW</b>			<b>5976</b>	<b>2753</b>	<b>1.44</b>

Table-3  
Year-wise actual Generation (in MU) vis-à-vis Sale of Power(MU)

Sl No.	Name of the Projects	96-97	97-98	98-99	99-00	2000-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09
1	Rengali HEP	784 762	988 949	934 890	899 863	718 699	793 772	644 621	1052 1028	720 731	679 667	670 649	983 956	884.815 858.950
2	Upper Kolab HEP	727 719	469 457	434 427	808 777	520 502	657 640	497 473	8657 637	896 867	624 611	1026 1003	1075 1074	585.848 570.510
3	Hirakud Power Station	975 955	937 919	1218 1185	1115 1078	586 537	962 925	648 616	956 903	845 806	909 875	862 819	981 956	957.824 940.020
4	Balimela HEP	1185 1149	919 885	807 778	1215 1174	1007 967	1071 1050	546 526	1146 1118	1526 1495	1055 1024	1621 1589	1832 1800	931.208 906.312
5	Upper Indrabati HEP	-	-	-	490 486	1769 1736	2965 2920	807 790	2141 2110	2851 2827	1763 1751	3091 3006	2979 2948	2300.906 2220.800
	Total Gen. (MU) vis-à-vis energy sold (MU)	3671 3585	3313 3210	3393 3280	4527 4373	4600 4441	6448 6307	3142 3026	5952 5796	6868 6726	5030 4928	7198 7066	7850 7734	5660.601 5496.592
6	Machhkund (Orissa drawal)	362 362	297 297	245 245	310 310	318 318	332 332	266 266	199 199	366 366	324 324	342 342	175 175	242.849 242.849
	Grand total Gen. (MU) vis-à-vis energy sold (MU) vis-a-vis Profit(Cr)/BT	4033 3947 69.86	3610 3507 77.79	3638 3525 55.20	4837 4683 50.38	4918 4759 (-127.44)	6780 6639 (-13.89)	3408 3292 (-141.92)	6151 5995 6.17	7234 7092 64.08	5354 5252 (-22.96)	7540 7408 60.98	8025 7909 137.10	5903.450 5739.441 20.09

Table-4  
Year-wise availability of M/C (in %age) vis-à-vis Reservoir level (meter/feet) as on 20th Oct. Of corresponding year, unless, indicated otherwise

Sl No.	Name of the Projects	98-99 (Level as on 12.11.98)	99-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07 Level as on 20.9.06	2007-08 Level as on 20.9.07	2008-09 Level as on 20.9.08
1	Rengali HEP (% age/metre)	83.23 123.45	70.43 123.78	80.87 118.01	76.22 123.16	76.61 122.82	89.67 123.93	88.77 122.13	81.16 120.49	70.65 123.19	86.47 123.50	75.44 123.78
2	Upper Kolab HEP (% age/metre)	89.61 851.14	93.10 854.82	93.34 850.96	94.23 856.79	95.27 850.33	94.95 857.52	93.90 856.15	76.50 853.97	80.90 857.22	92.01 855.92	87.58 852.78
3	Burla Power Station (% age/feet)	63.52 629.77	64.46 630.39	77.22 615.01	72.99 629.93	67.98 625.85	72.34 630.10	78.76 625.27	65.41 630.08	68.94 630.06	82.26 630.00	86.65 630.00
4	Chiplima P.H (% age)	41.26	70.58	53.26	57.80	24.11	56.80	50.91	47.98	53.21	46.08	68.52
5	Balimela HEP (% age/feet)	78.97 1467.45	68.37 1494.15	73.69 1464.20	89.56 1470.20	92.37 1460.25	91.76 1502.50	86.60 1487.70	87.18 1487.90	88.74 1516.60	89.51 1496.00	86.84 1474.90
6	Upper Indrabati (% age/metre)	- 622.40	69.28 641.55	76.76 641.55	83.29 641.55	88.55 633.57	70.46 641.40	90.27 640.10	68.86 638.60	89.00 641.70	90.24 641.50	89.17 640.25
7	Machhkund (Feet)	- 2728.20	- 2748.80	- 2747.20	- 2749.20	- 2702.60	- 2749.50	- 2746.40	- 2743.25	- 2747.05	- 2746.90	- 2744.00

From the above tables, in which the energy generated, energy sold, availability of machines, profit earned, etc have been given, it may be ascertained that the performance of OHPC has been increasing year on year. However, it's performance could have been much better had it been not faced some constraints such as:

- (i) Scanty Rainfall in the catchments areas of most of the Projects such as Balimela, Upper Kolab, Machhkund etc during most of the year
- (ii) Not allowed to sell Power to Organisations other than GRIDCO.
- (iii) Selling energy mostly at the cost of Production.
- (iv) Unable to start commercial production from Potteru small HEP.
- (v) Lack of IT application in most of the functions resulting in the loss of man-hours.

### C. IT'S FUTURE

The world is in the throes of a paradigm shift towards sustainability. Reform, Restructuring, Re-organization, Reorientation, Renovation, Innovation, Diversification, etc. are key for transitioning towards a sustainable & profit making organisation. OHPC should also think in the above direction for its sustainability and prosperity. Accordingly, following points are required to be considered immediately to make OHPC a vibrant and profit making organization.

#### (i) Implementation of New Projects :

Although CEA/Govt. of India has identified 4/5 major hydro power projects in the State of Orissa, OHPC has not yet been able to take up the projects such as Hirakud B (4x50MW), Chiplima-B (4x48MW) and Sindol Power Complex comprising of three run-of the river schemes down stream of the Hirakud Dam having a peaking capacity of 300MW due to several reasons. Since neither OHPC has the financial capability nor has the technical know how, it is high time that OHPC should expedite the process of finding out suitable partners who are in the hydro power generation business such as NTPC, NHPC, WEEPCO, TATA Power, Jaiprakash Industries Ltd, LNJ Bhilwara Group, S. Kumar group, Dhanwari Power Company, Bhuruka Power company etc. for development of the above power projects. For this, special cell with committed technocrats at the corporate level is required to be created to give it a boost. The team should be placed under a newly created post of Director (Projects) who will directly report to the CMD and will be accountable for the above work.

#### (ii) Renovation, Modernization & Uprating of Machhkund (Jt) Project :

Machhkund (Jt) project was commissioned during 1955-59 in the district of Koraput. The total installed capacity is 114.75 MW. Orissa's share is 30% of the installed capacity i.e. 34.5 MW on payment of O&M expenses. Of course, Orissa is getting additional 20% (23 MW) at a mutually agreed tariff. But there should be an urgent need for renovation, modernization & uprating of its Units including enhancing the share of Orissa to 50% of the uprated capacity. This will not only add capacity but also supply cheapest power to Orissa Grid.

**(iii) Diversifications: Capacity Addition through other route :**

**(a) Establishment of Thermal Power Plants**

Since the reservoirs of hydro power stations of OHPC are mostly rain fed, the performance of OHPC depends on the monsoon. Secondly, OHPC can neither sell energy to any organization other than Gridco nor trade energy through Energy/Power Exchange. Thirdly, the tariff at which OHPC supplies energy to Gridco may not see drastic change as the pricing is based on cost plus. Considering all this, OHPC should think for diversifications in line with NTPC and NHPC. Although OHPC has initiated steps for establishment of a thermal power station with Orissa Mining Corporation and formed a 50:50 joint venture company for setting up of a thermal power plant of 2000MW capacity, the initial work has not progressed much. It is high time to make it a reality.

**(b) Establishment of Solar, Wind and Nuclear Power Plant**

OHPC should also explore the possibility of setting up of Solar, Wind and Nuclear power plants in Orissa in association with several Organizations which have the expertise in the above field. For this, separate cells at corporate office level should be established for better co-ordination, monitoring & speedy implementation of plans.

**(c) Making entry into other similar fields**

OHPC has been allotted a Coal Block (Baitarani EAST of 602MT) to be equally shared among the Kerala SEB, Gujarat Power Corporation and OHPC. A joint venture company has been formed for the development of the coal block. The joint venture company is yet to take its final shape.

**IV. Making the Training Centre, a profit centre :**

The training centre which was established 10 years back has not progressed much. The centre is yet to make it self sustainable despite the fact that large number of the engineering students are searching for similar training centre in and around Bhubaneswar. The training centre with a trainee hostel can make it a profit centre within a period of 3-4 years. Further, our training centre can join hands with national level training institutes such as ESCI (Engineering Staff College of India), Hyderabad; CIRE (REC), Hyderabad; NPTI (Faridabad, Bangalore, Durgapur), NPC, TERI, NDPL, WISE etc for imparting quality training to the employees/officers of other organizations (including OHPC) in the power sector pertaining to eastern region.

**V. Restructuring and Re-organisation of cadres and functions :**

The cadres (Engineering, Finance and HRD) which were created 13 years back at the time of formation of OHPC need immediate restructuring considering the present day requirement such as to meet the manpower requirement for the enhanced capacities, diversification work, new projects (Wind, Solar, Nuclear, etc.) etc. Since most of the hydro power projects are in the remote areas where quality education and health facilities are non-existent, time bound

promotional facilities along with allowances at par with NHPC are required to motivate the young executives to work there. Further, considering different functions involved in the operation and maintenance, it is required to recruit adequate no. of civil, mechanical, computer engineers for better and quicker construction and maintenance work.

**VI. Application of IT: More work less workforce :**

IT plays a key role in facilitating real time to adopt correct technology and produce strong results. IT application in every field is a bare necessity. Large scale IT application is required to enhance expertise in project management, performance management, change management, material management, HR management, financial management, MIS, etc.. To make OHPC more IT friendly, Separate IT teams in each unit may be set up to implement the IT enabled services such as LAN, WAN etc. for speedy transmission of information from corporate office to unit and between units. The corporate office team should prepare a IT road map for OHPC which can prepare IT enabled tools for optimum generation planning, materials management, asset management, centralized planning & monitoring of New & on going projects, skill development and upgradation etc.

**CONCLUSION**

The Govt. of Orissa should frame Policy initiatives in line with Govt. of India policy for public sector undertakings so that OHPC is declared a Nava Ratna of Orissa. For implementation of new projects and to undertake all the diversification works, the Govt. should immediately create a post of Director (Projects) in OHPC. Considering its contribution to power sector in Orissa, it is high time for OHPC to re-organize the functioning of its units & corporate office with sufficient delegation of power along with accountability to make it a vibrant professional organisation.

## GRIDCO

C.J. Venugopal  
CMD, Gridco

GRIDCO became operational from 01.04.1996 after unbundling of OSEB under the Orissa Electricity Reform (OER) Act, 1995 and the Transfer Scheme (1996 issued by Govt. of Orissa). GRIDCO was vested with transmission and distribution undertakings of OSEB and was licensed to undertake the transmission and distribution business in the State w.e.f. 01.04.1996.

Distribution Undertaking of GRIDCO was transferred and vested with four newly incorporated wholly owned subsidiaries namely WESCO, NESCO, SOUTHCO & CESCO (now, Central Electricity Supply Utility of Orissa - CESU) from 26.11.1998 with an objective to privatize the Distribution business. All the four Discoms got licence from Orissa Electricity Regulatory Commission (OERC) for distribution and retail supply of electricity with effect from 01.04.1999. GRIDCO disinvested 51% of equity in WESCO, NESCO & SOUTHCO in favour of BSES (now REL) and received Rs.117 Crore (Face Value - Rs.77.63 Crore). BSES (now REL) took over management of the three DISCOMs from 01.04.1999. GRIDCO disinvested 51% of equity in CESCO (now CESU) in favour of AES and received Rs.42 Crore (Face Value - Rs.37.09 Crore). AES took over the management of CESCO from 01.09.1999.

Hon'ble OERC revoked the licence of CESCO and vested the distribution undertakings of CESCO with Central Electricity Supply Utility (CESU) with effect from August 2006.

After enactment of Electricity Act, 2003, the Transmission Licensee was not permitted to engage in trading / Bulk Supply business which necessitated separation of transmission business of GRIDCO.

The State Govt. issued the Transfer Scheme, 2005 by virtue of which the transmission activities of GRIDCO along with functions of SLDC were transferred and vested with OPTCL w.e.f. 01.04.2005. OPTCL has been declared as the State Transmission Utility. After separation of transmission functions, GRIDCO is carrying on the business of bulk purchase of power from generators and supply of the same to the four DISCOMs under the Single Buyer Model. Hon'ble OERC have been considering GRIDCO as a "Deemed Trading Licensee" after separation of transmission function now vested with the OPTCL.

### LEGAL STATUS OF GRIDCO:

There has been a lot of debate as to whether GRIDCO, as a Deemed trading Licensee" should continue. In this connection, it is worthwhile to mention that in the greater interest of the State, the Govt. of Orissa have supported the existence of GRIDCO by issuing a Notification No. 7947 dated 17.08.2006 wherein GRIDCO was empowered to sign Power Purchase Agreements (PPAs) with the Developers for procurement of different forms of power to meet the State Demand. Thus, the concept of "Single Buyer Model" as existent prior to enactment of the Electricity Act, 2003 was continued even after enforcement of the said Act after carefully considering the provisions of the Act in the greater interest of the State. The broad grounds for continuance of GRIDCO as a "Single Buyer" in the Orissa Power Sector are as under

- Orissa was the first State in the country to introduce Power Sector Reforms by enacting the Orissa Electricity Reforms Act, 1995 (Reform Act).

- GRIDCO was constituted under Section 13 of the Reform Act.
- Under the Reform Act, GRIDCO was granted Transmission and Bulk Supply Licence.
- GRIDCO had entered into long term Power Purchase Agreements (PPAs) with Generating Companies namely NTPC, OHPC, OPGC etc.
- GRIDCO also entered into Bulk Supply Agreements (BSAs) with the Four Distribution Companies (DISCOMs) namely, WESCO, NESCO, CESCO & SOUTHCO. Under the said agreements, GRIDCO was obliged to sell power on priority basis to the four DISCOMs upto their full requirements and DISCOMs were obliged to buy power only from GRIDCO. This arrangement is known as a Single Buyer Model of Power Procurement.
- After enactment of the Electricity Act, 2003, the Single Buyer Model has been continuing in the State of Orissa as a matter of historical legacy.
- GRIDCO is a deemed Trading Licencee under the 1<sup>st</sup> and 5<sup>th</sup> Proviso to Section 14 of the Act.
- Under the 1<sup>st</sup> Proviso to Section 14 of the Electricity Act, any person engaged in the business of transmission or supply of electricity under the provisions of any act specified in the Schedule thereto shall be deemed to be a licencee under the Act for the period stipulated in the licence (30 years).
- The provisions of the Act in the 1<sup>st</sup> Schedule in respect of such licence shall apply for a period of one year from the date of commencement of the Act and thereafter the provisions of the Electricity Act shall apply to such business.
- Under Section 2 (70), "Supply" means sale of Electricity to a licencee or consumer.
- Under Section 2 (71) of the Electricity Act, "Trading" means purchase of Electricity for resale thereof.
- GRIDCO was engaged in the business of Bulk Supply under the OER Act on the appointed date, electricity required for such bulk supply was being purchased by GRIDCO from the Generating Companies such as NTPC, OPGC etc. Such purchase and resale of electricity constitutes Trading within the meaning of Section 2 (71).
- GRIDCO is, therefore, a deemed trading licencee under the Electricity Act. GRIDCO is an Inter-State Trading licencee under the regulatory control of OERC. OERC is, therefore, entitled to determine the Trading Margin for GRIDCO. Since GRIDCO has a Bulk Supply Agreement with the four Distribution Licensees, Hon'ble OERC regulates the above arrangement and fixes the Bulk Supply Tariff as well as determining ARR of GRIDCO. In the circumstances, there has been no necessity to consider fixing any trading margin on the sale of electricity by GRIDCO to four distribution licencees.

- GRIDCO is a deemed licensee under the 1<sup>st</sup> Proviso to Section 14 of the Electricity Act, 2003. By virtue of the said proviso, Bulk Supply Licence of GRIDCO will continue for the periods stipulated in the said licence (30 years)
- However, for a period of one year, after enforcement of the Electricity Act, the said licence would be governed by provisions of the Reform Act and thereafter by provisions of the Electricity Act.
- By virtue of Section 185 (3) of the Electricity Act, the provisions of the Reform Act not inconsistent with the provisions of the Electricity Act shall continue to apply in the State of Orissa.
- Although, the Electricity Act, 2003 does not specifically provide for a Bulk Supply Licence, the concept of Bulk Supply is not contrary to the scheme of the Act.
- There is inherent evidence in the Electricity Act that a Deemed Licensee or for that purpose even a Electricity Trader (without prejudice to the submission that GRIDCO is not a Trader) can carry on the business of Bulk Supply and Tariff for such Bulk Supply can be determined under Section 86 (1) (a) of the Act. Reference in this regard may be made to the following provisions:
  - i) Section 2 (70) - Definition of Supply - Supply means sale of Electricity to a licensee or consumer.
  - ii) Section 2 (71) - Definition of Trading - Trading means purchase of Electricity for sale thereof.
  - iii) Section 52 (2) - Provisions with regard to Electricity Traders.
  - iv) Section 86 (1) (a) - Functions of the State Commission.

#### **ADDITIONAL REASONS FOR CONTINUATION OF THE SINGLE BUYER MODEL**

- The relevance of GRIDCO under the existing set-up assumes prominence even under the Section 62 (a) which envisages supply of electricity by a generating company directly to a Distribution Company as GRIDCO has been the major shock-absorber of the entire power sector because of which the Electricity tariff in Orissa could be kept at an affordable level. Some of the important reasons behind the same are as under:
  - At the time of bifurcation of the distribution business, the DISCOMs started with a clean slate. All the liabilities & losses were retained by GRIDCO - No liability or loss was passed on to the DISCOMs.
  - DISCOMs did not make full payment of the BST Bills from the year 1999 to 2003 but GRIDCO continued to supply power in the larger public interest.
  - GRIDCO being a Government Company is obliged to ensure supply to the consumers of the State.
  - During the year 2002-03, GRIDCO suffered a loss of Rs. 550 Crore approximately due to hydrology failure without burdening the consumers of the State

- DISCOMs issued Rs. 400 Crore bonds in favour of GRIDCO in respect of the BST dues which were endorsed to NTPC but DISCOMs defaulted in servicing the bonds both in terms of principal and interest.
- Ultimately, GRIDCO had to clear the dues by borrowing from different sources since NTPC threatened to regulate the power supply to the State.
- The outstanding of DISCOMs towards BST dues, loan & interest amount to Rs. 3904 Crore approximately as on March 31, 2009.
- In case the Single Buyer Model is given up, the long term PPAs with the Generators will have to be transferred in favour of the DISCOMs. DISCOMs would also have to take over the liabilities on account of non-payment of BST dues of GRIDCO. With such a balance sheet, no Generator would be willing to supply power to the DISCOMs
- At every stage, GRIDCO has acted as the shock absorber or rather as loss absorber of the Orissa Power Sector in the interest of the consumers & public of the State
- Continuation of the Single Buyer Model is, therefore, a necessity in the larger interest of the consumers of the State.
- Under Section 23, the Appropriate Commission can continue Single Buyer Model by virtue of the powers under Section 23 of the Electricity Act, 2003.
- Surpluses earned by GRIDCO have been used to keep Bulk Supply Price (BSP) at lower ebb resulting in to keep Retail Supply Tariff (RST) at an affordable level.

**Approval of ARR & BSP of GRIDCO is consistent with the provisions of the Act:**

In so far as the approval of Annual Revenue Requirement (ARR) & Bulk Supply Price (BSP) of GRIDCO by the Hon'ble Commission is concerned, the existence of GRIDCO is also consistent with the provisions of the Electricity Act, 2003. Hon'ble Commission is empowered under Sec 861(b) of the Act to regulate the price for procurement of power by the DISCOMs. Thus, this provision enables the Hon'ble Commission to fix the regulated price for procurement of power by the DISCOMs under the existing Bulk Supply Agreement with GRIDCO. Incidentally the approval of Regulated Price of power purchase for DISCOMs happens to be the Bulk Supply Price of GRIDCO under the present arrangement and as such, Hon'ble Commission is empowered to approve the ARR & BSP of GRIDCO. Hence, GRIDCO submitting its ARR & BSP Application before the Hon'ble OERC for approval is tenable under the law.

Besides, Hon'ble OERC has been approving the ARR of GRIDCO by leaving huge deficits / gaps in order to keep the RST low and affordable. In fact, the RST in Orissa has not been revised for the last 8 years mainly because the BSP has either been kept constant or at a reduced level. The financial impact due to this has all along been absorbed by GRIDCO which has gone a long way in serving the interest of electrical consumers of the State.

## ACHIEVEMENTS OF GRIDCO:

- GRIDCO remains as the sole shock absorber of the power sector in the State in a situation when the State Govt. completely stopped giving budgetary support to the Power sector from the dawn of Reform in 1995.
- Prudent Financial Management coupled with discrete Commercial Practice ensured GRIDCO to derive optimum benefits from its available resources. Some of these are:
  - √ Corporatisation of GRIDCO and consequent disinvestments process enriched the coffers of the State Govt. by more than Rs. 2000 Crore besides the regular Budgetary Support prior to Reforms has been discontinued since then. Govt. has saved at least more than Rs. 4000 Crore on this account alone.
  - √ Besides, the State Govt. earned more than Rs.3000 Crore due to levy of Electricity Duty.
  - √ The prime duty of a Cash Strapped Utility like GRIDCO was to pay to generators in time to avoid Power Regulation causing disruption of quality electricity supply to consumers of the State;
  - √ Added to this, GRIDCO could avail maximum rebate due to prompt payment of generators' dues which could further be used to reduce other liabilities
  - √ During 2002-03, when there was Hydrology failure in the State, GRIDCO spent about Rs. 550 Crore for purchasing of high cost power in order to keep the power supply intact in the State without resorting to power cut.
  - √ GRIDCO has become an active member of Indian Energy Exchange (IEX), which started functioning from 27<sup>th</sup> June of 2008. GRIDCO has been trading online through IEX regularly and has been able to maintain a front line position.
  - √ Bulk supply Price (BSP) has either remained constant or reduced since 2001-02 with exception in the year 2007-08. This has made possible the Retail supply Tariff (RST) to remain constant ever since FY 2001-02.
  - √ GRIDCO could be able to almost wipe out its cumulative losses of about Rs.1700 Crore (out of Total Cumulative Losses of about Rs.1800 Crore) as of March 31, 2009. During FY 2008-09, GRIDCO earned a net profit of Rs. 98.13 Crore on a turn over of Rs.2766.83 Crore. However, GRIDCO has still cumulative losses of about Rs.101.25 Crore as of 31.03.2009.
  - √ GRIDCO subsidized Rs.600 Crore (approx) during FY 2008-09 to the consumers of the State by procuring power at an average cost of Rs.1.48 P/U and selling in bulk to the DISCOMs at an average price of Rs.1.22 P/U.

## BROAD FEATURES OF ORISSA POWER SECTOR VIS-À-VIS ACCOMPLISHMENTS OF GRIDCO

### INSTALLED / GENERATION CAPACITY:

The Installed capacity / Generation capacity available for the State of Orissa are both from the State as well as the Central Pool. The installed Capacity of State Hydro accounts for about 2084.875 MW, State Thermal of 880 MW and about 1069.50 MW towards Orissa share from Central Sector Pool. Besides, it is contemplated that the CGPs / IPPs would have 3151.50 MW as Installed Capacity as of March 31, 2009 (As per SLDC System Performance Report, March 2009)

**ENERGY DEMAND IN ORISSA:**

**PEAK & AVERAGE SYSTEM DEMAND:**

The State Load Dispatch Center (SLDC), Bhubaneswar is the Unit responsible for monitoring the Demand and Supply of power in the State of Orissa.

The Annual Average Peak Demand and Annual Average Demand of Orissa spanning from the years 1995-96 to 2007-08 are detailed below in the following Table.

**SYSTEM DEMAND OVER THE YEARS \***

FINANCIAL YEAR	GRID DEMAND (MU)	DRAWAL FROM EREB (MU)	PEAK DEMAND			AVG. OF PEAK DEMAND (MW)	AVERAGE DEMAND (MW)
			(MW)	TIME	DATE		
1996-97	10706.600	1730.1	1754.6	20:00	19.09.1996	1520	1222
1997-98	11090.556	2172.534	1794.8	19.00	31.01.1998	1584	1266
1998-99	11466.969	1499.441	1891.42	21:00	22.03.1999	1652	1309
1999-00	11601.945	735.73	1991.12	21:00	05.02.2000	1681	1324
2000-01	12570.376	2224.016	2069.37	20:00	25.11.2000	1813	1435
2001-02	12744.206	759.801	2114.2	19.00	17.01.2002	1849	1455
2002-03	13195.084	3830.854	2116.49	19.00	12.10.2002	1764	1506
2003-04	13858.359	3391.117	2197.18	20:00	20.12.2003	1983	1488
2004-05	17623.620	4228.33	2203.93	20:00	02.03.2005	2089	1578
2005-06	16314.401	4595.893	2408	20:00	19.01.2006	2229	1698
2006-07	18873.794	4513.056	2574	19.00	11.01.2007	2574	1898
2007-08	20657.975	6197.602	2906	20:00	04.03.2008	2547	2096
2008-09 (Prov.)	21552.39	5620.08	3021	20:00	09.03.2009	2816	2460

\* Source: SLDC Annual Reports

As may be seen, the Grid Energy Demand is growing constantly over the years with an exception in the year 2005-06 where it witnessed a fall from 17623.620 MU in FY 2004-05 to 16314.401 MU. The Energy Demand almost doubled to about 20657.975 MU in the year 2007-08 as compared to 10206.20 MU in FY 1995-96. During FY 2008-09, there has been a little increase in Grid Demand 21552.39 MU over that of FY 2007-08. This, of course, included the figures pertaining to UI & Trading as was happening in the later years when the scope for such activities opened up because of the Electricity Act 2003.

Similar is the case with Demand in MW which also showed uprising trend over the years. The Annual Average Demand grew from 1222 MW in 1996-97 to 2096 MW in 2007-08 which further rose to 2460 MW during FY 2008-09. and that the Annual Peak Demand has been 3021 MW during FY 2008-09 as compared to 1754.60 MW in 1996-97.

The contribution from different Generating Plants required to meet the Peak Demand during the years from FY 1999-2000 to FY 2008-09 is detailed in Annexure-2.

#### HISTORICAL TREND IN COST OF POWER PURCHASE BY GRIDCO :

The following Table shows the historical trend of GRIDCO's cost of power in Paise. per Unit.

Historical Trend in GRIDCO Cost of Power			
Financial Year	Cost of Power (Paise per Unit)	Total (MU)	Total Cost (Rs. in Crore)
1992-93	$34+64.2=43$	$5014+2086=7100$	$171.37+133.96=305.33$
	$49+65.8=57.2$	$4058+3768=7826$	$199.89+247.81=447.70$
1994-95	$40+70.1=55.3$	$4130+4364=8494$	$163.77+306.11=469.88$
1995-96	$25+104.1=76$	$3494+6269=9763$	$87.98+652.61=740.59$
1996-97	101.8	9651	982.71
1997-98	116.2	10324.3	1198.83
1998-99	116.7	10630.59	1240.62
1999-00	148.75	11197.4	1165.6
2000-01	108.04	12400.03	1339.72
2001-02	95.27	12467.03	1187.77
2002-03	133.36	12025.62	1603.74
2003-04	111.47	15774.19	1758.34
2004-05	97.46	17742.91	1729.31
2005-06	140.69	16806.08	2364.46
2006-07	117.22	18866.10	2211.55
2007-08	120.28	20934.38	2518.00
2008-09	146.13	20049.27	2929.76

Note: Figures in italics refer to OSEB Generation Figures

The increase in the unit cost of power is explained by the use of more expensive sources of power as the total units of energy purchased increases.

Against the above cost price of 146.13 Paise/Unit, GRIDCO was selling power to the DISCOMs at an average price of 122.15 Paise per Unit, thus incurring a loss of about 24 Paise/Unit.

#### POWER SOLD TO DISCOMs & DIFFERENT AGENCIES IN FY 2008-09

Power sold to different agencies including the DISCOMs (Electricity Distribution Companies) during FY 2008-09 by GRIDCO Ltd. is depicted in the Table hereunder:

#### POWER SOLD TO DIFERENT AGENCIES DURING THE FY 2008-09

AGENCIES	Energy (MU)	Rate (P/U)	Amount Billed (Rs. Core)
DISCOMs Total (A)	18787.51	122.83	2307.72
Emergency & Back-up power sold to IFMA	0.38	299.55	0.11
Emergency. & Back-up power sold to NALCO	144.06	337.54	48.63
Total CPP (B)	144.44	337.44	48.74
Trading :			
Trading	7.20	641.67	4.62
Trading (IEX)	27.67	716.14	19.82
Total Trading (C)	34.87	700.76	24.44
U.I. (UD) (D)	393.47	735.45	289.37
Grand Total (A+B+C+D)	19360.29	137.92	2670.26

Source: GRIDCO Performance Review - FY 2008-09

#### FINANCIAL PERFORMANCE:

Brief Highlights of Financial Performance of GRIDCO during FY 2008-09 are as under:

(Amount in Rs. Crore)

#### INCOME

• Annual Turn over	:	2766.83
• Other Income	:	59.12
<b>Total</b>	<b>:</b>	<b>2825.95</b>

#### EXPENDITURE

• Purchase of power	:	2929.76
• Wheeling Charges	:	97.38
• Other Expenses	:	6.26
<b>Total</b>	<b>:</b>	<b>3030.40</b>

**PROFIT / (LOSS)**

• Profit / (Loss) before Interest & Finance Charges	:	207.45
• Interest & Finance Charges	:	203.72
• Provision Written Back	:	702.37
• Receivables / Claims written off/ Provided for	:	197.95
• Profit / Loss before Taxation	:	98.16
• Provisions for Taxation etc.	:	0.02
• Net Profit	:	98.14
• Cumulative Loss	:	101.25

**NEW / UPCOMING POWER PROJECTS IN ORISSA :**

Orissa is a pioneering State that has massive coal reserves. This has attracted a number of Companies who have evinced interest to set up Thermal Power Plants (IPPs) in Orissa. So far, 21 MOUs (13 MOUs signed in 1st instance and 8 MOUs on 2nd instance) have been signed by the Govt. of Orissa with Developers to establish Independent Power Plants in Orissa. Orissa will get about 25% of power from these IPPs.

There are also plans by the State and Central Govt. to establish Power Plants in the State as well as Central Sector such as Ultra Mega Power Plants (UMPP).

Below given are the details regarding the Up-coming / New Plants including Ultra Mega Power Plants (UMPPs) that would be set-up in Orissa.

**UPCOMING NEW POWER PROJECTs / STATIONs in ORISSA**

Sl. No.	Name of Power Station	Installed Capacity (MW)	Orissa Share (MW/ %)	Expected year of Commissioning
<b>A.</b>	<b>STATE SECTOR</b>			
	<u>OPGC</u>			
(I)	Ib Thermal Power Station ( Unit 3 & 4)	1200 (2X600)	600/50%	2011-'12
	<u>OHPC</u>			
(ii)	Balimela Power House	150 (2X75)	150/100%	2007-'08
	Orissa Thermal Power Station	8500	4250/50%	2012-'13
<b>B.</b>	<b>CENTRAL SECTOR</b>			
	<u>NTPC</u>			
(I)	North Karanpur Super Thermal Power Station	1980(3X660)	198/10%	2010-'11
(ii)	Barh Super Thermal Power Project, Stage-I	1320(2X500+2X660)	100/7.6 %	2009-'10
	<u>NHPC</u>			

(l)	Tipaimukh Hydro Project	1500	300/20%	2013-'14
(ii)	Subansiri Hydro Electric Project	2000	300/15%	2010-'11
	<b>BHUTAN POWER</b>			
	Tala Hydro Electric project	340(2X170)	14/4.25%	
<b>C.</b>	<b>Ultra Mega Power Projects (UMPP)</b>			
	Bhedabahal (PFC)	4000	1300/32.5%	2012-'13
	NTPC, Darlipalli	3200	1020	2013-'14
<b>D.</b>	<b>IPPs</b>			
<b>D.1</b>	<b>COAL BASED THERMAL POWER STATIONS (MOUs signed at the 1st instance)</b>			
(l)	M/s. GMR Energy Ltd.	1,050 (3X350)	25%	2010-'11
(ii)	M/s Navabharat Power Pvt. Ltd.	<u>Phase-I</u> 1,050 (3X350) <u>Phase-II</u> 1200 (2X600)	25%	2011-'12
(iii)	M/s. Mahanadhi Aban Power Company Ltd.	1,030 (2X515)	25%	2011-'12
(iv)	M/s KVK Nilachal Power Pvt. Ltd.	<u>Phase-I</u> 600 (2X300) <u>Phase-II</u> 600 (2X300)	25%	2010-'11
(v)	M/s Jindal India Thermal Power Ltd.	1200	25%	2010-'11
(vi)	M/s CESC Ltd.	1,000 (2X500)	25%	2010-'11
(vii)	M/s. Bhusan Energy (P) Ltd.	<u>Phase-I</u> 1000 <u>Phase-II</u> 1000	25%	2011-'12
(viii)	M/s. Essar Power Ltd.	<u>Phase-I</u> 1200 (2X600) <u>Phase-II</u> 800 (1X800)	25%	2012-'13
(ix)	M/s. Monnet Ispat & Energy Ltd.	1,005 (3X335)	25%	2011-'12
(x)	M/s Sterlite Energy (P) Ltd.	2400(4X600)	25%	2009-'10
(xi)	M/s. Lanco Babandh Power Pvt.Ltd.	1,320 (2X660)	25%	2012-'13
(xii)	M/s. TATA Power Company Ltd.	1000	25%	2010-'11
(XIII)	M/s. VISA Power Ltd.	1000	25%	2012-'13
<b>D.2</b>	<b>COAL BASED THERMAL POWER STATIONS (MOUs signed at the 2nd instance)</b>			
(i)	Arati Steel Ltd.	500	25%	
(ii)	Astaranga Power Co. Ltd.	2640	25%	
(iii)	Chambal Infrastructure & Venture Ltd.	1200	25%	
(iv)	Ind Barath Energy (Utkal) Ltd.	700	25%	
(v)	Jindal Steel & Power Ltd.	1320	25%	
(vi)	Kalinga Energy & Power Ltd.	1000	25%	
(vii)	Sahara Imdia Power Corporation Ltd.	1320	25%	
(viii)	Visaka thermal Power Pvt, Ltd.	1100	25%	
<b>E</b>	<b>SMALL/MINI/MICRO HYDEL PROJECTS</b>			
(l)	Jalaput Dam Toe H.E.P. (M/s OPCL)	18 (3X6)	100%	2009-'10
(ii)	Dumajorhi SHEP (M/s. Sharavani Energy Pvt. Ltd.)	15(3X5)	100%	2009-'10
(iii)	Kharagpur SHEP (M/s. Sidheswari Power Gen (P) Ltd.)	10(2X5)	100%	2009-'10
(iv)	Baragarh SHEP (M/s. Kakatia Chemicals Pvt. Ltd.)	9(2X4.5)	100%	2009-'10

(v)	Hati Pathra Small Hydro Project	10	100%	2009-'10
(vi)	Lower Machhkund SHEP (M/s. Venus Energy Pvt. Ltd.)	20(2 X10)	100%	2009-'10
(vii)	Salanadi Dam SHEP (M/s. KPCL)	9	100%	2009-'10
(viii)	Jeypore Hydro Electric Project	6	100%	2009-'10

#### PROCUREMENT OF SURPLUS POWER FROM CGPs. :

At a time when deficit in availability of power has surged to about to 700 to 800 MW (Peak demand: About 2900 MW, Availability: About 2200 MW) in Orissa during recent times, GRIDCO has optimized procurement of power from CGPs as per the CGP Power Pricing Policy dated 28.02.2009 in order to meet the demand of the State. The rates offered to CGPs are 300 P/U, 310 P/U for CGP Power having Co-generating facilities and 350 P/U, if the power is utilized for trading purpose. While the status quo is maintained now, the Policy which was in prevalence from 01.04.2009 to 30.06.2009 is being reviewed by the Hon'ble Commission.

#### CONSTRAINTS FACED BY GRIDCO :

In carrying out its mandate of providing quality and cheap at affordable cost, GRIDCO has been faced with multiple problems. Some of the important constraints are as under:

- Facing perennial finance crunch has been a compounding problem for GRIDCO except in recent times when GRIDCO could be able to mop up some surpluses due to introduction of ABT & UI Mechanism from 01.04.2003. The financial crunch problem has again surfaced due to inadequate tariff approved by the OERC during FY 2008-09 and FY 2009-10.
- GRIDCO holds a loan repayment liability of more than Rs.2000 Crore as on 31.03.2009.
- The interest liabilities of GRIDCO are not being passed through the ARR in full by the Hon'ble OERC, leaving GRIDCO in deficit. It is a different story that the operational factors like U.I. and better fund management have helped GRIDCO to recoup its cumulative losses.
- Unless GRIDCO pays its dues to generators in time, the uncertainty of power regulation prevails.
- Approval of inadequate Bulk Supply Price by Hon'ble OERC has left GRIDCO with revenue gaps in the ARR in the FY 2006-07, FY 2007-08, FY 2008-09 & FY 2009-10. Though GRIDCO has been able to bridge the revenue gap of Rs.636 Crore during FY 2008-09 by availing loan etc., the financial year 2009-10 will be a very tough year in the history of GRIDCO as the estimated revenue gap may be around Rs.1400 Crore. This will happen mainly due to non-recovery of Power Purchase Cost in full from the Bulk Supply Revenue.
- The scope of UI & Trading is now-a-days almost non-existent because of disappearance of surplus power due to increased State Demand and therefore, it may not be possible to service the existing liabilities.
- Besides, Hon'ble OERC is going to consider the application of Global Energy Limited, a private entity, for grant of Intra State Trading Licence, much to the detriment of GRIDCO as well as

State Consumers. This will only paralyze the operations of GRIDCO as it will promote unhealthy competition to artificially boost up the purchase price, especially from infirm sources like CGPs.

- Further, Hon'ble OERC have allowed direct purchase of power by the DISCOMs, namely, CESU & WESCO much to the discomfiture of GRIDCO diluting its position as the "State Designated Entity" for procurement of different sources in contravention of the State Govt. Notification dated 17.08.2006.

#### **FUTURE ROADMAP :**

Despite a number of limitations, GRIDCO looks ahead with hope. GRIDCO is confident that the future of Orissa Power Sector is bright although there are tumultuous problems occurring for the present time. The current deficit power scenario is more due to erratic monsoon that has even compelled the existing thermal units to shut down because of paucity of water and multiple outages of Thermal Stations. Nevertheless, GRIDCO is striving its optimum with available resources to keep the power supply steady in the State with minimum power cuts.

The future Action Plans envisages a number of steps that are broadly stated as under:

- GRIDCO has become a member of The Indian Energy Exchange (IEX) and started participating in the online trading of power.
- GRIDCO tries to harness power procurement from various sources like from the Central and the State Pool, CGPs, IPPs including those from Renewable sources like small Hydel Plants that would go a long way in attaining the twin objectives of self sufficiency in power and at the same time proving to be beneficial for the environment.
- GRIDCO would also explore the opportunities to earn Carbon Credits through trading / in facilitating generation of green/clean power.
- GRIDCO has come a long way to be a unique entity in the Power Sector that has operated without banking upon any budgetary support.
- GRIDCO is on the look out for diversifying its businesses to enter into other areas like power generation for which it has applied to acquire Coal Blocks in Orissa. It hopes to become a Competitive Power Producer either on its own or through Joint Sector Partnership such as BOO, BOT, BOLT & BOOT etc.
- Diversifying into other Renewable Energy Sources like Small Hydro etc. the prospect of which is comparatively better in Orissa is on the anvil.
- Facilitating implementation of IPPs within the State to meet the State demand and to trade surplus power, if any, in order to earn precious surplus that can be used to keep electricity tariff at an affordable level for the State consumers.
- DISCOMs are yet to clear the outstanding BSP Dues and Loan dues of GRIDCO which stands at about Rs. 4000 Crore including DPS as on 31.03.2009. Unless these dues are cleared, GRIDCO is going to experience serious financial crunch in the days to come.

## CESU'S ROLE AFTER POWER SECTOR REFORM

S K Dasgupta,  
CEO, CESU

Orissa is the first State in the country to bring reform in the power sector. The OSEB was unbundled in the year 1996 and separate entities for GRIDCO and OHPC were created. The distribution of electricity which was being done by GRIDCO later on was separated and entrusted to four Companies namely; CESCO, WESCO, NESCO and SOUTHCO. As a measure of reform, 51% share of CESCO was disinvested by GRIDCO to AES Orissa Distribution (P) Ltd. on 31.08.99 and the Management of CESCO was vested with the AES Orissa Distribution (P) Ltd. w.e.f. 01.09.99. The AES left the management in August'2001 and the OERC appointed a Chief Executive Officer (CEO) to manage the affairs of CESCO in August'2001. The license of CESCO was revoked by the OERC on 01.04.2005 and a CEO and Administrator was appointed to fulfill the license condition and to continue the distribution of power in CESCO area as per provisions of the Electricity Act, 2003. After revocation of the license, the OERC initiated sale process of the utility but the utility could not be sold. Thereafter OERC formulated a scheme named as Central Electricity Supply Utility of Orissa (operation and management) scheme, 2006 and vested the assets, liabilities and personnel of erstwhile CESCO with CESU w.e.f. 20.09.2006. From the said date CESU is responsible for distribution of electricity in the area of central zone of Orissa consisting of nine districts. The Scheme was subsequently amended and extended up to 20.09.10.

After separation of Distribution business from GRIDCO to CESCO, the collection efficiency which was 68% in the year 1999-2000, has increased to 92% in the year 2008-09 and further it is expected to reach to 95 % in the next year. Similarly, the Aggregated Technical and Commercial loss (AT&C) which was 62% in 1999-2000 has reduced to 45 % by the end of the year 2008-09. The T&D loss has reduced to 40 % in 2008-09 from 49% in the year 2001-02.

The sale of power is expected to go up to 4000 MU during the year 2009-10. This is 12% more than that of 2008-09. The average monthly collection which was to the tune of Rs.28.00 crores per month in 1999-2000, has gone upto Rs. 80Crores in the year 2008-09 after taking various measures..

It may be pertinent to note that, for the last nine years there had been no hike in the Retail Supply Tariff. CESU was not in a position to pay the BST Bill and was defaulting by Rs.6.00 to Rs.7.00 crores every month up to 2004-05. Due to increased efficiency, CESU has been able to pay 100% of BST bills to GRIDCO from April'2005 onwards. Additionally, CESU has also paid some amount against the arrear dues in the last couple of years. Although the distribution loss has reduced to a certain extent, yet there is lot more scope. CESU will put all its efforts to reduce it further to set a milestone target to reach at 20% level by next 5 years.

CESU commits to make it a consumer centric organization. CESU recognizes that its consumers expect uninterrupted quality power supply at a reasonable price. Various steps have been taken to reduce AT&C loss which is the basic requirement for achieving at reasonable price. Focus has also been given to ensure supply of quality power with minimum interruption. Needless to say , **consumer service has been the top most priority for CESU.**

## WINNING THE FUTURE

CESU caters electricity to one third population of Orissa, spread over 29000 sq km area. Its annual turnover is around Rs 1000 crores and employee strength around 6500. To meet its peak demand of 900 MVA, it has redundancy in network - 1400 MVA at 33 KV and 1600 MVA at 11 KV level. To meet the growth both in commercial and industrial sector, it has business plan for capacity expansion- around 500 MVA at 33 KV and 700 MVA at 11 KV level in the next five years. For evacuation of power in the down stream, HT and LT lines simultaneously need to be suitably augmented. Presently it maintains HT/LT line length ratio of 1:1. Further, in order to reduce technical as well as commercial loss, it has plan to focus on HV D/S cum LT less system. CESU, in its business plan has included installation of capacitor banks for system improvement. These system improvement activities, however, require huge investment. CESU has genuine constraint in such investment, since all the Distribution companies in Orissa have been debarred from availing restructured APDRP fund. The issue of APDRP funding has been taken up with the state government. Still with limited investment from its Revenue surplus and focus on schedule and periodic maintenance, distribution transformer failure rate has been reduced from 15% in 2007 to 12% in 2008, also average interruption time in minutes per HT feeder per day has been reduced from 19 to 12 during the same period. Utmost importance is being given on Maintenance activity. CESU recently has initiated House keeping & skill competition where best maintained three substations and highest skilled three linesmen were awarded prizes. **CESU is committed to offer quality power supply with minimum interruption time to its consumers.**

On one hand huge transmission and distribution loss (T&D) is the threat, on the other hand the same is the opportunity for CESU. Since reduction of technical loss requires lot of investments, focus has been on reduction of commercial loss. CESU considers 100% correct metering for all its consumers as the first and foremost requirement. Keeping it in mind CESU plans to replace about 60,000 meters immediately against a total requirement of around 1.2 lac defective meters. Next in line is energy auditing to pin point loss prone areas and thereafter fixing up accountability for reduction of T&D loss. It has plan to complete ring fencing for its 260 sections by FY09-10. Suitable performance linked incentive scheme would create competition resulting better result. This has already been proved effective in revenue collection activity. In the rural areas, CESU has given focus on replacement of bare conductors by aerial bunch cables (AB cable) specially in theft prone zones. During current FY about 450 Kms cables have been used. In some identified commercial shopping areas, pillar box metering has paid dividend. In one sub division, billing efficiency has increased by 30% after this activity. CESU plans to install around 25000 pillar boxes covering one lac consumers for seven identified divisions by FY09-10. With the enhanced RGGVY activities in rural electrifications, necessity for deployment of franchisee has been found inevitable. CESU has already initiated revenue based franchisee operation in three areas and has plan to enhance the activity many fold in the coming years. A few months back a seminar was conducted by CESU to educate about functioning of self help group (SHG) involving Mission Shakti of Orissa and Engineers from WBSEDCL. Presently CESU is also exploring the avenue and training of SHGs have already been commenced. CESU's loss control enforcement activity runs at various field levels and is closely monitored at head office level by senior officers. If found guilty, CESU takes stern action against its corrupt employees. Till few months back, out of nine districts in CESU's jurisdiction, special energy

police stations were in place in two districts only. Approval for the remaining districts have been give by the government recently. It is expected that CESU will be able exploit their services fully in the war of reduction of T&D loss in the coming years. **In its business plan CESU projects reduction of T&D loss from 40% today to 20% in 2013.**

Other important areas for CESU are developing customer centric focus, selecting and implementing technology solutions, employee training and empowerment, customer feedback, learning from the best practices. In its consumer centric drive CESU has established customer service centre during FY-2008-09. It handles fuse off calls, billing complaints, new application tracking, theft information, computerized collection, duplicate bill serving etc. Any time payment (ATP) machine has been installed at Consumers care center. In the areas of new technology solutions, new billing and collection software will be introduced during FY09-10. For all HT and EHT consumers, automated meter reading (AMR) will be introduced. Other activities include financial accounting and inventory management system. ECS option for payment has been introduced. **All IT linked activities aim towards improved operational efficiency and better consumer service. Interaction with consumers and taking consumer feed back is given highest priority.** Executive Engineers and superintendent engineers meet with the consumers at prefixed date and time. Senior and top level officers including CEO meet with the consumers directly. On few occasions CEO also interacted with the consumers on line through television programs. In addition CESU is actively involved in various consumer awareness activities. Campaign on energy conservation is being done at various strategic locations. Recently CESU organized a slogan competition on energy conservation. With the changing business focus, CESU needs to remap the organizational structure and the same is being looked into. While doing this exercise, employee's career growth path would be given importance. **CESU's loyal employees are its greatest strength.**

## **CONCLUSION**

Sweeping changes are taking place in the utility business. To match with the change, focus should be on retention of consumers which can be done by offering reduced tariff and better consumer service. This may be achieved by enhanced operational efficiency and improved customer relationship management (CRM).

## SOUTHCO - MARCHING TOWARDS EXCELLENCE

A.K. Vohra,  
Ex-CEO, Southco

### SOUTHCO PROFILE

A brief profile of SOUTHCO is as under:

#### Demographic & Technical :

Sl. No.	Parameters	Particulars
1.	Area	47000 Sq. Km
2.	Consumers	5.63 Lakhs
3.	33 KV line	2742 KM
4.	11 KV Line	14446 KM
5.	LT Line	10254 KM
6.	33/11 KV Substation	123 Nos.
	DTRs	12351 Nos
7.	Districts covered	Ganjam, Gajapati, Kandhmal, Boudh, Nawrangapur, Rayagada, Koraput & Malkanagiri

#### Organizational :

Sl. No.	Parameters	Nos.
1	No. of O&M Circles	5
2	No. of O&M Divisions	14
3	No. of O&M Subdivisions	45
4	No. of O&M Sections	129

#### Commercial :

Sl. No.	Parameters	Particulars
1	No. of EHT Consumers	11
2	No. of HT Consumers	161
3	No. of LT Consumers	563181
4	Annual Input MU (FY2008-09)	2176
5	Billing Rs. Lakhs	33183
6	Collection Rs. Lakhs	31153
7	Distribution Loss	47.8%
8	Collection Efficiency	94%
9	AT&C Loss	51%

- Majority of consumers are belonging to LT category.
- The total no. of working meters about 5.23 lakhs which is 93 % of the total metered consumers.

#### R&M AND SYSTEM IMPROVEMENT EFFORTS

In order to provide the quality power supply to the consumers and to minimize the low voltage problem, SOUTHCO has taken many steps during the FY 2008-09 under R& M and System Improvement Schemes by spending Rs.19.08 Crore in R&M through own funding and Rs 11.06 Crore by availing Loan from REC.

- SOUTHCO procured the following equipments in the year 2008-09 and provided for installation.

Sl. No.	Particulars	Nos/Kms
1.	Dist. Transformers (Nos)	605
2.	Power Transformer(Nos)	8
3.	AB Cable (Km)	92.68
4.	Conductor (Km)	910.75
5.	LT Cable (Km)	152.15

- SOUTHCO installed new transformers and also upgraded transformers wherever needed including power transformers for providing better voltage and reducing burning of Transformers due to over loading.
- The phase balancing carried out to prevent the transformers burning and improving voltage. Wherever required 1Ph line is being converted to 3 Ph lines.
- SOUTHCO also installed 19 nos and 60 nos of VCBs on 33 KV and 11 KV side.
- Installation of Pillar Boxes 48 nos.
- SOUTHCO is in the process of installation of 480 nos of AMR against the large and high value consumers. The same will be completed by the end of current Financial year.
- Installation of LT Distribution Boxes: All the new Transformers are provided with the proper size of LT distribution boxes.
- During FY 2008-09 Southco constructed 33KV line from Digapahandi to Chikiti by investing Rs.80 lakhs
- SOUTHCO has also taken steps for consumer servicing and sustainability in revenue and power supply improvement by awarding two Sub Divisions of Ganjam North divisions comprising of 32000 nos of consumers to Franchisee on Input Base and two Sections to two different NGOs in Aska Division for building better customer relationship.

- Rural Electrification: During the FY 2008-09 and till date 1003 villages has been charged through RGGVY scheme and 456 villages under BGJ Scheme. Besides, 1282 nos of villages under MNP and 201 nos of villages under PMGY scheme has already been electrified.

**Initiatives taken by SOUTHCO :**

- T & D losses has come down and collection efficiencies in improved in comparison to the period prior to 1999. The AT&C loss level has come down to 48.63 % in SOUTHCO from 54.20 % in FY 1999-00.
- SOUTHCO is paying the current BST bill in full, meeting its employee salaries and cost related to need based R&M expenses over and above the BST bill.
- Billing functions have been computerized and centralized limiting the human intervention. Spot billing is being carried out in 9 Divisions covering around 3.80 lakhs of consumers.
- SOUTHCO has added following assets and installation of meters for the last 10 years as detailed below:

Sl. No.	Particulars	Nos./Kms
1.	Meter	136477
2.	HVDS (LT less S/s) & New Distribution S/s	1209
3.	11 KV Line (Km.)	2243
4.	LT line with AB cable(Km.)	377
5.	33 KV line (Kms)	242
6.	New 33/11 KV S/s	8
7.	Upgradation of 33/11 KV S/s	64
8.	Upgradation of Distribution S/s	1280

**Constraints:**

- Southco is predominant with high LT consumer mix with respect to other Discoms and contributes 80 % of total drawl as LT consumption with very little HT and EHT consumers.
- Due to above, Tariff setting for BST and approving ARR of SOUTHCO is becoming difficult for Hon'ble Commission.
- SOUTHCO is having negative net worth and unable to raise loans from Financial Institutions for strengthening the Assets.
- No Subsidy is provided by the State Govt. to the Distribution Sector for making it viable.
- The collected revenues are escrowed to GRIDCO for servicing pre privatization liabilities.

- The 10th Plan of APDRP is short closed at zero value and the benefits of 11th Plan RAPDRP not applicable to private DISCOMs like SOUTHCO.
- Negative GAP in ARR approved for SOUTHCO since the date of Privatisation till FY 2007-08.
- Little money made available for spending under R&M expenses till FY 2007-08.

#### Roadmap to Improve Quality of Supply :

In order to improve the quality of supply, SOUTHCO enduring for following measures to be taken in coming years.

- To strengthen the net work system, SOUTHCO shall infuse investment of Rs.6.82 Crore by way of loan from REC for installation of Power Transformers, DTRs, Circuit Breakers etc.
- For the FY 2009-10, SOUTHCO has submitted an investment proposal of Rs.248.83 Crore to the Hon'ble OERC for approval and sanction by the Govt. of Orissa for system improvement. By the end of FY 2012-13, SOUTHCO is planning to complete the work of the Capital Expenditure to the tune of Rs.297.08 Crore.
- In addition to above, SOUTHCO is also planning to implement SCADA and other IT tools and proposing investment of Rs.44.00 Crores for improvement of Quality of supply by way of automation and Customer Services.
- SOUTHCO is on the way of structural change to segregate the O&M and Commercial Functions to have better accountability of employees towards Consumer Services.
- SOUTHCO has submitted an investment plan of Rs.667.53 Crore to the 13th Finance Commission through the State Govt.

#### Implementation of Loss Reduction Strategies :

SOUTHCO has projected AT&C loss reduction trajectory of 19.15 % by the end of FY 2012-13 from the present level of 51.09 % to 31.94 %.

Year	2008-09	2009-10	2010-11	2011-12	2012-13
AT&C Loss	46.12%	42.10%	38.06%	34.99%	31.94%

To implement the Loss reduction Trajectory SOUTHCO shall take following steps in time bound manner.

- All the sub-divisions under SOUTHCO shall be ranked in terms of AT&C losses. Further, analysis shall be done at sub-division level for trend of losses during last 5 years. The sub-divisions having higher losses shall be given special focus and be closely monitored during the Control Period.

- The mapping of distribution losses up to feeder level by way of energy audit shall help in identifying the feeders having higher distribution losses. It will enhance the accountability and accordingly, the loss reduction targets shall be specified to each of the responsible staff.
- SOUTHCO is also attempting to achieve 100% consumer metering which will enable it to raise bills on the basis of actual energy consumption instead of raising the bills on assessed basis, which is being done for some of the un-metered or consumers having defective meters.
- At transformer level, SOUTHCO will carry out input-output analysis in terms of energy input and revenue output so as to identify the areas of high commercial losses. The vigilance teams of the Discom shall carry out massive theft detection program so that commercial losses could be minimized.
- The up-gradation work for old distribution transformers, cables, capacitor etc shall be undertaken for minimizing the technical losses. Further, the capital expenditure under RAPDRP and other schemes narrated above shall help in reduction of distribution losses.
- For curbing the commercial loss if any at HT and EHT, AMR meters are being installed at industrial units. Further, use of energy audit meters, XLPE Cables, deployment of security guards for guarding the energy audit meter at strategic locations covering industrial consumers, daily reading of Industrial Consumer's billing meter and audit meter, carrying out vigilance through mobile squad at odd hours in night by Loss Control Cell squad shall help in reducing the distribution losses at HT and EHT level.
- Establishment of Energy Police Stations and Special Court by the GoO with adequate Staff including enforcement activities by the Police personnel.

#### **Adequacy/inadequacy of present level of Retail tariff :**

The present level of Retail Supply Tariff is inadequate to meet the Annual Revenue Requirement of the SOUTHCO. The tariff applicable to the consumers of Orissa is very low in comparison to many other States. Non increase in the Retail tariff for the last consecutive 8 years has resulted in poor Cash Flow position of SOUTHCO and not permitting to cover the minimum R&M expenses needed for the inherited age old lines and substations and new lines of substations constructed to meet the demand of the consumers of the Southern part of the State. Now under RGGVY and BGJ scheme huge capital investment is being carried out by the Central Govt. as well as State Govt. to provide electricity to all the house holds by the end of FY 2012. But, no thrust has been given to provide R&M expenses as the assets are owned by the State Govt.

#### **Plan & Suggestions to mobilize required resources to meet the Capital Expenditure and Repair and Maintenance Expenses.**

Hon'ble OERC during the FY 2008-09 & FY 2009-10 allowed SOUTHCO an amount of Rs. 19.08 Crore and Rs.20.73 Crore under the head Repair & Maintenance Expenses and also directed GRIDCO for relaxation of Escrow. SOUTHCO also purchased requisite materials on need based including new transformers of

different capacity for replacement of burnt transformer as well as installation and augmentation of existing Transformer to provide better voltage and reliable power supply.

**Plan & Suggestion to meet the Capital Expenditure :**

1. Southco shall avail REC loan under SI scheme subject to the condition that GRIDCO shall release the 2nd Charge Paripassu on the Assets.
2. GoO should fund the need based Capital Expenditure of Rs. 248.83 Crore proposed by SOUTHCO.

**Plan & Suggestion to meet the R&M Expenses :**

1. The R&M expenses approved by the Hon'ble Commission should include the assets created under RGGVY and BGJ Scheme as the assets are to be repaired and replaced by the DISCOMS.
2. ESCROW relaxation should be made for the approved amount of R&M expenses.
3. The Tariff should be increased to cover adequately the Revenue Requirement looking into the present level of loss level of SOUTHCO and loss reduction trajectory there after as per the Abraham Committee Report should be followed.

## POST PRIVATISATION SENARIO IN WESCO - A decade in retrospect

Prasanta Kumar Pradhan  
CEO, WESCO

The reform process in Power sector of our State, after passing through a lot of trials and tribulations, has now completed an eventful decade. Though we have crossed a number of milestones on our path of progress achieving moderate success, we are still striving for a sustainable growth especially in distribution sector. Hence, it is high time on our part to recapitulate and review our performance and at the same time deliberate on issues, concerns and challenges which we encounter in our struggle for financial viability and enduring growth. It is also the appropriate time that all stake holders come forward, prudently share their thoughts and invoke combined responsibility so as to draw a strategic down to business roadmap to translate the foremost objective of Power Sector reforms ensuring reliable and uninterrupted power supply at reasonable cost for our esteemed consumers.

To share WESCO experience in the post privatization scenario, Reliance Energy(Formerly BSES) acquired 51% stake in our Company since April, 1999 inheriting a consumer base of 3 lakhs and an average loss of 43 %. Over the years, with vigorous implementation of strategic action plans, the distribution loss level has now come down to 33% . In Payment of bulk supply tariff to GRIDCO, we have achieved 100 % payment since last seven years. The loss in LT sector has still remained a matter of worry which still stands at more than 60% despite consolidated efforts at all level of Management. Carrying forward the increasing trend i.e 79% in 2000-01 as yet, we have registered 95 % collection efficiency. Similarly, the AT & C loss has now come down to 38 % from 55% in 2000-01. Despite there being no increase in RST for the last 8 years ,WESCO has increased its revenue collection substantially without any intermediary financial support or subsidy.

However, in the backdrop of multifaceted issues and concerns, the Company has been earnestly and enthusiastically putting in all its efforts to earn the good will of its five lakh plus valued consumers and endeavoring to live up to their expectation by implementing various improvement plans and developmental projects.

While enumerating the post privatization scenario, I take this opportunity to communicate my feelings which I impounded during my long years of service in Distribution Sector though the columns of this magazine.

As we know, Distribution Business is the prime mover and key operator which energizes the viability and progress of entire Power sector. Besides, electricity is also the key input (life-line) for infrastructural and integrated development of the State. Therefore, all stake-holders should set their sight and focus attention on the issues and concerns which have still remained unaddressed and perpetually posing threats to all the sincere efforts and endeavours of the DISCOMS to make the business financially viable and operationally sustainable.

It is also painful that although placed at a strategic point in the entire value chain of the electricity sector, Discoms are mostly neglected by all the facilitators and made to bear the burnt of failures & deficiencies in the sector as a scapegoat. The question as to whether a DISCOM is discharging its responsibility satisfactorily is certainly a matter of deliberation and analysis. But the ground realities at the micro-level of functioning must be evaluated in its right prospective by the evaluators so as to draw a rationale conclusion on its performance. However, none can disagree that the DISCOMS are certainly entitled to be facilitated with a basic commercial environment so as to enable themselves to collect at least their cost of supply.

At this point of time, I must share my concern that while endeavoring to expanding our horizon with renewed vigor, the foremost obstacle which comes along our path of progress is 'theft of energy'. This has not only posed a serious threat to our attempt to reduce distribution loss but also has belated the pace of our overall growth. High AT&C loss, which is, at present a major area of concern, is largely due to illegal abstraction of energy by means of tampering and bypassing of meter and direct tapping from LT overhead networks. Legislation in this regard has not been very effective mainly due to lack support from Govt. machinery and administrative support in curbing the menace.

Recognizing the menace of power theft as the major road-block in the improvement process of the distribution business, the Government should pay a pivotal role to curb the same. In this direction, adequate number of energy Police Stations and special Courts need to be established in the licensed area of distribution companies without further delay.

In addition, the machinery of local district administration may be made available to the DISCOMS to help control the menace. At this juncture of time, the cost of establishment and operation of the Courts and PSs should be borne by the State Govt. If theft control could be placed as a 'most priority' on the agenda of Govt., we can gain substantial result in loss reduction and certainly achieve the 15% benchmark of AT & C loss in the near future. In WESCO, to create a total check on power pilferage, vigilance activities have since been intensified. We are sure, with the cooperation and helping hand of our genuine and honest consumers and general public and support from State Govt., we will come out successful in our campaign against theft of power. Besides, a strong and forceful public opinion need to be created against theft of power which can be attained by combined effort of our employees and consumers.

On the other hand, it is high time that the OERC should hike the RST which has remained stagnant for the last 8 years giving due weightage to the commercial viability of the DISCOMS. As we experienced, the impact of stagnant tariff structure and stringent ESCROW mechanism has further aggravated the financial condition of the DISCOMS resulting in inadequate maintenance of Supply network. In this context, it is expected that the Regulator should always strike a balance among all stake-holders to carry forward the distribution business sustainably. In the same vain, the regulators should rely upon a realistic methodology of assessing the performance of DISCOMS since it is an well conceived notion that, a private investor cannot be expected to invest money to maintain and upgrade a system if they are apprehensive of realizing at least the cost of investment, not to mention of profiteering.

Besides , our employees need to be sensitized and adjust themselves to the changed environment of corporate Culture . They should be more responsive and caring towards consumers. Being in the essential Service of Power Supply, the Trade Unions representing the workers/employees in the power sector should conduct themselves responsibly with due compliance of ethics of the Trade Unionism and being fully alive to the exigency attached to our Business. Workers participation and cooperative approach will contribute a lot in attaining organizational goal and consumer satisfaction.

Being the flag bearer of the reforms process, the State Govt is expected to play the role of major facilitator for turning around the Power Sector by extending transitional financial support for investment in Operation and maintenance work so as to lead the sector to the pinnacle of Success.

Standing at the threshold of another eventful decade of post reform era of power sector, it is high time that the management of Electricity Service is carried forward in a cooperative and friendly environment with participation of our esteemed consumers and proactive support of all Stake Holders. In addition, Consumers should be made aware of their rights to demand quality power and efficient service and their obligations to the utility of rightful consumption of electricity and regular and timely payment of bills.

Through we are marching hand-in-hand in the path of progress and crossing milestones of success every year, we are still to go a long way and a lot of works to do in order to translate our vision of a brighter and prosperous Orissa in to reality. I am confident that our steady commitment to the pursuit of growth and progress will enable the company to deliver good performance in the years to come.

Views and opinions expressed here in this article are personal & professional should not be treated as view of any Organisation.

ବିଦ୍ୟୁତ ଶୁଦ୍ଧି

ଓ

ଉନ୍ନତମାନର ବିଦ୍ୟୁତପ୍ରେବା

ଉପସ୍ଥାପନା – କେ ସି ବଡ଼ୁ,  
ସଦସ୍ୟ, ବିଦ୍ୟୁତ୍ ନିୟାମକ ଆୟୋଗ, ଓଡ଼ିଶା

## ଉପସ୍ଥାପନାର ସାରାଂଶ (Theme of the Presentation)

- ▶ ବିଦ୍ୟୁତ ଶୁଳ୍କ ଓ ଉନ୍ନତମାନର ସେବା ପରସ୍ପରର ପରିପୂରକ ଅଟନ୍ତି ।
- ▶ ବିଦ୍ୟୁତ ଶୁଳ୍କ କିପରି ନିର୍ଦ୍ଧାରଣ କରାଯାଏ
- ▶ ବିଦ୍ୟୁତ ଶୁଳ୍କ ବୃଦ୍ଧିର କାରଣ
- ▶ ବିଦ୍ୟୁତ କମ୍ପାନୀମାନଙ୍କର ଦାୟିତ୍ୱ
- ▶ ବିଦ୍ୟୁତ ଗ୍ରାହକମାନଙ୍କର କଂପ୍ୟ ଓ ଅଧିକାର
- ▶ ଅନୁସୂଚିତ କ୍ଷତି ପୂରଣ ଓ ଅର୍ଥ ପ୍ରଦାନର ରୀତି
- ▶ ବିଦ୍ୟୁତ୍ ଚୋରୀ, ଏହାର ପରିଣାମ ଓ ବିଦ୍ୟୁତ୍ ରୋଜିବା ପାଇଁ ଆଇନଗତ ବ୍ୟବସ୍ଥା
- ▶ ସରକାରଙ୍କ ଦାୟିତ୍ୱ
- ▶ ବିଦ୍ୟୁତ୍ ନିୟାମକ ଆୟୋଗଙ୍କ ଦାୟିତ୍ୱ
- ▶ ବିଦ୍ୟୁତ୍ ଶୁଳ୍କ କାହିଁକି ବଢ଼ିବ
- ▶ ଶେଷ କଥା

## ବିଦ୍ୟୁତ ଶୁଳ୍କ ଓ ଉନ୍ନତମାନର ସେବା ପରସ୍ପରର ପରିପୂରକ

- ▶ ବିଦ୍ୟୁତ୍ ସେବା ଏକ ବ୍ୟୟବହୁଳ ବ୍ୟବସାୟ । ଏହି ବ୍ୟବସାୟ ବହୁ କାରଣ ଯଥା କୋଇଲା ବା ତୈଳର ଦରବୃଦ୍ଧି, କର୍ମଚାରୀଙ୍କ ଦରମା ବୃଦ୍ଧି ବୈଦ୍ୟୁତିକ ସରଞ୍ଚାମର ଦରବୃଦ୍ଧି ଇତ୍ୟାଦି ଉପରେ ନିର୍ଭର କରେ ।
- ▶ ଏହି ବ୍ୟବସାୟ କୌଣସି ବ୍ୟବସାୟୀ ବା ସଂସ୍ଥା କିମ୍ବା ସରକାରଙ୍କ ଦ୍ୱାରା ସମ୍ପୂର୍ଣ୍ଣ ରୂପେ ନିୟନ୍ତ୍ରଣରେ ନଥାଏ । ଏହା ଏପରି ଏକ ବ୍ୟବସାୟ ଯେଉଁଥିରେ ସେବାର ମୂଲ୍ୟ ନିର୍ଦ୍ଧାରଣରେ ଉପଭୋକ୍ତାମାନଙ୍କର ମତାମତ ଗୁରୁତ୍ୱପୂର୍ଣ୍ଣ ।
- ▶ ଅନ୍ୟ ସବୁ ସେବା ପରି ଉନ୍ନତମାନର ବିଦ୍ୟୁତ୍ ସେବା ପାଇଁ ମୁଁ ବିପୁଳ ପରିମାଣର ଅର୍ଥ ଆବଶ୍ୟକ ।
- ▶ **The Orissa Electricity Reform Act, 1995, 1.4.1996** ଠାରୁ କାର୍ଯ୍ୟକାରୀ ହେବାପରେ ବିଦ୍ୟୁତ୍ ଆଇନ ୨୦୦୩ର ପ୍ରଣୟନ ପରେ ସରକାର ଏହି କ୍ଷେତ୍ରକୁ କୌଣସି ଆର୍ଥିକ ସହାୟତା ପ୍ରଦାନ କରନ୍ତି ନାହିଁ । ଏହି ସେବା ପାଇଁ ଆବଶ୍ୟକ ପଡୁଥିବା ଅର୍ଥ ବିଦ୍ୟୁତ୍ ଶୁଳ୍କ ମାଧ୍ୟମରେ ହିଁ ଉପଭୋକ୍ତା ମାନଙ୍କଠାରୁ ଆଦାୟ କରାଯାଏ
- ▶ ଏଣୁ ଉନ୍ନତମାନର ବିଦ୍ୟୁତ୍ ସେବା ପାଇଁ ବିଦ୍ୟୁତ୍ ଯୋଗାଣକାରୀ କମ୍ପାନୀ ମାନେ ବିଦ୍ୟୁତ୍ ଶୁଳ୍କ ଉପରେ ହିଁ ନିର୍ଭର କରିଥାନ୍ତି । ଅର୍ଥାତ୍ ଉନ୍ନତମାନର ବିଦ୍ୟୁତ୍ ସେବା ଓ ବିଦ୍ୟୁତ୍ ଶୁଳ୍କ ପରସ୍ପରର ପରିପୂରକ ।

## ବିଦ୍ୟୁତ୍ ଶୁଳ୍କ କିପରି ନିର୍ଦ୍ଧାରଣ କରାଯାଏ

- ▶ ବିଦ୍ୟୁତ୍ ଶୁଳ୍କ ଉପଭୋକ୍ତାମାନଙ୍କୁ ବିଦ୍ୟୁତ୍ ଯୋଗାଇଦେବାର ମୂଲ୍ୟ ଅଟେ ।
- ▶ ଏହା ମୂଳରେ ବିଭିନ୍ନ ଖର୍ଚ୍ଚ ଯଥା ବିଦ୍ୟୁତ୍ ଉତ୍ପାଦନ (Generation) ଖର୍ଚ୍ଚ, ସରବରାହ (Transmission) ଖର୍ଚ୍ଚ ଓ ବିତରଣ ଜନିତ (Distribution) ଖର୍ଚ୍ଚ ଅନ୍ତର୍ଭୁକ୍ତ ଅଟେ ।
- ▶ ବିଦ୍ୟୁତ୍ ଉତ୍ପାଦନ ପାଇଁ ଆମେ ରାଜ୍ୟର ବିଦ୍ୟୁତ୍ ଉତ୍ପାଦନ କେନ୍ଦ୍ର ତଥା କେନ୍ଦ୍ର ସରକାରଙ୍କର ଓ ଘରୋଇ ବିଦ୍ୟୁତ୍ ଉତ୍ପାଦନକାରୀଙ୍କ ଉପରେ ନିର୍ଭରଶୀଳ ।
- ▶ ବିଦ୍ୟୁତ୍ ଉତ୍ପାଦନ (Generation) ଖର୍ଚ୍ଚରେ କୋଇଲା, ଚୈନ ପ୍ରଭୃତି କଠାମାଲର ମୂଲ୍ୟ (Variable cost), ବିଦ୍ୟୁତ୍ କେନ୍ଦ୍ର ସ୍ଥାପନ, ରକ୍ଷଣାବେକ୍ଷଣ (O&M) ଖର୍ଚ୍ଚ ଓ କର୍ମଚାରୀଙ୍କ ଦରମା ଇତ୍ୟାଦି ସାମିଲ ଥାଏ ।
- ▶ ସେହିପରି ବିଦ୍ୟୁତ୍ ସରବରାହ (Transmission) ଖର୍ଚ୍ଚରେ ଉଚ୍ଚ ଶକ୍ତିସାମ୍ପନ୍ନ ବିଦ୍ୟୁତ୍ ଲାଇନ ଓ ସର୍ବ୍ଷେସନ ବସାଇବାର ଖର୍ଚ୍ଚ, କର୍ମଚାରୀଙ୍କ ଦରମା ଇତ୍ୟାଦି ଅନ୍ତର୍ଭୁକ୍ତ ।
- ▶ ବିଦ୍ୟୁତ୍ ଶକ୍ତି ବିତରଣ କମ୍ପାନୀଙ୍କ ନିକଟରେ ପହଞ୍ଚିବା ପରେ ଏଥିରେ ବିଦ୍ୟୁତ୍ ବିତରଣ (Distribution) ଜନିତ ଖର୍ଚ୍ଚ ଯଥା ଲାଇନ ଓ ସର୍ବ୍ଷେସନ ବସାଇବାର ଖର୍ଚ୍ଚ, ରକ୍ଷଣାବେକ୍ଷଣ ଖର୍ଚ୍ଚ ଓ କର୍ମଚାରୀଙ୍କ ଦରମା ଇତ୍ୟାଦି ମିଶିଥାଏ ।
- ▶ ଏହିଭଳି ବିଭିନ୍ନ ସ୍ତରରେ ହେଉଥିବା ଖର୍ଚ୍ଚ ଯଥା ଉତ୍ପାଦନଠାରୁ ଉପଭୋକ୍ତା ପର୍ଯ୍ୟନ୍ତ ମିଶି ବିଦ୍ୟୁତ୍ ଶୁଳ୍କ (Tariff) ନିର୍ଦ୍ଧାରିତ ହୋଇଥାଏ ।

## ବିଦ୍ୟୁତ୍ ଶୁଳ୍କ ବୃଦ୍ଧିର କାରଣ

- ▶ କୋଇଲା , ବିଦ୍ୟୁତ୍ ସଂରକ୍ଷାମର ଦରବୃଦ୍ଧି ଓ କର୍ମଚାରୀମାନଙ୍କର ଦରମା ଓ ଭଞ୍ଜ ଇତ୍ୟାଦି ବୃଦ୍ଧି
- ▶ ଅଳ୍ପ ମୂଲ୍ୟରେ ମିଳୁଥିବା ଜଳବିଦ୍ୟୁତ୍ କେନ୍ଦ୍ରରେ ସ୍ୱଳ୍ପବୃଦ୍ଧିପାତ୍ ଜନିତ ଉତ୍ପାଦନ ହ୍ରାସ
- ▶ ଶିଳ୍ପାୟନ ଓ ଉପଭୋକ୍ତା ସଂଖ୍ୟା ବୃଦ୍ଧି ଯୋଗୁଁ ଯୋଗାଣରେ ନିଅଁଥା ପରିସ୍ଥିତି
- ▶ ରାଜ୍ୟରେ ବିଦ୍ୟୁତ୍ ନିଅଁଥା ପରିସ୍ଥିତି ଯୋଗୁଁ ଜାତୀୟ ଗ୍ରୀଡ଼ରୁ UI (ଏକ ବାଣିଜ୍ୟିକ ବ୍ୟବସ୍ଥା)ରେ ଅଧିକ ମୂଲ୍ୟରେ ବିଦ୍ୟୁତ୍ କ୍ରୟ
- ▶ ବିଦ୍ୟୁତ୍ ଗୋରି ଜନିତ ଜାତୀୟ ସମ୍ପତ୍ତି ନଷ୍ଟ ହେବାରୁ ବିତରଣ କମ୍ପାନୀର ରାଜସ୍ୱ ହ୍ରାସ
- ▶ ବିଦ୍ୟୁତ୍ ଦେୟ ଠିକ ସମୟରେ ନିୟମିତ ଭରଣା ନ କରିବା 'ଳରେ ବ୍ୟବସାୟୀକ କ୍ଷତି
- ▶ ବିଦ୍ୟୁତ୍ ଲାଇନ, ଟ୍ରାନ୍ସଫର୍ମର ଇତ୍ୟାଦିର ଠିକ ସମୟରେ ରକ୍ଷଣାବେକ୍ଷଣ ଅଭାବରୁ ବିଦ୍ୟୁତ୍ ବିତରଣ ଜନିତ ବୈଷୟିକ କ୍ଷତି

## ବିଦ୍ୟୁତ୍ କମ୍ପାନୀମାନଙ୍କର ଦାୟିତ୍ୱ

- ▶ ଉଠିମ ଗ୍ରାହକ ସେବା ଯୋଗାଇଦେବା ହେଉଛି ବିଦ୍ୟୁତ୍ ବିତରଣ କମ୍ପାନୀମାନଙ୍କର ମୁଖ୍ୟ ଦାୟିତ୍ୱ । ଏ ସମ୍ପର୍କରେ ମହାତ୍ମା ଗାନ୍ଧୀଙ୍କ ନିମ୍ନୋକ୍ତ ଉକ୍ତି ପ୍ରଣିଧାନ ଯୋଗ୍ୟ ।  
 “A customer is the most important visitor in our premises. He is not dependent on us. We are dependent on him. He is not an interruption to our work. He is the purpose of it. He is not an outsider to our business. He is a part of it. We are not doing him a favour by serving him. He is doing us a favour by giving us an opportunity to do so.”  
 Hence, according to Mahatma Gandhi consumer is the kingpin for success or failure of any organization.
- ▶ ଯଥା ସମ୍ଭବ ସୁନ୍ଦର ମୂଲ୍ୟରେ ବିଦ୍ୟୁତ୍ କ୍ରୟ କରି ଉପଭୋକ୍ତାମାନଙ୍କୁ ସୁଲଭ ମୂଲ୍ୟରେ ଯୋଗାଣ ।
- ▶ ଉପଯୁକ୍ତ ମିଟର ଦ୍ୱାରା ବିଦ୍ୟୁତ୍ ଯୋଗାଣର ପରିମାଣ ନିର୍ଦ୍ଧାରିତ କରିବା ।
- ▶ ଠିକ୍ ସମୟରେ ନିର୍ଭୁଲ ବିଦ୍ୟୁତ୍ ବିଲ୍ ପ୍ରଦାନ କରିବା ।
- ▶ ବିଦ୍ୟୁତ୍ ଚୋରୀ ରୋକିବା ।
- ▶ ଲାଭନ ଓ ସର୍ବ୍ୱେସନ ମାନଙ୍କର ଉପଯୁକ୍ତ ରକ୍ଷଣାବେକ୍ଷଣ କରି ଉପଭୋକ୍ତାମାନଙ୍କୁ ଉଚ୍ଚମାନର ବିଦ୍ୟୁତ୍ ଯୋଗାଣ । ଏଥିପାଇଁ ବିତରଣ କମ୍ପାନୀମାନେ ପୁଞ୍ଜି ବିନିଯୋଗ କରିବା ଆବଶ୍ୟକ । ଏହା ସେମାନଙ୍କ ପ୍ରାଥମିକ ଦାୟିତ୍ୱ ।

## ବିଦ୍ୟୁତ୍ କମ୍ପାନୀମାନଙ୍କର ଦାୟିତ୍ୱ ....

- ▶ ଅନବରତ ବିଦ୍ୟୁତ୍ ଯୋଗାଣର ବ୍ୟବସ୍ଥା କରିବା ।
- ▶ ଉପଭୋକ୍ତା ମାନଙ୍କର ଅଭିଯୋଗ ଉପରେ ତୁରନ୍ତ ପଦକ୍ଷେପ ଗ୍ରହଣ କରିବା ।
- ▶ ବିଦ୍ୟୁତ୍ ଯୋଗାଣରେ ସୁରକ୍ଷାବିଧି ପ୍ରୟୋଗ ଏବଂ ଏ ବିଷୟରେ ଜନସାଧାରଣଙ୍କୁ ଶିକ୍ଷା ଦେବା ।
- ▶ ବିଦ୍ୟୁତ୍ କ୍ଷେତ୍ରରେ ସୁଚନା ଓ ପ୍ରଯୁକ୍ତି ବିଦ୍ୟାର ପ୍ରୟୋଗଦ୍ୱାରା ଉପଭୋକ୍ତାମାନଙ୍କର ସେବାରେ ଉନ୍ନତି ଆଣିବା ଇତ୍ୟାଦି ଅର୍ଥଭୁକ୍ତ ଅଟେ ।
- ▶ ସ୍ୱୟଂ ସହାୟକ ଗୋଷ୍ଠି, ପ୍ରାଠିକାଳ, ଗ୍ରାମ କମିଟି ମାଧ୍ୟମରେ ବିଦ୍ୟୁତ୍ ବିତରଣ କରି ଉପଭୋକ୍ତାମାନଙ୍କୁ ଏହି ସେବା କ୍ଷେତ୍ରରେ ସାମିଲ କରିବା ଇତ୍ୟାଦି ଅର୍ଥଭୁକ୍ତ ଅଟେ ।
- ▶ ବିଦ୍ୟୁତ୍ ବିତରଣ କମ୍ପାନୀମାନଙ୍କ ପାଇଁ ନୂଆ ମନ୍ତ୍ର ହେଲା “Reduce cost, Be Efficient, Be Consumer Responsive or PERISH.” - ସେବାର ଖର୍ଚ୍ଚ କମାଅ, ଅଧିକ ତକ୍ଷ ହୁଅ, ଗ୍ରାହକମାନଙ୍କ ପ୍ରତି ଉଠିରଦାୟୀ ହୁଅ - ନଚେତ୍ ବ୍ୟବସାୟରୁ ଅବ୍ୟାହତି ନିଅ - “Shape up or Ship out as said by CM of Delhi.

### ଅନୁସୂଚିତ କ୍ଷତି ପୂରଣ ଓ ଅର୍ଥପ୍ରଦାନର ରୀତି

- ବିଦ୍ୟୁତ ଗ୍ରାହକଙ୍କୁ ସିମିତ ସମୟସୀମା ଭିତରେ ସେବା ପାଇବାର ହକ ରହିଛି ।
- କମିସନଙ୍କଦ୍ୱାରା ସ୍ଥିରକରାଯାଇଥିବା ସର୍ବନିମ୍ନ ମାନଦଣ୍ଡର ଖିଲାପକଲେ ବିତରଣ କମ୍ପାନିମାନେ ଉପଭୋକ୍ତାମାନଙ୍କୁ କ୍ଷତି ପୂରଣ ଦେବେ ।
- ଅନୁସୂଚିତ କ୍ଷତି ପୂରଣ ଓ ଅର୍ଥପ୍ରଦାନର ରିତି
- ବିତରଣ ସଂସ୍ଥାମାନେ ପ୍ରତ୍ୟେକ ଅଭିଯୋଗକୁ ପଞ୍ଜିକରଣ କରିବେ
- ବିତରଣ ସଂସ୍ଥା ପ୍ରତ୍ୟେକ ଉପଭୋକ୍ତାଙ୍କର ରେକର୍ଡ ରଖିବେ
- କ୍ଷତି ପୂରଣ ବିଲ୍‌ଦ୍ୱାରା ସମାନ୍ତୋକ୍ତ କରିବେ
- ସାଧାରଣତଃ କ୍ଷତିପୂରଣ ନିମ୍ନଲିଖିତ ଭାବରେ ପ୍ରଦାନ କରିବେ
  - ନିର୍ଦ୍ଦିଷ୍ଟ ମାନଦଣ୍ଡର ଲଙ୍ଘନ କରାଗଲେ ସ୍ୱୟଂଚାଳିତଭାବେ ଗ୍ରାହକଙ୍କୁ କ୍ଷତିପୂରଣ ମିଳିବ
  - ବିତରଣ ସଂସ୍ଥାମାନେ ସମୟ ସମୟରେ ଆଭ୍ୟନ୍ତରୀଣ ଅନୁସନ୍ଧାନ କରି ଦାକଡ଼ ଖିଲାପ କରିଥିବା ଅଧିକାରିକଠାରୁ କ୍ଷତି ପୂରଣ ଆଦାୟ କରିବେ
  - ବିତରଣ ସଂସ୍ଥାର ଅଧିକାରିକମାନଙ୍କୁ ସ୍ଥିରକରାଯାଇଥିବା ମାନଦଣ୍ଡ ସମ୍ପର୍କରେ ଉଚିତ ପ୍ରଶିକ୍ଷଣ ଦିଆଯିବ ଯାହାଦ୍ୱାରା ସେମାନେ ଉଚିତ ଭାବରେ ସେମାନେ ସେମାନଙ୍କର କାର୍ଯ୍ୟପାଳନ କରିବେ

### କ୍ଷତିପୂରଣ ଓ ଦେୟ ରୀତିର ଅନୁସୂଚୀ

କ୍ର.ସ.	ଅଭିଯୋଗର ପ୍ରକାର	ପୂନଃ ସ୍ଥାପନର ସମୟସୀମା	କ୍ଷତିପୂରଣର ପରିମାଣ	କେଉଁ ପ୍ରକାର କ୍ଷତି ପୂରଣ
୧.	ସାଭାବିକ ଫସ୍ତକ କାଟ	୬ ଘଣ୍ଟା ସହରାଞ୍ଚଳ ୨୪ ଘଣ୍ଟା ଅନ୍ୟାଞ୍ଚଳ	ଟ ୧୦୦.୦୦/ ପ୍ରତ୍ୟେକ ଦିନ	ସତ୍ୟପୂର୍ଣ୍ଣଭାବେ
୨.	ଲାଲନ ବ୍ୟାହାତ (ସାଧାରଣ)	୧୨ ଘଣ୍ଟା ସହରାଞ୍ଚଳ ୨୪ ଘଣ୍ଟା ଅନ୍ୟାଞ୍ଚଳ	ଟ ୧୦୦.୦୦/ ପ୍ରତ୍ୟେକ ପ୍ରଭାବିତ ଉପଭୋକ୍ତା	ଦାବିକରିବାକୁ ହେବ
୩.	ଲାଲନ ବ୍ୟାହାତ (ବୃହତ)	୨୪ ଘଣ୍ଟା ସହରାଞ୍ଚଳ ୪୮ ଘଣ୍ଟା ଅନ୍ୟାଞ୍ଚଳ	ଟ ୧୦୦.୦୦/ ପ୍ରତ୍ୟେକ ପ୍ରଭାବିତ ଉପଭୋକ୍ତା	ଦାବିକରିବାକୁ ହେବ
୪.	ଗ୍ରାନସଫରମର ତ୍ରୁଟି	୨୪ ଘଣ୍ଟା ସହରାଞ୍ଚଳ ୪୮ ଘଣ୍ଟା ଅନ୍ୟାଞ୍ଚଳ	ଟ ୨୦୦.୦୦/ ପ୍ରତ୍ୟେକ ପ୍ରଭାବିତ ଉପଭୋକ୍ତା	ଦାବିକରିବାକୁ ହେବ
୫.	ବିଦ୍ୟୁତକାଟ ଅନୁସୂଚିତ ସମୟଠାରୁ ଅତିକ୍ରାନ୍ତ ହେଲେ	ଦିନମଧ୍ୟରେ ୧୨ ଘଣ୍ଟାରୁ ଅଧିକ ହେଲେ	ଟ ୨୦୦.୦୦/ ପ୍ରତ୍ୟେକ ପ୍ରଭାବିତ ଉପଭୋକ୍ତା	ଦାବିକରିବାକୁ ହେବ

### କ୍ଷତିପୂରଣ ଓ ଦେୟ ରୀତିର ଅନୁସୂଚୀ.....

କ୍ର.ସ.	ଅଭିଯୋଗର ପ୍ରକାର	ପୂନଃ ସ୍ଥାପନର ସମ୍ଭବତା	କ୍ଷତିପୂରଣର ପରିମାଣ	କେଉଁ ପ୍ରକାର କ୍ଷତି ପୂରଣ
୬.	ଭୋଲଟେଜ ଅସ୍ଥିରତା	୧୫ ଦିନ ମଧ୍ୟରେ (ଯେଉଁ କ୍ଷେତ୍ରରେ ଯୋଗାଣ ବ୍ୟବସ୍ଥାର ବା ବୃଦ୍ଧିର ଆବଶ୍ୟକତା ଥାଏ)	ଟ ୨୦୦.୦୦/ ପ୍ରତ୍ୟେକ ପ୍ରଭାବିତ ଉପଭୋକ୍ତା	ସତ୍ୟପୂର୍ଣ୍ଣଭାବେ
୭.	ଭୋଲଟେଜ ଅସ୍ଥିରତା	୧୨୦ ଦିନ ମଧ୍ୟରେ (୧୧ କେଭି ପାଇଁ) ଓ ୧୮୦ ଦିନ ମଧ୍ୟରେ (୩୩ କେଭି ପାଇଁ) ।	ଟ ୫୦୦.୦୦/ ପ୍ରତ୍ୟେକ ପ୍ରଭାବିତ ଉପଭୋକ୍ତା	ସତ୍ୟପୂର୍ଣ୍ଣଭାବେ
୮.	ମିଟର ସମ୍ପର୍କିତ ଅଭିଯୋଗ	୭ ଦିନ ମଧ୍ୟରେ	ଟ ୧୦୦.୦୦ ଅବହେଳା ଏହାର ତଦାରଖ ଏବଂ ସଠିକତା	ଦାବି କରିବାକୁ ହେବ

୯.	ମିଟର ବଦଳାଇବା ପାଇଁ (ଯଦି ଏହା ଆସ୍ତ୍ର ଆସ୍ତ୍ର ଚାଲୁଥାଏ ଅଥବା ବନ୍ଦ ଥାଏ)	୧ ମାସ (୩୦ ଦିନ) ମଧ୍ୟରେ	ଟ ୧୦୦.୦୦/ ପ୍ରତ୍ୟେକଥର ଅବହେଳା ତୃଟି ପାଇଁ	ସତ୍ୟପୂର୍ଣ୍ଣ ଭାବେ
୧୦	ପୋଡ଼ିଯାଇଥିବା ମିଟର (ଯଦି ଏହା ଗ୍ରାହକ ଦୋଷରୁ ହୋଇନଥାଏ)	୧ ମାସ (୩୦ ଦିନ) ମଧ୍ୟରେ	ଟ ୨୦୦.୦୦ ଅବହେଳା ଏହାର ତଦାରଖ ଏବଂ ସଠିକତା	ସତ୍ୟପୂର୍ଣ୍ଣଭାବେ
୧୧	ନୂଆ ବିଦ୍ୟୁତ୍ ସଂଯୋଗ ଯେଉଁଠାରେ ଯୋଗାଣ ବ୍ୟବସ୍ଥାର ସଂପ୍ରସାରଣ ଆବଶ୍ୟକ ନଥାଏ	୧ ମାସ (୩୦ ଦିନ) ମଧ୍ୟରେ	ଟ ୧୦୦.୦୦ ଅବହେଳା ଏହାର ତଦାରଖ ଏବଂ ସଠିକତା	ସତ୍ୟପୂର୍ଣ୍ଣଭାବେ

### କ୍ଷତିପୂରଣ ଓ ଦେୟ ରୀତିର ଅନୁସୂଚୀ.....

୧୨	ନୂଆ ବିଦ୍ୟୁତ ସଂଯୋଗ (ଏଲ୍.ଟି. ଗ୍ରାହକପାଇଁ) ଯେଉଁଠାରେ ଯୋଗାଣ ବ୍ୟବସ୍ଥାର ସଂପ୍ରସାରଣ ଆବଶ୍ୟକ ଥାଏ	୧ ମାସ (୩୦ ଦିନ) ମଧ୍ୟରେ	ଟ ୧୦୦.୦୦ ଅବହେଳା ଏହାର ତଦାରଖ ଏବଂ ସଠିକତା	ଦାବିକରିବାକୁ ହେବ
୧୩	ନୂଆ ବିଦ୍ୟୁତ ସଂଯୋଗ (ଏଚ୍.ଟି. ଗ୍ରାହକପାଇଁ) (ଅଧିକ କ୍ଷମତା ସମ୍ପନ୍ନ) ଯେଉଁଠାରେ ଯୋଗାଣ ବ୍ୟବସ୍ଥାର ସଂପ୍ରସାରଣ ଆବଶ୍ୟକ ଥାଏ	ଏଚ୍.ଟି (୧୧ କେଭି) ୬୦ ଦିନ ମଧ୍ୟରେ ଏଚ୍.ଟି (୩୩ କେଭି) ୯୦ ଦିନ ମଧ୍ୟରେ	ଟ ୫୦୦.୦୦ / ପ୍ରତ୍ୟେକଦିନର ଅବହେଳା ତୁଟିପାଇଁ	ଦାବିକରିବାକୁ ହେବ
୧୪	ନୂଆ ବିଦ୍ୟୁତ ସଂଯୋଗ ଇ.ଏଚ୍.ଟି. ଗ୍ରାହକପାଇଁ ଯେଉଁଠାରେ ଯୋଗାଣ ବ୍ୟବସ୍ଥାର ସଂପ୍ରସାରଣ ଆବଶ୍ୟକ ଥାଏ	ଆୟୋଗଙ୍କ ନିର୍ଦ୍ଦେଶ ଅନୁଯାୟୀ	ଟ ୧୦୦୦.୦୦ / ପ୍ରତ୍ୟେକଦିନର ଅବହେଳା ପାଇଁ	ସତପୂର୍ଣ୍ଣଭାବେ
୧୫	ମାଲିକାନା ସତ୍ତ୍ୱ ବଦଳାଇବା	୧୫ଦିନ ମଧ୍ୟରେ	ଟ ୧୦୦.୦୦/ ପ୍ରତ୍ୟେକ ଦିନର ବିଳ ପାଇଁ	ସତପୂର୍ଣ୍ଣଭାବେ
୧୬	ଶ୍ରେଣୀ ବିଭାଗ ବଦଳାଇବା	୧୫ଦିନ ମଧ୍ୟରେ	ଟ ୧୦୦.୦୦/ ପ୍ରତ୍ୟେକ ଦିନର ବିଳ ପାଇଁ	ସତପୂର୍ଣ୍ଣଭାବେ
୧୭	ଏଲ୍.ଟି -୧ ଫେଜରୁ ଏଲ୍.ଟି-୩ ଫେଜ	୩୦ଦିନ ମଧ୍ୟରେ	ଟ ୨୦୦.୦୦/ ପ୍ରତ୍ୟେକ ଦିନର ବିଳ ପାଇଁ	ସତପୂର୍ଣ୍ଣଭାବେ
୧୮	ଏଲ୍.ଟି ଶ୍ରେଣୀରୁ ଏଚ୍.ଟି ଶ୍ରେଣୀକୁ ପରିବର୍ତ୍ତନ ଏବଂ ବିପରିତ କ୍ରମରେ	୬୦ ଦିନ ମଧ୍ୟରେ (୧୧ କେଭି) ୯୦ ଦିନ ମଧ୍ୟରେ (୩୩ କେଭି)	ଟ ୨୦୦.୦୦/ ପ୍ରତ୍ୟେକ ଦିନର ବିଳ ପାଇଁ	ସତପୂର୍ଣ୍ଣଭାବେ
୧୯	ବିଲ୍ ସମ୍ପର୍କୀୟ ଅଭିଯୋଗର ସମାଧାନ	୧ ମାସ ମଧ୍ୟରେ	ଟ ୫୦.୦୦ ପ୍ରତ୍ୟେକ ଦିନର ବିଳ ପାଇଁ	ସତପୂର୍ଣ୍ଣଭାବେ
୨୦	ପୁନଃ ସଂଯୋଗ ଯେଉଁଠାରେ ବିଲ୍ ଯୋଗାଣ କଟାଯାଇଥିବା ପାଇଁ ଯୋଗାଣ କଟାଯାଇଥାଏ ।	୪ ଘଣ୍ଟା ମଧ୍ୟରେ	ଟ ୧୦୦.୦୦ ପ୍ରତ୍ୟେକ ଦିନର ବିଳ ପାଇଁ	ସତପୂର୍ଣ୍ଣଭାବେ

## ଉପଭୋକ୍ତାମାନଙ୍କର କଂପ୍ଲେନ୍ଟ୍ ଓ ଅଧିକାର

- ▶ ବିଦ୍ୟୁତ୍ ବିଲ୍ ଠିକ୍ ସମୟରେ ନିଶ୍ଚିତ ପୈଠ କରିବା
- ▶ ସ୍ଥିକ ପକାଇ, ମିଟର ବାଜପାସ୍ କରି ଇତ୍ୟାଦି ବେନିୟମ ଉପାୟରେ ବିଦ୍ୟୁତ୍ ଚୋରୀ ନକରିବା ଏବଂ ବିଦ୍ୟୁତ୍ ଚୋରିରେ ସାହାଯ୍ୟ ନକରିବା ।
- ▶ ଆଖପାଖରେ ବିଦ୍ୟୁତ୍ ଚୋରୀ ହେଉଥିଲେ ବିଦ୍ୟୁତ୍ ବିତରଣ କମ୍ପାନୀର ସଂପୃକ୍ତ କର୍ମଚାରୀ ବା ଏନର୍ଜି ପୋଲିସ୍ ଷ୍ଟେସନକୁ ବିଷୟ ବିବରଣୀ ଦେବା
- ▶ ବିଦ୍ୟୁତ୍ ଯୋଗାଣରେ ବ୍ୟାଘାତ ହେଲେ ବା କମ୍ ଭୋଲ୍ଟେଜ ହେଲେ ବିଦ୍ୟୁତ୍ ବିତରଣ କମ୍ପାନୀର ସଂପୃକ୍ତ କର୍ମଚାରୀମାନଙ୍କୁ ଜଣାଇବା ଏବଂ ଏହା ଉପଯୁକ୍ତ ସମୟରେ ନିରୀକରଣ ନହେଲେ ସଂପୃକ୍ତ ଜି.ଆର.ଏ.ଙ୍କ ଠାରେ ଆପଣ ଅଭିଯୋଗ ଦାଖଲ କରିବା
- ▶ ଜି.ଆର.ଏ.ଙ୍କ ନିଷ୍ପତ୍ତିରେ ଅସନ୍ତୁଷ୍ଟ ହେଲେ ସଂପୃକ୍ତ ବିଦ୍ୟୁତ୍ ଲୋକପାଳଙ୍କ (Ombudsman) ଠାରେ ଆପଣ ଅଭିଯୋଗ ଦାଖଲ କରିବା ।
- ▶ ଜି.ଆର.ଏ. ଏବଂ ବିଦ୍ୟୁତ୍ ଲୋକପାଳ ଯେଉଁ ଆଦେଶଦେଇଛନ୍ତି ଯଦି ତାହା ସଂପୃକ୍ତ ବିଦ୍ୟୁତ୍ ବିତରଣ କମ୍ପାନୀମାନେ ଠିକ୍ ସମୟରେ କାର୍ଯ୍ୟକାରୀ ନକରନ୍ତି ଏହା ବିରୁଦ୍ଧରେ ଆୟୋଗଙ୍କଠାରେ ଧାରା ୧୪୨ ଅନୁସାରେ ସଂପୃକ୍ତ ବିତରଣ କମ୍ପାନୀ ବିରୁଦ୍ଧରେ କାର୍ଯ୍ୟାନୁଷ୍ଠାନପାଇଁ ଦରଖାସ୍ତ କରିବା
- ▶ ବିଦ୍ୟୁତ୍ ବିତରଣ କମ୍ପାନୀମାନେ ଗ୍ରାହକଙ୍କୁ ଜରିଆରେ ବିଦ୍ୟୁତ୍ ଉତ୍ପାଦନ ସଂସ୍ଥାମାନଙ୍କଠାରୁ ବିଦ୍ୟୁତ୍ କ୍ରୟକରି ବିଦ୍ୟୁତ୍ ଗ୍ରାହକମାନଙ୍କୁ ଯୋଗାଇଥାନ୍ତି ।
- ▶ ବିଦ୍ୟୁତ୍ ଚୋରୀ ଓ ଅନ୍ୟାନ୍ୟ ବୈଷୟିକ କାରଣ ଯୋଗୁଁ ୧୦୦ ଯୁନିଟ୍ ବିଦ୍ୟୁତ୍ କ୍ରୟ କଲାବେଳେ ମାତ୍ର ୫୯ ଯୁନିଟ୍ ର ବିକ୍ରୟ ମୂଲ୍ୟ ଆଦାୟ ହେଉଛି ଅର୍ଥାତ୍ ୫୯ ଯୁନିଟ୍ ବିକ୍ରୟମୂଲ୍ୟ ଆଦାୟ ହେଲାବେଳକୁ ୧୦୦ ଯୁନିଟ୍ ର କ୍ରୟ ମୂଲ୍ୟ ଦେବାକୁ ପଡ଼ୁଛି
- ▶ ଏତଦ୍ ବ୍ୟତୀତ ସେହି ବିକ୍ରୟ ଲବ୍ଧ ଅର୍ଥରୁ ବିଦ୍ୟୁତ୍ ବିତରଣ କମ୍ପାନୀମାନଙ୍କର କର୍ମଚାରୀମାନଙ୍କ ଦରମା, ପେନ୍ସନ୍ ଓ ଅନ୍ୟାନ୍ୟ ଖର୍ଚ୍ଚ ତୁଲାଇବା ଏବଂ ଏଥିରୁ ସରବରାହ ଲାଇନ, ସର୍ବିସ୍, ଟ୍ରାନ୍ସମିସନ୍ ଇତ୍ୟାଦିର ରକ୍ଷଣାବେକ୍ଷଣ କରିବାକୁ ପଡ଼ୁଛି ।
- ▶ ଏତେପରିମାଣର ବିଦ୍ୟୁତ୍ ଚୋରୀ ଓ ବିଦ୍ୟୁତ୍ ସରବରାହ ଜନିତ କ୍ଷତି ଯୋଗୁଁ ବିତରଣ କମ୍ପାନୀମାନେ ଠିକ୍ ସେବା ଯୋଗାଇଦେଇପାରୁନାହାନ୍ତି ।
- ▶ ତେଣୁ ବିଦ୍ୟୁତ୍ ଗ୍ରାହକମାନେ ବିଦ୍ୟୁତ୍ ବିଲ୍ ଠିକ୍ ସମୟରେ ଦେଖିପୈଠକରି ବିଦ୍ୟୁତ୍ ଚୋରୀ ରୋକିବାରେ ସାହାଯ୍ୟ ଓ ସହଯୋଗ କଲେ ଉନ୍ନତମାନର ବିଦ୍ୟୁତ୍ ସେବା ଯୋଗାଇପାରିବ ବୋଲି ଆଶାକରାଯାଉଛି ।
- ▶ ରାଜୀବଗାନ୍ଧୀ ବିଜୁ ଗ୍ରାମଜ୍ୟୋତି ଯୋଯନା, ବିଜୁ ଗ୍ରାମଜ୍ୟୋତି ଯୋଯନା ଇତ୍ୟାଦି ମାଧ୍ୟମରେ ଗାଁ ଗହଳକୁ ବିଦ୍ୟୁତ୍ ଯୋଗାଇ ଦିଆଯାଉଥିଲାବେଳେ ଗାଁ ଗହଳରେ ବା ଏଲ୍.ଟି ବିଦ୍ୟୁତ୍ ଗ୍ରାହକକ୍ଷେତ୍ରରେ ବିଦ୍ୟୁତ୍ ଚୋରୀ ଓ ବିତରଣ ଜନିତ କ୍ଷତି ୬୫ ଶତାଂଶ ଅଟେ ।
- ▶ ଏଣୁ ଗ୍ରାମ କମିଟି, ମହିଳା ସଂଘ ସହାୟକ ଗୋଷ୍ଠି, ବେସରକାରୀ ସଂସ୍ଥା, ସମବାୟ ସଂସ୍ଥା ଇତ୍ୟାଦି ମାଧ୍ୟମରେ ଗ୍ରାମସ୍ତରରେ ବିଲ୍ ବଞ୍ଚନ ଓ ଆଦାୟ ଇତ୍ୟାଦିର କାର୍ଯ୍ୟଭାର ହାତକୁ ନେଲେ ସେଥିପାଇଁ ସେମାନଙ୍କୁ ପ୍ରେରଣା ଦେବାର ବ୍ୟବସ୍ଥା ଅଛି ।
- ▶ ଏହା ଲରେ ଗ୍ରାମସ୍ତରରେ ଦୈନନ୍ଦିନ ଉନ୍ନତ ବିଦ୍ୟୁତ୍ ସେବା ଅନେକାଂଶରେ ସଂଳ ହୋଇପାରିବ । ତେଣୁ ପଞ୍ଚାୟତ ପ୍ରତିନିଧି, ପୌର ପ୍ରତିନିଧି, ସମବାୟ ପ୍ରତିନିଧି ଓ ଜନସାଧାରଣ ଏଥିପାଇଁ ଆଗେଇ ଆସିବା ଦରକାର ।

## ବିଦ୍ୟୁତ ଆଇନ, ୨୦୦୩ରେ ଚୋରିକୁ ରୋକିବା ପାଇଁ ବ୍ୟବସ୍ଥା

- ▶ ବିନା ସ୍ୱୀକୃତିରେ ବିଦ୍ୟୁତ ବ୍ୟବହାରକାରୀଙ୍କ ପାଇଁ କଠୋର ଦଣ୍ଡବିଧାନ
- ▶ ବିଦ୍ୟୁତ ଚୋରି ଏକ ଧର୍ମରାଜ୍ୟ ଓ ଜାମିନବିହୀନ ଅପରାଧ
- ▶ ବିନା ସ୍ୱୀକୃତିରେ ବିଦ୍ୟୁତ ବ୍ୟବହାର ପାଇଁ ଯେନାଲ ବିଲ ନିର୍ଦ୍ଧାରଣ କାଳ ସର୍ବନିମ୍ନ ୧୨ ମାସ
- ▶ ଯେନାଲ ବିଲର ପ୍ରମାତ୍ରା ପ୍ରଜୁଜ୍ୟ ଶୁଳ୍କର ତିନିଗୁଣା
- ▶ ଧାରା ୧୨୭ରେ ଅପିଲ୍ ଗ୍ରହଣ କରିବା ପାଇଁ ଯେନାଲ ବିଲର ଅର୍ଦ୍ଧେକ ଜମା କରିବାକୁ ପଡିବ
- ▶ ବିଦ୍ୟୁତ ଚୋରି କଲେ ଚୋରୀ ଜନିତ ଜୋରିମାନା ଦେୟର ନିର୍ଦ୍ଧାରିତ ତାରିଖ ମଧ୍ୟରେ ଯେଠି ନକଲେ ୧୫ଦିନର ନୋଟିସ୍ ଦେଇ ବିଦ୍ୟୁତ ସଂଯୋଗ ବିଚ୍ଛିନ୍ନ କରାଯାଇପାରିବ ।
- ▶ ଅପରାଧ ବିରୁଦ୍ଧରେ ୨୪ ଘଣ୍ଟା ମଧ୍ୟରେ FIR ଦାଖଲ କରାଯିବ
- ▶ ଶାସ୍ତି - ୬ ମାସରୁ ୫ ବର୍ଷ ପର୍ଯ୍ୟନ୍ତ କାରାଦଣ୍ଡ
- ▶ ସର୍ବନିମ୍ନ ଜୋରିମାନା ଚୋରିଜନିତ ଆର୍ଥୀକ ଲାଭର ତିନିଗୁଣା
- ▶ ବାରମ୍ବାର ବିଦ୍ୟୁତ ଚୋରିରେ ଦଣ୍ଡିତ ହେଲେ ବିଦ୍ୟୁତ ସଂଯୋଗରୁ ବଞ୍ଚିତ କରାଯିବ

## ବିଦ୍ୟୁତ ଚୋରିର ପରିଣାମ

### ବିଦ୍ୟୁତ ଚୋରି କଲେ କ'ଣ ହୁଏ ?

- ▶ ବିଦ୍ୟୁତ ଚୋରି କଲେ ନିମ୍ନ ଭୋଲଟେଜ୍ ହୁଏ
- ▶ ବିଦ୍ୟୁତ ଚୋରି କଲେ ଟ୍ରାନ୍ସଫର୍ମର୍ ପୋଡ଼ିଯାଏ
- ▶ ବିଦ୍ୟୁତ ଚୋରି ଦ୍ୱାରା ବିତରଣ କ୍ଷତି ଘଟେ
- ▶ ବିଦ୍ୟୁତ ଚୋରି ହେଲେ ଚାହିଦା ଓ ଯୋଗାଣ ମଧ୍ୟର ବ୍ୟବଧାନ ବଢେ
- ▶ ବିଦ୍ୟୁତ ଚୋରି ସାଧୁ ଗ୍ରାହକଙ୍କ ଉପରେ ବୋଧ ଲାଗେ

### ପରିଣାମ

- ▶ ଦୁର୍ଘଟଣା ବା ମୃତ୍ୟୁ
- ▶ କାରାଦଣ୍ଡ ବା ଜୋରିମାନା ବା ଉଭୟ
- ▶ ବିଦ୍ୟୁତ କାଟ
- ▶ ନିମ୍ନ ମାନର ବିଦ୍ୟୁତ ଯୋଗାଣ
- ▶ ଗ୍ରାହକମାନଙ୍କ ପାଇଁ ଉଚ୍ଚ ବିଦ୍ୟୁତ ଶୁଳ୍କ
- ▶ ଅଧିକ ବିଦ୍ୟୁତ ଉତ୍ପାଦନ ଓ ପରିବେଶ ପ୍ରଦୂଷଣ

## ବିଦ୍ୟୁତ ଅପରାଧ କ'ଣ ଓ ସେଥିପାଇଁ କି ପ୍ରକାର ଶାସ୍ତି ରହିଛି ?

କ୍ରମିକ ସଂଖ୍ୟା	ଅପରାଧ	ଶାସ୍ତି	ମନ୍ତବ୍ୟ
୧	ବିଦ୍ୟୁତ୍ ଚୋରି (ଚୁକ୍ତିବଦ୍ଧ ଦାବା ୧୦ କିଲୋଓ୍ଵାଟ୍ ପର୍ଯ୍ୟନ୍ତ)	୧ମ ଦଣ୍ଡ- ଗବର୍ଷ ପର୍ଯ୍ୟନ୍ତ କାରାବାସ ଦଣ୍ଡ ଏବଂ/କିଂବା ଜୋରିମାନା ଯାହାକି ଏହି ଚୋରିଜନିତ ଆର୍ଥିକ ଲାଭର ତିନିଗୁଣରୁ କମ୍ ହେବ ନାହିଁ । ୨ୟ ଓ ପରବର୍ତ୍ତୀ ଦଣ୍ଡ- ଗବର୍ଷ ପର୍ଯ୍ୟନ୍ତ କାରାବାସ ଦଣ୍ଡ ଏବଂ/କିଂବା ଜୋରିମାନା ଯାହାକି ଏହି ଚୋରିଜନିତ ଆର୍ଥିକ ଲାଭର ଛଅଗୁଣ ।	ଧାରା ୧୩୫ (୧)
୨	ବିଦ୍ୟୁତ୍ ଚୋରି (ଚୁକ୍ତିବଦ୍ଧ ଦାବି ୧୦ କିଲୋଓ୍ଵାଟ୍ ରୁ ଉର୍ଦ୍ଧ୍ୱ )	୨ୟ ଓ ପରବର୍ତ୍ତୀ ଦଣ୍ଡ- ଏହି ଚୋରିଜନିତ ଆର୍ଥିକ ଲାଭର ଛଅଗୁଣ ଏବଂ/କିଂବା ଛଅମାସରୁ କମ୍ କାରାବାସ ଦଣ୍ଡ ହେବ ନାହିଁ; ଏହା ଛବର୍ଷ ପର୍ଯ୍ୟନ୍ତ ବୃଦ୍ଧି କରାଯାଇପାରେ । ଏ କ୍ଷେତ୍ରରେ ୩ ମାସରୁ ୨ ବର୍ଷ ପର୍ଯ୍ୟନ୍ତ ବିଦ୍ୟୁତ୍ ସଂଯୋଗ ମିଳିବ ନାହିଁ ।	ଧାରା ୧୩୫ (୧) (ଖ)
୩	ବିଦ୍ୟୁତ୍ ଲାଇନ ଓ ସାମଗ୍ରୀ ଚୋରି	୧ମ ଦଣ୍ଡ- ଗବର୍ଷ ପର୍ଯ୍ୟନ୍ତ କାରାବାସ ଦଣ୍ଡ କିଂବା ଅର୍ଥଦଣ୍ଡ କିଂବା ଉଭୟ । ୨ୟ ଓ ପରବର୍ତ୍ତୀ ଦଣ୍ଡ- ଛଅମାସରୁ ଛବର୍ଷ ପର୍ଯ୍ୟନ୍ତ କାରାବାସ ଦଣ୍ଡ ଏବଂ ୧୦,୦୦୦ଟଙ୍କା ପର୍ଯ୍ୟନ୍ତ ଜୋରିମାନା	ଧାରା ୧୩୬
୪	ମିଟରରେ ବା ଲାଇସେନ୍ସଧାରୀଙ୍କ କାର୍ଯ୍ୟରେ ହସ୍ତକ୍ଷେପ । (ମିଟର ବା ପିଲାର ବକ୍ସର କ୍ଷତି ବା ଭିନ୍ନପଥ ସୃଷ୍ଟିକରିବା) <b>Bypassing of meter</b>	ଗବର୍ଷ ପର୍ଯ୍ୟନ୍ତ କାରାବାସ ଦଣ୍ଡ କିଂବା ୧୦,୦୦୦ଟଙ୍କା ପର୍ଯ୍ୟନ୍ତ ଅର୍ଥଦଣ୍ଡ କିଂବା ଉଭୟ । <u>କ୍ରମାଗତ ଅପରାଧ ପାଇଁ</u> - ଦୈନିକ ୪୫୦୦ ପର୍ଯ୍ୟନ୍ତ ଜୋରିମାନା	ଧାରା ୧୩୮
୫	ବେଖାତିର ଭାବରେ ବିଦ୍ୟୁତ୍ ଅପବ୍ୟୟ ବା ସମ୍ପତ୍ତିର କ୍ଷତି (ବିଦ୍ୟୁତ୍ ଲାଇନ ଓ ସାମଗ୍ରୀର କ୍ଷତି ପହଞ୍ଚାଇବା, ଫୋପାଡ଼ି ଦେବା, କିଂବା ଭାଙ୍ଗି ଦେବା)	୧୦,୦୦୦ଟଙ୍କା ପର୍ଯ୍ୟନ୍ତ ଅର୍ଥଦଣ୍ଡ ।	ଧାରା ୧୩୯
୬	ଜନସାଧାରଣଙ୍କ ଆଲୋକ ନିର୍ବାପନ ।	୨୦୦୦ଟଙ୍କା ପର୍ଯ୍ୟନ୍ତ ଅର୍ଥଦଣ୍ଡ ।	ଧାରା ୧୪୧
୭	ଜାଣିଶୁଣି ବିଦ୍ୟୁତ୍ ଅପବ୍ୟୟ ଓ ସମ୍ପତ୍ତିର କ୍ଷତି । <b>Wasting Electricity and injuring works</b>	୧୦,୦୦୦ଟଙ୍କା ପର୍ଯ୍ୟନ୍ତ ଅର୍ଥଦଣ୍ଡ ।	ଧାରା ୧୪୦
୮	ଚୋରି ସମ୍ପତ୍ତି ଗ୍ରହଣ କରିବା ।	ଗବର୍ଷ ପର୍ଯ୍ୟନ୍ତ କାରାବାସ ଦଣ୍ଡ କିଂବା ଅର୍ଥଦଣ୍ଡ କିଂବା ଉଭୟ	ଧାରା ୧୩୭
୯	ବିଦ୍ୟୁତ୍ ଚୋରୀରେ ସାହାଯ୍ୟ ବା ପ୍ରେମ୍ଭାସନ ଦେବା ( <b>Abetting theft</b> )	୩ ବର୍ଷ ପର୍ଯ୍ୟନ୍ତ କାରାଦଣ୍ଡ କିମ୍ବା ଅର୍ଥଦଣ୍ଡ କିମ୍ବା ଉଭୟ	ଧାରା ୧୫୮

## ସରକାରଙ୍କ ଦାୟିତ୍ୱ

- ▶ ସମସ୍ତ ସରକାରୀ ବିଭାଗ, ପୌରସଂସ୍ଥା, ପଞ୍ଚାୟତରାଜ ସଂସ୍ଥା, ସମବାୟ ସଂସ୍ଥା, ସରକାରୀ ଉଦ୍ୟୋଗ, ରାଜ୍ୟ ସରକାରଙ୍କ ଅଧୀନସ୍ଥ, ସ୍ୱାଧୀନ ସଂସ୍ଥା (Autonomous Organisation) ବିଦ୍ୟୁତବିଲ୍ ଠିକ ସମୟରେ ନିୟମିତ ପୈଠକରିବା ଦରକାର ।
- ▶ ବିଦ୍ୟୁତ ବିତରଣ କମ୍ପାନୀଗୁଡ଼ିକରେ ରାଜ୍ୟ ସରକାର ୪୯% ଅଂଶଦାର ଅଟନ୍ତି । ତେଣୁ ଏହି କମ୍ପାନୀଗୁଡ଼ିକ କିପରି ସୁଚାରୁରୂପେ ସେମାନଙ୍କର କାର୍ଯ୍ୟ ତୁଳାଇବେ ସରକାରଙ୍କ ମଧ୍ୟ ଗୁରୁ ଦାୟିତ୍ୱ ରହିଛି । Public – Private partnership ଭାବରେ କାର୍ଯ୍ୟ ହେବା ଦରକାର ।
- ▶ ବିଦ୍ୟୁତ ଚୋରି, ବିଦ୍ୟୁତ ଦେୟ ଖିଲାପକାରୀଙ୍କ କ୍ଷେତ୍ରରେ ବିଦ୍ୟୁତ ସଂଯୋଗ ବିଚ୍ଛିନ୍ନ କରିବା ଇତ୍ୟାଦି କାର୍ଯ୍ୟ କରିବାବେଳେ ଯେଉଁ ଆଇନ ଶୃଙ୍ଖଳା ପରିସ୍ଥିତି ସୃଷ୍ଟି ହେଉଛି ସେଥିପାଇଁ ରାଜ୍ୟ ସରକାର ଜିଲ୍ଲା, ସର୍ବ ଡିଭିଜନ, ବ୍ଲକସ୍ତରରେ ବିଦ୍ୟୁତ ବିତରଣ ଜନିତ କ୍ଷତି କମାଇବାପାଇଁ ସମସ୍ତପ୍ରକାର ବଳିଷ୍ଠ ପ୍ରଶାସନିକ ସହଯୋଗ ଯୋଗାଇଦେବା ଦରକାର ।
- ▶ ମହାରାଷ୍ଟ୍ର, ଆନ୍ଧ୍ରପ୍ରଦେଶ, ପଶ୍ଚିମବଙ୍ଗ, ଇତ୍ୟାଦି ରାଜ୍ୟଗୁଡ଼ିକର ରାଜ୍ୟ ସରକାର ବଳିଷ୍ଠ ପ୍ରଶାସନିକ ସାହାଯ୍ୟ ଓ ପୋଲିସ୍ କାର୍ଯ୍ୟାନୁଷ୍ଠାନ ଦ୍ୱାରା ସେଠାରେ ବିଦ୍ୟୁତ କ୍ଷତି ବହୁ ପରିମାଣରେ କମାଇ ପାରିଛନ୍ତି ।
- ▶ ଗୁଜୁରାଟ ସରକାର ଗୁଜୁରାଟ ଗ୍ରାମ୍ୟ ଜ୍ୟୋତି ଜରିଆରେ ଗ୍ରାମାଞ୍ଚଳରେ ୨୪ ଘଞ୍ଚା 3-phase ଉନ୍ନତମାନର ବିଦ୍ୟୁତ ଯୋଗାଣ କରୁଛନ୍ତି । ଏଥିପାଇଁ ୧୨୯୧ କୋଟି ଟଙ୍କା ଖର୍ଚ୍ଚ ହୋଇଥିଲା ବେଳେ ଗୁଜୁରାଟ ସରକାର ୧୧୧୦ କୋଟି ଟଙ୍କା ଖର୍ଚ୍ଚ କରିଥିଲେ । ଏ ବିଷୟରେ ଆମେ ଚିନ୍ତା କରିବା ଦରକାର ।
- ▶ ଏ କ୍ଷେତ୍ରରେ ଯେଉଁ ରାଜ୍ୟ ସରକାର ନିଜେ ସକ୍ରିୟ ପଦକ୍ଷେପ ନେଇଛନ୍ତି ସେ ରାଜ୍ୟରେ ବିଦ୍ୟୁତ ସରବରାହ ବିତରଣ ଜନିତ କ୍ଷତି ଆଖୁଦୃଶିଆ ଭାବରେ କମ୍ ଅଛି ଏବଂ ସମସ୍ତ ଗ୍ରାହକମାନଙ୍କୁ ଉତ୍ତମ ସେବା ଯୋଗାଇ ଦିଆଯାଇ ପାରୁଛି ।

## ବିଦ୍ୟୁତ ନିୟାମକ ଆୟୋଗଙ୍କ ଦାୟିତ୍ୱ

- ▶ ବିଦ୍ୟୁତ ଅଧିନିୟମ ୨୦୦୩ ଧାରା ୮୬ ଅନୁସାରେ ବିଦ୍ୟୁତନିୟାମକ ଆୟୋଗଙ୍କୁ କାର୍ଯ୍ୟକରିବାକୁ ପଡିଥାଏ ।
- ▶ ଏହି କାର୍ଯ୍ୟକ୍ରମ ମଧ୍ୟରେ ବିଦ୍ୟୁତ ଉତ୍ପାଦନ, ପରିବହନ ଓ ଯୋଗାଣକାରୀ ସଂସ୍ଥାମାନଙ୍କ ପାଇଁ ବିଦ୍ୟୁତ ମୂଲ୍ୟ ନିର୍ଦ୍ଧାରଣ କରିବା
- ▶ ରାଜ୍ୟମଧ୍ୟରେ ଥିବା ବିଦ୍ୟୁତ ଯୋଗାଣକାରୀ ସଂସ୍ଥାମାନଙ୍କର ବିଦ୍ୟୁତ କ୍ରୟମୂଲ୍ୟ ଓ ବିଭିନ୍ନସ୍ତରରୁ ବିଦ୍ୟୁତକ୍ରୟ ପ୍ରଣାଳୀର ନିୟନ୍ତ୍ରଣକରିବା
- ▶ ବିଦ୍ୟୁତ ଉତ୍ପାଦନ ଓ ଯୋଗାଣକାରୀ ସଂସ୍ଥାମାନଙ୍କ ମଧ୍ୟରେ ଥିବା ବିବାଦର ସମାଧାନ କରିବା
- ▶ ବିଦ୍ୟୁତ ଯୋଗାଣକାରୀ ସଂସ୍ଥାମାନେ ଯୋଗାଉଥିବା ସେବାର ଗୁଣବତ୍ତା, ଧାରାବାହିକତା ଓ ଭରସାଯୋଗ୍ୟତା ସମନନ୍ତାୟ ମାନ ନିର୍ଦ୍ଧାରଣ କରିବା
- ▶ ବିଦ୍ୟୁତ ଶୁଳ୍କ ବିଗତ ୩୦ ବର୍ଷ ଧରିବୃଦ୍ଧି ନ କରିବା ସଙ୍ଗେ ସଙ୍ଗେ ଗ୍ରାହକସେବାରେ କିପରି ଉନ୍ନତି ଆଣିବ ସେଥିପାଇଁ ଆୟୋଗ ତାଙ୍କର ଉଦ୍ୟମ ଜାରୀ ରଖିଛନ୍ତି ।
- ▶ ୨୦୦୮-୦୯ ରେ ବିଦ୍ୟୁତବିତରଣ କମ୍ପାନୀମାନେ ଲାଭନ ଓ ଟ୍ରାନ୍ସ୍ ରମର ମରାମତି ବାବଦକୁ ଏବଂ ୩୦୦୦ ନୁଆ ଟ୍ରାନ୍ସ୍ ରମର ବସାଇବା ପାଇଁ Escrow account ରୁ fund release କରିବାପାଇଁ ଆୟୋଗ ଗ୍ରୀତକୋକୁ ନିର୍ଦ୍ଦେଶ ଦେଇଛନ୍ତି । ଏପର୍ଯ୍ୟନ୍ତ ସେପ୍ଟ-୧୦୧୪, ନେସ୍କୋ-୫୨୦, ଓସ୍କୋ-୩୭୧, ଓ ସାଉଥକୋ-୬୯୪ ବସାଇଛନ୍ତି ।
- ▶ ଏହିସବୁ ପଦକ୍ଷେପ ସତ୍ତ୍ୱେ ଆୟୋଗ ବିଦ୍ୟୁତ ବିତରଣ କମ୍ପାନୀମାନଙ୍କର ଗ୍ରାହକସେବାରେ ସନ୍ତୁଷ୍ଟ ନୁହଁନ୍ତି । ବିଦ୍ୟୁତଯୋଗାଣର ସ୍ଥିରୀକୃତ ମାନ ସମ୍ପାଦନ କରିବାରେ କମ୍ପାନୀମାନେ ବିଫଳ ହୋଇଛନ୍ତି । ବିଦ୍ୟୁତ ସଂପର୍କିତ ଅଭିଯୋଗ ଓ ବିଲ ପୈଠ କରିବାର ପ୍ରଣାଳୀରେ ଉନ୍ନତି ଆଣିବାକୁ ବହୁତ କିଛି କରିବାକୁ ଅଛି ।
- ▶ ବିଦ୍ୟୁତ ଅଭିଯୋଗ ପ୍ରତିବିଧାନ ପିଠ ଏବଂ ଲୋକପାଳ (ବିଦ୍ୟୁତ) କାର କାର୍ଯ୍ୟପ୍ରଣାଳୀ ସଂପୂର୍ଣ୍ଣଭାବେ 'ଲମ୍ବଦ ହେବାକୁ ଆଉ କିଛିଦିନ ସମୟ ଲାଗିବ ।
- ▶ ବିଦ୍ୟୁତ ନିୟାମକ ଆୟୋଗ ସେଥିପାଇଁ ବିଭିନ୍ନପ୍ରକାରର ପଦକ୍ଷେପ ନେଇଛନ୍ତି ଯଥା ତ୍ରେମାସିକ କମ୍ପାନୀମାନଙ୍କର କାର୍ଯ୍ୟଦକ୍ଷତା ସମୀକ୍ଷା, ସ୍ୱାଧୀନ, ପ୍ରବୀଣ ବୈଷୟିକ ବ୍ୟକ୍ତିମାନଙ୍କଦ୍ୱାରା ପରିଚାଳନା ଓ ରକ୍ଷଣାବେକ୍ଷଣର ତଦନ୍ତ, ସୂଚନା ଓ ପ୍ରଯୁକ୍ତି ବିଦ୍ୟା ଦ୍ୱାରା ମାମଲା ଓ ଅଭିଯୋଗ ଗୁଡ଼ିକର ପଞ୍ଜିକରଣ ଏବଂ ତାର ପର୍ଯ୍ୟାଲୋଚନା, ବିଭିନ୍ନ ସଂସ୍ଥାମାନଙ୍କର ସହଯୋଗରେ ବିଦ୍ୟୁତ ସମକ୍ଷିୟ ତଥ୍ୟର ଗଣମାଧ୍ୟମରେ ପ୍ରଚାର ଓ ପ୍ରସାର ପାଇଁ ବ୍ୟବସ୍ଥା କରାଯାଇଅଛି ।
- ▶ ଆଶାକରାଯାଉଛି କି, ଏହିପରି ବିଭିନ୍ନ ମାଧ୍ୟମରେ ବହୁଳ ପ୍ରସାର, ପ୍ରଚାର ଦ୍ୱାରା ବିଦ୍ୟୁତ ଯୋଗାଣ କ୍ଷତି କମିବା ସହିତ ମାନରେ ମଧ୍ୟ ଉନ୍ନତିଯୁକ୍ତ ଏବଂ ସମାନ୍ତରାଳୀନ ଉପଭୋକ୍ତାମାନଙ୍କର ଅଭିଯୋଗଗୁଡ଼ିକର 'ଲମ୍ବଦ ବିଚାର ହୋଇପାରିବ ।
- ▶ ସ୍ୱାଧୀନ, ପ୍ରବୀଣ ବ୍ୟକ୍ତିମାନଙ୍କ ଦ୍ୱାରା ଆୟୋଗ ସର୍ବ୍ୱେକ୍ଷଣ ଗୁଡ଼ିକର ରକ୍ଷଣାବେକ୍ଷଣର ମାନର ତଦନ୍ତ ଏବଂ ବିଭିନ୍ନ ଜଳବିଦ୍ୟୁତ କେନ୍ଦ୍ରର ପରିଚାଳନା, ରକ୍ଷଣାବେକ୍ଷଣ ଇତ୍ୟାଦିର ସମୀକ୍ଷା କରିଛନ୍ତି । ରିପୋର୍ଟରେ ଦର୍ଶାଯାଇଥିବା ବିଭିନ୍ନ ଉପଦେଶକୁ କାର୍ଯ୍ୟକାରୀ କରିବାପାଇଁ ସଂସ୍ଥାମାନଙ୍କର ବିଭିନ୍ନ ତୃଟି ସୁଧାରିବାପାଇଁ ଆୟୋଗ ନିର୍ଦ୍ଦେଶ ଦେଇଛନ୍ତି ଏବଂ ସଂସ୍ଥାମାନେ ତାହାକୁ ନିରାକରଣ ପାଇଁ ଉଚିତ ପଦକ୍ଷେପ ନେବା ଆରମ୍ଭ କରିଛନ୍ତି ।

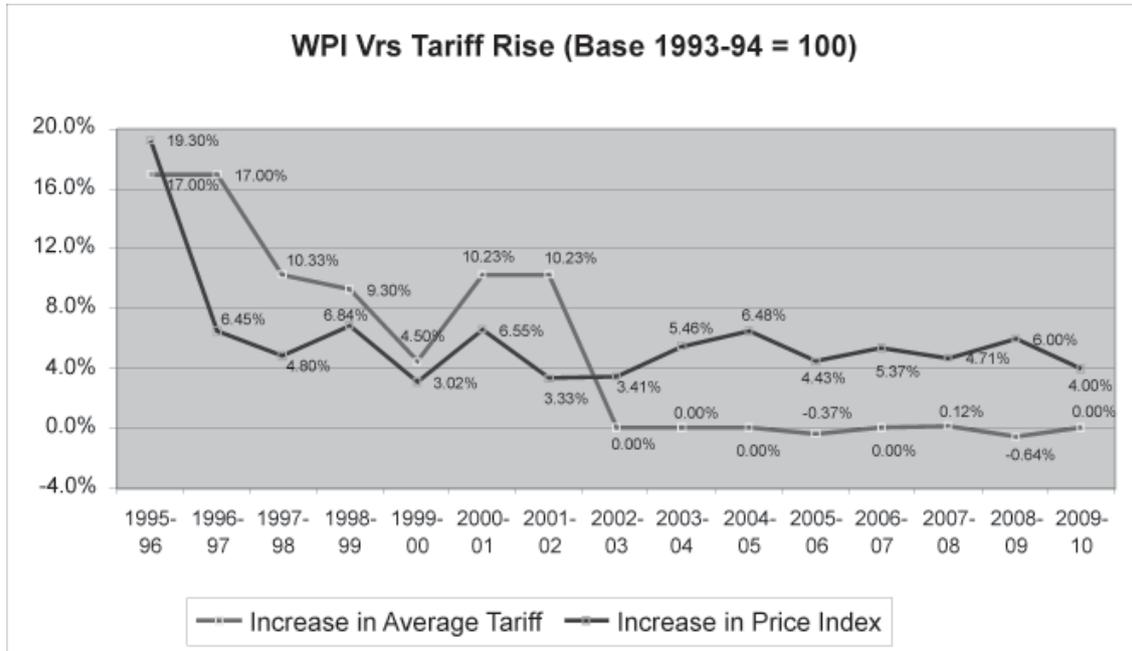
## କାର୍ଯ୍ୟକି ବିଦ୍ୟୁତ ଶୁଳ୍କ ବଢ଼ିବ

- ▶ ବିଦ୍ୟୁତ ସଂସ୍କାର ପୂର୍ବରୁ ଏବଂ ୧୯୯୬-୯୭ ବର୍ଷ ପରେ ପରେ ବିଦ୍ୟୁତ ଶୁଳ୍କ ପ୍ରତିବର୍ଷ ପ୍ରାୟ ବୃଦ୍ଧି ପାଇଥିବାସ୍ଥଳେ ୨୦୦୨-୦୩ରୁ ବିଦ୍ୟୁତ ଶୁଳ୍କ ମୋଟାମୋଟି ବୃଦ୍ଧି ଘଟିନାହିଁ । ୧୯୯୫-୯୬ ରେ ମୋଟାମୋଟି ବିଦ୍ୟୁତ ଶୁଳ୍କ ୧୭ ଶତାଂଶ ବୃଦ୍ଧି ପାଇଥିବାବେଳେ, ୨୦୦୦-୦୧ ରେ ୧୦.୨୩ ଶତାଂଶ, ୨୦୦୧-୦୨ ରେ ୧୦.୨୩ ଶତାଂଶ ବୃଦ୍ଧି ପାଇ ୨୦୦୨-୦୩ ପରଠାରୁ ବିଦ୍ୟୁତଶୁଳ୍କ ବୃଦ୍ଧି ପାଇନାହିଁ ।
- ▶ ମୂଲ୍ୟବୃଦ୍ଧି (price rise) କୁ ହିସାବକୁ ନେଲେ ଏହା ପ୍ରାୟ ୨୬.୨୪ ଶତାଂଶ କମରେ ରହିଅଛି । (If we consider the price rise it would be seen that the effective real rise in tariff has been of the order of (-) 26.24%. This means the tariff rise as approved by the Commission is much less as compared to the rise in general prices which is evident from the table and graph given in the next paragraph).

## TARIFF RISE VIS-A-VIS INFLATION (WHOLE SALE PRICE INDEX)

Year	Increase in Average Tariff	Increase in WPI
1995-96	17.00%	19.30%
1996-97	17.00%	6.45%
1997-98	10.33%	4.80%
1998-99	9.30%	6.84%
1999-00	4.50%	3.02%
2000-01	10.23%	6.55%
2001-02	10.23%	3.33%
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%	4.71%
2008-09	-0.64%	6% (Provisional)
2009-10	0.00%	4.00% (Assumed)

## ପାଇକାରୀ ମୂଲ୍ୟ ମୁଗ ଏବଂ ବିଦ୍ୟୁତ ଶୁଳ୍କ ବୃଦ୍ଧି

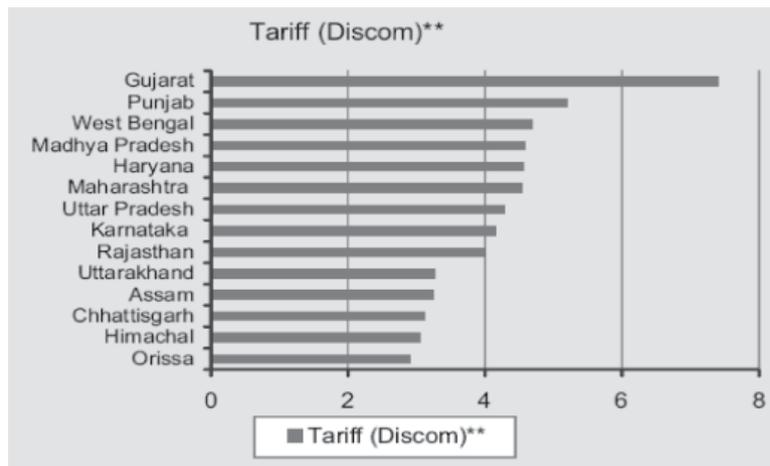


## ଓଡ଼ିଶାରେ ବିଦ୍ୟୁତ ଶୁଳ୍କର ହାର

ଅନ୍ୟରାଜ୍ୟ ତୁଳନାରେ ଓଡ଼ିଶାରେ ବିଦ୍ୟୁତ ଶୁଳ୍କ ସବୁଠାରୁ କମ୍ ଅଟେ ।

\*\*୪ ମେଗାଓର୍ ଏବଂ ବିଦ୍ୟୁତ ଉପଭୋକ୍ତାଙ୍କର ବିଦ୍ୟୁତ ଶୁଳ୍କର ଏକ ତୁଳନାତ୍ମକ ହାର ନିମ୍ନରେ ଦିଆଗଲା -

State	Paise per Kwh
Orissa	245-290
Maharashtra	390
Kerala	340
Karnataka	490
Chattisgarh	337
Andhra Pradesh	255-287
West Bengal	245-330



## କାହିଁକି ବିଦ୍ୟୁତ ଶୁଳ୍କ ବଢ଼ିବ ?.....

- ▶ ୨୦୦୮-୦୯ ପର୍ଯ୍ୟନ୍ତ ଓଡ଼ିଶାରେ ବିଜୁଳିକାଟ ପ୍ରାୟ ହେଉନଥିଲାବେଳେ ଆନ୍ଧ୍ରପ୍ରଦେଶ, ତାମିଲନାଡୁ, କେରଳ, ମହାରାଷ୍ଟ୍ରରେ ବିଜୁଳିକାଟ ଏକ ନିତ୍ୟନୈମିତ୍ତିକ ଘଟଣାଅଟେ ।
- ▶ ସମଗ୍ର ଦେଶରେ ବିଜୁଳି ଚାହିଦାମୁତାବକ ଉତ୍ପାଦନ ଓ ଯୋଗାଣ ହୋଇପାରୁନଥିବାରୁ ଅନାନ୍ୟ ରାଜ୍ୟମାନେ ଅଧିକାଂଶରେ ବିଦ୍ୟୁତ୍କ୍ରୟ କରୁଛନ୍ତି
- ▶ ଓଡ଼ିଶା ଅଧିକ ବିଦ୍ୟୁତ କିଣିବାକୁ ହେଲେ ସେହିସବୁ ରାଜ୍ୟ ସହିତ ପ୍ରତିଯୋଗିତା କରିବାକୁ ପଡ଼ିବ ।
- ▶ ଅନ୍ୟ ପକ୍ଷରେ କୋଇଲା ଏବଂ 'ରନେସ୍ ଡେଲର ଦରବୃଦ୍ଧି, ପରିବହନ ଖର୍ଚ୍ଚ ବୃଦ୍ଧି କାରଣରୁ ତାପଜବିଦ୍ୟୁତ ଉତ୍ପାଦନ ଖର୍ଚ୍ଚ ମଧ୍ୟ ବଢ଼ିଯାଇଅଛି ।
- ▶ କର୍ମଚାରୀମାନଙ୍କର ଦରମା ବୃଦ୍ଧି, ପେନ୍ସନ୍ ବୃଦ୍ଧି, ସୁଧ ଓ ମୂଳର ପରିଶୋଧ, ବିଜୁଳି ଲାଭନ ଏବଂ ଟ୍ରାନସ୍ ରମର ମରାମତି, ଅନ୍ୟାନ୍ୟ ସରଞ୍ଜାମର ଦରବୃଦ୍ଧି, ଜଳ ଭଣ୍ଡାରରେ ଜଳସ୍ତର ଯଥେଷ୍ଟ ପରିମାଣରେ ସଂକ୍ରମଣ ହୋଇପାରୁ ନଥିବାରୁ ଏବଂ ସେହି ଜଳ ଜଳସେଚନପାଇଁ ଆବଶ୍ୟକ ହେଉଥିବାରୁ କମ ଖର୍ଚ୍ଚରେ ଜଳ ବିଦ୍ୟୁତ କ୍ଷମତା ମୁତାବକ ଉତ୍ପାଦନ ହୋଇପାରୁନାହିଁ ।
- ▶ ଏହି ସମସ୍ତ କାରଣରୁ ବିଦ୍ୟୁତ ଶୁଳ୍କ ବଢ଼ିବା ନିହାତି ଆବଶ୍ୟକ ହୋଇପଡ଼ିଛି । ପୁନଶ୍ଚ ବିଦ୍ୟୁତ୍ ଶୁଳ୍କ ନ ବଢ଼ିଲେ ବିଦ୍ୟୁତ୍ ଲାଭନ, ଟ୍ରାନସ୍ ରମର ଇତ୍ୟାଦି ରକ୍ଷଣାବେକ୍ଷଣ ପାଇଁ ଅର୍ଥ ଯୋଗାଡ଼ କରିବା ସମ୍ଭବ ହେବ ନାହିଁ ।
- ▶ ବିଦ୍ୟୁତଚୋରୀ କମିବା ସଙ୍ଗେ ସଙ୍ଗେ, ବିଦ୍ୟୁତ ଗ୍ରାହକମାନେ ଠିକ ସମୟରେ ବିଦ୍ୟୁତଦେୟ ଦାଖଲକଲେ ବିଦ୍ୟୁତ ଶୁଳ୍କର ବୃଦ୍ଧି କିଛି ପରିମାଣରେ କମାଯାଇପାରିବ ।

## ଶେଷ କଥା (Conclusion)

- ▶ ଯେପରି ରାଷ୍ଟ୍ରା, ଜଳସେଚନ ଇତ୍ୟାଦି ଉପକ୍ରମର ଉନ୍ନତି ବିନା ରାଜ୍ୟର ଅର୍ଥନୈତିକ ପ୍ରଗତି ସମ୍ଭବନୁହେଁ, ରାଜ୍ୟର ଅର୍ଥନୈତିକ ଉନ୍ନତି ପାଇଁ ବିଦ୍ୟୁତ୍ ସେହିପରି ଏକ ପ୍ରଧାନ ମୌଳିକ ଉପକ୍ରମ ଅଟେ ।
- ▶ ଯେପରି ଜାତୀୟ ରାଜପଥ, ବନ୍ଦର ଇତ୍ୟାଦି ଘରୋଇ-ସରକାରୀ ଯୌଥ କାର୍ଯ୍ୟକ୍ରମ (Private-public participation) ଜରିଆରେ ଉନ୍ନତ କରାଯାଉଛି, ସରକାର ଓ ବିଦ୍ୟୁତ୍ ବିତରଣ କମ୍ପାନୀ Private-public participation mode ରେ କାର୍ଯ୍ୟକରିବା ଦରକାର । ଏହି କାର୍ଯ୍ୟକ୍ରମରେ ବିଦ୍ୟୁତ୍ ଗ୍ରାହକମାନଙ୍କର ଯୋଗଦାନ ଓ ସହଯୋଗ ଅପରିହାର୍ଯ୍ୟ ଅଟେ ।
- ▶ ଗତ ଏକଦଶନ୍ଦି ଧରି ବିଦ୍ୟୁତ୍ ବ୍ୟବସାୟର ଘରୋଇ କରଣର ପରିଣାମ ଦେଖିଲା ପରେ ଆମେ ପୂର୍ବଭଳି ଏ କ୍ଷେତ୍ରରେ ନିରବ ଦର୍ଶକ ହୋଇ ରହିପାରିବା ନାହିଁ ଉଚ୍ଚ ହାରର ବିତରଣ ତଥା ବାଣିଜ୍ୟିକ କ୍ଷତି (AT & C loss) କୁ ବେଶିଦିନ ଆଉ ବରଦାସ୍ତ କରିବା ସମ୍ଭବ ନୁହେଁ । ଆମେ ନିଜ ନିଜ ମଧ୍ୟରେ ଦୂରତ୍ୱ ରକ୍ଷା ନକରି ପରସ୍ପର ମଧ୍ୟରେ ହାତ ମିଳାଇ ଶକ୍ତି କ୍ଷେତ୍ରରେ ବିପ୍ଳବ ଆଣିବା ଉଚିତ୍ । ଯଦି ଆଜି ନୁହେଁତ କେବେ ନୁହେଁ ଏହି ନୀତି ଅବଲମ୍ବନ କରି ସରକାର, ବିତରଣ କମ୍ପାନୀ, ବିଦ୍ୟୁତ୍ ଉତ୍ପାଦନକାରୀ ଓ ବିଦ୍ୟୁତ୍ ପରିବହନ ନିଗମ (STU) ପରସ୍ପରକୁ ସହଯୋଗ କରିବା ଉଚିତ୍ ।
- ▶ ରାଜ୍ୟସରକାର, ବିଦ୍ୟୁତ୍ ବିତରଣ କମ୍ପାନୀ, ବିଦ୍ୟୁତ୍ ନିୟାମକ ଆୟୋଗ ଓ ବିଦ୍ୟୁତ୍ ଗ୍ରାହକ ଏକାଠି ମିଳିମିଶି ଯୋଜନାବଦ୍ଧ ଭାବରେ କାମକଲେ ବିଦ୍ୟୁତ୍ ସଂସ୍କାର କାର୍ଯ୍ୟକ୍ରମ ଫଳବତୀ ହୋଇପାରିବ । ଏମାନେ ସମସ୍ତେ ବିଦ୍ୟୁତ୍ କ୍ଷେତ୍ରରେ ରାଜ୍ୟର ମୁଖ୍ୟ Stakeholder ଅଟନ୍ତି । ଏମାନଙ୍କ ମଧ୍ୟରୁ ଗୋଟିଏ ସଂସ୍ଥା ଭଲଭାବରେ କାମ ନ କଲେ ଉପକ୍ରମ ବିଦ୍ୟୁତ୍ ସେବା ଯୋଗାଇ ଦେଇହେବ ନାହିଁ ।
- ▶ ଏତେସବୁ ଆଲୋଚନା ପରେ ଆପଣମାନେ କୁହନ୍ତୁ ବିଦ୍ୟୁତ୍ ଶୁଳ୍କ ବଢ଼ିବ ଉଚିତ୍ କି ନୁହେଁ ?
- ▶ ଯଦି ଶୁଳ୍କ ବୃଦ୍ଧି ଅପରିହାର୍ଯ୍ୟ ତେବେ ଏହା କେତେ ପରିମାଣରେ ବୃଦ୍ଧି କରାଯିବ
- ▶ ବିଦ୍ୟୁତ୍ ଶୁଳ୍କ ନବଢ଼ିଲେ ଗ୍ରାହକଙ୍କ କିପରି ବଜାରଦର ଅନୁସାରେ ବିଜୁଳିକିଣି ବିଦ୍ୟୁତ୍ ବିତରଣ କମ୍ପାନୀମାନଙ୍କୁ ଯୋଗାଇ ଦେବ ଓ ବିତରଣ କମ୍ପାନୀମାନେ କିପରି ଗ୍ରାହକଙ୍କୁ ସେ ବାବଦରେ ଅର୍ଥ ଯେଠି କରିପାରିବେ ।
- ▶ ଯଦି ଶୁଳ୍କ ବୃଦ୍ଧି ଅପରିହାର୍ଯ୍ୟ ନୁହେଁ ତେବେ ବିଦ୍ୟୁତ୍ ବିତରଣ କମ୍ପାନୀମାନେ ଉନ୍ନତମାନର ବିଦ୍ୟୁତ୍ ସେବା କିପରି ଯୋଗାଇପାରିବେ ।
- ▶ ଆପଣଙ୍କର ସୁଚିନ୍ତିତ ମତାମତ ଆମର କାମ୍ୟ ।

A GLIMPSE OF THE  
SEMINAR  
ON  
ISSUES & CHALLENGES IN  
PROTECTION OF CONSUMER  
INTEREST  
IN THE POWER SECTOR

1. Programme
2. A brief summary of the Proceedings of the seminar \*
3. Welcome Address by Shri B.K. Das Chairperson, OERC
4. Presentation by Shri P.K. Dora, Consumer Counsel, Rayagada, Southco
5. Presentation by Shri Gobind Narayan Agrawal, Convener-cum-General-Secretary, Sambalpur District Counsumers Federation.
6. Address by Shri Atanu Sabyasachi Nayak, Minister of State, Energy, Orissa
7. Address by Justice M.M. Das, Orissa High Court
8. Vote of thanks by Shri K.C. Badu, Member, OERC.

**\*Note :** Justice Shri M. Karpaga Vinayagam, Hon'ble Chairperson, APTEL, Shri H.L. Bajaj, Technical Member, APTEL & Shri K. Sahay, Registrar, APTEL addressed the gathering on the occasion. We are extremely sorry not to reproduce them here as the exact written text of the speech is not available with us. However, the gist of their speeches has been included in the brief summary.

## PROGRAMME

- 6.00 PM - Inauguration of Seminar by lighting of lamp
- 6.05 PM - Welcome Address by Shri B.K. Das, Chairperson, OERC
- Presentations :**
- 6.15 PM - 1. "Power Scenario in Orissa" Shri C.J. Venugopal, I.A.S., CMD, OPTCL/GRIDCO
- 6.30 PM - 2. "Protection of Consumer Interests in Orissa"  
Shri P.K. Dora & Shri G.N. Agarwal, Consumer Activists
- 6.45 PM - Address by Shri K. Sahay, Registrar, APTEL
- 6.50 PM - Address by Hon'ble Shri H.L. Bajaj, Technical Member, APTEL
- 7.00 PM - Address by Chief Guest Hon'ble Shri Justice M.M. Das,  
Judge, Orissa High Court
- 7.15 PM - Presidential Address by Hon'ble Shri Atanu Sabyasachi  
Nayak, Hon'ble Minister, Energy, Orissa
- 7.30 PM - Special Address by the Guest of Honour & Special Invitee  
Hon'ble Shri Justice M Karpaga Vinayagam,  
Chairperson, Appellate Tribunal for Electricity, New Delhi.
- 7.45 PM - Vote of Thanks by Shri K.C. Badu, Member, OERC
- 7.50PM - Dinner

## **A BRIEF SUMMARY OF THE PROCEEDINGS OF THE SEMINAR ON ISSUES & CHALLENGES OF CONSUMER INTEREST IN THE POWER SECTOR AT HOTEL CROWN, BBSR ON 11.12.09**

- 1 The Orissa Electricity Regulatory Commission organized a seminar on 'Issues & Challenges of Consumer Interest in the Power Sector' at 6 PM here in the Hotel Crown to mark the visit of Honorable Justice Shri M Karpaga Vinaygam, Chairperson, Appellate Tribunal, New Delhi to the State. Presiding Judge of the Orissa High Court, Honorable Justice Shri M M Das was Chief Guest on the occasion while Shri Atanu Sabyasachi, Minister for Energy, Govt. of Orissa presided over the meeting. Also present on the occasion were Shri H L Bajaj, Technical Member, ATE, Shri K Sahay, Registrar (ATE), Shri B K Das, Chairperson, OERC, Shri K C Badu & Shri B K Mishra, Members of OERC and other dignitaries from the state power sector. A number of consumer group representatives also participated in the seminar.
- 2 The Chief Guest & other dignitaries arrived at 6 PM and were escorted to the dais by the Chairperson & members. Floral tributes were given to the guests and the programme was inaugurated by lighting of the lamp by the Chief Guest and Guests of Honour.
- 3 Welcoming the participants, Chairperson OERC, observed that the consumer is the ultimate stakeholder in the power sector as he pays for price of generation, transmission & distribution which is carried out to satisfy his needs. He also emphasized the role of distribution of power which he said had not received requisite attention in terms of performance standards & consumer satisfaction. Land mark provisions such as the creation of GRF, Ombudsman & ATE have provided grievance redressal with a statutory platform. These steps would empower consumers & improve consumer services, he added. However, proper consumer participation, utility support and supervision by the Regulatory Commission were needed to achieve this objective, he felt. He highlighted three issues which concern consumers, namely, quality of service, quality of supply & sector governance. He felt that validation of reported performance standards & attitudes of utility staff present a challenge to the sector which will evolve with time. Regarding consumer participation in policy making, he said SERCs have a role to play as they can take up capacity building of NGOs & public education for the purpose.
- 4 The Welcome Address was followed by a presentation on the "Power Scenario in Orissa" by Shri C J Venugopal, CMD, OPTCL/GRIDCO. Presentations by Shri P K Dora, Consumer Counsel, Southco & Shri G N Agrawal, Convenor-cum-General-Secretary, Sambalpur District Consumers Federation on "Protection of Consumer Interests in Orissa" followed.
- 5 Shri K Sahay, Registrar, APTEL & Shri H L Bajaj, Member, APTEL addressed the gathering next. Shri Bajaj lauded the state for providing uninterrupted supply at reasonable rates as mandated under the Act. However, he called for serious efforts to reduce loss to regulatory benchmark by system studies, energy audit & system augmentation. While Standards of Performance should be in place, it is more important to ensure that they are implemented, he added. He called for greater consumer education, reduction of cross subsidy & energy conservation.

- 6 Delivering the inaugural address, Justice Das observed that in India's rapidly growing economy, power is an essential infrastructure & the Electricity Act 2003 is designed to meet the needs of the power sector & propel it on the path of development. He said that high level of Aggregate Technical & Commercial losses, inadequate Transmission & Distribution networks & high levels of subsidy had led to poor quality of supply. In order to reverse this trend, the National Policy focused on consumer interest & set minimum standards of quality. He advised the SERCs to set up GRF/Ombudsman as envisaged under the Act & monitor their performance. He also called for capacity building of Consumer Groups in the sector by the State & Central governments. He pointed out that while many milestones had been achieved in the State power sector, a far greater degree of professionalism & sensitization to consumers is necessary for Distcoms. Lack of adherence to standards & theft of power are other issues, he added. He called for greater consumer education & state participation in the sector terms of fund support. The distcoms too must take aggressive measures to reduce loss & improve standards of service. Consumer too must rise to the occasion & take an active role in reform. Similarly, the Regulatory Commission must increase & expand consumer participation in the decision making process, he concluded.
- 7 In his Presidential Address, Shri Atanu Sabyasachi said that the consumer's participation is vital to the success of reform. He urged utilities to adopt a customer friendly approach & adhere to statutory standards. Unless adequate care is taken of consumers, power sector will not be viable, he felt. He lauded the OERC for balancing interests of all stakeholders & protecting consumer interest & assured the full support of the Orissa government for ensuring that state consumer get safe, reliable & affordable power.
- 8 Justice Vinaygam delivered the keynote address on the occasion. He said that the core of the Electricity Act which lies in the preamble pertains to consumer interest. However, he pointed out that one of the handicaps for SERCs in protecting consumer interest is that they have a limited role in redressing consumer grievance under the Act. While they frame regulations the SERCs do not have the power to implement them. He said that a liberal interpretation of Section 142 of the Act can be used by SERCs to empower consumers and enforce regulations. He advised the utilities not to take an adversarial approach to orders of GRF & Ombudsman and to change there mindset. He also asked consumers to be aware of there rights as well as duties and responsibilities. The Commission's role should be supervisory and should focus on mediation, he felt.
- 9 The programme ended with the proposal of Vote of Thanks by Shri K C Badu. He observed that good customer care will lead to good business & this must be kept in mind by distribution companies. Regarding the regulators role, he said that they needed to balance the contribution of all stakeholders.

## WELCOME ADDRESS BY THE CHAIRPERSON, OERC

Hon'ble Justice Karpaga Vinayagam, Chairperson of APTEL, Hon'ble Justice M.M. Das, Judge of the Orissa High Court, The Hon'ble Minister of Energy, Shri Atanu Sabyasachi Nayak, Hon'ble Shri H.L. Bajaj, Member of APTEL, Shri Krinwant Sahay, Registrar of APTEL, my colleagues - Members of OERC, Distinguished participants, Ladies and Gentlemen.

I have the honour to welcome amongst us today, the Hon'ble Chairperson of APTEL and his colleague Member of APTEL. We express our thanks and gratitude to them for sparing their valuable time and coming all the way to Bhubaneswar to share their experience and thoughts on "Issues and Challenges in Protection of Consumer Interests in the Power Sector". It is also a pleasure to have with us the Registrar of APTEL.

Hon'ble Justice Shri M.M. Das is a distinguished member of the Orissa High Court known for his deep knowledge and clear thinking in dealing with complicated matter requiring judicial interpretation and intervention. We are grateful to you, Sir, for having spared your time to share your wisdom and vision in the matter of consumer interest and services.

Our Hon'ble Minister of Energy Shri Nayak is young and dynamic and is keen to bring about a qualitative change in the supply and distribution of electricity and making it available to the unserved rural areas. As the principal actor of the sector, his dynamism has made a huge difference to the working of the power sector. We are grateful, Sir, you have taken time off from your busy schedule to be with us this evening.

A warm welcome to all the distinguished participants who are the stakeholders and players of the sector.

We are also grateful to the Media representatives who have found the time to join us and cover the proceedings.

Now a few words, as opening remarks, just to set the ball rolling. For us, my colleague members of the Commission and all our members of the staff this is an evening of considerable significance. The theme of "Consumer interests and their Protection" is vital to the progress and health of the sector. The consumer is the ultimate stakeholder and the most crucial link in the entire chain of the Electricity Sector. The whole exercise of generation, transmission and distribution is carried out to satisfy consumer needs. However, in most consultation exercises, seminars and workshops, the only stakeholders considered important are Financial Institutions, Private Investors in IPPs, Utilities, Equipment Suppliers, Consultants, Manufacturers and Fuel suppliers. The views of consumers and consumer organisations are rarely considered. It is not only consumers but the society at large which is also a stakeholder. It is the broader society, which ultimately pays the price of Generation, Transmission and Distribution by way of environmental and socio-economic impacts. Thus, we need to keep in view not only the direct consumers of electricity but also the society at large in any consultative process.

The real interface with the consumer comes in the Distribution of electricity. It is the Distribution Company whose standards of performance and service delivery standards keep the consumers satisfied.

What the consumer pays for the energy sold or the revenues derived from the distribution of electricity, is what pays for Transmission and the Generation of power. Distribution is, therefore, the foundation upon which Transmission and Generation exists. The service that a DISCOM renders to the consumer, that determines the overall health of the sector. A satisfied consumer is not only willing to pay but is also willing to accept higher tariffs for quality of supply and quality of service. But it is distribution that has not received the kind attention it deserves in terms of performance standards or consumer satisfaction.

The Distribution sub-sector has a very dubious image of consumer neglect, corruption and inefficiency. There is now, however, the realization that a performing Distribution sub-sector is crucial to the entire Electricity Sector. Reduction of AT&C losses, improved billing and collection, collection of revenue arrears are some of the indicators of Distribution performance which have received considerable attention during the past few years. Recent initiatives in improving the quality of consumer services have gained momentum. In this context, we must mention the recent orders of the Appellate Tribunal for Electricity which has ensured the proper functioning of the Grievance Redressal Fora, the Electricity Ombudsmen, as well as the Standards of Performance. The Electricity Act, 2003 and associated National Policies are a firm step towards the required correction in the Utilities' attitude towards consumers. For the first time, we have specific legislative backing to consumers' grievance redressal through a statutory platform i.e. the GRF and the Ombudsman. The State Electricity Regulatory Commissions are mandated to protect consumers' interests and prevent abuse of monopoly by the Utilities. They are required to notify regulations for the setting up of the GRFs and Ombudsmen and specify the quality of service. These are all land mark provisions whereby for the first time, the Utilities have been made accountable for service quality. In case of failure to meet the specified benchmarks, utilities are expected to pay a fine to consumers.

The GRFs are funded by the Utilities and the Ombudsman by the SERCs. Of course, money for this is raised from the consumers. But with proper consumer participation, Utility support and supervision by the Regulatory Commission, these provisions will go a long way in empowering the consumers and changing the perceptions and attitude of the Utilities in improved consumer services.

At a very broad level, the concerns of the consumer can be categorised in to 3 areas.

- (a) Quality of service - the Utility's staff's response to consumer complaints and requests.
- (b) Quality of Supply - Robustness of the Distribution and Supply system as well as O&M practices.
- (c) Sector Governance - Consumer participation in deciding sector policies.

The first two relates to consumer grievances and concerns, either individually or in groups. The last is the 'broader public interest'. The Electricity Act addresses to an extent the first two issues of consumer expectation and grievances and the SERCs have taken many initiatives in this regard. However, much remains to be done. Complaint handling by the Utilities and their staff's response to complaints despite the existence of "Call Centres" continues to suffer due to the attitudinal problems, as a legacy from the good old SEB days. Everything cannot be remedied by Regulations and enforced through penal provisions

like Section 142 of the Act. The will to serve and be sensitive to the consumer cannot be met by Legislation but simply by being responsive and having the will to resolve matters. The reporting of performance standards are still facing credibility problems. Validation of such reported performance standards through independent agencies and independent verification are time consuming and tedious. Nevertheless, this problem of credibility is being suitably addressed. Given some more time, it would be possible to arrive at a proper verification protocol. Thus, even though steps have been taken to protect consumer interest relating to the first two concerns, the journey has only commenced. We have to travel a long distance and a difficult path.

The last and third concern - sector governance with the active participation of the consumer involves a much longer journey. Both the Utilities and the State Govt. need to work together with openness in policy making and proactive efforts to encompass consumer groups. It requires increased capacity on the part of the consumers to appreciate and articulate sector issues. Political will needs to be demonstrated to break the nexus between politicians, select consumers and the utility staff which is reflected predominantly in the form of theft. Consumer participation in the regulatory process needs to be more pro-active. Their participation is visible only during the Tariff fixing process. At other times, their participation is really negligible.

Then too most of the petitions before the SERCs are really too general without a proper appreciation of the issues involved. The Utilities in their turn pay little heed to these petitions and generally do not respond satisfactorily to such petitions. As pointed out by Ms. Sudha Mahalingam, "Electricity Regulation, particularly tariff fixing, is already loaded heavily against consumers. Utilities prepare extremely complex and voluminous tariff proposals, which are usually incomprehensible to the common man. Although Regulators conduct public hearings to decide tariff, consumers with little knowledge of how the sector functions or the regulatory process are pitted against the utility which hires expert consultants, accountants and lawyers to plead the case for tariff revision."

If the situation is to change, the major initiative has to come from us, the SERCs and the Utilities. As indicated by the National Electricity Policy - "The Central Govt. the State Govt. and the Electricity Regulatory Commission should facilitate capacity building of consumer groups and their effective representation before the Regulatory Commission. This will enhance the efficiency of the Regulatory Process."

The initiative should, therefore, include a public education campaign providing resources and training to consumer groups to facilitate intervention. That would democratize the policy making process. In these times of increasing complexity of the sector with parallel licensees, variety of franchisee models, RGGVY, etc. having the consumer as an informed stakeholder is the only way to ensure that the interests of the consumers are protected.

Sir, it gives us all in OERC a great privilege to welcome you again to this evening's workshop. It is an opportunity for us to address some of the basic issues of consumer interest and awareness, particularly consumer satisfaction and willingness to pay which are the key stones of the arch that holds the edifice of the Distribution Utilities.

Thank you very much and welcome to you all.

**Issues & Challenges**  
**in**  
**Protecting Interest of Consumers**  
**in the Power Sector**

**Presentation by Shri P K Dora,  
Consumer Counsel  
Rayagada, Southco**

## The role of the consumer in the power sector

- Electricity is an essential service that facilitates modern civilization.
- Electricity sector has been privatized to increase efficiency and give better service to consumer.
- Consumers today have a say in fixing tariff.
- Utilities are bound to follow minimum standard of performance.
- A transparent grievance mechanism is in place to enforce standards.
- The consumer ultimately pays for electricity and is the boss.
- The consumer is therefore the pivot of the power reform.
- Utilities can not sustain their business unless consumer is satisfied.
- The policy maker therefore have incorporated different provision in the Electricity Act, 2003 to protect consumer interest.
- In keeping with the above the OERC has frame the Standard of Performance Regulations, 2004.
- However these Regulations exist in paper in many cases and service provider are not adhering to them.
- It is necessary to assess quality of consumer service at grass root level and ensure that it meets standards.

# Issues

- **Uninterrupted power supply**
  - Normal Fuse
  - Line Breakdown
  - Failure of Distribution Transformer
  - Shut down
  - Power Restriction
- **Quality of Power Supply**
  - Voltage Variation
  - Frequency
  - Harmonics
- **Meter (Measuring Instrument)**
  - Third party testing of meters under direct supervision of regulators necessary
  - Affordability of meter when consumer cannot exercise option
- **Billing**
  - Billing on average/load factor basis instead of actual consumption
- **Resolution of Complaints**
  - Complaint Handling Procedure not followed
  - GRF comprised of utility officials so consumers fail to get justice
  - Legal & consultancy charges of utilities passed on to consumers
  - Consumers not educated about rights/regulatory process

## Challenges

- Proper load forecast & planning required to meet power demand
- Conservation of energy need of the hour
- Improper utilization of funds hence standards not met
  - Committee required to look into utilization of BGJY funds
  - Field inspection by teams from regulatory commission to be increased & expanded
- Coverage of utilities by RTI Act
- Safety & inspection

## Role of Regulator

- **OERC has legislative function**
  - Framed all requisite regulations on SoP, GRF/Ombudsman, Conditions of Supply, etc, mandated under Electricity Act 2003
- **OERC has executive function**
  - Issued directions
  - Issued approved consumer service documents under license conditions
  - Disposed consumer complaints
  - Appointed SAC & Ombudsman
  - Supervises & monitors utility/GRF/Ombudsman performance
- **OERC has judicial function**
  - Passes orders on consumer complaints/Section 142
  - Sets tariff
- **OERC has informative functions**
  - Holds open public hearings
  - Networks with consumer groups
  - Trains stakeholders
  - Publishes consumer booklets(FAQ)/regulations/orders & distributes them
  - Has well informed web portal
  - Conducts print/audio-visual csmpaigns

## Conclusion

- Regulatory Commission's role crucial in safeguarding consumer interest
- Regulators fix tariff based on performance parameters
- However there is no mechanism for checking implementation of regulation
- Regulator should take steps to enforce orders by setting up Enforcement Cells
- All stakeholder should participate & cooperate to make reform a success

**Issues & Challenges**

**in**

**Protecting Interest of**

**Consumers in the**

**Power Sector**

Presentation by  
**Gobind Narayan Agrawal, Convenor-cum-General-Secretary,**  
**Sambalpur District Consumers Federation**

## Constitutional provisions for protecting consumer interest

- OER Act 2003
  - Preamble emphasizes consumer protection
  - Sections 1(15), 3(4), 11(1), 13, 18(1), 19(1)&(2), 22(1), 24(1), 61(d), 75(1)&(2), 80(2), 81(iv), 87(2), 88(iv), 90(e), 94(3), 107(1), 107(2), 108(1)&(2), 131(5) relate to consumer protection
  - Section 173 of the Act saves Consumer Protection Act
- National Electricity Plan & National tariff Policy safeguard consumer interest

## Service Issues

- Time bound standards of service exist but are not followed
- Individual responsibility cannot be fixed because of lack of records
- Periodic inspection at Sub-Division, Division & Corporate level by senior officials of OERC
- Disciplinary action should be taken against erring staff
- Implementation of IT initiatives such as Automated Meter Reading necessary
- Restructuring of Distribution operations with separate commerce, technical & finance wings

## Voltage Issues

- Further investment necessary to bring voltage to satisfactory level
- Internal coordination at policy & implementation level necessary in various wings of distribution utilities
- Proper survey & project report required to take up works
- Fundamental principles of electrical engineering not followed in calculating voltage regulation
- Low power factor due to lack of education of consumers
- Use of KVAR capacitors & Tuned Harmonic Filters can improve situation

## Demand Supply Side

- Trading concept should be applied to power distribution
- Demand & supply issues should be considered while fixing tariff
- Tariff policy should be voltage based
- RST should be different for areas with low voltage
- Installed capacity should be enhanced

# Challenges

- **Tariff issue**
  - Inefficiencies of utilities should not be converted into tariff hike
  - Performance of utilities should improve
  - Mindset of utility employees should change
- **Power Theft**
  - Power theft is on the riser
  - OTS scheme of Cesu not properly applied & benefited malafide consumers
  - Incentives should be offered to honest consumers
- **Environmental issues**
  - Faulty policies have led to imbalance in ecology
  - Environment friendly technologies need to be adopted to benefit all concerned

**Address by Shri Atanu Sabyasachi Nayak, the Hon'ble Energy Minister on the occasion of the seminar on "Issues & Challenges in Protection of Consumer Interest in the Power Sector" to be held on 11.12.2009 at 6.00 PM at Hotel Crown.**

Honorable Chairperson of the Appellate Tribunal for Electricity, New Delhi, Chairperson and Members of Orissa Electricity Regulatory Commission, Energy Secretary, all the officers present, representatives of consumer forums, local bodies, licensees, representatives of media, all invitees, ladies and gentlemen.

2. I am extremely happy to be present here to preside over the seminar on "Issues & Challenges in Protection of Consumer Interest in the Power Sector" organized by the Orissa Electricity Regulatory Commission. The subject has been aptly chosen at the right time. I must thank OERC for taking initiatives to enlighten and educate the consumers of energy and at the same time to ensure improvement in the standards of performance by the distribution utilities. I hope that the outcome of this seminar will help in building up of a consensus by various stakeholders to see that the power sector in the State is put on a sustainable growth path and the benefit thereof is largely made available to the consumers who are the focal point in the entire exercise of power sector reforms.
3. Overall growth of the power sector can be ensured only if there is equitable growth of its four segments. These are:-
  - (i) Generation
  - (ii) Transmission
  - (iii) Distribution and
  - (iv) The End-user

There is the felt need that growth in each of these sectors should be well integrated with support from the most advanced technologies available.

4. Supply of reliable power of specified standards in an efficient manner and at reasonable rates is one of the main objectives of the Orissa power sector reform programme. Making the distribution system of the industry efficient and solvent is a key to the success of power sector reforms and the provision of services of specified standards. Therefore, the Regulatory Commission needs to strike the right balance between the requirement of commercial viability of distribution licensees and consumers interests.

5. In this context, I would like to point out that the overall tariff rise was 17% in 1996-97, 10.33% in 1997-98, 9.30% in 1998-99, 4.5% in 1999-2000 and 10.23% in 2000-01. Though the rates of tariff for domestic consumers have not increased since 1<sup>st</sup> February 2001 there is much to be desired for satisfactory services to the consumers. There is a need to ensure uninterrupted quality power supply and that the licensees must put in their best efforts to ensure such quality supply. They have to be diligent and effective in making their operation efficient. The gains of efficient operation with reference to normative parameters should be appropriately shared between the consumers and the licensees.
6. The distribution losses in the country on the average is 31% whereas in case of Orissa it is as high as 37.5% in 2008-09 against the norm fixed by OERC at 27%. Similarly, the Aggregate Technical and Commercial (AT&C) losses on the average in the country is 34.54% but in case of Orissa this is as high as 41.3% in 2008-09 which is much higher than the target fixed by OERC at 30.36%. This is a serious concern for the State, the licensees and the consumers at large.
7. Ideally, the technical and commercial losses should be reduced to 15% to make the sector viable. The drastic reduction of losses both, transmission and distribution and AT&C losses is the single most essential measure for turning around the power sector. The various elements involved in the management of distribution losses may be classified under the categories of governance, commercial and technical issues. For effective control of AT&C losses, the State and state power utility will be required to initiate action on all three fronts. I am sure; OERC would ensure that the State Govt. and the Utilities work jointly in these directions.
8. One area of serious concern is theft of energy in various ways at different levels and on account of various factors. The present levels of theft make further investment in generation and distribution unviable and unattractive. Energy conservation measures also become meaningless. Power theft needs to be treated as a national scourge and curbed with determination. I am aware that this is basically a governance issue rather than technical and commercial one. Without this resolve other measures such as special courts and police stations, 100% consumer metering, staff and informer award scheme would also be meaningless. Let me hasten to assure that the State Govt. would provide the required administrative support to curb theft. On the other hand active involvement of employees is also a pre-requisite in theft control measures. The distribution companies should bear this basic fact in mind and act accordingly to reduce the incidence of theft by due motivation of their employees.
9. Another area of concern is the shortage of technical manpower. It is the time that the utilities should put in place an action plan for improving the human resources. The development and

training need of technical manpower in the sector is self evident. In this context the State Govt. will also co-ordinate with the project development authorities to focus on the training / upgradation of skills through ITIs etc., so that a trained manpower pool is available locally to meet the requirement of the growth of generation capacity, transmission and distribution network. Besides, increase in functions have led OERC to handle complex economic and technical issues and balance interest of various stakeholders. OERC, therefore, need to develop adequate expertise in various fields such as technical, regulations, economics, finance and legal. I assure you that State Govt. would sanction required number of professional staff in various fields to meet the increasing challenges faced by OERC.

10. Govt. of Orissa has executed 21 Memoranda of Understanding (MOU) with Independent Power Producers for setting up of thermal power plants in Orissa with an estimated investment of Rs.1,10,322 crore and estimated installed capacity of 25970 Megawatt. As per the MOUs 25% of the power generated from 131 IPPs (estimated at 4047.50 Megawatt) has been envisaged to be made available to the State. Similar we expect about 1370MW of power from 8 merchant power plants who have signed MOU with the Govt. At present 20 industries have established captive generation plants having installed capacity of 3989 Megawatt. Besides this, 12 upcoming industries have proposed to install captive generation plants with an estimated capacity of 3650 megawatt. The setting up of large power plants has huge costs associated with land, water and environmental degradation, as well as rehabilitation and degradation of infrastructure like road and rail. The power industry has very low employment potential, while the State where power is generated does not get any revenue. The state where it is consumed gets an advantage of about Rs.500 crores per annum, which includes a direct revenue stream of at least Rs.150 cores per annum for every 1000 megawatt of power plants set up outside its own borders.
11. The current constitutional arrangements prohibit the states from levying any duty or tax on generation of electricity which is recognized as 'goods' in the eye of Law. In the absence of any specific provision for levy of duty or any other form of tax by the state governments in the Electricity Act, 2003, this cannot be imposed by any state government through a state legislation. This has created a difficult situation for the states, where capacity addition in generation of electricity is primarily taking place for the purpose of sale outside its boundaries, as these states are not in a position to levy any tax or duty on such inter-state sale. The current arrangement thus does not in any way benefit the States where generation takes place. Power-flows to other States who gain not only from the supply of power and consequential increased economic activities but also from electricity duty levied. Increasingly generation will take place at pit-heads and in States where the coal or hydro resources are available. Such generation has enormous costs to

the host States by way of environmental degradation. The impact is rather severe despite mitigation and other management measures undertaken by the Mining and Generating companies. Methods must be devised, both fiscal and otherwise in compensating such states who are generally poor and underdeveloped, so that their people and region can also share in the fruits of development resulting from the generation within their state but supply of power far beyond their borders.

12. Govt. of India should consider some of the following enabling measures :-
  - (i) Levy of duty on generation of power by the concerned State Government,
  - (ii) Allocation of 12% of the generated power free to the host state in line with the principle adopted for the hydro power,
  - (iii) Allocation of an appropriate portion of power generated to the host state at variable cost,
  - (iv) A suitable contribution by IPPs for ecological generation in the vicinity of the power plants.
13. Non-discriminatory open access in transmission is a mandate of the Electricity Act, 2003. This is certainly desirable and necessary for the efficient choice of locating generating capacity and reducing the cost of supply. However, as I have stated earlier, such location and extraction of coal or submergence of land and forests have huge costs and associated environmental impacts. Such an impact on the lives and livelihoods of the people of such regions need necessarily to be borne in mind and appropriately protected and mitigated. Secondly, given the severe deficit of power in other parts of India, open access should not result in all power flowing to the areas of deficit and at prices which they are willing to pay. The needs and demands of the local areas at regulated tariffs also need to be kept in view. Development and growth needs to be equitable and inclusive. While we are conscious of the needs of the nation as a whole and are willing to participate and contribute in every manner to the nation's development, our backwardness and underdevelopments should not be lost sight of. The developed and developing states must march together as equal partners in the road to prosperity and growth. I would, therefore, urge the developed states and the Government of India to consider our current status and help us to take the path of development along with them.
14. I should not forget here OERC's role in the country's power reforms process. They have been not only the torch bearers of Regulations and Reforms but have also set the standards for Regulators through out the country. Our reforms and Regulatory mechanism not only pre-dates the Electricity Act, 2003, but the very first State to initiate the necessary unbundling and privatisation through

the Orissa Electricity Reforms Act, 1995. The State thus switched over to the first autonomous regulatory commission in Asia, a system de-linked from political control as an efficient and transparent means of managing the sector. I must commend their achievements through uncharted territory and hope that they will play not only their designated role in the Electricity Act, 2003 but a more pro-active role in turning around Distribution which is the most crucial segment of the electricity business. The real challenge of reform lies in the efficient management of the distribution business. The exceedingly high level of commercial losses is unsustainable. Its eradication is the single most critical challenge for the Govt. as well as the Regulator. A drastic reduction of distribution losses alone will give enormous resources to not only turn around the sector but modernize it to exacting technical standards. Distribution companies who are at the end of the electricity chain-link must gear themselves to this challenge and ensure both quality and quantity.

15. While there is urgent need to ensure sustainable improvement in the quality of supply, the consumers on their part must realise that if power is stolen by someone in their neighbourhood it is they who would suffer in terms of quality and quantity of power. Hence, the State Govt., the Power Producing companies, the Distribution Licensees, the consumers at large must have to work in harmony to ensure that power sector reform grows from strength to strength in Orissa and the benefit of this accrues to the consumers at large. Hence, we should have a vision of an Orissa where every house in every village is lit and where reliable, quality and uninterrupted powers supply at reasonable rate is taken for granted.
16. I wish the workshop all success and thank the OERC and all the participants, the representatives of print and electronic media and all others present here.

**Address by The Chief Guest Hon'ble Justice M.M.Das, Judge, Orissa High Court in the seminar on "Issues and Challenges in Protection of Consumer Interests in the Power Sector" to be held on 11<sup>th</sup> December, 2009 at Hotel CroWn, Bhubaneswar.**

- Hon'ble Minister for Energy, Govt. of Orissa, Shri Atanu Sabyasachi,
- Hon'ble Chairperson, Appellate Tribunal for Electricity, Justice Shri M. Karpaga,
- Hon'ble Shri H. L. Bajaj, Technical member, APTEL,
- Shri K. Sahay, Registrar, APTEL,
- Chairperson, OERC Shri B. K. Das,
- Other dignitaries on the dais
- Representatives of Generation, Transmission and Distribution companies
- Representatives of Consumer Organizations,
- The representative of Print & Electronic Media ~
- Ladies & Gentlemen,

I am extremely happy to be here primarily to listen to the views of different stakeholders in the power sector and at the same time to share a few thoughts and concerns relating to the power sector in the State.

2. The Orissa Electricity Reform Act, 1995 was a path breaking legislation which became a milestone in the history of electricity jurisprudence. It restructured the electricity industry, corporatized the power entities & set up an independent autonomous quasi judicial regulator to usher in transparency, accountability & efficiency. The OERC Act, 1995 became a model legislation for the country and was eventually adopted in a modified form to become the Central Act, namely the Electricity Act, 2003 which came into force from 10<sup>th</sup> June 2003
3. In compliance with section 3 of the Electricity Act 2003 the Central Government has notified the National Electricity Policy.

Electricity is an essential requirement for all facets of our life. It has been recognized as a basic human need. It is a critical infrastructure on which the socio-economic development of the country depends. Supply of electricity at reasonable rate to rural India is essential for its overall development. Equally important is availability of reliable and quality power at competitive rates to Indian industry to make it globally competitive and to enable it to exploit the tremendous potential of employment generation. Services sector has made significant contribution to the growth of our economy. Availability of quality supply of electricity is very crucial to sustained growth of this segment.

Recognizing that electricity is one of the key drivers for rapid economic growth and poverty alleviation, the nation has set itself the target of providing access to all households in next five years. As per Census 2001, about 44% of the households do not have access to electricity. Hence meeting the target of providing universal access is a daunting task requiring significant addition to generation capacity and expansion of the transmission and distribution network.

Indian Power sector is witnessing major changes. Growth of Power Sector in India since its Independence has been noteworthy. However, the demand for power has been outstripping the growth of availability. Substantial peak and energy shortages prevail in the country. This is due to inadequacies in generation, transmission & distribution as well as inefficient use of electricity. Very high level of technical and commercial losses and lack of commercial approach in management of utilities has led to unsustainable financial operations. Cross-subsidies have risen to unsustainable levels. Inadequacies in distribution networks have been one of the major reasons for poor quality of supply.

4. In this seminar the topic of discussion is PROTECTION OF CONSUMER INTEREST IN POWER SECTOR. The National Policy has taken care of the consumer interest by stating that: Appropriate Commission should regulate utilities based on pre-determined indices on quality of power supply. Parameters should include, amongst others, frequency and duration of interruption, voltage parameters, harmonics, transformer failure rates, waiting time for restoration of supply, percentage defective meters and waiting list of new connections. The Appropriate Commissions would specify expected standards of performance.

Reliability Index (RI) of Supply of power to consumers should be Indicated by the distribution licensee. A road map for declaration of RI for all cities and towns up to the District Headquarter towns as also for rural areas, should be drawn by up SERCs. The data of RI should be compiled and published by CEA.

It is advised that all State Commissions should formulate the guidelines regarding setting up of grievance redressal forum by the licensees as also the regulations regarding the Ombudsman and also appoint/designate the Ombudsman within six months.

The Central Government, the State Governments and Electricity Regulatory Commissions should facilitate capacity building of consumer groups and their effective representation before the Regulatory Commissions. This will enhance the efficacy of regulatory process.

5. Section 26(2)(c) of Orissa Electricity Reform Act, 1995 stipulated that the Commission shall be bound by the interest of the consumers in tariff setting. The said Act also stipulates constitution of Consumer Advisory Committee, Consumer Protection and Standards of Performance with penalty and prosecution for violation of standards and overall performance standards. These provisions have been incorporated in various ways in the Electricity Act, 2003 in clear and categorical terms. The preamble to the Electricity Act, 2003 mentions protection of the interests of the consumers as an integral aspect of the legislation. This provides the right to non-

discrimination against any person vide Section 45(4), a time limit for new connections vide section 43, standards of performance of licensees vide section 57 and Section 61 provides that while determining tariff consumer interest should be protected.

6. While section 86(3) mandates transparency in the exercise of its powers and discharge of its functions by the Commission, Section 87 provides establishment of a State Advisory Committee and Section 94(3) stipulates engagement of a consumer counsel to protect the interest of the consumers in the proceedings before the Commission. Section 42(5) and 42(6) of the Act mandates establishment of Grievance Redressal Forum and Ombudsman for redressal of grievances of consumers. In case, the orders of the GRF or Ombudsman is not implemented or there is any violation of the provision of the Electricity Act, 2003, the conditions of the license or rules/regulations framed by the Regulatory Commission, the aggrieved consumers/person can approach the Commission under section 142 for penal action against the licensee. Thus Electricity Act, 2003 re-emphasizes the protection of consumers' interest at different levels.
7. In Orissa, Power sector reform has been in force for almost a decade and a half since 1996-97. During the last 15 years of reforms much has been achieved. Distribution has been privatized but contrary to apprehension, the system has not collapsed nor have power tariffs become unaffordable. The Orissa Electricity Regulatory Commission has continued to monitor & supervise the transmission & distribution companies and has ensured tariffs at affordable levels. Open public hearings are held to fix energy tariffs, regulations have been notified to cover all areas of operation of power utilities, minimum standards are mandated Grievance Redressal Fora & Ombudsmen have been appointed to redress electricity related grievances & special courts have been set up to prosecute power theft and bring down commercial loss. The sector has achieved self sufficiency and in spite of continuing requirement for funds to modernize & expand T&D systems, there is no subsidy or outflow from the Government Treasury to the sector. On the other hand while there was substantial hike in tariff annually during pre-reform period, the tariff has remained more or less the same from 2001-02 despite substantial increase in price index.
8. The OERC has framed a number of regulations to fulfill its statutory obligations and has taken a proactive approach in -empowering the customer, such as, OERC (Conditions of Supply) Code, 2004, OERC (Licensees Standards of Performance) Regulations, 2004, OERC (Grievances Redressal Forum and Ombudsman) Regulations, 2004, OERC (Terms and Conditions for Determination of Tariff) Regulations, 2004, OERC (Procedure for filing appeal before the Appellate Authority) Regulations, 2004, OERC (State Advisory Committee) Regulations, 2004 & OERC (Terms and Conditions for Open Access) Regulations, 2005, Orissa Grid Code, 2006, OERC (AST) Regulations, 2007. etc.
9. However, a number of issues & challenges still remain in effecting the legal framework and providing safe, reliable & efficient service & quality of power to consumers at a reasonable cost. The most important is the issue of capital expenditure and investments in both transmission and distribution. Electricity is a technology oriented industry and mere legislation cannot sweep

this crucial issue under the carpet. There should be a mechanism to ensure that the requisite investments are brought in by the Licensees or are suitably mandated by Regulatory orders so as to upgrade systems to the required level of efficiency. Whether this is through subsidy or market mobilization of Debt and Equity is something which the SERCs need to work out in association with the Utilities and the Government.

10. The next important need would be to address attitudes among utility staff & consumers which are still not attuned to the new system even after more than a decade of reform. While the state has inherited the old staff of the OSEB, power distribution is nevertheless managed by the private companies. Now far greater degree of professionalism & sensitization to consumer needs is essential than exists today and needs to be inculcated. Similarly consumers still exist in an old paradigm where power was a public good to be distributed free or at nominal cost. With this attitude it is not surprising that while consumers are willing to shell out the extra Rupees needed for other essentials, they continue to abstract power in an illegally open fashion. This trend must be curbed. The answer to both these problems perhaps lies in proper education & orientation. The mass media should be utilized to orient these two major stakeholders to the reality and their cooperation should be secured at all costs.
11. Another area of weakness is quality of service & lack of adherence to standards. Recovery of revenue should go hand in hand with improved service. Unless minimum statutory standards are followed by the utilities, they cannot expect the average consumer to follow the rules & pay up. A bonafide and alert consumer will demand better service and would be in a position to get it from the courts. However, enforcement ought to be the last resort and self regulation is the best answer for utilities. The GRFs & Ombudsmen need to be further empowered to ensure that Standards are met and compensation/penalty dispensed where the licensees fail to provide.
12. Last but not the least, the regulator is the key player in making this system work. It is heartening to see that the Orissa Electricity Regulatory Commission has taken the initiative in many areas to protect consumer interest and make the industry viable. It must be noted that they were pioneers and had no experience to fall back on. Yet they have by and large fulfilled their mandate. However, much remains to be done. Perhaps a more rigorous monitoring of performance and a extensive public education campaign can empower consumer & put pressure on utilities, to cut losses and provide better service.
13. Thus, to me, the issues now confronting the power sector in Orissa are :-
  - Quality of supply arising out of inaction and inability of the distribution companies and Orissa Power Transmission Company to take adequate steps for system development and upgradation.
  - The lack of orientation on the part of the employees of the distribution companies to attend quickly to the grievances of the consumers.
  - Poor financial conditions of the distribution companies arising out of high AT&C loss triggered by rampant power theft and technical issues, none recovery of dues, dilapidated network,

- Lack of sufficient consumer education and awareness,
  - General apathy on the part of the consumers to pay in time for the service provided,
  - Unwillingness of the parent companies to support the distribution companies by way of investment of capital on old and dilapidated network.
14. Though there is much needed to be done to improve the standard of performance of the distribution companies, yet they have thrived despite their tariff having remained more or less the same for the last 9 years since 200-01. Tariff in Orissa is one of the lowest in the country. While almost all State Govts. continue to provide large amounts of budgetary support by way of subsidy or capital investment there has been no budgetary support from the State Govt. since 1996-1997. Before 1996-97, the average annual subsidy was of the order of RS.250 crore, being provided to erstwhile OSEB and by now in term of present inflation this should have been 1000 crores. Govt. utilised the disinvestment proceeds of Rs.603.20 crore from OPGC whereas the sale proceeds of TTPS for RS.356 crore and disinvestment of Rs.159.00 crore in the distribution companies have been utilised by GRIDCO to meet its liabilities. On the other hand, the State Govt. is getting Electricity Duty of RS.360.00 crore approximately and RS.75.00 crore towards dividends. In other words while the State Consolidated Fund has benefited from the power sector reform by way of direct accrual of revenue for about Rs.435.00 crore per annum on the average, there has been no flow of fund into the sector.
15. While there is certainly the need to take aggressive administrative and financial measures to reduce the present unsustainable levels of AT&C losses there is also the imperative need for Govt. to participate actively in the day to day development of the power sector in the State. After experimenting with private distribution companies for almost one decade, we can no longer carry on with a "business as usual" approach. A serious rethinking and reorientation of our approach is essential. 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. The State would be missing a great opportunity in fostering the rapid economic development of the State if not done now. It is a robust power sector which is the key to attracting investments to the State. Therefore, the State govt. must come forward readily and work along side the distribution companies rather than take distance and aloof approach in the day to day function of the power sector which is not desirable.
16. In Delhi the privatisation of distribution has succeeded mainly because the private distribution companies started with a clean balance sheet, without taking over the 'liabilities and further there has been a transitional support of RS.3450 crore which helped the private company which needed cushion and comfort levels to the sagging distribution network. In contrast the distribution companies in Orissa 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.

17. The distribution companies, on the other hand, after taking over the distribution business must take initiatives in their own interest instead of banking upon the State to assist them every now and then. They must show keen interest and come forward and govt. would facilitate their effective functioning by providing strong administrative and moral support.
18. Consumers at the same time must realize their duties and responsibility while claiming improved service from the distribution companies, they must have to pay the cost of supply. There is always a room for higher tariff for high end consumers in the domestic sector since tariff for energy is not economically priced. All consumers are not paying the price for the energy they consume and there is a tendency to waste energy if it is given at a subsidized rate. If anything is given free or at cheaper cost, the value is not realised. It must be remembered that energy efficiency and energy conservation are the most important virtual energy supply sources that India possesses. According to the Report of the Expert Committee on Integrated Energy Policy formulated by Planning Commission, nearly 25000 Megawatt of energy could be saved through energy efficiency measures in the electricity sector alone.
19. The challenge before power sector in Orissa, is, therefore, the urgent need for the State Govt. and the Orissa Electricity Regulatory Commission to jointly take a proactive action to resolve the various issues. Govt. should provide administrative support as well as financial support for a reasonable period and play its role as effective facilitator for the success of the power sector.

While the role of government should be restricted to policy making and provide required administrative and moral support to the various stakeholders of the power sector, the Regulatory Commission has to increase and expand the present level of involving and associating the consumers in their various decision making, in the matter of protecting the interest of the consumers.

Thank you all.

**Vote of thanks by Shri K. C. Badu, Member, OERC in the seminar on "Issues and Challenges in Protection of Consumer Interests in the Power Sector" to be held on 11th December, 2009 at Hotel Crown, Bhubaneswar**

- Hon'ble Minister, Energy
- Hon'ble Justice Shri M. Karpaga,
- Chairperson, Appellate Tribunal for Electricity,
- Hon'ble Justice Shri M.M. Das, Judge Orissa High Court,
- Hon'ble Shri H. L. Bajaj, Technical member, APTEL,
- Shri K. Sahay, Registrar, APTEL,
- Hon'ble Chairman Shri B. K. Das and my colleague Member Shri B. K. Misra, OERC
- Secretary, Energy,
- CMD, GRIDCO,
- Representatives of Consumer Activists,
- M.D. of three DISTCOs
- CEOs of Distribution Companies,
- Members of State Advisory Committee,
- Ex-Chairpersons and Members of OERC,
- Other dignitaries
- The representative of Print & Electronic Media
- All other participants
- Ladies & Gentlemen,

It is said that both over-regulation and under-regulation are associated with serious consequences and self-regulation is the best regulation. I can say that in OERC we have just the required regulation. We feel this seminar has provided us very important and valuable inputs for all stakeholders of the power sector including the consumers, the Regulatory Commission, the Utilities and the State Govt. Undisputedly it is the good quality of service or goods that always attracts the customers. If we plan good customer care we will reap a good business in years to come. Keeping this in view the distribution companies are to take pro-active action. Mere propagation that this or that has been done for the consumers will not yield any result. Because as Mahatma Gandhi had said "An error does not become truth by reason of multiplied propagation nor truth become error because nobody sees it". The power distribution companies in Odisha are a classic example of Public Private Partnership (PPP). In other words it is a partnership of both the Government and the private sector. There have been many success and some failures in the

power sector reform in Odisha. Success, because without any budgetary support from State Govt. and without capital investment by the majority shareholders, the tariff has remained more or less the same for the last nine years despite substantial rise in price indices.

The State Consolidated Fund has also greatly benefited by way of withdrawal of subsidy and direct accrual of revenue including utilisation of proceeds of disinvestment and sale for budgetary purpose without ploughing back to the power sector. Failure because the AT&C loss has not been reduced significantly. It has reduced from 56.9% in 1999-00 to 41.31% in 2008-09. A lot is also desired for improvement of standard of service. While the Regulator has its own role to play and should be played transparently and firmly, the public-private partnership should also move smoothly and together to make the power sector achieve its objectives. Hence, we must face our past without regret, handle our present with confidence, prepare for the future without fear, keep the faith, drop the fear and go ahead to see that power sector in Odisha grows from strength to strength, so that the resultant benefits are shared by all stakeholders. We should not forget that a small body of determined spirits fuelled by unquestionable faith in their mission can alter the course of history as said by father of the nation.

2. With these words, I, on behalf of Orissa Electricity Regulatory Commission and Govt. of Orissa express our thanks and gratitude to the Hon'ble Chairman, ATE Justice Shri M. Karpaga and his colleague Hon'ble Member Justice H. L. Bajaj and the Registrar Shri K. Sahay for sparing their valuable time and choosing Odisha to share their experience, thoughts and concern on "issues and challenges in protection of consumer interest in the power sector. I thank all of you Sirs for your valuable deliberations.
3. Justice M. M. Das, Hon'ble Judge of the Orissa High Court is known for his cordiality, humane approach and clarity in dealing with complicated matters on various issues. We are grateful to you Sir for having spared your valuable time to share your wisdom and vision which would help in turning around the power sector in the State.
4. Our Hon'ble Minister, Energy Shri Atanu Sabyasachi is known for his simplicity and concern for the common man. He believes in action rather than speech and is dynamic and enthusiastic to receive any feed back for bringing about quality change in the working of the power sector. Being head of the family of power sector in the State, he has readily agreed to preside over today's seminar despite his busy schedule. On behalf of all of us and the participants we express our gratitude and thanks for his valuable inputs.
5. I also thank our Chairman Shri B.K. Das and my colleague Shri B. K. Misra. Out special thanks are due to Shri G. N. Agrawala, Mr Dora and other representatives of various consumer groups, agencies. We thank the Secretary, Energy, CMD, GRIDCO and OPTCL, the MD of distribution companies, senior officials of different power utilities, representatives of Print and Electronic Media. We also thank the management of Hotel Crown for providing the venue for the meeting and all other logistic, hopefully at reasonable rates. I thank all ladies and gentlemen and all other participants who are present in this seminar. I also thank our Secretary and other officials of OERC for taking special care for this seminar.

I once again thank all of you.

# Appendices

Krinwant Sahay  
Registrar  
Tel : 24368477-8  
Fax : 24368479

विद्युत अपील अधिकरण  
कोर ४, सातवाँ तल, स्कोप कॉम्प्लेक्स,  
लोधी रोड़, नई दिल्ली-११० ००३  
Appellate Tribunal for Electricity  
Core 4, 7th Floor, Scope Complex,  
Lodhi Road, New Delhi - 110 003

To

18.12.2009

The Chairman,  
Orissa Electricity Regulatory Commission,  
Budyut Niyamak Bhawan, Unit-VIII,  
District-Khurda, Bhubaneswar-751 012  
Orissa

Sub : Seminar on "Issues and challenges in protection of consumer interests in the power sector" -  
Reg.

Sir,

The arrangements made for the Seminar conducted by the Orissa Electricity Regulatory Commission on the topic "Issues and challenges in protection of consumer interests in the power Sector" on 11.12.2009 at Bhubaneswar were worthy of complements. The Seminar went on so well. Such kind of Seminars are very much required in the interests of the consumers and also to have a cordial rapport and exchange of views amongs all concerned in the energy field.

On behalf of Hon'ble Mr. Justice M. Karpaga Vinayagam, Chairperson, Hon'ble Mr. H.L.Bajaj, Technical Member and on my own behalf, I thank the Hon'ble Chairman, other Hon'ble Members, Officers and staff of Orissa Electricity Regulatory Commission for the cordiality shown and the hospitality extended during our visit to Bhubneswar to attend the seminar.

Thanking you

Yours faithfully



(Krinwant Sahay)  
Registrar

## ORISSA ELECTRICITY REGULATORY COMMISSION199

BIDYUT NIYAMAK BHAVAN, UNIT - VIII

BHUBANESWAR - 751 012

PBX: (0674) 2393097, 2396117,

(0674) 2390768 (D), 9437060054 (M), FAX: (0674) 2395781, 2393306

E-mail:orierc@rediffmail.com,

Website: www.orierc.org

No. JD (F) -175/02/

Dt. 31.12.2009

To

The Commissioner-cum-Secretary to Govt.,

Deptt. of Energy, Govt. of Orissa

Bhubaneswar.

Sub: Suggestions/Views/Comments of State Government on providing Subsidy/ Subvention and other important matters having a direct bearing on fixation of tariff for the year 2010-11.

Sir,

With reference to the above, I am directed to say that the Licensees have filed their Annual Revenue Requirement and Tariff for the year 2010-11 on 29<sup>th</sup> & 30<sup>th</sup> November, 2009 and the same is under scrutiny by the Commission.

2. CESU and the other three Reliance managed distribution companies (NESCO, WESCO & SOUTHCO) in their ARR filling for FY 2010-11 have proposed to bridge the revenue gap through combination of Grant/ Subsidy from the State Government, reduction in Bulk Supply Tariff, increase in Retail Supply Tariff in an appropriate manner, and rationalization of existing retail supply tariff.
3. The uncovered gap as submitted in their ARR by WESCO, NESCO, SOUTHCO and CESU at current level of Bulk Supply Price, Transmission Tariff and Retail Supply Tariff amounts to Rs.624.84 cr., Rs.592.59 cr., Rs.696.33 cr. and Rs.604.30 cr. respectively. The total aggregate uncovered gap at the existing rate in respect of four DISCOMs as projected in their ARR is Rs.2518.06 cr. Likewise, Orissa Power Transmission Corporation Limited (OPTCL) and the Grid Corporation of Orissa (GRIDCO) have estimated revenue gaps of Rs.1012.74 cr. and Rs.2960.61 cr. respectively at existing tariff. This is summarized in the following table:

Rs. in Crore

	WESCO	NESCO	SOUTHCO	CESU	GRIDCO	OPTCL
UNIT SOLD/Handled (MU)	4651.00	3996.073	1448.29	4124.55	20846	21006
REV at the EXSITING Rates	1345.00	1081.17	386.59	1098.92	2519.61	430.76
REV PROPOSED	1675.00	1373.65	499.71	1182.6	5480.22	1443.50
Avg rate(Existing) P/Kwh	289.19	270.56	266.93	266.43	120.87*	20.51
Avg rate(Proposed) P/Kwh	360.14	343.75	345.03	286.72	262.89	68.72
GAP(at Existing rate)	-624.84	-592.59	-696.33	-604.30	(-) 2960.61	(-)1012.74
GAP(at Proposed rate)	-294.84	-300.11	-583.21			

\* Average rate arrived based on the quantum of power purchase proposed by the DISCOMs at the existing Bulk Supply price for the individual DISCOMs i.e. 101.50 paise for CESU, 130 P for NESCO, 154 paise for WESCO and 70 pasie for SOUTHCO.

4. In this context, attention is invited to Section 65 of the Electricity Act, 2003 which is quoted as under :

*"If the State Government requires the grant of any subsidy to any consumer or class of consumers in the tariff determined by the State Commission under Section 62, the State Government shall, notwithstanding any direction which may be given under Section 108, pay, in advance and in such manner as may be specified, the amount to compensate the person affected by the grant of subsidy in the manner the State Commission may direct, as a condition for the licence or any other person concerned to implement the subsidy provided for by the State Government: Commission Provided that no such direction of the State Government shall be operative if the payment is not made in accordance with the provisions contained in this section and the tariff fixed by State Commission shall be applicable from the date of issue of orders by the Commission in this regard."*

5. Further, attention is drawn to the clause 5.5 (Recovery of Cost of Services & Target Subsidies) of National Electricity Policy which is reproduced below:

*"5.5.4 The State Governments may give advance subsidy to the extent they consider appropriate in terms of section 65 of the Act in which case necessary budget provision would be required to be made in advance so that the utility does not suffer financial problems that may affect its operations. Efforts would be made to ensure that the subsidies reach the targeted beneficiaries in the most transparent and efficient way."*

6. If the Govt. intends to give subsidy to any consumer or class of consumers, as stipulated in Section 65 of the Electricity Act, 2003 the same may be intimated so that OERC can take the same as input for the tariff design.

7. Your attention is also drawn to your office letter No.1704 dtd.17.02.2009 wherein there was some commitment regarding financial support from Govt. of Orissa. The extract of such letter is reproduced below:  
*Regarding the 2<sup>nd</sup> point whether the State Government would like to make capital investment for grid substations and replacement of old transmission lines and transformers, it is stated that the matter is still under consideration of Govt. However, the State Govt. has already taken in principle decision to provide capital investment of Rs.100 cr. to OPTCL in the form of share capital over a period of 3 years from 2008-09 strengthening 220/33 KV transmission lines and replacement of Grid Stations in the inaccessible and un-remunerative areas. To start with the financial year, 2009-10 a provision of Rs.5.00 cr. has been proposed in the budget. As regards the issue whether Govt. would provide subsidy to the distribution licensees as per Section 65 of the Electricity Act, 2003 on account of loss being incurred by supply of electricity to the BPL families at concessional rates to avoid rise in tariff, it is stated that the BPL families may be asked to pay their electricity dues as per their consumption like ordinary consumers. However specific Govt. orders will be obtained on this score and communicated.*
8. Further in Lr. No. 3132 dtd. 16.03.09 following commitment was made by Govt. of Orissa.  
*“Though it is the primary responsibility of the DISCOMs to improve their efficiency and functioning by way of reduction of AT&C losses and ensuring quality supply of power to the consumers, they are practically not in a position to do so. For all these hazards, the system should not collapse. Therefore, State Government is considering the question of extending support to the Distribution Companies during the year 2009-10 for the following:*
- (i) Replacement of LT conductors by AB cables in theft prone areas.*
  - (ii) Installation of Pillar Box metering system.*
  - (iii) Upgradation and replacement of Transformers to cater to additional load.*
  - (iv) Replacement of old Circuit Breakers with Vacuum Circuit Breakers (VCBs).*
  - (v) Replacement of faulty insulators wherever necessary.*
  - (vi) Replacement of existing weak LT/HT poles.*
  - (vii) Installation of new substation to improve voltage profile wherever needed.*
  - (viii) Re-conductoring in case of old lines with conductors of optimum size.*
  - (ix) Conversion of single phase into 3 phase system.*
  - (x) Earthing of substations.*
  - (xi) Installation of Lightning Arrestors.*
  - (xii) Complete Distribution Transformer Metering for energy audit purpose.*
  - (xiii) Provision of boundary wall/fencing wherever necessary around the S/S to ensure safety of the equipment and human lives and other such things.*
- The above items of work are only illustrative but not exhaustive.*
9. The issue of subsidy/subvention will definitely be featured in the ensuing tariff hearing likely to take place during 1<sup>st</sup> week of February, 2010. It is pertinent to mention here that the DISTCOs are undertaking projects under RGGVY and BGJY for massive rural electrification which are unremunerative in nature. Under the present arrangement the assets under RGGVY programme is currently with the Govt. of Orissa and with handing over of these assets to the distribution companies, the repair and maintenance obligation would rest with the DISCOMs. It is presumed the Govt. is going to transfer these assets in near future to DISCOMs and Govt. may clear its stand in this regard so that appropriate O&M expenditure can be allowed on such assets and the assets can also be hypothecated for availing loan by the distribution companies, whenever needed without seeking any authorisation from Government because after transfer of these assets, these would become the property of the DISCOMs for all practical purposes.
10. There is a mismatch between supply and demand of power in the State and accordingly the State may face unavoidable situation of rationing/regulating the power supply. In response to the staff paper circulated by the Commission, suggestions have been received from certain quarters that high end consumers like industries and other institutions opting to avail uninterrupted power supply should pay higher tariff because GRIDCO have to purchase costly

power to ensure uninterrupted power supply to such consumers. This higher tariff may be in the shape of reliable power surcharge or power market surcharge as has been adopted in Pune and in some other states. This would mean having different tariff for different category of consumers and different areas also. Commission would like to know the views and comments of the State Govt. on these proposal/suggestions received from the high end consumer groups.

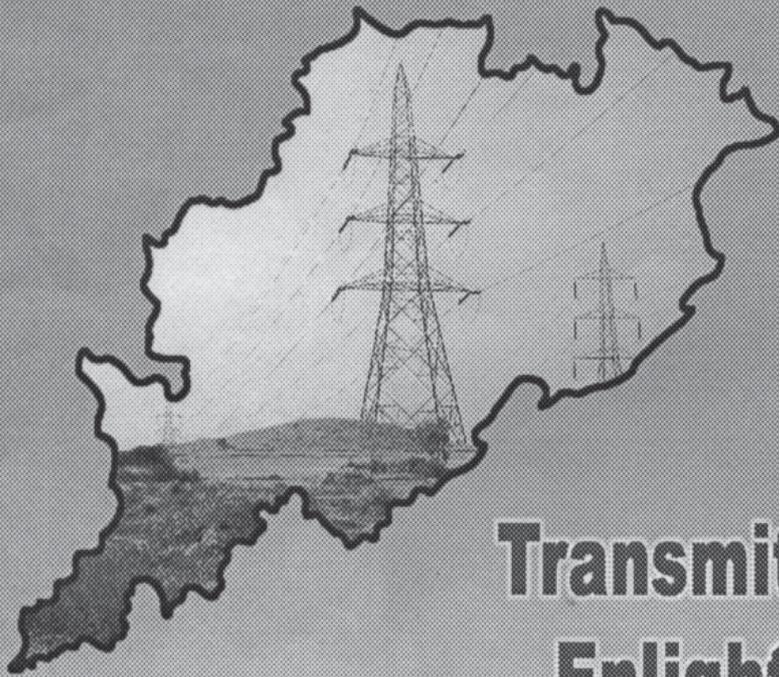
11. It has been frequently brought to the notice of the Commission that most of the State govt. departments/institutions and even in certain cases Police Stations are not paying the electricity dues in time. This was earlier brought to the notice of the State govt. Govt. department or organizations or the autonomous organizations under their control should show an example to other private consumers to pay the electricity dues in time. For practical purposes and keeping the sensibility of the issue of disconnection of power to water supply, hospitals, police stations, street light etc., government may think of a suitable mechanism like advance deposit/pre-paid meter system etc. to ensure timely realization of Electricity dues from govt. organisations/ Local Bodies/Public Undertakings/Educational Institutions etc. The concrete action taken by the State govt. or proposed to be taken to ensure payment of electricity dues in time by all govt. departments, urban local bodies, rural local bodies, co-operatives, public sector undertakings, and autonomous organizations working under the control of the State govt. may be indicated.
12. The AT&C loss by end of 2008-09 in Orissa is as high as 41.3% against the sustainable level of 15%. The West Bengal, Andhra Pradesh, Maharashtra, Rajasthan and other states have taken aggressive anti theft measures as a result the AT&C loss in those states have been drastically reduced and this has been possible only because of strong administrative support provided by the State govt. at different levels. In the meantime State govt. has taken steps to open additional Energy Police Station. But the Energy Police Stations earlier opened have not been fully operationalised. Very often these Police Stations are expressing their reluctance to accompany the officers/engineers of the distribution companies for detection of theft or to provide security in case of disconnection of power on account of non-payment of electricity dues. Earlier Commission has suggested to the State Govt. that the functioning of the Energy Police Stations and anti theft measures should be monitored at the level of an I.G. who should exclusively deal with energy related theft and law and order. Unless the State Govt. machinery proactively functions in dealing with the case of theft of electricity and ensure law and order arising out of detecting unauthorised abstraction of electricity and disconnection of power on account of non-payment of electricity dues, the situation would not improve to the desired level. The action taken or proposed to be taken by the State govt. may be indicated.
13. In the 3<sup>rd</sup> meeting of the State Coordination Forum held on 3<sup>rd</sup> June, 2009 in the Conference Hall of OERC it was decided among, other things, that all distribution companies have to make special drive on curbing of theft of electricity and take disciplinary action against employees who are encouraging and responsible for theft of electricity. Responsibility and accountability be fixed on the concerned officer and staff by the distribution companies and in case the situation so demands Govt. should be moved to invoke the provisions of the maintenance of essential service Act in the power sector. Recently Southco has moved to Govt. to invoke the provisions of maintenance of Essential Service Act to the area of operation of Southco to curb the threat of frequent strike resorted by the employees of Southco. The indiscipline behaviour of employees of other distribution companies is no better. Govt. may like to take a serious look into the desirability of invoking the provisions of maintenance of Essential Service Act in the area of all the four distribution companies as indicated by Secretary, Energy in the 3<sup>rd</sup> meeting of the State Coordination Forum held on 03.6.2009..
14. Section 86(1)(e) of the Electricity Act, 2003 read with para 6.4 of the National Tariff Policy notified on 6<sup>th</sup> June, 2006 mandates the State Electricity Regulatory Commission to fix a minimum percentage of total consumption for purchase of energy from renewable sources such as mini/small/hydro/solar/wind/biomass/waste heat etc. OERC in their order dt.4.8.2005 in case No.14 of 2005 has stipulated that the distribution companies have to purchase power from various

renewable sources upto 3% of their total purchase during 2007-08 and to go up at 0.5% per annum for each subsequent year to reach a level of 5% by the end of 2011-12. The target achieved during 2008-09 is only 1.80% against the target of 3.5%. The statutory provisions of Electricity Act, 2003 have not yet been complied with by GRIDCO and for that matter distribution companies, mainly because concerted efforts have not been met to exploit potentials from various renewable sources including the mini and small hydro sources. The concrete action taken by the state govt. and the road map proposed to comply with the statutory requirements for exploitation of renewable energy in the State may kindly be intimated.

15. Since there has been no addition of capacity during last one decade and on the other hand there is tremendous increase in the demand the State has faced with a deficit situation and this is likely to aggravate further in the coming years. The state govt. may indicate the action already taken and the time frame for establishment and commissioning of 3<sup>rd</sup> and 4<sup>th</sup> unit of 1b Thermal Power Plant. Similarly, action taken on capacity addition through ultra mega power projects as well as functioning of Orissa Thermal Power Corporation may be indicated. Unless time bound steps are taken for capacity addition through sources already identified, the deficit would increase and subsequently this would have a great impact on tariff hike. The concrete steps taken or proposed to be taken to improve such situation in the coming years may be indicated.
16. For the last several years GRICDO is purchasing power from different sources and supplying power to distribution companies at a rate lower than the procurement cost of GRIDCO. The gap is being met by the profits earned through sale of surplus power. Since the State is facing deficit situation there is no possibility for GRIDCO to earn any profit from sale of surplus power and consequently, the bulk supply power is likely to be increased and this will have direct impact on retail tariff for the consumers in the year 2010-11. Gridco has calculated that during 1<sup>st</sup> six months from April to September, 2009, the gap is around 849.02 crores and by end of March, 2010 this would increase to Rs.1650 crore. Gridco has moved the State Govt. to provide interest free loan of about 700 crores to meet a part of the power purchase cost. Action taken by the State Govt. on the proposal of GRIDCO for the year 2009-10 and the action contemplated for 2010-11 may be communicated.
17. In anticipation of government approval for keeping the upvaluation of assets of OHPC and GRIDCO and extending the moratorium on debt servicing by GRIDCO and OHPC to State Govt. beyond 2005-06 till the power sector turns around, the Commission has been determining tariff from 2006-07, otherwise its impact on tariff hike would have been 48 paise, 38 paise and 35 paise for 2006-07, 2007-08 and 2008-09 respectively and also 35 paise for 2009-10. Its impact for 2010-11 would be around 31 paise per unit. It is suggested that State govt. may extend keeping the upvaluation of assets of OHPC and GRIDCO and also extend the moratorium period on debt servicing by these two undertakings to State Govt. at least upto end of 2012-13, i.e the end of the current business plan ( 2008-09 to 2012-13)
18. Based on the filing of Annual Revenue Requirement by the distribution companies, GRIDCO, OPTCL, OHPC etc., and after public hearing the Commission will decide tariff for generation, transmission and distribution of electricity for the year 2010-11. The essential requirement for tariff fixing is intensive consultation with various stakeholders. Govt. being an important stakeholder it is essential for the Commission to know the views/comments/suggestions of the State govt. in the matter of tariff setting and fixing performance parameters for the distribution companies in particular.
19. It is, therefore, requested that the State govt. may communicate their views/comments/suggestions on various issues outlined in the proceeding paragraphs from 6 to 18 on or before 31.01.2010 at the latest.

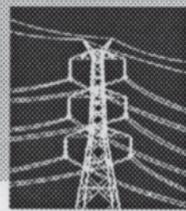
Yours faithfully,

Secretary



# Transmitting Power, Enlightening Lives

*We have travelled a long way to become  
self-sufficient in 'Energy', and resolve to meet  
the needs of a POWERful Orissa.*



**OPTCL**  
Lifeline of Orissa

**ORISSA POWER TRANSMISSION CORPORATION LIMITED**

Janpath, Bhubaneswar - 751022, ORISSA

*"Energy saved, is energy generated"*

## Southco marching towards excellence.....

### Ensuring

- Reliable and quality supply to the consumers
  - Installation of VCBs
  - Load Balancing
  - Addition of new lines
  - Renovation of earthing system
- Modernization of Distribution Network
  - Upgradation of 33/11 KV Substations, 33 & 11 KV lines and Distribution Substations
  - Commissioning of new Distribution Substations
  - During 2008-09, 8 nos of power transformer and 605 nos of DTRs procured for installation of new S/s and Upgradation of existing S/s
  - Augmentation of Distribution Lines
  - Installation of AB Cables in place of LT overhead lines
- Electrification of Villages under RGGVY and BGJ scheme
- Speedy redressal of Consumer Disputes
- Regular and correct Billing including Spot billing served to the consumers
- IT intervention in Surveillance, Collection and Meter Management
- High priority to Customer Satisfaction
- Value added service to Customers through implementation of Franchisee
- Training and motivation of employees
- Safety standards by imparting Safety Training at Section level

### Performance Highlights towards Customer Satisfaction :

- 171091 nos of connections to be provided to BPL beneficiaries under Kutir Jyoti Scheme under Village Rural Electrification of Ganjam & Gajapati District
- 8513 nos of Villages and 9968 nos of Hamlets to be covered under Rural Electrification
- Huge Capital Investment under System Improvement Scheme
- Construction of 450 nos of New Sub Station & 472 nos of Sub Stations Upgradation
- Replacement of Bare Conductors through AB cable in theft prone areas
- Spot billing for 382000 nos of consumers
- Introduction of Franchisee through PPP model in two Sub Divisions namely Rambha & Khalikote and to be extended to other areas on the same model
- Franchisee through participation of NGOs, WSHGs for better customer services
- Grievance Redressal Forums established at Berhampur and Jeypore
- Automatic Meter Reading System planned for 480 nos of High Value consumers
- Customer Care Center for quick redressal of Consumer Complaints through single window facilities for bill revision, bill deposit, meter replacement new connection etc.
- Construction of new 33/11 kv and 11/0.4 kv Substations and Upgradations
- Construction of new 33 KV, 11 KV and L T lines
- Functioning of On line Collection Center from 8.00 AM to 8.00 P.M for 365 days at different locations facilitating consumers for making payment as per suitability

## Expanding horizon to power the progress of Southern Orissa

SAVE ENERGY - SAVE NATION



SOUTHERN ELECTRICITY SUPPLY COMPANY OF ORISSA LIMITED  
CORPORATE OFFICE - COURTPETA, BERHAMPUR-760004

## NESCO satisfying the customers' needs and powering State's growth ...

Through sustainable effort and teamwork in spite of all financial crunches, NESCO is developing itself into an efficient and reliable electricity network to meet the requirement of its diverse group of consumers covering five districts of Balasore, Bhadrak, Jajpur, Keonjhar and Mayurbhanj.

Below mentioned table shows a 10 yrs profile snapshot of NESCO since 1999-2000.

Sl. no.	Items	1999-2000	2008-09
1	Turn over{Provisional) in crores	244.30	821.08
2	No. of consumers	3,74,066	5,78,226
3	No. of 33 kv feeders	49	58
4	No. of 11 kv feeders	355	427
5	No. of 33/11 kv sub stations	196	260
6	No. of Distribution transformers	9942	18148
3	Circuit length( in km)	27,072	32,500
4	Power Purchase (in MU)	2257.61	4544.977
5	Distribution loss (in %)	43.4	34.57
6	AT & Closs (%)	55.2	39.0

For the overall improvement, NESCO has taken the following initiatives:

- Early redressal of disputes by GRFs (at Balasore and Jajpur road) and Customer Care Centre (at Balasore).
- Proposal for 4 more Commercial Call Centres.
- Demand Side Management through Bachat Lamp Yojna by supplying CFLs in collaboration with Banyan environmental solutions Pvt.LTd. Hyderabad.
- IT initiatives like meter reading through AMRs, MMS etc. for customer satisfaction.
- Recent capacity addition of 1220 nos. of DTRs and 22 nos. of Power transformers (128 MVA) and augmentation of new lines to the network.
- Renovation of 488nos. of Distribution substations
- Addition of 30 nos. of 33KV VCB & 60 nos. of 11 KV VCB.
- 541 nos. of Technician Trainees inducted in 2007-08 and 08-09.
- Input based Franchisee Operation in Jajpur Town and Dharmasala sub-divisions and for Tihidi and Khaira subdivisions is in final stage.
- Training of officers/staff/franchisee through REC, Hyderabad
- Creating consumer awareness through electronic and print media.
- Energy Police stations at Balasore and Baripada .

.....**Still marching ahead towards better & brighter North Eastern Orissa**

**NORTH EASTERN ELECTRICITY SUPPLYCOMPANY OF ORISSA LIMITED**  
**Corporate Office: Januganj, Balasore-756019, Orissa, Fax No. 06782263259**



# **CORPORATION BANK**

A Premier Public Sector Bank  
**NAYAPALLI BRANCH, ICWAI Campus**  
**BHUBANESWAR**

Tel No-0674-2533808, 2396731, Mob : 9937860652

Click to light up a bright future

**CORP VIDYA**

**(Education Loan)**

**FOR STUDIES IN INDIA & ABROAD**

**Professional courses now online**  
**It's easy, It's quick' Just click [www.corpbank.in](http://www.corpbank.in)**

# Wesco marching towards excellence *ensuring .....*



- Consistent improvement in quality of supply in the licensed area
- Modernization of Distribution network
- Electrification of villages
- Speedy redressal of consumer disputes
- Regular and correct Billing
- High priority to Customer Satisfaction
- Value-added service to Customers
- Training and motivation of employees

## Performance Highlights

- New Lines and Substations installed
- Existing Transformers upgraded and lines augmented
- 33kv & 11kv feeders and Distr. Transformers metered
- Spot Billing System introduced
- Grievance redressal Forums established
- Pioneered Input Based Franchisee Operation



*Reiterating our commitment  
for a better and brighter  
Western Orissa*

**WESTERN ELECTRICITY SUPPLY COMPANY OF ORISSA LIMITED**

Corporate Office-Burla-76807



# Powering ORISSA's progress ...

Orissa Hydro Power Corporation Limited has always been a front runner in the state's own power generation; so much so that, its six power stations at Machhkund, Hirakud, Chipilima, Balimela, Upper Kolab, Rengali, and Upper Indravati have been source of sustenance to the peak power demand of the state at the lowest possible tariff. As one of the key partners of progress, OHPC Ltd. is always committed to maintain its '*status quo*' with its progressive outlook and proactive involvement.



**ORISSA HYDRO POWER CORPORATION LIMITED**

JANPATH, BHOI NAGAR, BHUBANESWAR - 751 022

*"Spearheading the POWER race"*

