

REPORT ON THE ACTIVITIES OF ENERGY DEPARTMENT

FOR THE YEAR 2007-08

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The Department of Energy was created on 24th April 1990 consequent upon bifurcation of the then Irrigation & Power Department. Energy as in Electricity is one of the prime inputs for both the economic development as well as over all well being of the people. Increase in power generation has cascading effect on all sectors leading to increased growth particularly in industry, agriculture and other ancillary trade and business activities. The objective of the Government is to achieve self sufficiency in energy sector on a sustainable basis taking care of steady growth in demand of energy. In keeping with this objective, State Government has been making substantial investment in energy sector in the successive plans and have introduced reforms process in this sector since 1995.

The present average demand for power in the State is 1990MW and the peak demand is 2350MW. This peak demand period is from 6P.M. to 10 P.M. the existing demand and availability position are given below.

	Demand	Present Availability (Normal Monsoon)
Average Demand	1900 MW	2200 MW
Peak Demand	2350 MW	2650 MW
Energy Demand	16663 MU	16801.22 MU

This demand for energy is met from the following sources.

- (a) Hydro Generation (Orissa Hydro Power Generation)
- (b) Thermal Power Station
 - (i) IB Thermal Station (Orissa Power Generation Corporation)
 - (ii) Talcher Thermal Power Station (National Thermal Power Station)
- (c) Central share allocation.

The State of Orissa has the distinction of being the first state in the country for ushering in sweeping reforms in power sector. The objective of the power sector reforms is to provide consumers with reasonable cheap, reliable and quality supply of power.

DEVELOPMENT OF SMALL HYDRO ELECTRICAL PROJECTS (SHEPS)/ <u>MEDIUM HYDRO ELECTRICAL PROJECTS (MHEPS)</u>

Government of Orissa has encouraged the private developers to set up SHEPs/MHEPs the State and till now allotted projects for capacity generation of 494 MW with investment of Rs.2026.125 Crore to various developers. In the process, Government has

allotted 27 Projects to private developers. All these developers have signed Memorandum of Understanding (MoUs) with the Government. Construction work in Middle Kolab, Lower Kolab and Small Barrage SHEPs are in progress by M/s Meenakshi Power Ltd. and M/s Orissa Power Consortium Ltd. respectively.

COLLECTION OF REVENUE

Collection of Electricity Duty has become a vital source for Government exchequer. As against targeted amount of Rs.400 crore, an amount of Rs.265.2228 crore has been collected by the end of January, 2008. The amount collected in the last year during the said period (i.e. from April, 2006 to Jan, 2007) was Rs.221.8689 crore. The progressive collection up to January, 2007 and the progressive collection up to January, 2008 are mentioned in the statement given below:-

COLLECTION OF STATE'S OWN REVENUE (TAX AND NON-TAX) <u>Taxes and Duties on Electricity</u>

Target for 2006-07 Rs.400.00 Crore (collection was Rs.282.00 Cr.) Target for 2007-08 Rs. 400.00 Crore

Sl.	Name of the Month	Collection during the	Collection during the
No.		year 2007-08	year 2006-07
1	April	21.4522	17.9337
2	May	26.5321	25.9155
3	June	25.6724	14.1654
4	July	25.0208	24.8863
5	August	30.1688	29.4321
6	September	22.7572	19.8432
7	October	27.7448	23.2524
8	November	26.8053	20.8906
9	December	28.5267	19.1459
10	January	30.5425	26.4038
	Total	265.2228	221.8689

From the statement is reveled that during the current Financial Year 2007-08 up to the end of January, 2008 there is an increase of 19.5% in collection in comparision to the corresponding period of last Financial Year.

Regarding achieving target of 400 crore during this year, the main factor is that an amount of Rs.237.28 crore is locked up in the court cases relating to several Companies. A special counsel has been engaged to expedite the case so that some amount can be collected during this Fiscal.

RAJEEV GANDHI GRAMEEN VIDYUTIKARAN YOJANA (RGGVY) UNDER BHARAT NIRMAN

Many backward States of the Country including Orissa have not been able to provide electricity to all households in a Rural areas. While 80% of the villages have been declared electrified in the State, the Rural Households electrification is around 22%. This requires:-

- (a) Electrification of de-electrified villages
- (b) Electrification of Un-electrified villages
- (c) Intensive electrification of all electrified villages

In the above backdrop, Govt. of India has launched a scheme called "Rajeev Gandhi Grameen Vidyutikaran Yojana (RGGVY)" in April, 2005 for attainment of National Common Minimum Programme (NCMP) of providing access of electricity to all villages having population 100 and more in five years. The scheme envisages 90% capital subsidy & 10% is as loan to State Govt. through the entire amount will be given by REC to Central Public Sectors Undertakings (CPSUs) namely NTPC, NHPC and PGCIL, who will execute the work.

The scheme has the following objectives:-

- (i) Providing access to electricity to all households in the State in the next five years.
- (ii) Electricity to all villages and habitations.
- (iii) Give electricity connection to all BPL families free of charge through creation of Rural Electricity Distribution Backbone (REDB) with a least one 33/11 KV (or 66 KV) substation in each block, village electrification infrastructure with at least one distribution transformer in each village / habitation.

The tentative cost of the projects is Rs.3586 Crore for electrification of 17,860 villages, 34,468 Habitations and 47,30,230 Households including 3101751 BPL Households.

In this regard, a quadripartite agreement has already been signed on 05.10.2005 with the CPSUs (NTPC, HPC, & PGCIL) REC Ltd., State power utilities (CESU, NESCO, WESCO & SOUTHCO) and Govt. of Orissa for successful implementation of the scheme. DPR in respect of 30 districts have been submitted to REC for approval and sanction of financial assistance. Out of 30 districts, 5 districts namely Angul, Nayagarh, Ganjam, Gajapati, & Jajpur have been accorded final sanction. Three districts namely Puri, Bhadrak & Balasore have got "in principle" approval. As on 01.02.2008 financial

assistance to the tune of 12.48 crore has been received by NTPC and NHPC for four sanctioned projects in the district of Angul, Nayagarh, Ganjam & Gajapati. Release or financial assistance to the sanctioned projects of Jajpur district is to be made by Govt. of India. Out of the funds provided, an amount of Rs.62.50 Crore has been utilized for Rural Electrification work by CPSUs. The flow of fund is very slow.

For payment of loan component, the State Govt. has provided Rs.50 Crore in the Financial Year, 2007-08. The State Govt. has cleared of up-to-date interest to REC.

Biju Gram Jyoti:- Rural Electrification Programme of the State Govt:-

Government of Orissa has launched a new scheme called "Biju Gram Jyoti" for electrification of all villages / habitations having population less than 100 following the decision of Government of India not to include these villages/ habitations under RGGVY. This scheme aims at attainment of the goal of providing access of electricity to all villages/ habitations during next five years. All together 10,000 habitations / villages will be covered during the 11th five year plan period. In the first phase, the Government has proposed to allocate an amount of Rs.315.00 crore for the Scheme. Taking Block as the unit for allocation of funds, an amount of Rs.1.00 Crore is proposed to be allocated per block i.e @ Rs.50.00 Lakh for the current year 2007-08 and Rs.50.00 lakh per block for the year 2008-09. Accordingly provision of Rs.157.00 crore has been made in Budget for 2007-08 and allotment of Rs.50.00 lakh per block has been given to the Collectors of all the thirty districts. After Appropriation Act for 2008-09 is passed, the allotment is most likely to be given for 2008-09.

Scope of the Scheme

Under the BGJ, the following items of work will be taken up for execution:

- (i) Electrification of un-electrified / de-electrified habitations/ villages (wherever electrification is feasible through Grid connectivity i.e. Conventional Electricity) having population below 100 as per the 2001 census within a maximum cost of Rs.3.5 lakh per habitation/ village (to be limited to actuals)
- (ii) Up-gradation of capacity of the Distribution system in order to cope with additional load within a maximum cost of Rs.1.5 lakh per village/habitations, which may include.
 - Up-gradation of existing Distribution Transformer of appropriate capacity in electrified habitations/ villages.
 - Re-conduct ring of 11 KV conductors.
 - Provision of LT less transformer at village/ habitations to be covered under BGJ.

- Provision of DT metering for energy audit.
- Provision of XLPE AB cables for L.T. Line.

Wherever required and not covered by the RGGVY up-gradation of power transformer of 33/11 KV Sub-station and other systems improvement shall be taken up with the approval of collector.

(iii) Electrical connection to the un-electrified BPL households on the pattern of "Kutir Jyoti" in the habitations/ villages electrified under the BGJ within a maximum cost of Rs.2,000 (Rupees Two Thousand) only per household. This component will include (a) service connection to the household upto 30Mrs., (b)a 5 Amps. Meter, and (c) 02 (two) CFL bulbs of capacity 18 Watt and 11 Watt respectively.

Implementation Mechanism

(i) Collector of the District will be the nodal agency for implementation of the Scheme. Accordingly, funds under the scheme amounting Rs.15700.00 lakh @ Rs.50 Lakh per book has been placed to all Collectors during the year 2007-08 for implementation of the scheme. The work is now progress.

Verification

- (i) The quantity and quality of the work done by the Executive Agency will be verified by the Electrical engineers of DISTCOM concerned not below the rank of Assistant Engineer.
- (ii) At least 25% of the BGJ works will be cross-checked by the concerned area Assistant Electrical Inspector of the office of EIC, Electricity-cum-PCEI, Orissa on sample basis. Conveyance for the sample inspection by the Assistant Electrical Inspector shall be provided by the concerned Implementing Agency.
- (iii) The electrification inspection and certification for village/ habitation electrification as well as "**Kutir Jyoti**" shall be done by the concerned Electrical Inspector as per the procedure under the law.

On successful completion all projects under "Biju Gram Jyoti" all the assets created under the BGJ shall be handed over by the executive agency to the respective DISTCOM for maintenance.

ORISSA HYDRO POWER CORPORATION LTD (OHPC)

Orissa Hydro Power Corporation (OHPC) Ltd. has been set up with effect from the 1st April 1996 after reform and restructuring of Power Sector in Orissa. OHPC has following six ongoing Hydroelectric Projects and one Joint Hydroelectric Project.

	INSTALLED CAPACITY				
Sl. No.	Name of Unit	Installed capacity (MW)	Design Energy for Generation (MU)	Design Energy for sale (MU)	Configuration
1	Hirakud	275.5	1174 1162	2x49.5,3x37.5,2x24	
2	Chipilma	72	11/4	1102	3x24
3	Balimela	360	1183	1171	6x60
4	Rengali	250	525	520	5x50
5	Kolab	320	832	824	4x80
6	Indravati	600	1962	1942	4x150
	Total	1877.5	5676	5619	
7	Machhkund	34.5	300	300	-
Gı	rand Total	1912	5976	5919	

(a) <u>Performance and Profitability</u>

During the Financial Year, 2006-07 the Corporation has achieved a record generation of 7540 MU due to good monsoon and earned a profit of Rs.53.93 Crore. In the current year 2007-08, with good monsoon, the generation is expected to be more than the previous year.

From the financial year 2001-02, the OHPC has earned a cumulative profit of Rs.274.49 Crore till 31st march, 2007.

(b) Regular payments to financial institutions:-

The Corporation has availed a loan of Rs.584 crore from Power Finance Corporation (PFC) for setting up Upper Indravati Hydro Electric Project (UIHEP), Balimela 7th & 8th Units, carrying out renovation and modernization and up-rating of aged machines of Burla & Chiplima. The Corporation has regularly paid the installments on the due dates totaling to Rs.374.51 Crore and the loan outstanding as on 31.12.2007 comes to Rs.209.49 crore.

Besides, the corporation is regularly paying guarantee commissions to the Govt.

(c) Mobilization of internal resources for projects :-

In spite of tariff restrictions and large receivables from GRIDCO, OHPC has also been able to mobilize Rs.373 Crore from its own resource which has been invested in its different projects.

(d) Projects completed during 2007-08:-

(i) **Balimela Extension Project :-** Test Synchronization of unit -7 (75 MW) of was done successfully on 14.01.2008 and will be commercially

- operated within this financial year. The unit-8 of Balimela Extension Project is programmed to be synchronized in the month of Feb, 2008.
- (ii) Renovation & Modernization of unit-2 of Chipilima Power House: After completion of renovation and modernization, unit-2 (24MW) was test synchronized on 01.01.2008. Now the machine is under observation. This unit will be re-commissioned within this financial year.
- (iii) **Potteru Small H.E. Project :-** After completion of the rectification works by M/s best and Crompton Ltd, the trial generation from unit-I of Potteru Small H.E. Project was started on 10.01.2008 and radial loading done upto 0.7 MW. This unit will be fully operational within this financial year.

(e) New projects taken-up in 2007-08.

- (i) **Orissa Thermal Power Corporation Ltd:-** OHPC and Orissa Mining Corporation Ltd. have together floated a joint venture Company namely Orissa Thermal Power Corporation Limited for setting up thermal power plant of 2000 MW capacity. OHPC is a 50% shareholder of this joint venture Company. The initial works such as identification of site, firming up water and fuel linkage etc are under process.
- (ii) **Development of Baitarani West Coal (602 MT) :-** OHPC has been allotted Baitarani West Coal Block (602 MT) with Kerala State Electricity Board and Gujarat Power Corporation Ltd. each having one third share through Govt. Dispensation Route vide the Government of India, Ministry of Coal letter dt.25th July, 2007. The development of Coal Block as per the guide lines and instruction of the Ministry of Coal, Govt. of India is under progress.
- (iii) Shell Companies: OHPC has floated three shell companies namely Bedabahal Thermal Power Company Ltd, Marthapur Thermal Power Company Ltd and Santrapur Thermal Power Company Limited and had applied for allotment of coal blocks for development of power plants on tariff based competitive bidding. Preliminary work will start only after allotment of Coal Block in favour of the Shell companies.

(f) Renovation & Modernization (R & M) of Projects to be taken-up in 2008-09.

- (i) Tendring process for selection of Consultant for RM of Units-5 & 6 of HPS, Burla is in progress.
- (ii) The R & M of the Machkund joint venture Project is in the planning stage.

ORISSA POWER GENERATION CORPORATION LIMITED.

Orissa Power Generation Corporation Ltd. was incorporated as a separate Company on 14th November, 1984 under Companies Act, 1956. As a part of reform in the energy Sector, 49% of the Equity shares were divested during the year 1998-99 in favour of AES Corporation, USA.

OPGC is a highly successful company in the Thermal Power Sector of the country. It has been performing consistently at High Plant Load Factor (PLF) as indicated below:-

Year	Energy generated	PLF (%)	Turnover	Net profit after tax
	(in MUs)		(in crore)	(in Crore)
1999-2000	3166.47	86.06	456.52	124.39
2000-2001	3001.45	81.58	418.03	98.27
2001-2002	2598.81	70.64	411.59	122.11
2002-2003	2618.49	71.17	473.28	181.70
2003-2004	3006.46	81.71	423.11	136.23
2004-2005	3160.29	85.90	426.69	143.39
2005-2006	3089.61	83.98	448.72	147.85
2006-2007	3317.81	90.18	477.07	170.12
2007-2008	3311.28	90.00	448.59	141.58
Budgeted				

Dividend History

OPGC is consistently paying dividend from the year 1998-99 to 2005-06. The total dividend paid so far is Rs.1068.12 crore. Out of this, Govt. of Orissa has received Rs.561.25 crore and AES has received Rs.506.87 crore. The records are as follows:-

(Rupees in Crore)

Year	Dividends	Total	Govt. of Orissa	AES
1996-1997	7.5%	33.75	33.75	-
1998-1999	30%	147.07	75.00	72.07
1999-2000	15%	73.53	37.50	36.03
2000-2001	30%	147.07	75.00	72.07
2001-2002	35%	171.58	87.50	84.08
2002-2003	30%	147.07	75.00	72.07
2003-2004	23%	112.75	57.50	55.25
2004-2005	24%	117.65	60.00	57.65
2005-2006	24%	117.65	60.00	57.65
	Total	1068.12	561.25	506.87

Awards and Recognitions

OPGC has received many awards and distinctions for plant performance, effective pollution control measures and better safety performance. For outstanding achievement in environment management ITPS has been selected for Greentech Environmental Excellence Gold Award in thermal Power sector for the year 2003-04. ITPS has been

certified with ISO 14001, OHSAS 18000. During 2007-08 OPGC has been honoured with the following awards :

- Best practices in EHS management for the year 2007 from CII, Orissa Chapter
- Greentech safety Gold Award in thermal power sector for the year 2008.
- Safety award 2006 from Director of factories and Boilers of Orissa for 1st proze in lowest weighted frequency rate of accident.

Coal Mine

A significant milestone in the successful road map of OPGC is allotment of a 532 million MT captive coal block in favour of OPGC in the Manoharpur area in Sundargarh District. This captive mine shall ensure coal security for the expansion units and enable to generate power at a competitive rate.

Safety

Safety of the people and plant has been the top priority and OPGC has emerged as a leader in the field of industrial safety. Constant efforts are being made to achieve improvement in safety by means of training, counseling, auditing, reporting incidents & near misses and investing the same. ITPS is one of the power plants where the use of Personal protective Equipments is mandatory for the visitors too. ITPS has been operating exemplary safety Record by achieving over 1481 Lost Time Accident Free days since 03.02.2004 (till 23.02.2008). OPGC has been awarded Greentech Safety Gold Award in Power sector for the year 2004-05.

Social Responsibility

OPGC is committed to provide clean, affordable and reliable power to the State of Orissa and has the highest commitments towards Safety, Health and Environment. OPGC provides excellent healthcare facility to its people as well as people of its surrounding localities through well-equipped hospital and specialized doctors. Apart from natural greenery inside plant, 1,90,690 numbers of plants of different species have been added through new plantation. OPGC is as much concerned for the development of the surroundings of the power plant as for generation of electricity. As a part of its social responsibility OPGC has always taken a lead in peripheral development and implemented several projects in plant periphery for providing the neighboring villages with drinking water, education, roads, electricity infrastructure, small irrigation, healthcare etc.

OPGC with its motivated work force and top management commitment for continual improvement strives to be one of the world-class power utilities in India with a clear focus on Safety, Health, Environment and peripheral development.

Future Plan

OPGC is pursuing its expansion plan along with the development of the Coal Mine allotted to it. Most of the clearances for 2x600 MW power plant is being updated. A

budgetary allocation of Rs.346.50 Crore has been kept in the plan scheme for the year 2008-09.

ORISSA POWER TRANSMISSION CORPORATION LTD

In view of the statutory requirement of the electricity Act, 2003 for separation of trading and transmission functions into two separate entities, the State Govt. on 27.03.2004 incorporated Orissa Power Transmission Corporation Ltd. (OPTCL) as wholly owned undertaking of the State Govt. to take over the transmission, State Transmission Utility (STU) and State Load Dispatch Centre (SLDC) functions of GRIDCO.

Subsequently in exercising the power conferred under sections 39,131,133 and 134 of Electricity Act, 2003 read with sections 23 and 24 of Orissa Electricity Act, 1995, the State Govt. issued Notification on 09.06.2005 "The Orissa Electricity Reforms (Transfer of Transmission Related Activities) Scheme 2005" for the purpose of transfer and vesting of the transmission undertaking of GRIDCO with OPTCL which was made effective form 01.04.2005.

Being the State Transmission Utility, to ensure development of an efficient coordinated and economic power transmission system from generating stations to Load Centers, OPTCL has commissioned many grid Sub-stations and Transmission lines for quantitative and reliable power supply in the State during the Financial year 2007-08. Some of the major works completed/ to be completed during the Financial Year 2007-08 are follows:-

(a) WORKS COMPLETED DURING 2007-08

- 1. 220/33 KV S/s at Balilmela
- 2. 220KV Indravati- Theruvali 3rd & 4th Circuit Transmission Line.
- 3. 132KV Chainpal-Choudwar LILO lone at Meramundali
- 4. 220KV LILO Bhanjanagar Chandaka line at Mendhasal
- 5. 220KV LILO Nayagarh- Chandaka line at Mendhasal
- 6. Ib-Budhipadar 4th circuit
- 7. 220KV switchyard of 400/220 KV S/s at Mendhasal
- 8. 220KV Line from Budhipadar to Burla
- 9. 220/132/33 KV S/s at Burla
- 10. 132 KV Hirakud LILO Chiplima/ Bargarh line
- 11. 220 KV Line from Kuchei to Balasore
- 12. Installation of 4th Auto transformer at Tarkera.

(b) WORKS EXPECTED TO BE COMPLETED DURING 2007-08/2008-09

- 1. 220KV Line from Duburi to Paradeep
- 2. 220/132 KV S/s at Paradeep
- 3. 132/33 KV S/s at Phulnakhara
- 4. 132/33 KV S/s at Badagada, Bhubaneswar

- 5. 220/132/ KV S/s at Bolangir
- 6. 400 KV of 400/220 KV S/s at Mendhasal
- 7. 400 KV of 400/220 KV S/s at Duburi
- 8. 132/33 KV S/s at Basta
- 9. 132/33 KV S/s at Barpali
- 10. 132/33 KV S/s at Karanjia
- 11. 220/132 KV S/s at Bhadrak
- 12. 220 KV Line from Narendrapur to Chandaka via Mendhasal
- 13. Installation of 2nd 20 MVA transformers at Barkote
- 14. Installation of 3rd 40 MVA transformers at Chhend
- 15. Installation of 4th Auto transformer at Chandaka
- 16. 400 KV Transmission line from Meramundali to Mendhasal
- 17. 220 KV Transmission line from Mendhasal to Bidanasi
- 18 220 KV Transmission line from Burla to Bolangir

(c) WORKS TO BE UNDERTAKEN DURING 2008-09

- 1. 132/33 KV S/s at Purusottampur
- 2. 132/33 KV S/s at Anandapur
- 3. 132/33 KV S/s at Chandpur (Tangi)
- 4. 132 KV Bidanasi to Cuttack line
- 5. 220/132/ KV S/s at Karadagadia (Khurda)
- 6. 132/33 KV S/s at Jharsuguda
- 7. 132/33 KV S/s at Dabugaon
- 8. 132/33 KV S/s at Nuapada
- 9. 132/33 KV S/s at Bhawanipatna
- 10. 132 KV Transmission line from Jagatsinghpur to Paradeep
- 11. 400 KV Transmission line from Ib to Meramundali

GRID CORPORATION OF ORISSA LTD

Prior to enactment of Electricity Act, 2003 GRIDCO was undertaking the unified business of transmission and bulk supply of electricity in the State of Orissa. Consequent upon enactment of Electricity Act, 2003 the transmission, STU and SLDC functions of GRIDCO was taken over by OPTCL w.e.f 01.04.2005. Since then GRIDCO continues to undertake bulk supply and trading functions. After power sector reforms GRIDCO is no more dependants on budgetary support from State Govt. The electricity tariff in Orissa is one of the lowest in the country. There has been no hike in consumer tariff since 2001. The State continues to be power sur-plus. There is no power cut in the state. It has been able to earn Rs.1342 Crore in the Financial Year, 2006-07 by sale of sur-plus power. During current financial year it has earned Rs.1010 Crore by December, 2007.

Power Trading of GRIDCO for last four years is given below.

POWER TRADING

Year	Total MU	Bill Amount after	Average rate in
		Rebate (Rs. in Lakh)	Rs./Unit
2003-2004	2640	56809	2.15
2004-2005	4527	107144	2.37
2005-2006	2186	72838	3.33
2006-2007	1818	86600	4.78

ACCELERATED POWER DEVELOPMENT & REFORM PROGRAMME (APDRP)

Governments of Orissa have signed MoU with Government of India to implement the APDRP Schemes in the State. As the private DISTCOs are the implementing agencies for APDRP Schemes, they have entered into MOA (Memorandum of Agreement) with Government of Orissa for on lending APDRP Assistance. Seven projects of our State with an estimated cost of Rs.592.22 Crore have been approved by the Government of India for implementation under APDRP Scheme in the State. Out of the above estimated cost, 50% will be available from government of India in equal proportion in the shape of loan and grant. Other 50% of the projected cost will be arranged by the implementing Agencies either from their own resources or availing loan from any Financial Institution as counter part funding.

As on 31.03.2006 an amount of Rs.74.02 crore were received from Government of India and the same has already passed on the DISTCOS. With the funds available Distcos have taken up metering, replacement of distribution transformers and conductors, up-gradation of line and substations etc.