

## **ACTIVITIES REPORT OF ENERGY DEPARTMENT FOR THE\_YEAR 2015-16**

The Department of Energy was created on 24<sup>th</sup> April 1990 consequent upon bifurcation of the then Irrigation & Power Department. Electricity is one of the prime inputs for both the economic development as well as overall 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 provide 24x7 quality power supply to all. It is also contemplated to develop an integrated energy management system with robust generation, transmission and distribution network. The State of Odisha has the distinction of being the pioneer in the country in implementing reforms in power sector.

The present generation capacity of the State is:-

(a) Hydro Generation (OHPC)	-	2080 MW
(b) Thermal Power Station	-	2055 MW
(c) Central allocation.	-	1373 MW
(d) Renewable Energy	-	<u>195 MW</u>
<b>Total</b>	<b>-</b>	<b>5,703 MW</b>

At present the Department of Energy is functioning with 5 Heads of Department i.e :-

- (1) E.IC (Elect)-cum-PCEI, Odisha, Bhubaneswar
- (2) C.E-cum-CEI (Central Zone), Odisha,
- (3) C.E-cum-CEI (South Zone), Odisha,
- (4) C.E-cum-CEI (North Eastern Zone), Odisha,
- (5) C.E-cum-CEI (Western Zone), Odisha,

The Department has got five Public Sector Undertakings Viz. Odisha Hydro Power Corporation (OHPC), Odisha Power Generation Corporation (OPGC), Odisha Power Transmission Corporation (OPTCL), GRIDCO Ltd. and Odisha Thermal Power Corporation (OTPC).

The activities of the Department in respect of different public sector undertakings as well as Heads of Department are presented briefly as under:-

## **REVENUE COLLECTION, INSPECTION & LICENSING ACTIVITIES**

Electricity Duty (ED) constitutes an important source of the Government Revenue. Collection of Revenue from various electricity consumers comes in the form of ED, inspection fees, fees for testing equipment and fees for issuing electrical permit and licenses to the wireman, Lineman, supervisor and contractor. During the financial year 2014-15, this Department achieved the revenue collection to the tune of ₹ 850.00 Crore against a target of ₹800.00 Crore. Besides, arrear Electricity Duty to the tune of ₹ 872.00 crore was collected from M/s. NALCO by an out of court settlement in a 14 years old case in different courts.

During the Financial Year 2015-16, an amount of ₹825.62 crore has been collected by 31.12.2015 as against the annual target of ₹1000.00 Crore for fixed for E.D. & ₹200.00 crore for arrear E.D. Steps are being taken to achieve the target fixed for this year.

Regular monitoring is being done for recovery of Govt. dues (ED) locked up in Court Cases.

## **RURAL ELECTRIFICATION SCHEMES**

### **(a) Biju Gram Jyoti Yojana (BGJY):**

In order to ensure “Electricity to all” the State Government has launched a flagship scheme called Biju Gram Jyoti in 2007-08 for electrification of habitations having less than 100 population and the BPL Household Electrification in those habitations which are not covered under RGGVY. There was a target to cover 10,000 habitations during the 11<sup>th</sup> Five Year Plan under the scheme against which 15462 nos. of habitations have been electrified. The State Government, till 31<sup>st</sup> December, 2015 has provided ₹660 crore to the Districts for implementation of the Scheme against which an expenditure of ₹459.32crore has been made for the purpose as on 31.12.2015. For the Financial Year 2015-16 a plan provision of ₹55.00 crore has been made under the scheme.

**(b) Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY):**

This flagship programme of Govt. of India launched in April, 2005 to provide access to electricity to villages having population of 100 or more envisaging 90% capital subsidy and 10% as loan component for the State.

There was a target to electrify 14856 un-electrified/ de-electrified villages, 29351 partially electrified villages and 3257471 BPL households in all 30 districts during the RGGVY-X & XI Plan Period. Against this 14402 nos. of Un-Electrified villages have been electrified and in 26353 Nos. of Partially-Electrified villages, electrification have been completed. Moreover, 2876149 nos. of BPL kits have also been installed and 2315605 nos. of BPL houses electrified.

In the RGGVY-XII Plan Period, Work is under progress to electrify 3144 un-electrified villages and 16533 un-electrified habitations for which Government of India have sanctioned ₹3550.75 crore.

During the Financial Year 2015-16 plan provision of ₹90.00 crore has been made in the State budget for this purpose.

**BIJU SAHARANCHALA VIDYUTIKARAN YOJANA(BSVY)**

For providing access to electricity to the people living in un-electrified areas of urban local bodies, the State Government has launched a flagship programme namely, Biju Saharanchala Vidyutikarana Yojana (BSVY) during the year 2010-11. Under the scheme un-electrified habitations with minimum population of less than hundred along with BPL household electrification and system improvement are being taken up. Five (5) Municipal Corporations, 45 Municipalities and 61 NACs of the State have been covered under the Scheme. During the year 2010-11, ₹40.40 crore, during the year 2011-12, 2012-13 and 2013-14 ₹ 20.00 crore each have been provided to the districts @ of ₹1.00 crore per Municipal Corporation, ₹50.00 lakh per Municipality and ₹30.00 lakh per NAC. The maximum cost of electrification per habitations is ₹3.50 lakh and ₹3000/- for a BPL household connection. During Financial Year 2014-15, a budgetary provision of ₹10.00 crore was made against which 2346 nos. of villages/

wards have been electrified till 31<sup>st</sup> December, 2015. For the Financial Year 2015-16 a provision of ₹10.00 crore has been made under the scheme.

### **CONSTRUCTION OF NEW 33/11 KV SUB-STATIONS**

1. Electricity is the key factor for the growth of society. Electricity is used in the entire segment whether it is Agriculture, Industry, domestic or commercial purpose.
2. Government of Odisha observes that there has not been sustained development in the electricity infrastructure down the stream in order to supply reliable and good voltage to the people of Odisha.
3. It was seen that the infrastructure at 220 KV, 132 KV level is well managed but there is requirement of infrastructure at 33 KV level i.e. 33/11 KV Sub-station.
4. For giving uninterrupted reliable and quality supply with proper voltage to consumers of the State even in remote areas, it is proposed to construct 500 nos. of 33/11 KV Substations at a cost of Rs.2600.00 crore to be executed by OPTCL as Nodal Agency. After construction and charging of the Substations, the same will be handed over to respective DISCOMs for operation and future maintenance. This will help in reduction of T&D loss of DISCOMs so that their financial condition will improve and reduce their financial burden. 1% of reduction of T&D loss will ensure annual revenue gain of about Rs.85.00 crore to the DISCOMs in the State. Target for annual reduction of T&D loss has been fixed at least 3% per annum which will yield Rs.255.00 crore annually.
5. In the different meeting with Energy Department, OPTCL & DISCOMs, it was decided to have 33/11 KV Air Insulated Switchgear (AIS) Substation in all the proposed places except in the urban areas. The Gas Insulated Switchgear (GIS) Substations was proposed to be installed in the urban areas like Berhampur, Bhubaneswar, Cuttack, Rourkela, Sambalpur and etc. in the view of constraint in land availability.
6. Numbers of meeting was held between Energy Department, OPTCL and DISCOMs and it was agreed that a Project Monitoring Unit (PMU) Cell will be opened under OPTCL in order to execute the

Construction of 500 nos. of 33/11 KV Substations with associated lines. Two Technical Executives and one Finance Executive shall be deputed from each DISCOM to PMU Cell of OPTCL to carry out the Construction work of 33/11 KV Substation. The PMU Cell will be headed by an Executive of OPTCL designated as Project Manager.

7. This scheme envisages investment of Rs.2600.00 crore to be executed over a period 3 years by OPTCL. A budget provision of Rs.179.00 crore was made during the financial year 2013-14 & Rs.150.00 crore in the financial year 2014-15. To continue the project work Rs.890.00 crore has also been made in the financial year 2015-16. The funds are being released in favour of OPTCL, the Nodal Agency for implementation of the project. The work is in progress.

### **CAPEX PROGRAMME FOR IMPROVEMENT OF DISTRIBUTION SYSTEM**

CAPEX programme with an investment of ₹ 2400 Crore having an objective to improve Distribution system, quality of power to the consumers & to reduce AT & C loss under the programme has begun from the year 2011-12. State Govt. is to provide ₹1200 Crore (including 13<sup>th</sup> Finance Commission Grant) to DISCOMs as loan through GRIDCO with counterpart funding of ₹ 1200 Crore from DISCOMs. Till December 2015, ₹755.83 Crore was released to GRIDCO and budget provision of ₹245 Crore has been made during 2015-16 including 13<sup>th</sup> Finance Commission grant for the project. The 1<sup>st</sup> phase of CAPEX programme is in progress.

### **STRENGTHENING OF ELECTRIC SUPPLY IN KBK DISTRICT(RLTAP).**

During the financial year 2012-13 ₹33 crore was allocated at supplementary stage for strengthening of electric supply in KBK districts under the RLTAP. The projects have been identified and the works have begun. The Govt. has made a Plan Provision of ₹33.00 cr. during the F.Y 2013-14, ₹20.00 cr. during the FY 2014-15 & ₹2.00 crore for the FY 2015-16 under the scheme and funds are being released for the purpose.

## **ENERGY CONSERVATION**

Energy conservation is Energy generation. To Co-ordinate, Regulate and enforce provisions of the Energy Conservation Act, 2001, EIC (Electricity) functions as State Designated Agency (SDA) for Odisha, and coordinates with Bureau of Energy Efficiency (BEE), Government of India, Government of Odisha, Private Organizations and other Stakeholders. Odisha Energy Conservation Building Code (ECBC) has been notified for adoption in the State and Odisha has become the first state to frame such code in the country.

Implementation of Energy efficiency in the 4795 lift irrigation (LI) system under the Pani Panchayat is being taken up with OLIC which will work towards grid load reduction as a demand side initiatives. Investment grade energy audit (IGEA) are in advance stage of implementation in four major drinking water pumping stations (DWPS) in Phase-I and in nine major DWPS in Phase-II with the support of respective Public Health Divisions under H & UD Dept. Government buildings, District Collectorate Offices, District Headquarter Hospitals, Universities, Agricultural Farms and Dairy farms (like OMFED in Bhubaneswar) are being covered under recommendations of the IGEA.

Implementation of energy efficient street lighting projects in 106 ULBs of the State by undertaking retrofitting of existing inefficient street lights with LED by associated control systems to demonstrate and showcase benefits of energy efficiencies.

As part of the national awareness campaign, a state level function is being organized each year on **Energy Conservation Day** i.e. on 14<sup>th</sup> Dec, at Bhubaneswar wherein District and State level quiz competitions are organized with the support of Centre for Environmental Studies (CES) and F&ENV Department to create awareness among the school students and general public.

Domestic Efficient Lighting Programme (DELP) has been taken up to benefit the consumers by reducing their electricity bill besides helping the DISCOMs to save about 644 MU and achieve an avoided generation capacity of about 185 MW. It is proposed to distribute 4 nos of 9 W LED

bulbs to each domestic household of the state with support of EESL at an up-front cost of ₹100/- per bulb or recover the cost at the rate of ₹10/- each month for a period of 10 months from monthly consumer electricity bill for which the DISCOMs have been advised to file petition before OERC for its implementation in the state.

Implementation of the **LED Village Campaign** is in offing with support of CESU wherein 3 nos of 10W LED bulbs are being given to each family and 20 W street lights installed in the villages taken under the project. 2 nos of villages are already covered under it and another 4 nos have been taken up. During the FY 2014-15 a budget provision of ₹15.00 crore was made under the scheme. In FY 2015-16 a budget provision of ₹11.00 crore has been provided to carry out the energy conservation activities and awareness campaign in the State.

#### **SYSTEM STRENGTHENING FOR ELEPHANT CORRIDOR**

In order to strengthen the Electrical Infrastructure along the Elephant Corridor and thereby to provide safety to the elephants and other wild animals, Govt. of Odisha has taken up a special scheme called System Strengthening for Elephant Corridor. In the Phase-I, the work in nine corridors has been completed. In the Phase-II work in two corridors has been completed and works in rest of the corridors are in full swing.

A plan provision of ₹21.00 Crore was made during the Financial Year 2013-14 under the scheme. In the FY 2014-15 ₹35.85 Crore has been provided under the scheme and keeping in view its importance ₹27.17 Crore has been kept for the FY 2015-16. Funds are being released for implementation of the project.

#### **SHIFTING OF TRANSFORMERS LOCATED IN GOVT.SCHOOLS & ANGANWADI CENTRES**

Shifting of electrical infrastructure located in Government Schools and Anganwadi Centres and in other important public institutions in the State was felt necessary on safety point of view. A plan provision of

₹20.00 crore in the Plan Budget 2013-14 & ₹20.38 crore in the FY 2014-15 was made for implementation of the scheme.

Out of 5162 Schools & Anganwadi Centres, work in 4809 nos has already been completed and in the rest work is in progress. In the FY 2015-16 ₹50.00 lakh have been provided. Funds are being released to the Executing Agencies for implementation.

### **NABAKALEBAR**

Keeping in view the future load of electricity on account of Nabakalebar of Lord Jagannath held in 2015, Government decided to take special drive for up-gradation of electricity transmission system and other electrical infrastructures in Puri and its surroundings through OPTCL and CESU. For the purpose, plan proposal of ₹85.00 crore was made in the Financial Year 2013-14 and an amount of ₹111.86 crore in the FY 2014-15. In the FY 2015-16 plan provision of ₹67.09 crore has been kept under the scheme. Funds have been released in favour of OPTCL for execution of the project.

### **UNDERGROUND CABLING OF GRAND ROAD & TEMPLE AREA, PURI, KONARK AREA, LINGARAJ RATHA DANDA, BHUBANESWAR AND OTHER IMPORTANT SITES**

During the year 2011-12, Govt. has decided for under ground cabling of Grand road and Temple Area, Puri to be implemented by CESU. Accordingly budget provision of ₹ 9.00 Crore has been made during financial year 2011-12 out of which funds amounting to ₹ 8.17 Crore have been provided to CESU for this purpose. In the FY 2014-15 ₹9.54 crore was provided to CESU for completing the balance Underground cabling work in Puri and Konark area. The work has already been completed.

The underground cabling of Lingaraj Ratha Danda, Bhubaneswar and Samaleswari Temple area, Sambalpur & Ratha Danda Baripada with Budgetary support of ₹8.48 crore have also been taken up during 2013-14. In the year 2014-15 a budget provision of ₹13.99 cr. was made. The work will be completed soon. In the FY 2015-16 a plan provision of ₹1.00 crore has been kept under the scheme.



### **DEDICATED AGRICULTURE & FISHERY FEEDER**

In order to promote agriculture and pisci-culture, Government of Odisha has decided to provide Dedicated Electrical Feeders to Agriculture and Fishery sectors. The commissioning of dedicated feeders not only facilitate irrigation but also will provide growth support to the sector with development of ancillary activities like Cold storage, Food Processing Unit. Similarly for supply of reliable and quality electricity as required for maximizing fish and prawn production, their cleaning, grading, refrigeration and preservation, the need of separate Electrical Feeder is felt. Hence, Government in Energy Department has made a plan provision of ₹101.00 crore in the FY 2013-14 and ₹ 67.00 crore in FY 2014-15 for commissioning of dedicated Agriculture and Fishery Feeders. A token of ₹1.00 lakh has been kept for the FY 2015-16. The clusters have been identified and project implementation started through the nodal agency OPTCL.

### **SHAMUKA BEACH PROJECT**

In order to promote tourism in the State, the Government of Odisha have launched a mega project named Samuka Beach Project in Puri. Electrification component of the project has been entrusted to OPTCL and CESU. The tentative estimate of the electrification work is at ₹44.61 crore. State Government have made budgetary provision of Rs3.30 crore and Rs 5.00 crore during the financial year 2010-11 and 2011-12 respectively which has been provided to OPTCL and CESU for execution of the works. The project work is in progress. In order to continue the project ₹5.00 cr. was provided in the F.Y 2013-14 and ₹ 25.95 cr. in the FY 2014-15. Funds are being released to OPTCL for the purpose. In the FY 2015-16 a token amount of ₹1000 has been kept under the scheme.

### **ELECTRIFICATION OF IIT AT ARGUL, BHUBANESWAR**

Department of Energy has been entrusted with the task of electrification of IIT, Argul, Bhubaneswar for which budget provisions of

₹8 crore each was provided during the financial years 2010-11 and 2011-12 and released in favour of OPTCL for execution of the work. Substantial progress has been made in the work and in order to complete the balance work, a plan provision of ₹5.00 cr. and ₹15.73 crore was made during the F.Y 2013-14 & 2014-15 respectively. A plan provision of ₹68.00 lakh has been made under the scheme for the Fy 2015-16. Funds are being released in favour of OPTCL for the purpose.

#### **ODISHA'S SHARE FOR UMPP (BEDABAHAL)**

UMPP is one of the flag-ship projects of Government of India as a primary procurer of power. In order to provide Odisha's Share towards additional land cost for UMPP (Bedabahal), in Sundargarh District, budget provision of ₹55.41 crore was kept in the Financial Year 2014-15. In the FY 2015-16 a budget provision of ₹48.75 crore has been made under the scheme.

#### **EQUITY SHARE INVESTMENT IN OPTCL.**

State Government has decided to infuse additional equity of ₹ 300 Crore in a period of 5 years to support OPTCL in taking up transmission Projects in the financially unviable areas such as KBK, Western Odisha. During the FY 2011-12, ₹43.00 Crore was provided in the State Budget. During FY 2012-13, 2013-14 & 2014-15 funds to the tune of ₹50.00 crore each have been provided to OPTCL for this purpose. In the Financial Year 2015-16 a plan provision of ₹57.00 crore has been kept under the scheme.

#### **EQUITY INFUSION TO OHPC:**

The State Government has decided to provide financial assistance to OHPC through equity infusion. The scheme is intended for development of Solar Power Project at Manamunda in Boudh District through Green Energy Development Corporation of Odisha Ltd. (GEDCOL) which is a 100% of subsidiary company of OHPC.

It aims at promoting investment in renewable energy projects and various green energy sources, to develop and execute special renewable energy project on commercial and/ or demonstration basis and to plan,

organize, implement, maintain and operate renewable energy projects to generate and sell electric power anywhere in India.

Ministry of New & Renewable Energy, Govt. of India through SECI(Solar Energy Corporation of India) has issued allocation proposal for development of 750 MW of Solar PV Power (each 375 MW in DCR & Non-DCR category) with VGF (Viability Gap Funding) support. SECI has allotted 20 MW Solar PV Project at Manamunda through VGF support of ₹48 cr. (@ of 30% of project cost) with an agreement for procurement of generated power by SECI @ ₹ 5.45/ unit. The state Govt. has decided to contribute 50% of the total equity capital required for the above project of GEDCOL.

Thus, a plan provision of ₹25.00 crore has been made under the scheme by the State Govt. for the F.Y 2015-16 to extend equity support to GEDCOL through OHPC.

#### **INFRASTRUCTURE ASSISTANCE TO GEDCOL**

In order to promote Green Energy in the State, Govt. of Odisha has established Green Energy Development Corporation Ltd. (GEDCOL), as a subsidiary of OHPC, which has started its operation from the F.Y. 2013-14. For launching different projects in its own domain, financial assistance are being provided by the State Government. A budget provision of ₹10.00 Crore was made for this scheme in the F.Y 2014-15. In the FY 2015-16 a plan provision of ₹10.00 crore has been made under the project. GEDCOL through a source of SECI is developing a 2 MW solar power generating system at Manmunda in Boudh District. It is also developing 4 MW Cuttack-Bhubaneswar Roof-Top Solar Power Project.

#### **GPS SURVEY OF INFRASTRUCTURE**

In order to prepare a need based action plan for future projects, GPS survey of electrical infrastructure was felt necessary for which a plan provision of ₹1.00 crore during the FY 2013-14, ₹10.00 crore in the FY 2014-15 & ₹1.00 crore in the FY 2015-16 were made . The work has been entrusted to OPTCL for implementation of the project.

**STANDARD TESTING LABORATORY**

Standard Testing Laboratory functions as a third party Laboratory for testing and calibration of electrical equipments. All vital testing are being carried out in STL. A separate building is under construction for functioning of STL in Bhubaneswar with budgetary support of State Govt. For construction of STL Building, a budgetary provision of ₹1.50 crore was made for the Financial Year 2013-14. Out of that, ₹1.02 Cr. has already been released to Chief Engineer Building, Odisha for this purpose. In the FY 2014-15 ₹83.00 lakh and in the Financial Year 2015-16 plan provision of ₹1.20 crore has been provided in the State Budget to support the scheme.

**ODISHA POWER SECTOR EXTERNALLY AIDED PROJECT (ADB PROJECT) (STATE SHARE**

Taking into account the damages to infrastructure and supply of power, Government of Odisha in Energy Department has proposed for a special drive project for these worst affected towns of southern Odisha viz. Chatrapur, Gopalpur and Berhampur of Ganjam district. The plan involves a “build back better” approach by replacing damaged infrastructure with storm resilient alternatives, such as stronger towers, elevating substation equipment above flood levels and underground cabling in selected locations.

The project i.e. Odisha Power Sector Externally Aided Project (ADB Project) is being launched in the aforesaid affected area with the ADB loan assistance and budgetary support of Government of Odisha, for which a budget provision of ₹250.00 crore was made in the F.Y. 2014-15. For the FY 2015-16 a provision of ₹210.00 crore has been made in the plan budget.

## **NEW SCHEME/ PROJECT & INITIATIVES**

### **DEENDAYAL UPADHYAYA GRAM JYOTI YOJANA(DDUGJY)**

Deendayal Upadhyaya Gram Jyoti Yojana is a Govt. of India scheme which aims at strengthening the Sub-Transmission and Distribution Infrastructure in the rural areas with separation of agriculture and non-agricultural feeders to regulate power supply to the agricultural consumers as and when needed for effective Demand Side Management (DSM) and proper energy accounting by means of metering arrangement at Distribution Transformers, Feeders and Consumer end. The scheme subsumes the RGGVY as a rural electrification component and the Outlay under the RGGVY is carried forward to the DDUGJY with its (DDUGJY) original Outlay made by Govt. of India. For the FY 2015-16 a provision of ₹ 20 crore has been kept under this scheme as State share.

### **INTEGRATED POWER DEVELOPMENT SCHEME (IPDS)**

Integrated Power Development Scheme is a Ministry of Power, Govt. of India scheme introduced in 2015-16 in order to create a strong infrastructure for strengthening the Sub-Transmission and Distribution Network with IT enabled Smart Metering of Distribution Transformers, Feeders and Consumers vis-a-vis reduction of losses in the urban and semi-urban areas by means of supplementing financial assistance to the DISCOMs. The Rooftop Solar Project, Installation of solar panels and smart and net metering are mandatory components under the scheme. The scheme subsumed the RAPDRP scheme and keeps it as a separate scheme under it. For the FY 2015-16 a provision of ₹ 10 crore has been kept under this new plan scheme as State share.

### **State Capital Region Improvement of Power System (SCRIPS)**

The Comprehensive Development Plan (CDP) for Bhubaneswar Cuttack Urban Complex has made to think of the infrastructural expansion and renovation of energy sector looking at tremendous infrastructural growth in all fronts across Bhubaneswar city and nearby area during the recent days. Taking these into consideration, Govt. of Odisha has adopted the concept of **State Capital Region Improvement**

**of Power System (SCRIPS)** which is visualized with an objective of 24X7 uninterrupted stable power supply to all classes of consumers including public services. In the FY 2015-16 a provision of ₹70.00 crore has been made under the scheme. The work is under progress.

### **Smart Grid**

The Smart Grid is a progress from the present state of grid towards adding a set of smarter system or applications in a phased manner according to the priorities of each constituent utility. Indian Smart Grid Task Force (ISGTF), with close association with Indian Smart Grid Forum develop the norms from Smart Grid adaption which has been approved by MOP as the Smart Grid vision and road map for India. The Govt. of Odisha has taken initiatives for adaption of Smart Grid Technology in power sector (Transmission and Distribution Sector) having the component name v.i.z. GIS, SCADA, OPGW and AMI for uninterrupted and reliable power supply to the consumers of the State. In the FY 2015-16 a budget provision of ₹30.00 crore has been made under the scheme.

### **RADIAL TO RING CONVERSION PROJECT**

The Radial Ring Conversion Project is conceptualized in transmission and distribution sector to meet the current as well as anticipated demand of power in the State in coming years. In this system, one Substation can be fed from two sources of power which is capable of supplying power at the time of need from other sources. Thus the system will ensure uninterrupted power supply. Keeping in view the supply of quality and un-interrupted power to the consumers, Energy Department has launched a project called 'Radial to Ring Conversion Project'. For this purpose a plan provision of ₹34.99 crore has been made for the FY 2015-16 under the scheme. The project work is continuing.

### **DISASTER RESPONSE CENTRE**

Since there is no Disaster Response Centre or Wing in power sector either in distribution or in transmission sector to combat the disaster and to restore the power supply with minimum time span, it became a herculean task to meet the requirement at the time of natural

calamities. The last experience in Phailin and Flood, 2013 has made to think for a Response Centre which will be built up with minimum man power and technical capability to meet the challenge. Energy Department has launched this project named as 'Disaster Response Centre' for this purpose. A budget provision of ₹10.00 crore has been made in the FY 2015-16 under the scheme.

### **DISASTER RESILIENT POWER SYSTEM**

The massive devastation of transmission and distribution infrastructure of the energy sector in last Phailin and Flood, 2013 played the major role to think for a 'Disaster Resilient Power System' in the State. So the scheme conceptualized for creation of energy infrastructure having capability to combat the natural calamities like Cyclone and Flood. A budget provision of ₹.20.01 Crore has been made under the scheme in the FY 2015-16.

### **DISTRICT HEADQUARTER PROJECTS**

In order to make the different regions of the State disaster resilient and to ensure un-interrupted power supply, it is decided to launch a project for Disaster Resilient Power Infrastructure in all Districts Headquarters. For this purpose, a token amount of ₹1.00 Lakh has been kept under the scheme for the FY 2015-16.

### **ACTIVITIES OF STATE PUBLIC SECTOR UNDERTAKINGS (PSUs):**

#### **ODISHA HYDRO POWER CORPORATION LTD. (OHPC)**

Odisha Hydro Power Corporation (OHPC) Ltd. was set up on 21<sup>st</sup> April 1995 consequent to the reform and restructuring of Power Sector in Odisha. Thereafter, all the Hydro Units of erstwhile OSEB & Govt. of Odisha were transferred to OHPC on 01.04.1996.

At present, OHPC has six ongoing Hydro Electric Projects and one Joint Hydro Electric Project namely, Machhkund Hydro Electric Project having total installed capacity of 2063.50 MW.

OHPC generated 6531 MU of Energy in the FY 2014-15 from its power stations including Machhkund against the Designed Energy target

of 5938.50 MU and achieved Annual Plant Availability Factor (PAF) of 83.49% against OERC approved target of 83.16%

OHPC provides the cheapest power to the State Grid. The average tariff approved by OERC for the FY 2014-15 is 83.02 paise/kwh. The present power generation, Sale of Power, Design energy and design energy for sale are given below:

(i) **Power Generation**

<b>Name of the Units</b>	<b>Installed Capacity (MW)</b>	<b>Design Energy (MU)</b>	<b>Design Energy for Sale (MU)</b>	<b>Generation for the FY 2015-16 (upto 31.12.2015) (MU)</b>
Hirakud	275.5	684	677.16	425.15
Chiplima	72	490	485.10	195.87
Balimela	510	1183	1171.17	500.53
Rengali	250	525	519.75	560.48
Upper Kolab	320	832	823.68	492.29
Upper Indravati	600	1962	1942.38	1438.74
<b>Sub-Total</b>	<b>2027.50</b>	<b>5676</b>	<b>5619.24</b>	<b>3613.06</b>
Machkund (Odisha Share 30%)entitled 50% drawl of Energy Generated	36.00	262.50	259.87	198.97
<b>TOTAL</b>	<b>2063.50</b>	<b>5938.5</b>	<b>5879.11</b>	<b>3812.03</b>
		<b>Planned Generation upto 31<sup>st</sup> Dec, 2015</b>		<b>5122.68</b>

**Achievements of OHPC & GEDCOL for the year 2015-16**

- i) LOA issued on 17.08.2015 to Voith Hydro India Private Ltd for Renovation & Modernisation of Unit 5 & 6 of HHEP, Burla and Unit – 3 of CHEP, Chiplima for an amount of ₹158.77 crore and ₹65.67 crore with completion period of 30 months and 20 months respectively. The Contract agreement was signed with the contractor on 15.10.2015 for Unit#3 Chpilima and on 16.10.2015 for Unit#5&6 of Hirakud and the zero date for the R&M work started from that date.
- ii) Capital maintenance works of Unit #1 HHEP, Burla completed on 14.10.2015.



- iii) Replacement of AVR and Governor with Digital Voltage Regulator and Digital Governor in Unit#1&2 of Upper Indravati completed on dt. 15.05.2015 at a cost of ₹16.42 crore.
- iv) Work order placed in favour of WAPCOS for preparation of DPR for a Pumped Storage Scheme at UIHEP, Mukhiguda on 15.01.2014. Concept Layout has been approved and site survey work is in progress.
- v) Gross Revenue earned by OHPC during the year 2014-15 is ₹ 624.83 crore and the organization earned a profit of ₹.15.59 crore.
- vi) Pre-Feasibility Report (PFR) for 13 nos. of SHEP has been completed by WAPCOS Ltd for GEDCOL which is a 100 % subsidiary of OHPC Ltd.
- vii) DPR has been prepared for implementation of Kanupur 3 MW(2X1.5 MW) and Jambhira 2.4 MW(2X1.2MW) Dam Toe SHEP in Keonjhar and Mayurabhanja district respectively by M/S WAPCOS Ltd.

#### **Current Activities of OHPC & GEDCOL**

- i) PFR for 18 nos of SHEP projects are under preparation by WAPCOS Ltd for GEDCOL.
- ii) GEDCOL participated in tendering process invited by SECI for JNNSM Phase – II Batch – I for implementation of a 20 MW Solar Power Plant at Manamunda . SECI has issued LOI in favour of GEDCOL for development of the projects on dtd. 26.02.2014. The project has been awarded to M/s BHEL on 09.10.2014 for construction on E.P.C contract for an amount of ₹144.69 crore. The plant is in last leg of construction.
- iii) Financial Advisory Services Agreement (FASA) was signed with IFC for implementation of a total capacity of 5 MW roof top solar power plants on the roof top of Govt. buildings in the twin city of Bhubaneswar & Cuttack. Award of work order is under process.
- iv) DPR is under preparation for a 600MW Pumped Storage Scheme at UIHEP, by M/s WAPCOS Ltd.
- v) Finalization of tender and implementation of Renovation & Modernization of Unit – 1 to 6 (six units) of BHEP, Balimela at an estimated cost of ₹664.70 crore.

- vi) Capital maintenance work of Unit #1 Upper Kolab is being carried out with an estimated cost of ₹19.08 crore. The works include replacement of Generator stator with new wound stator with class-F insulation, overhauling of turbine, replacement of Governor with Digital Governor, refurbishing of HP lube oil system, Brake Jack system, Dust collector etc.
- vii) Capital maintenance of Unit#3 Upper Indravati is being carried out at an estimated cost of ₹17.23 crore.

### **ODISHA POWER GENERATION CORPORATION (OPGC)**

OPGC a Gold category state PSU has been incorporated in the year 1984 under the Companies Act 1956. It works to establish, operate and maintain electric power generating station, tie lines, sub-stations and transmission lines & connection therewith. It develops and deals in fuels i.e., coal, lignite, coke, coal-bed methane etc.

The present Installed Capacity of OPGCL is:

SI. No	Particulars	Capacity
1.	Thermal	420 MW

At present the current price per unit of electricity is ₹2.02(Approx.)

### **FUNCTIONS & ACTIVITIES DURING FY 2015-16**

#### **Expansion of unit-1 & 2**

OPGC has set up 2 thermal power plants with a capacity of 210 MW each in the IB Thermal Power Station, Banharpali in the District Jharsuguda (Odisha) at a cost of ₹1135Crore. The entire generation from the existing two units of 210 MW each, of Ib Thermal Power station is committed to GRIDCO Ltd on the basis of a long term PPA.

#### **Expansion of unit-3 & 4**

OPGC is pursuing expansion project comprising of (2x660 MW) power plants in the same location i.e., IB Thermal Power Station (ITPS) and development of captive coal mines in the District of Sundargarh at an estimated cost of ₹11,547.00/- crores. The construction of power

plants has been awarded in favour of BHEL & BGRE and the construction work is in progress. The power plant is scheduled for commercial operation towards the last part of FY 2017-18. Half of the power from the proposed units will be available to the state of Odisha through GRIDCO.

**Generation and Profitability (last five years)**

<b>Year</b>	<b>Units of power generated [in MU]</b>	<b>PLF %</b>	<b>Turnover ₹in Crore</b>	<b>Net Profit after Tax ₹in Crore</b>
2009-10	2955.39	80.32	455.95	81.19
2010-11	3184.70	86.56	504.14	115.04
2011-12	2950.15	79.97	572.78	137.08
2012-13	3181.59	86.47	636.03	167.43
2013-14	2855.902	77.62	622.64	127.57
2014-15	2798.92	76.07	630.00	150.57

**Performance Highlights-2014-15**

OPGC's units 2x210 MW at Ib Thermal Power Station (ITPS) registered a PLF of 91.02% in the month of April to June 2014 which is the **highest among the state-run generating stations of the country as reported by CEA.**

**ODISHA POWER TRANSMISSION CORPORATION LTD.(OPTCL)**

Odisha Power Transmission Corporation Limited (OPTCL) ensures development of an effective and economical system of Intra-state and Inter-state transmission lines for smooth flow of electricity from generating station to load center. Registered on 29<sup>th</sup> March 2004 under the Companies Act,1956, OPTCL is a wholly owned Government Company. It undertakes the activities of transmission of electricity in the State of Odisha under regulatory control of Odisha Electricity Regulatory Commission (OERC) in conformity with the provisions of the Odisha Electricity Reform Act,1995 and Electricity Act,2003.

**The infrastructure of OPTCL network is as follows:-**

120 nos. of Grid Sub-Stations, including Switching Station with transformation capacity of 14657 MVA and 12549.209 Ckt.Kms.of Transmission lines of 400kV, 220kV and 132kV rating. The present peak demand of the state is around 4157MW, which is handled by the existing network and equipment of the system.

**(A) Important Activities of Operation & Maintenance Wing (FY 2015-16):-**

**(a) Completed Works:-**

- (i) 440MVA Transformation capacity addition in 17 nos. of Grid S/s.
- (ii) Addition of transformer bays at Bhadrak ,Karanja, Rairangpur, Rajgangpur ,Junagarh, Kalarangi, Kamakhyanagar&Duburi (old).
- (iii) Up-gradation of conductor in 132kV Chandaka-Ranasingpur feeder & Chandaka-Mancheswar D/C lines by HTLS(high Tension Low Sag).
- (iv) Installation of Bus Bar Protection and Event Logger Panels at 12 nos 220kV Grid Substation.
- (v) Upgradation of Auto transformer capacity at Jayanagar Grid.

**(b) On-going Works:-**

- (i) Conversion of S/C(Single Circuit) to D/C(Double Circuit) of 132kV Jajpur Road-Anandpur line, New Bolangir-Patnagarh line, New Bolangir-Sonepur line, Akhusingh – Paralakhemundi.
- (ii) Up gradation of 132kV Joda-Barbil line and Mendhasal-Khurda line.
- (iii) Addition of 132kV feeder bays at Balasore, Saintala& Khurda.
- (iv) Addition of transformer bays at Budhipadar, New Bolangir, Sambalpur, Basta, Phulnakhara, Anandapur, Khurda, Therubali, Rayagada&Purushottampur.
- (v) Construction of LILO line from 220kV Katapali-Bolangir feeder up to Bolangir PG sub-station.

- (vi) Replacement of old conductor with new in 132kV Khurda-Puri, Berhampur-Digapahandi, Kendrapara-Paradeep- I & II, TTPS-Duburi-II, Jajpur Road-Bhadrak and 220kV Joda-TTPS-I, Meramundali-Bhanjanagar-I, Burla – Sambalpur, 132kV Paradeep – IFFCO Line(DC).
- (vii) Installation of Capacitor Banks at Boinda, Kendrapara, Jaleswar&Sonepur.
- (viii) Replacement of old & obsolete breakers, CT, PT, LA, isolators etc. and relays. Renovation of Earthing System at selected Grid S/s.
- (ix) Digitisation of 3 nos. 33kV Feeder Bays at Chandaka Grid substation on Pilot Basis.
- (x) Pollution Mapping is being conducted as per guide lines of ERPC at 102 locations.
- (xi) Renovation of 132/33kV Ganjam Grid Substation.
- (xii) Energy conservation is followed through replacement of conventional lighting by LED fittings in Switch Yard and installing Star rated AC Machines. Monthly, Energy Audit and loss calculation is going on.

**(B) Important Activities of Construction Wing (FY2015-16):-**

(a) Projects Completed During FY 2015-16:-

The construction of Grid S/s and the transmission line works at Konark, Marshaghai(Tulsipur), Mendhasal, Pandiabil, Infocity-II and the DC line from Meramundali to Duburi have already completed.

(b) Ongoing Projects Targetted to be Completed in FY 2015-16 :-

The construction of Grid S/s and the transmission line works at Atri (earlier Karadagadia), Puri, Infocity-II, Olavar, Nuapada(Cuttack), Mania(Tangi), Khajuriakata, Somnathpur(Balaso re), Bangiriposi, Bhograi(Balasure), Udala, Padampur, Dabugaon , Installation of 3rd 315 MVA with Transformer Bay at Mendhasal, line from Salipur to Kendrapara, Bidanasi to Cuttack, Baripada PGCIL(Kuchei), DC line from Balasure S/s to Somanthpur S/s are targeted to be completed by March-2016.

(c) Other Ongoing Projects ( FY 2015-16 ) :-

The Grid S/s along with associated line works at Prtapsasan, Satasankha, Chandaka-B, Narasinghpur (Cuttack), Tirtol, Brajabiharipur (CDA-CTC), Goda Chhak, Dhenkikote, Agarpada, Betanoti (Mayurbhanj), R. Udaigiri, Baliguda, Aska, Bonei, Kesinga, Kantabanji, Muniguda, Potangi, Podagada, Basundhara, Barg arh (New), Malkangiri, Kalimela, Boriguma, Birmaharajpur, Ghens, Tura and the line works at Pandiabil (Benapanjari), Nuapatna - Banki, Bolangir-Kesinga, Jayanagar-Jayanagar PGCIL, Jayanagar-Sunabeda, Kesinga-Junagarh, Transformer Bay work at Laxmipur.

(d) Other New Projects (Expected to be awarded in FY 2015-16):-

The Grid S/s at Chandbali, Athagarh, Keonjhar, Unit-8 (Bhubaneswar), Mancheswar-B and the underground cabling from Chandaka-B to Unit-8 (Bhubaneswar) & Chandaka-B to Mancheswar-B

**(C) Important Activities of Telecom Wing (FY 2015-16):-**

In addition to the regular maintenance/Repair/Renovation works of existing PLCC (power Line Carrier Communication)/SCADA (Supervisory Control And Data Acquisition)/OPGW (Optical Ground Wire) equipments in all over the state, the following Ongoing and new projects are undertaken by the Telecom Wing.

ONGOING PROJECTS:-

(i) Provision of SCADA Interface points at all 220kV Grid s/s of OPTCL:

- The project is under execution of consultancy services of POWER GRID at an estimated cost of Rs 67.54 Cr.
- Target of completion: March-2016

(ii) Extension of ULDC SCADA System to all existing grid sub-stations of OPTCL:

- The project is under execution of consultancy services of POWER GRID at an estimated cost of Rs 36.00 Cr.
- Target of completion: March-2016

(iii) Reframing of Microwave network in OPTCL in ULDC scheme:

- The work is completed and SAT is pending.

(iv) Provision of PLCC/SCADA facilities for 19 nos of new Grid sub-station under OPTCL:

- The work is under progress and to be completed by March-2016.

(v) Provision of Optic fibre channel to IT wing of OPTCL:

- 100 Mbps optic fibre channel has been provided to IT wing of OPTCL for smooth ERP operation in OPGW link covered Grid Sub-stations as per availability so far.

(vi) Leasing of spare fibre to PGCIL:

- Spare optic fibre in existing OPGW links have been leased out to Powergrid in Jeypore-BBSR, TSTPP-Meramundali-Mendhasal-SLDC, Burla (New)-Budhipadar-Tarkera-Rourkela, Budhipadar-Tarkera and Bula(New)-Budhipadar segments by which OPTCL is able to earn some revenue.

(vii) Extension of SCADA facility to DISCOMs:

- DISCOMs have been provided real time data through SLDC website by the Telecom wing to facilitate intra state ABT operation under the scope of ongoing ULDC expansion project.

(viii) Maintenance of CUG (Close User Group) scheme:

- All the executives of OPTCL have been provided with Closed User Group (CUG) mobile SIM cards under supervision of Telecom wing of OPTCL.

(ix) Provision of Tele-protection system in all 220kv & above lines through OPGW SDH equipments:

- Work order has been awarded to M/s Alstom T&D Ltd. and commissioning activities shall be completed by March-2016.

(x) Availability of data of real time power flow of feeders covered under UFLS:

- . Work has been completed.

(xi) Laying of OPGW in 132kV Lines of OPTCL:

- E-tendering activities in progress

**(D) Important Activities of I.T Wing (FY 2015-16):-**

1. Successful Production of “Energy Accounting and Settlement” System for OPTCL, SLDC (State Load Despatch Center) & GRIDCO

through Oracle Iodestar product. Wheeling invoices are generated through system.

2. Full-fledged implementation of eShakti has been into production covering the following modules:
  - (a) HR, Pension & Payroll
  - ,(b)Projects,(c)Procurement,(d)Inventory,(e)Finance
3. Geographical Information System (GIS) Pilot project covering EHT (O&M) Circle Cuttack is implemented. Order has been placed with ORSAC (Odisha Space Application Center) for covering rest of Odisha by FY 2015-16.
4. Digitization of Substation drawings has been completed. The substation SLDs (Single Line Diagrams) are now available in a digital format in a central repository.
5. VSAT installation at 14 TNF (Technically Not Fit) locations has been completed. Further extension of OPTCL-GRIDCO-SLDC -WAN to sub divisions is in progress. The WAN (Wide Area Network) Extension project is scheduled to be completed by FY 2015-16.
6. Management of end user IT infrastructure and operation of GRIDCO and SLDC Primary Data Center. Consultancy work of PDC(Primary Data Center) is going on.
7. Advance Metering Infrastructure (AMI) Project implementation commenced. Installation work has been completed at 75 Grid S/s. Installation work at 100 Grid S/s shall be completed by March 2016. The project shall be completed by end of FY 2015-16.
8. Tender for OPTCL Web Portal has been finalized. The order shall be placed soon.
9. Video Conferencing at 20 Major Grid Substations shall be completed by FY 2015-16.
10. CCTV monitoring system project for four 400 KV grid S/s is in progress. The project shall be executed during 2016-17.

#### **(E) Important Activities of PMU (Project Management Unit) -33/11kV**

**(a) ODSSP STATUS** Govt. of Odisha have sanctioned Rs 2600 Crore as Grant for construction of 500nos. of 33/11kV Substations in the State. OPTCL is the Nodal agency for construction of the above Substations.



1. LOAs (letter of awards) for construction of 312 nos 33/11kV Sub-stations have been issued to the Contractors.
2. LOAs for construction of 161 nos 33/11kV Sub-stations under Phase-III will be issued soon.
3. Out of above Sub-stations 6 nos have been Test Charged i.e at K.Singpur, Jimidipeta, Dambasora, Sarbahal, Jalada&Bolangir Power House.

**(b) ODAFFP STATUS**

Govt. of Odisha have sanctioned Rs 1000 Crore as Grant for construction of 11kV dedicated Agriculture & fishery feeders in the State. OPTCL is the Nodal agency for construction of the above dedicated feeders.

1. LOA for construction of 19nos of 11kV dedicated Fishery feeder was issued to M/s Gupta Power Infrastructure Limited on 10.06.2015. (Contract Price- Rs128.93 Crore.)
2. The Tender for construction of 111nos of 11kV dedicated Agriculture Feeders shall be floated under Din Dayal Upadhya Scheme. The preparation of DPR is going on.

**(c) PURI NABAKALEBAR PROJECT**

1. This project is done under Govt. of Odisha Grant Scheme.
2. Tender was floated on 20.01.2014 for 33kV Network &Substation Up-gradation, 11kV& LT Network with Sub-station Up-gradation and UG (Under Ground) Cabling and SCADA-DMS under Puri-Nabakalebar Project.
3. The works have already been completed except SCADA, which is likely to be completed by March, 2016.

**(d) Advance SCRIPS (State Capital Region Improvement of Power System)**

1. The Scope of the Project is “Underground Cabling System in Four Main Lanes and Connecting Roads in Bhubaneswar City” under Advance SCRIPS”.
2. This project also under Govt. of Odisha Grant Scheme.

3. LOA for above work was issued to M/s L&T, Chennai on dt-18.11.2015. (Contract Price- Rs 358.72 Crore/-)

**(e) Deen Dayal Upadhya Gram Jyoti Yojana (DDUGJY)**

1. In Deen Dayal Upadhya Gram Jyoti Yojana (DDUGJY), DPRs have been approved for Rs 1648.26 Crores. Tender for Electrification of UE (un-electrified)& SAGY (**Saansad Adarsh Gram Yojana**) villages has been floated.

**GRID CORPORATION OF ODISHA LTD (GRIDCO LTD)**

**Origin and Mandate of GRIDCO:**

Pursuant to the implementation of Orissa Electricity Reform Act (OERA), 1995, GRIDCO was registered as a State owned Corporation of the Government of Odisha on 20th April, 1995 under the Companies Act, 1956 as the successor Organization to the erstwhile Orissa State Electricity Board (OSEB). Following implementation of the Electricity Act, 2003, the transmission activities was hived off from GRIDCO whereby GRIDCO presently carries out its bulk supply function as a Deemed Trading Utility. Being designated by the State Government as the State Designated Entity for procurement & sale of power in bulk to meet the State demand, GRIDCO procures the State share of power from inside and outside the State and supplies the same in bulk to the Electricity Distribution Companies (DISCOMs) for onward retail sale to the consumers of the State. Surplus Power, if any is traded to maximise the revenue.

**Recent Development:**

In a development during March, 2015, the Retail Supply Licence of the erstwhile RIL Managed 3 DISCOMs (WESCO, NESCO & SOUTHCO) was revoked and the management and control of the 3 DISCOMs Utilities was vested with the Chairman-cum-Managing Director (CMD), GRIDCO as the Administrator of the said Utilities under the overall supervision of the Principal Secretary, Government of Odisha w.e.f. 04.03.2015 as per the Hon'ble Odisha Electricity Regulatory Commission (OERC) Order dated 04.03.2015 in Case No. 55/2013. In order that the electricity supply in the respective area of the DISCOM Utilities is not affected, the Administrator took effective measures like placing Authorized Officers

who were later assisted by appointing Chief Operating Officers in each of the said 3 DISCOM Utilities. The DISCOM Utilities, as of date, are functioning smoothly under the Office of the Administrator.

Although the DISCOMs immediately moved an appeal, with Appeal No.64/2015 on the very next day i.e. 05.03.2015 before the Hon'ble Appellate Tribunal for Electricity, New Delhi against the above OERC Order dated 04.03.2015 for stay, the Tribunal, in an Interim Order dated 21.04.2015 dismissed the contention of the Appellants and upheld the OERC Order dated 04.03.2015. However, the Appeal is now sub-judice in the Tribunal for disposal.

**Important activities carried out by GRIDCO during 2015-16 (up to Sep, 2015):**

**1. Power Procurement:**

During the FY 2015-16 (Apr.'15 to Sept.'15), source-wise power procured by GRIDCO is furnished in the Table below:

(Provisional)				
Sl. No.	Source of power/ Generating Company	Energy Procured (MU)	Rate (Paise/U nit)	Cost of power (Rs. Crore)
1	OHPC (including Machhkund)	2892.89	81.99	237.18
2	OPGC	1416.30	198.80	281.56
3	TTPS	1667.80	255.86	426.72
4	Vedanta Ltd.	1635.51	223.41	365.39
5	GMR Kamalanga Energy Ltd.	690.09	270.40	186.60
6	JITPL	208.16	133.94	27.88
7	CGPs/ Co-Gen.	309.03	13.30	4.11
8	New & Renewable Sources	260.08	497.75	129.46
9	Central Thermal	3292.51	347.24	1143.28
10	Central Hydro	677.53	236.60	160.30
11	Trading through Power Exchanges	14.13	200.99	2.84
12	SOC & MOC Charges			1.46
13	Power Banking	233.65	18.39	4.30
14	Total	13297.67	223.43	2971.07

As may be observed, during 1st half of FY 2015-16 (April'15 to September'15 - Six Months), GRIDCO has procured about 13,298 MU of energy at an average rate 223.43 P/U for Rs.2971 Crore.

## 2. Power Scenario, Commissioning of IPPs& Capacity Addition:

Given below are the details of Installed Capacity / entitlement of availability of power by GRIDCO from various sources:

<u>Sources of Power</u>	<u>Allocation (MW)</u>
State hydro	: 2,080
OPGC	: 460
TTPS	: 420
IPP (Vedanta, GMR& Jindal India)	: 1,175
New & Renewable sources	: 195
<b>Sub-total (State)</b>	<b>: 4,330</b>
Central allocation (Hydro)	: 189
Central allocation (Thermal)	: 1,184
<b>Sub-total (Central Allocation)</b>	<b>: 1,373</b>
<b>Total</b>	<b>: 5,703</b>

With regard to facilitating power generation within the State, GRIDCO has been encouraging IPPs for setting up of thermal power plants at different locations in the State.

M/s. Vedanta Ltd. (VL) and M/s. GMR Kamalanga Energy Ltd. (GKEL) have already started commercial operation of their thermal power plants of 2400 MW and 1050 MW capacities respectively. Odisha has shares of 768 MW and 472.50 MW respectively from the aforesaid power plants.

M/s. Jindal India Thermal Power Ltd. (JITPL) has synchronized their 2 x 600 MW Units during FY 2014-15 and Unit-2 was declared COD (Commercial Operation Date) on 07.02.2015. Unit-1 on 18.04.2015. Odisha has a share of 144 MW from this Power Station.

GRIDCO has executed PPA with M/s. Nava Bharat Ventures Ltd. (NBVL) on 31-10-2014 & revised PPA dated 23.09.2015 for procurement of State share of power 7.68 MW from their 60 MW Unit, which has been commissioned on 26-02-2013.

Further, the 1st Unit of the proposed 2x350 MW thermal power plant of M/s. Ind-Barath Energy (Utkal) Ltd. (IBEUL) is likely to be commissioned in March, 2016 and the 2nd Unit shall be commissioned in June, 2016. Odisha shall have a share of 12%, i.e., 84 MW from the aforesaid Units.

It is expected that M/s. Monnet Power Company Ltd. (MPCL) shall commission 1st Unit of their 2x525 MW Thermal Power Plant in January, 2016. Odisha has a share of 472.50 MW from this Project.

The 1st Unit of 660 MW of 2x660 MW, Barh STPS-II of NTPC is in operation from which Odisha has a share of 98 MW. The COD is presently sub-judice at the Central Electricity Regulatory Commission (CERC).

In view of comparatively high cost of power of NTPC stations and surplus power situation in the State, GRIDCO has requested for surrender of capacities allocated to the State from proposed stations of NTPC & its JV Companies, including costly Barh STPS mentioned above, but, excluding share from the proposed 3x660 MW North Karanpura STPS.

### **3. Procurement of Power from New & Renewable Sources and meeting RPO:**

At present GRIDCO has 195 MW to its credit from different New & Renewable sources of Energy, out of which 57 MW from Small Hydro Electric Projects, 118 MW from Solar PV Projects and 20 MW from Bio-mass Power Project.

It is expected that 20 MW Solar Power through Solar Energy Corporation of India (SECI), under Viable Gap Funding (VGF) Scheme and 10 MW of Biomass Energy from M/s. Octant Industries Ltd., are likely to be available during 2015-16.

During the 1st half of FY 2015-16 (April'15 to September'15), GRIDCO has procured about 260.08 MU of energy from various renewable sources.

#### **4. Power Sales to DISCOM Utilities & Power Trading :**

During the 1st half of FY 2015-16, GRIDCO transacted 12815 MU including sale of 12274 MU to the four DISCOM Utilities, about 350 MU through Trading, 191 MU to others (Banking: 156 MU& UI: 35 MU). The total amount of sales witnessed by GRIDCO is around Rs.3662 Crore during the first half year ended September, 2015. GRIDCO is hopeful to continue its power trading activities during the next half of the year despite the prevailing depressed Power Market.

#### **5. Facilitating smooth Grid Management:**

GRIDCO being one of the major entities drawing power from the Eastern RegionPool, follows grid stipulations strictly, especially with regard to schedule and drawl of power. GRIDCO's scheduling and drawal of power in the past has in fact helped in smooth and prudent management of the grid operation. This has helped in making the job of SLDC easy.

#### **6. Finance:**

During FY 2013-14, GRIDCO has witnessed a turnover of Rs.6372 Crore, but suffered losses of about Rs.1464 Crore especially due to provisioning of about Rs.900 Crore consisting of Receivables/Claims Written Off, Sundry Credit Balances Written back andBad & Doubtful Debts.It is expected that financial position of GRIDCO is likely to improve during the coming years due to availability of surplus power for trading.

The Accounts for FY 2014-15 is going to be finalized very shortly.

### **ODISHA THERMAL POWER CORPORATION (OTPC)**

Pursuant to the decision of the State Govt of Odisha, the Odisha Thermal Power Corporation (OTPC) was established on 29th January'2007, as a joint venture company of two State Public Sector Undertakings namely, the Odisha Mining Corporation Ltd (OMC) and The Odisha Hydro Power Corporation Ltd (OHPC) having equal share. OTPC is setting up a coal based super critical thermal power plant of

3200MW (3x800MW +1 MW Future) capacity in Kamakhyanagar Tahasil of Dhenkanal district.

- The total land for the project including the railway corridor after deliberation & visit of CEA is finalized at 1767.908 acres.
- 60% of payment of compensation for private land has been made. Alienation of non-forest Govt land is under process by the Tahasildar-cum-Land Acquisition Officer, Kamakhyanagar.
  - The cost of the project estimated at 16,174.17 Crores i.e. 6.74 Crores per MW. The levelised tariff for 25 years with discount factor 10% is estimated at 3.16 per kwh. An expenditure of 216 crores has been incurred on the project on the project till Jan'2015.
  - Power Purchase Agreement (PPA) for the sale of entire power of OTPC has been executed with GRIDCO
  - Site specific studies like soil investigation, ground water survey, socio economic study, geological study, contour survey, area drainage study, hydrological study etc have been completed. DoWR has confirmed allocation of required water for the project. IDCO has started the initial work for construction of boundary wall, site office, transit house etc.
  - Boundary wall work of acquired property has been started.
  - Peripheral developmental activities have been going on in project affected areas.
  - In-principle approval accorded from GoO, DoWR for allocation of 80. Cusecs water from river Brahmani.
  - The Director of Geology, GoO in their report during March'2013 have confirmed non-occurrence of minerals in the project area.
    - The Archaeological Survey of India and the State Archaeology have accorded clearance to the project site during June & August'2012 respectively.
  - Forest diversion proposal is ready for submitting to appropriate authority for obtaining stage-I clearance.
  - Terms of Reference (TOR) for undertaking detailed Environment Impact Assessment (EIA) study have been obtained from MoE&F in Jan'2013. M/s MECON have completed EIA study & Public hearing has been completed. The final revised report would be submitted after

allocation of coal block & revised land use approval of CEA which are mandatory as per TOR.

- The Govt of India, Ministry of Coal has been requested several times through State Govt to cancel the Tentuloi coal block allotted to OTPC in August'2013 as it is not feasible for mining and not viable for operation.
- OTPC has registered with the MSTC as per the notification dtd 21.01.2015 of the GoI, MoC for making application for allotment of Chhendipada & Chhendipada-II coal blocks to meet its coal requirement of 16 MT per annum. State Govt has written several letters in this regard to MoC, GoI.

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