ACTIVITIES REPORT OF ENERGY DEPARTMENT
FOR THE YEAR 2018-19

The Department of Energy was created on 24th April 1990 consequent upon bifurcation of the then Irrigation & Power Department. Electricity is one of the prime inputs for 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)	-	1864 MW
(b)	Thermal Power Generation	-	2266 MW
(c)	Central allocation.	-	1392 MW
(d)	New & Renewable Energy	-	280 MW
	Total -		**5,802 MW**

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 seven Public Sector Undertakings Viz. Odisha Hydro Power Corporation (OHPC), Odisha Power Generation Corporation (OPGC), Odisha Power Transmission Corporation Ltd (OPTCL), GRIDCO Ltd (GRIDCO), Odisha Thermal Power Corporation (OTPC), Green Energy Development Corporation (GEDCOL) and Odisha Coal and Power Ltd (OCPL).

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

The EIC (Electricity)-cum-PCEI (O), Bhubaneswar has been delegated with the powers to look in to the matters regarding Collection of Revenue, Electrical Accident Enquiry, Issue of Electrical License, Offence relating to Electricity Theft etc.

Electricity Duty (ED) constitutes an important source of the Government Revenue. The Collection of Revenue from various electricity consumers comes in the form of ED, inspection fees, fees for testing equipment/standard and fees for issuing electrical permit and licenses to the Electrical wireman, Lineman, Supervisor and Contractor.

Highlight of the last eight years achievement on revenue receipt against the target fixed is given below:

During 2010-11 to 2018-19

Sl. No.	Year	Target fixed (Rs. In Cr.)	Achievement (Rs. In Cr.)	Remarks
1	2010-11	600.00	458.06	Revenue Receipt in respect of non-captive, captive ED and inspection fees. *** - Arrear ED.**
2	2011-12	550.00	551.72	
3	2012-13	700.00	591.16	
4	2013-14	710.00	670.11	
5	2014-15	800.00	850.00 & ***** 872.00	
6	2015-16	1200.00	1212.94	
7	2016-17	1500.00	1638.16	
8	2017-18	1900.00	1967.48	
9	2018-19	2400.00	3258.61	

The above figure shows a rising trend of revenue collection.

Target fixed for the current financial year is Rs. 2400.00 Crore.

During the Financial Year 2018-19, an amount of Rs.3258.61 Crore of revenue (ED) has been collected upto March, 2019 against the annual target of Rs.2400.00 Crore. Steps are being taken to achieve the target fixed for this year.

The Electricity (Duty) amendment Act 2016 has been passed in the assembly and published in Odisha Gazette on 05.11.2016 providing opportunity for aggrieved consumer to appeal before the next higher authority. The maximum ceiling in ED rates has been enhanced to Rs.2.00 per unit for own use & auxiliary consumption in CPP & IPP and upto 15% in other cases i.e. ad valorum basis. The lower limit capacity of the generators has been raised from 10KVA to 50KVA in respect of inspection & levy of Electricity Duty. A three tier redressal system has been introduced for better justice to the consumer in dispute resolution.

RURAL ELECTRIFICATION SCHEMES

- **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 populations and the BPL Household Electrification in those habitations which are not covered under RGGVY. Initially there was a target to cover 10,000 habitations during the 11th Five Year Plan under the scheme, which have already been achieved. The State Government has provided Rs.1388.00 Crore to the Districts for implementation of the Scheme against which an expenditure of Rs.965.66 Crore has been made for the purpose as on the date. For the Financial Year 2017-18 a plan provision of Rs.200.00 crore has been made under the scheme. During 2018-19, a plan provision of Rs.150.00 Crore has been made under the Scheme.

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

This flagship programme of Government of India launched in April, 2005 aims at providing 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 Rs.3550.75 Crore.

During the Financial Year 2017-18 plan provision of Rs.125.00 Crore has been made in the State budget for this purpose. During the Financial Year 2018-19, a plan provision of Rs.125.00 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 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.

For the Financial Year 2017-18 a provision of Rs.10.00 crore has been made under the scheme. During 2018-19, a plan provision of Rs.10.00 Crore has been made in the Budget under the Scheme.

CONSTRUCTION OF NEW 33/11 KV SUB-STATIONS UNDER ODSSP

For giving uninterrupted reliable and quality supply with proper voltage to consumers of the State even in remote areas, a project to construct 473 nos. of 33/11 KV Substations at a cost of Rs.3843.00 crore is being 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.

This scheme envisages investment of Rs.3843.00 crore to be executed over a period 4 years by OPTCL. A budget provision of Rs.179.00 crore during the financial year 2013-14, Rs.150.00 crore in the financial year 2014-15, Rs.890.00 crore in the Financial Year 2015-

16 and Rs.900.00 Crore in the Financial Year 2016-17 were made to continue the project work. In the Financial Year 2017-18 a provision of Rs.481.00 crore has been made and Rs.300.00 Crore has been made in Supplementary Budget under the scheme. The funds are being released in favour of OPTCL, the Nodal Agency for implementation of the project. The work is in progress. During 2018-19, a plan provision of Rs.500.00 Crore has been made in the Budget under the Scheme.

ENERGY CONSERVATION

Each unit of energy saved is energy generated. 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 Stake-holders. Odisha Energy Conversation 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.

- As part of Energy Conservation action plan, recommendations of the Investment Grade Energy Audit (IGEA) are being implemented in four Drinking Water Pumping Stations (DWPS) in phase-I and in nine major drinking water pumping stations in phase-II with the support of respective Public Health Divisions, under Housing and Urban Development Department, Government of Odisha. IGEAs of 137 nos. of DWPS are also being undertaken to widen the opportunity for energy savings in the next phase.
- Energy efficiency implementation in 4316 Lift Irrigation (LI) systems under the Pani Panchayats are being implemented through the Odisha Lift Irrigation Corporation in two phases. The project is estimated to contribute towards substantial reduction of grid demand as a demand side initiative besides benefiting the farmers of the State by reducing their operating energy expenses. A total of 2848 nos. of pumps have already been replaced out of 4316 nos. proposed.
- IGEA of 136 nos. of establishments which include Government buildings, District Collectorate Office, Medical Colleges and District Headquarter hospitals, Agricultural farms and Universities have

been taken up since 2008. The recommendations of the IGEA study have been subsequently implemented in 18 important buildings to improve Energy Efficiency in the building sector of the State. Several workshops have been conducted to spread awareness. Around 2.4 M.W capacity avoidance has been achieved. Energy Audit was once again conducted in Raj Bhawan on their request and final report of audit has been submitted to Works Department for implementation. Works Department has been requested for preparation of estimate as per audit recommendation and speedy implementation.

- Proposal for carrying out IGEA of 149 nos. of Prisons and Correctional Institutions is being pursued and preliminary data collection of these buildings is being undertaken for improvement of Energy Efficiency under building category.
- (a) Implementation of UJALA (Unnat Jyoti by Affordable LEDs for All) previously known as DELP has been launched on 18.4.2016. Under this Programme upto 10 LED bulbs of 9 W is being provided to domestic consumers, upto 20 such bulbs to commercial consumers and required no. of bulbs to public institutions. About 1 crore bulbs has been initially proposed to be provided at a cost of Rs.85/- per bulb to about 60 lakh domestic consumers in Odisha. The price of the bulbs has been reduced to Rs.70/- with effect from 1.12.2016. The total number of LED bulbs sold since 18.4.2016 till 14.11.2017 is 1,08,56,796 nos.. This programme targets complete replacement of ordinary bulbs and CFLs with LED bulbs which are not only energy efficient but also long lasting. After replacement, it is expected to result in 185 MW capacity avoidance in the generation front, besides contributing towards climate change mitigation.
- Under UJALA Scheme, 20 Watt LED tube light and 50 Watt Bureau of Energy Efficiency (BEE) 5 star labeled fans have been launched in the State on 19.9.2016. The sale through EESl's Channel Partners have commenced from 9.1.2017. The price of each energy efficient fan is Rs.1200/- and the price of each LED tube light is Rs.220/-. The SDA and DISCOMs have extended all support to EESL for meeting the objective of the energy efficiency

improvement scheme. Till 14.11.2017, 86,948 nos. of Tube light and 21,128 nos. of fans have been sold.

- Two villages of Odisha i.e. Satyabhamapur (Cuttack District) and Raghurajpur (Puri District) were covered under the LED Village Campaign in the first phase during 2010-14. The project have been implemented with the support of CESU where in 3 nos. of 10W LED bulbs have been given to each family and 20W LED street lights have been installed in these two villages. In the second phase of the project 4 Villages (Sarei, Barun in Keonjhar District, Sasad, Khandahata in Jajpur District) under NESCO and one village (Badribandh Hamlet of Bargaon village in Sundargarh District) under WESCO have been completed in 2016. 3 nos. of 12 Watt LED bulbs were distributed among consumer's alonwith streetlights of 20 Watt LED lamps to demonstrate and promote the use of LEDs among general public in rural areas.
- **Compliance Monitoring of Perform, Achieve and Trade (PAT) Scheme:** PAT Scheme is a "Cap and Trade" incentive based mechanism launched under the programme "National Action Plan for Climate Change". The Scheme aims at improving energy performance of energy intensive industries in sector such as Iron and Steel, Aluminum, Cement, Pulp and Paper, Thermal Power Plants, Textile etc. Energy intensive industries who are notified as Designated Consumers (DC) are given Specific Energy Consumption reduction targets and have three years for compliance. DCs exceeding the target will be awarded Energy Savings Certificates (EScert) and DCs unable to meet the target have to buy the shortfall amount from the EScert trading exchange. O/o EIC(E)-cum-PCEI as the State Designated Agency acts as an interface between BEE and Designated Consumers for PAT Scheme/ provisions of EC Act 2001 by seeking Energy Returns, Energy audit reports and compliance checks etc. 27 energy intensive industries were notified as Designated Consumers in Odisha in PAT Cycle I (2012-2015). PAT Cycle II has commenced from 2016 and a total of 34 DCs were notified in the State of Odisha. PAT Cycle-III has been notified in 2017 and an additional 17 DCs have been declared.

- To promote energy conservation in the dairy sector, the energy efficiency implementation in OMFED Bhubaneswar Plant has been taken up as a unique project through investment from 'Revolving Investment Fund' to facilitate improvement of energy performance as per the recommendations of the IGEA. Out of the approved project cost of Rs.3.40 Crore, Rs.138.27 lakh has already been placed before OMFED to improve their energy performance. Implementation is in progress.
- Implementation of energy efficient street lighting projects in 108 (Urban Local Bodies) ULBs of the State by undertaking retrofitting of existing inefficient streetlights with LED with associated control systems to demonstrate and showcase benefits of energy efficiency is being undertaken. EESL, Government of India has evolved a business model to facilitate investment in the ULBs/ DISCOMs and the consequent reduction in energy and maintenance cost of ULBs/ DISCOMs shall be used to repay the investment over a period of time. This Street Light National Programme (SLNP) will be taken up by EESL for the ULBs and ESCO Mode. EESL has recently signed Agreement with H & U.D to implement the SLNP in 108 ULBs. Presently, SDA is considering to undertake retrofitting of LED street lights of some of the hydro power stations and the colonies and OMFED premises. Estimate has been received.
- Odisha Energy Conservation Building Code (OECBC) was notified by the Government of Odisha in 2011 to implement the provisions of the Energy Conservation Act, 2001 in the building sector of the State. The code envisages potential energy savings from new commercial buildings with contract demand of 100 KW or more or conditioned area of 500 sq meters and above. Formulation of a state level road map and various capacity building programme and stakeholder meets have been taken up to facilitate implementation of OECBC. In 2013, an Apex Committee and an Expert Group have been constituted for the smooth enforcement of the code in the State.
- Block, District and State level quiz competitions have been organized with the support of Centre for Environmental Studies (CES), Forest and Environment Department, Government of Odisha for creating

awareness among school students and general public. Energy Conservation awareness programmes have been organized in 120 Schools by inaugurating Energy Clubs. As part of the National awareness campaign for Energy Conservation, State Level function is being organized each year on the occasion of Energy Conservation Day on 14th December at Bhubaneswar.

- The Odisha State Energy Conservation Award (OSECA) has been instituted in 2015 to promote state level recognition of entities every year across six sectors that have made systematic and continued attempts for efficient utilization and conservation of energy in the State. The sectors are MSME, IT Industries, Hospitals, Educational Institutions, Commercial Buildings and Hotels.
- Theory cum practice workshops, hands on training programs for the Boiler Operators have been facilitated through National Productivity Council to improve the skills of the State's boiler workforce.
- An energy efficiency and energy conservation promotion stall has been regularly organized during Baliyatra. Daily quiz, painting competition, slogan competition etc. on energy conservation was conducted in the stall. Short awareness video, demonstration of energy audit instruments was also being conducted in the stall to encourage visitors, particularly school children and spread awareness.
- Awareness programs and dissemination of energy conservation messages in different print and electronic media are being taken up to spread the message of energy conservation among all the stakeholders.
- In Financial Year 2016-17 a budget provision of Rs.5.00 crore has been made to carry out the energy conservation activities and awareness campaign in the State.
- In Financial Year 2017-18 a budget provision of Rs.3.00 crore has been made to carry out the energy conservation activities and awareness campaign in the State.
- In Financial Year 2018-19 a budget provision of Rs.3.00 crore has been made 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, Government of Odisha has taken up a special scheme called System Strengthening for Elephant Corridor. In the Phase-I, the work in 9 corridors has been completed out of the 11 corridors taken up. In the Phase-II, work in 9 corridors has been completed out of the 12 and works in rest of the corridors are in full swing. In the Phase-II, work in all the 14 corridors is in progress.

A plan provision of Rs.20.00 Crore was provided under the scheme during the Financial Year 2017-18. Keeping in view its importance Rs.20.00 Crore has been made provision for the Financial Year 2018-19.

SHIFTING OF TRANSFORMERS LOCATED IN GOVERNMENT SCHOOLS & ANGANWADI CENTRES

Shifting of electrical infrastructure located in Government Schools and Anganwadi Centres in the State was felt necessary on safety point of view. In the Financial Year 2017-18, Rs.10.03 lakh have been provided like the same in the previous Financial Year. During the Financial Year 2018-19, a plan provision of Rs.10.00 Crore has been made under the Scheme.

EQUITY SHARE INVESTMENT IN OPTCL

State Government has decided to infuse additional equity of Rs.300.00 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 Financial Year 2011-12, Rs.43.00 Crore was provided in the State Budget. During Financial Year 2012-13, 2013-14 & 2014-15 funds to the tune of Rs.50.00 Crore each were provided to OPTCL for this purpose. In the Financial Year 2015-16 a plan provision of Rs.57.00 Crore was kept. In the Financial Year 2016-17 a provision of Rs.50.00 Crore has been kept under the scheme. During the Financial Year 2017-18, a plan provision of Rs.50.00 Crore has been made under the Scheme. During the Financial Year 2018-19, a provision of Rs.45.00 Crore has been made 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, Government 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 Rs.48 Crore (@ of 30% of project cost) with an agreement for procurement of generated power by SECI @ Rs.5.45/ unit. The state Government has decided to contribute 50% of the total equity capital required for the above project of GEDCOL.

Thus, a plan provision of Rs.30.00 Crore in the Financial Year 2016-17 was made under the Scheme and a plan provision of Rs.19.00 Crore has been made by the State Government in the Financial Year 2017-18 to extend equity support to GEDCOL through OHPC. During the Financial Year 2018-19, a plan provision of Rs.49.00 Crore has been made under the Scheme

INFRASTRUCTURE ASSISTANCE TO GEDCOL

In order to promote Green Energy in the State, Government of Odisha has established Green Energy Development Corporation Ltd. (GEDCOL), as a 100% subsidiary of OHPC, which has started its operation from the Financial Year 2013-14. For developing different projects in its own domain, financial assistance is being provided by the State Government. A budget provision of Rs.10.00 Crore each was made under this scheme in the Financial Year 2014-15 & 2015-16. In the Financial Year 2016-17 plan provision of another Rs.10.00 Crore has been made under the project. GEDCOL, through an allotment of SECI,

has developed a 20 MW solar power generating system at Manmunda in Boudh District and is developing 4 MW Cuttack-Bhubaneswar Roof-Top Solar Power Project, for which work order has already been placed. Further, it is also replicating the Roof Top Solar Projects in 15 other towns in the state viz. Balasore, Bhadrak, Baripada, Burla, Hirakud, Sambalpur, Rourkela, Puri, Khurda, Berhampur, Chhatrapur, Jeypore, Koraput, Sunabeda and Nabarangpur. During the Financial Year 2017-18 & 2018-19, a plan provision of Rs.10.00 Crore & Rs.10.00 Crore has been made under the Scheme

STANDARD TESTING LABORATORY

Standard Testing Laboratory functions as an electrical laboratory at Bhubaneswar for testing the standard & calibration of different electrical equipment, particularly energy meters. In case of challenge between supplier and consumers, the energy meters are tested in the Standard Testing Laboratory by regulation as a statutory authority and as a practice of standard acceptance to the public.

New STL buildings have been constructed in the same compound with more space than earlier. This building will help us to accommodate more & more testing facilities required by the different electrical equipment and installation in the power sector. Neighboring States like Jharkhand, Chhatisgarh are depending on our STL. Since technology is fast changing, more and more advanced energy meters and other equipment are coming into the power sectors. The STL requires continuous up-gradation of its strength and support together with skill development of technicians as well as engineers which have become the need of the hour to cope up with the advancement.

In the Financial Year 2016-17 a plan provision of Rs.50.99 lakh has been kept under the scheme. During the Financial Year 2017-18 & 2018-19, a plan provision of Rs.1.00 Crore & Rs.50.01 lakh has been made under the Scheme.

ODISHA TRANMISSION SYSTEM IMPROVEMENT PROJECT (JICA)

This is a JICA assisted project to be implemented in the State for the project period from 2016-20 with a total project cost of Rs.1289.08 Crore including State counterpart funding of Rs.142.32 Crore. The project will be implemented through OPTCL, Bhubaneswar a wholly

owned Government company with an objective address the issue of increased load demand of the State through creation of adequate transmission infrastructure which will enhance the capacity and reduce the transmission loss. The project aims at augmentation of transmission network to be taken up in 400 KV (2 project in Ganjam & Bhadrak), 200 KV (8 project in Dhenkanal, Gajapati, Mayurbhanj, Angul, Nayagarh, Deogarh & Malkangiri) and 132 KV (9 project in Phulbani, Cuttack, Balasore, Dhenkanal, Jharsuguda, Sundargarh, Kendrapara, Kalahandi & Bargarh) levels. A budget provision of Rs.100.00 crore has been made for implementation of the project for the Financial Year 2016-17 under the scheme. During the Financial Year 2017-18 & 2018-19, a plan provision of Rs.20.00 Crore & Rs.44.00 Crore has been made under the Scheme

DEENDAYAL UPADHYAYA GRAM JYOTI YOJANA (DDUGJY)

Deendayal Upadhyaya Gram Jyoti Yojana is a Government 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. Under this Scheme, the detail survey of the un-electrified villages has been completed and LOA issued. In the Financial Year 2016-17 a provision of Rs. 100.00 Crore was kept under this scheme. In the Financial Year 2017-18, a plan provision of Rs.200.00 Crore has been made as State share. During the Financial Year 2018-19, a plan provision of Rs.200.00 Crore has been made under the Scheme.

INTEGRATED POWER DEVELOPMENT SCHEME (IPDS)

Integrated Power Development Scheme is a Ministry of Power, Government 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 as well as 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 Financial Year 2015-16 a provision of Rs.10.00 Crore was kept under this scheme. In the Financial Year 2016-17 a plan provision of Rs.50.00 Crore has been made as State share. During the Financial Year 2017-18 & 2018-19, a plan provision of Rs.100.00 Crore & Rs.100.00 Crore has been made under the Scheme

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, Government 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. Underground cabling work alongside 4 major roads i.e. Cuttack Road, Janpath, Sachivalay Marg & Bidyut Marg has been taken up where LOAs have been issued in Nov, 2016. 132 KVA UG cabling line from Chandaka–B GIS Grid to Mancheswar-B GIS Grid is to be taken up with issue of LOA in Nov, 2016. LOAs have been issued on August, 2016 for UG cabling work at Cuttack. In the Financial Year 2015-16 a provision of Rs.70.00 Crore was made under the Scheme. In the Financial Year 2016-17 a plan provision of Rs.180.00 Crore has been made under the Scheme. During the Financial Year 2017-18 & 2018-19, a plan provision of Rs.230.00 Crore & Rs.150.00 Crore has been made under the Scheme.

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, develops the norms from Smart Grid adoption which

has been approved by MOP as the Smart Grid vision and road map for India. The Government of Odisha has taken initiatives for adoption of Smart Grid Technology in power sector (Transmission and Distribution Sector) having the component name v.i.z. GIS, SCADA, OPGW and AMI for un-interrupted and reliable power supply to the consumers of the State. In the Financial Year 2015-16 a budget provision of Rs.30.00 Crore was kept under the Scheme. In the Financial Year 2016-17 a plan provision of Rs.80.00 Crore has been made under the Scheme. During the Financial Year 2017-18 & 2018-19, a plan provision of Rs.70.00 Crore and Rs.55.00 Crore has been made has been made in the Budget under the Scheme.

RADIAL TO RING CONVERSION PROJECT

The Radial to 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 Rs.34.99 Crore was made in the Financial Year 2015-16 under the scheme. In the Financial Year 2016-17, a plan provision of Rs.40.00 Crore has been made under the scheme. During the Financial Year 2017-18 & 2018-19, a plan provision of Rs.40.00 Crore & Rs.40.00 Crore has been made under the Scheme.

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 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 Rs.10.00 Crore has been made in the Financial Year 2016-17 under the scheme like that in the previous year.

During the Financial Year 2017-18 & 2018-19, a plan provision of Rs.30.00 Crore & Rs.40.00 Crore has been made in the Budget under the Scheme.

DISASTER RESILIENT POWER SYSTEM

The massive devastation of transmission and distribution infrastructure of the energy sector in last Phailin and Flood 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 Rs.20.01 Crore was made under the scheme in the Financial Year 2015-16. In the Financial Year 2016-17, a plan provision of Rs.30.00 crore has been made. During the Financial Year 2017-18 & 2018-19, a plan provision of Rs.40.00 Crore & Rs.35.00 Crore has been made under the Scheme.

EQUITY INFUSION TO OPGC

The State Government has decided to provide financial assistance through equity infusion to OPGC. For this purpose plan provision of Rs.247.35 Crore has been kept under the scheme in the plan budget for Financial Year 2016-17. During the Financial Year 2017-18 & 2018-19, a plan provision of Rs.308.69 Crore and Rs.221.68 Crore has been made in the Budget under the Scheme.

POWER SUPPLY TO NEW BANK BRANCHES OF UNBANKED G.P.s

In order to provide Power Supply to the New Bank Branches of unbanked GPs the State Government has initiated this scheme. In the Financial Year 2016-17, a plan provision of Rs.2.50 Crore has been made under the scheme. During the Financial Year 2017-18 & 2018-19, a plan provision of Rs.3.90 lakh & Rs.20.00 lakh has been made under the Scheme.

IEC ACTIVITIES

In order to improve information, education and communication systems a plan provision of Rs.0.35 Crore has been kept under the scheme for the Financial Year 2017-18 and Rs.3.36 Crore has been made in the Budget under the Scheme.

NEW SCHEMES/PROJECTS & INITIATIVES

AMA GHARE LED LIGHT 'KARYAKRAMA'

In order to provide LED bulb to all, new scheme has been launched named as "Ama Ghare LED Light" Karyakrama. A sum of Rs.225.00 Crore is provided for the Financial Year 2018-19.

SAHAJ BIJILI HAR GHAR YOJANA (RURAL) – SOUBHAGYA

In order to provide electricity to all rural houses, Government of India has launched in October, 2018 a new Scheme named as "Sahaj Bijli Har Ghar Yojana (Rural) – Soubhagya" to achieve universal household electrification. An anticipation availing of funds from Government of India, State Government has kept of Rs.210.00 Crore (as State Matching Share) for the Financial Year 2018-19.

ACTIVITIES OF STATE PUBLIC SECTOR UNDERTAKINGS (PSUs):

ODISHA HYDRO POWER CORPORATION LTD. (OHPC)

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

At present, OHPC has six Hydro Electric Projects in operation alongwith one Joint Hydro Electric Project with APGENCO having total installed capacity of 2063.50 MW.

The detailed unit wise installed capacity and design energy are given below.

Sl. No.	Name of the Units	Installed Capacity (MW)	Design Energy (MU)		Design Energy for Sale (MU)
1	Hirakud	275.50		684	677.16
2	Chiplima	72		490	485.10
3	Balimela	510		1183	1171.17
4	Rengali	250		525	519.75
5	Upper Kolab	320		832	823.68
6	Upper Indravati	600		1962	1942.38
	Sub-Total	**2027.50**		**5676**	**5619.24**
7	Machkund (Odisha Share 30%)	36.00	50% Odisha Share as per 1978 Agreement	262.50	259.87
	TOTAL	**2063.50**		**5938.50**	**5879.11**

Power Generation

OHPC generates hydro power and supplies the same to the State of Odisha at cheapest rate. The average tariff approved by OERC for the Financial Year 2018-19 is 88.55 Paise/ Kwh. The Power generation from different power stations for the Financial Year 2018-19 is 5831.66 MU (excluding Machhakund) and 6105.37 MU (including Machhakund

Power Generation from different power stations of OHPC for 2018-19 in MU:

Year	Hirakud	Chiplima	Balimela	Rengali	Upper Kolab	Upper Indravati	Sub Total	Machhakund	Total
2018-19	380.00	158.51	1480.74	745.97	923.85	2142.59	5831.66	273.71	**6105.37**

RESERVOIR LEVEL:

The water level in all the reservoirs is in comfortable position to generate adequate electricity to meet State demand in the coming months. As on 31.03.2019, the reservoir level in different reservoirs in comparison to the previous years is given below:

Sl. No	Name of the Power Stations	FRL / MDDL	RL as on Dated 31.03.19	RL as on Dated 31.03.19	% filled up
1	Hirakud	630 ft. / 590 ft.	616.67 ft.	616.77 ft.	52.59 %
2	Balimela	1516 ft. / 1440 ft.	1456.50 ft.	1487.80 ft.	51.04 %
3	Rengali	123.5 m / 109.72 m	119.69 m	115.45 m	31.29 %
4	Upper Kolab	858 m / 844 m	850.70 m	851.38 m	40.65 %
5	Upper Indravati	642 m / 625 m	632.65 m	634.45 m	48.14 %
6	Machhkund (JT)	2750 ft. / 2685 ft.	2736.70 ft	2731.20 ft	53.58 %

The important activities of OHPC for 2018-19 are as follows:

i) DPR for a 600 MW capacity Pumped Storage Power Plant (PSP) of Upper Indravati, Mukhiguda is under preparation. M/s. WAPCOS submitted the draft DPR of the project. Observation on Draft DPR of UIPSP submitted to WAPCOS on dated.8.3.2019. The draft DPR is under scrutiny at CEA and CWC. Drifting work will be stared after obtaining approval from Forest Department. After carrying out the drift study WAPCOS will submit the final DPR. OHPC applied online to obtain the forest clearance. State Serial Number for Forest Clearance proposal was generated on 28.3.2019 and the proposal is under scrutiny at DFO, Kalahandi (South).

ii) DPR for a 320 MW capacity Pumped Storage Power Plant at Upper Kolab is under preparation. Based on the conceptual layout of UKPSP submitted by WAPCOS, the observation of OHPC submitted to WAPCOS for necessary correction. For

Topographical Survey, application with SI map of the area to be surveyed has been submitted to DFO, Jeypore on 30.1.2019. DFO has sought permission from RCCF. The maps of the areas on which geotechnical investigation (drilling to know the rock quality) are to be carried out for Upper Kolab Pump Storage Project has been prepared and submitted to the PCCF alongwith an application for permission of such activity in forest area on 2.2.2019. OHPC requested DFO, Jeypore to provide crown Density and RF/ PRF status information. All the information as required by PCCF has been compiled and submitted on 6.4.2019 for obtaining Forest Clearance for carrying out geo-technical investigation.

iii) DPR for a 400 MW capacity Pumped Storage Power Plant at Balimela is under preparation by WAPCOS. WAPCOS has been carried out the Topographical Survey in the period from 1st February to 4th March, 2019. WAPCOS has been requested to submit the Inception report and PFR of Balimela Pump Storage Project also to give a presentation on the Topographical Survey and geological survey report of Balimela Pump Storage Project.

iv) Contract Agreement for R&M work of Unit#3 of CHEP, Chiplima signed on dtd.15.10.2015 with M/s. Voith Hydro Private Limited, Noida at a project cost of Rs.65.67 crore. R&M work of the unit is in progress. The erection of Turbine and Generator, Turbine and auxiliary system is in progress.

v) Contract Agreement for R&M work of Unit #5 & 6 of HHEP, Burla signed on dtd.16.10.2015 with M/s Voith Hydro Private Limited, Noida at a project cost of Rs.158.77 Crore. Refurbishment works of draft tube gates completed. Dismantling of Generator, turbine and auxiliaries of Unit #6 completed. At present Stator built up and refurbishment of Intake gate of Unit #5 is being carried out. Stator built up alongwith GT and Bus duct erection of Unit#6 completed. Refurbishment of Intake gate and spiral casing and discharge ring and rotor building of Unit#6 is being carried out.

vi) Contract Agreement for R&M of Unit #1 to 6 (six units) of BHEP, Balimela signed on 21.09.2016 with M/s BHEL at a project cost of Rs.382.91 Crore. Dismantling of Unit#1&2 completed. Refurbishment work of spiral casing, Stay Vanes and Stay rings completed. Refurbishment work of SRV & BFV of Unit#1 is under progress. Installation/trial assembly of Pivot Ring (Bottom Ring) of Unit#1&2 is under progress. Supply of materials is under progress.

vii) DPR preparation for SALKI and KHARAG:

Kharag HEP**:**

DPR for KHARAG Hydro Electric Project is under preparation by WAPCOS Limited. The map of the areas on which geotechnical investigation (drilling to know rock quality) is to be carried out for Kharag Hydro Electric Project has been prepared. It is submitted to the PCCF alongwith an application for permission of such activity in forest area on 2.2.2019. PCCF on 12.3.2019 asked to clarify some of the queries and submit necessary undertakings. OHPC requested DFO, Baliguda and Phulbani to provide crown Density and RF/ PRF information. All the information as required by PCCF has been compiled and submitted on 5.4.2019 for obtaining the Forest Clearance for carrying out geotechnical investigation. WAPCOS submitted the Topographical Survey Report on 23.3.2019 and WAPCOS submitted the Draft DPR on 29.3.2019.

Salki HEP:

DPR for Salki Hydro Electrical Project is under preparation by WAPCOS Limited. Application alongwith SI Map of the area to be surveyed has been submitted to DFO, Phulbani and Boudh on 30.1.2019 for approval. WAPCOS submitted the conceptual layout with comparison statement of Single stage and Multistage Hydro Electric Projects, followed by presentation on 27.3.2019 in presence of OHPC Officials & DoWR officials. The conceptual layout report was forwarded to the Chief Engineer (PPF & I), Department of Water Resources, Government of Odisha for their views/ comments.

The important activities of Green Energy Development Corporation Ltd (GEDCOL) for 2018-19 are as follows:

A. Small Hydro Electric Projects:

i. PFRs of 14 (Fourteen) nos. SHEPs (approx.180 MW) have been prepared.

ii. Preparation of PFR for Cheligarh #3 & 4 in Gajapati District is under progress.

iii. DPRs have been prepared for 2 (two) nos. SHEPs i.e. Kanpur (4.2 MW) in Keonjhar & Jambhira (3 MW) in Mayurbhanj District. MOU has been signed with EIC (Electricity) on 3.10.2016 for implementation of Kanupur SHEP. Tender documents prepared by M/s. WAPCOS for implementation of these projects.

iv. GEDCOL & SAIL have agreed to develop Mandira SHEP (10 MW) in JV mode. DPR for the project is prepared by M/s. MECON. JV agreement executed between GEDCOL and SAIL on 13.2.2018. A JV company called GEDCOL – SAIL Power Corporation Ltd has been formed on 6.9.2018 for implementation of the project. The draft tender document for selection of a firm for execution of project under EPC mode has been prepared by WAPCOS and it is floated on 27.2.2019.

B. Solar Power Projects:

i. GEDCOL has successfully completed commissioning of 20 MW Solar Power Plant at Manamunda in Boudh District under JNNSM Phase-II, Batch-I in the month of June-2016 through M/s BHEL under an EPC contract.

ii. Letter of Award has been issued in favour of LI bidder i.e. M/s. AZURE POWER Pvt. Ltd for implementation of 4 MW Roof Top Solar Project in Cuttack and Bhubaneswar. The Project Implementation Agreement (PIA) signed between Developers, CESU & GEDCOL on 30.7.2016. Total capacity of 4 MW has been commissioned as on 31.03.2019.

iii. GEDCOL is executed Financial Advisory services Agreement (FASA) with IFC to take up replication of Bhubaneswar-Cuttack Solar Rooftop project in other cities of the State i.e. Sambalpur,

Burla, Hirakud, Rourkela, Balasore, Bhadrak, Baripada, Berhampur, Chhatrapur, Sunabeda, Koraput, Jeypore, Nawarangpur, Puri and Khordha. The scheme also covers the left out buildings in Bhubaneswar & Cuttack cities. Primary Survey and DPR preparation completed for 18.8 MW Capacity on 612 nos. of buildings under Gross Metering Model.

iv. DPR has been prepared for 275 MW Solar Park at five sites in Sambalpur and Boudh District. DPR has been approved by MNRE. The draft bid document has been received. The transmission infrastructure for power evacuation shall be constructed by OPTCL for which DPR has been approved by CEA. NIT has been floated by OPTCL.

ODISHA POWER GENERATION CORPORATION (OPGC)

OPGC a Gold category State PSU has been incorporated in the year 1984 under the Companies Act 1956 and engaged to establish, operate and maintain electric power generating station, tie lines, sub-stations and transmission lines & connection therewith.

The authorized Share Capital is Rs.3000 Crore and the paid up Share Capital is Rs.1580.4974 Crore as on 31.10.2018. The share holding pattern is as below:

Share holders	**Percentage of Share holdings**	**No. of Shares**	**Amount (Rs.)**
Government of Odisha	51	80,60,537	806,05,37,000
AES	49	77,44,437	774,44,37,000
Total	**100**	**158,04,974**	**1580,49,74,000**

FUNCTIONS & ACTIVITIES DURING FINANCIAL YEAR 2017-18

1. Dividend declared as on today: (Till Financial Year 2016-17 declared in 2017-18)

Total Dividend paid of Rs.1411.08 Crore

Government of Odisha (51%) of Rs.736.16 Crore

A.E.S (49%) of Rs.674.92 Crore

2. Investment-Vrs-Return of the State from OPGC

Initial Investment of Rs.450.00 Crore Share Capial.

Subsequently the position of Share Capital is as above at Sl.No.3

Dividend paid by the Company till 2017-18 (year 2016-17 declared & paid in 2017-18) of Rs.736.16 Crore.

Performance Highlights-Unit 1 & 2:

OPGC has set up two Thermal Power Plants with a capacity of 210 MW each in the Ib Thermal Power Station, Banharpalli in the distrist Jharsuguda, Odisha at a cost of Rs.1135.00 Crore. 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/ OERC Tariff.

Units Commissioning dates:

Unit-I of ITPS (210MW)-21.12.1994

Unit-II of ITPS (210MW)-1.7.1996

The present Installed Capacity of OPGCL is:

SI. No	Particulars	Capacity
1.	Thermal	420 MW

Details of generation, turnover, net profit and dividend declared etc. are given below for last seven years.

Year	**Units of Power generated (in MU)**	**PLF%**	**Turnover in Crore (Incl. other income)**	**Net Profit after Tax in Crore**
2011-12	2950.15	79.97	572.78	137.08
2012-13	3181.59	86.47	636.03	167.43
2013-14	2855.90	77.62	622.64	127.57
2014-15	2798.92	76.07	630.00	150.57
2015-16	3117.32	84.73	705.94	114.83
2016-17	3234.88	87.92	758.09	67.92
2017-18	2842.35	77.25	607.19	5.72

Expansion Project Status-(Unit-3 & 4)

OPGC is now pursuing its expansion project comprising of (2x660 MW) Power Plants in the same location i.e. ITPS and its own MGR system at an estimated project cost of Rs.10,165.00 Crore. The agencies like BHEL for BTG package. BGRE for BOP package, L&T of MGR, Shee Balajee Engicons Pvt. Ltd for Ash Pond and NCC for Township development etc. have been engaged for construction of power plant. The construction work is progressing well. Status is given below:

Construction update (Up to May, 2018):

Major Package	Percentage of Construction
BTG	98.36%
BOP	96.25%
MGR5	75%
Ash Pond (Phase-I)	74%

Major Milestone:

Events	Bailer Light up	Synchronization	COD
Unit# 3	**November,2018**	**January, 2019**	**February, 2019**
Unit# 4	**August,2018**	**December, 2018**	**January, 2019**

Project Expenditure (Provisional upto October, 2018):

Approved Project Cost of Rs.10165.00 Crore		
Debt	75% (Rs.7624.00 Crore)	Loan from PFC & REC equally
Equity	25% (Rs.2541.00 Crore)	• OPGC internal reserve • Government of Odisha Contribution • AES Contribution

Expenditure upto October, 2018 (Rs.8080.00 Crore)		
Debt	Rs.6054.14 Crore	Loan from PFC & REC
Equity	Rs.2025.86 Crore	• Government of Odisha Contribution of Rs.556.04 Crore • AES Contribution of Rs.534.23 Crore • Balance from OPGC internal accruals.

Amount to be expended	**Rs.2085.00 Crore**	
Debt	Rs.1570.00 Crore	
Equity	Rs.515.00 Crore	Contribution of Government of Odisha of Rs.221.67 Crore
		Contribution of AES of Rs.212.98 Crore
		Cash available with OPGC of Rs.80.35 Crore

Corporate Social Responsibility – Updates:

In last 4 years OPGC-I expenditure is as follows:

Financial Year 2015-16 – Rs.268.34 lakh

Financial Year 2016-17 – Rs.324.33 lakh

Financial Year 2017-18 – Rs.142.35 lakh

Financial Year 2018-19 – Rs.260.00 lakh(Targety)

Amount to be spent on CSR activities through OPGC-II is Rs.24.36 Crore during construction period. Out of which of Rs.12.72 Crore has already been spent and work order of balance amount has been placed.

The major targeted areas under CSR are: Preventive Health, Safe Drinking Water, Sanitation, Livelihood enhancement, vocational Skill Development, Education, Rural Sports Training, Rural Development etc.

IMPORTANT ACTIVITIES OF OPTCL DURING THE YEAR 2018-19

Odisha Power Transmission Corporation Limited (OPTCL) ensures development of an effective and economical system of Intra-state & Inter-state transmission lines for smooth flow of electricity from generating station to load center.

The infrastructure of OPTCL network:

At present there are 144 nos. of Grid Sub-Stations including Switching Station with transformation capacity of 18,476 MVA and 13,757 Ckt. Kms of Transmission lines of 400 KV, 220 KV and132 KV levels. The present peak demand of the State is around 4400 MW, which is handled by the existing network and equipment of the system.

(A) Important Operation & Maintenance activities (2018-19-From 04/2018 to 11/2018):

(a) Completed Works:

i. 480 MVA Transformation capacity additional in 10 nos. of Grid Sub-Stations.

ii. Completed replacement of old conductor with new in 220 KV Meramundali-Bhanjanagar-I, 132 KV TTPS-Duburi-II, 132 KV Burla PH- Budhipadar, 132 KV Chainpal-Choudwar Cuttack-I and 220 KV Joda – TTPS-I Line.

iii. Conversion of S/C (Single Circuit) to D/C (Double Circuit) of 132 KV New Bolangir-Patnagarh line.

iv. Installation of Capacitor Banks 10 MVAR at Sonepur is completed.

v. Addition of 132 KV Feeder bays at New Bolangir, Patnagarh.

vi. Addition of 220 KV and 132 KV Transformer bays at Cittack, Therubali, Mendhasal.

vii. Substation Automation System (SAS): A protection upgradation and SAS is completed for 132/ 33 KV Grid Substation Jajpur Road and Kendrapara. The substation has been equipped with IEC 61850 complied IED and distributed architecture with Bay Control Units.

viii. Substation Automation System having IEC 61850 complied protection relays adopting distributed architecture with

retrofitting Bay Control Units has been completed for Arugul and Anandpur Grid Substations.

(b) On-going Works :

i. Augmentation of 576 MVA Transformation capacity addition in 15 nos. of Grid Sub-Stations.

ii. Conversion of S/C (Single Circuit) to D/C (Double Circuit) of 132 KV Jayanagar–Sunabeda, 132 KV Jayanagar–Tentulikhunti, 132 KV Paradeep-Jagatsinghpur line, New Bolangir-Sonepur line, Akhusingh-Paralakhemundi line.

iii. Addition of Transformer bays at Budhipadar, New Bolangir, Padmapur, Rairakhol, Sambalpur, Basta, Phulnakhara, Rayagada, Purushottampur, Narendrapur, Jayanagar, Balasore and Chandpur.

iv. Replacement of old conductor with new in Berhampur-Digapahandi, Kendrapara– Paradeep - I & II, Jajpur Road–Bhadrak and 132 KV Digapahandi–Mohana.

v. Substation Automation System (SAS): A protection upgradation and SAS is in progress for 132/33 KV Grid Substation Aska, Rayagarda, Brajarajnagar and Sambalpur. The Substation will be equipped with IEC 61850 complied IED and distributed architecture with Bay Control Units.

vi. Substation Automation System to 7 nos. of Substations i.e. Basta, Konark, Kesura, Shamuka, Bhawanipatna, Kuchnda and Karanjia having IEC 61850 complied protection relays adopting distributed architecture with retrofitting Bay Control Units has been under progress.

vii. Replacement of old & obsolete breakers, CT, PT, LA, isolators etc. and relays. Renovation of Earthing System at selected Grid Sub-Stations.

viii. 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.

ix. Renovation of Earthing System in 14 nos. of Grid Sub-Stations.

(B) Important Construction Activities (2018-19-From 04/2018 to 11/2018):

(a) Projects completed during Financial Year 2017-18 & 2018-19

i. **400 KV Sub-Station & line:**

Lapanga Sub-Stations Ib, -Lapanga Line, LILO-Vedanta Meramundali at Lapanga Sub-Stations

ii. **220 KV Sub-station & line:**

Bonei Sub-station, Bargarh New Sub-station, Narasinghpur Sub-station, LILO of 220 KV LILO Atri– Puri line at Pandiabil Sub-station.

iii. **132 KV Sub-station & line:**

Tushra Sub-station, Muniguda Sub-station, Podagada Sub-station, Tuirtole Sub-station, Kantabanji Sub-station, Dhenkikote Sub-station, Ghense Sub-station, Khununi Sub-station, Udala Sub-station, Nuapatna-Dhenkanal Line, Nuapatna-Banki Line, Kuchei-Jaleswar Line, Salapur-Kendrapara Line, LILO of Kesura-Nimapara at Pratapsasan Sub-station.

(b) <u>Ongoing Projects:</u>

i. 400KV Sub-station: Mera Mundali B GIS Sub-station, 3rd ICT each at Mendhasal & New Dubri.

ii. 220 KV Sub-Station & line: Pratapsasan Sub-station, Pandiabali-Patapsasan Line, Goda Sub-station , Kiakata Sub-station , Lephripara Sub-station, Deogarh Sub-station, Bamra Sub-station, Dhamra Sub-station, Telkoi Sub-station, Kesinga Sub-station, Kalimela Sub-station, Govindpalli Sub-station, Kashipur Sub-station, Jayapatna Sub-station, Jayanagar-Jayanagar PG line, Bolangir-Kesinga line.

iii. 132 KV Sub-Station & line: Satasankha Sub-Station, Unit-VIII GIS Sub-Station, Mancheswar GIS Sub-Station, Chandabali GIS Sub-Station, Brajabiharipur Sub-Station,Phulbani-Boudh Line, Bhadrak-Ananadpur line, Agarpara Sub-Station, Betonati Sub-Station, R.Udaygiri Sub-Station, G.Udayagiri Sub-Station, Digapahandi-Aska Line, Paralakhemundi-R.Udayagiri Line, Maneswar Sub-

Station, Lapanga-Brajarajnagar Line, Lakhanpur Sub-Station, Thuapalli Sub-Station, Hirakud GIS Sub-Station, Gondia Sub-Station, Rajnagar Sub-Station, Potangi Sub-Station, Boriguma Sub-Station, Padmapur-Nuapada Line, Biramaharajpur Sub-Station, Kesinga-Junagarh line, Jayanagar – Tentulikhunti line, Jayanagar-Sunabeda line, Kuchei-Bangiriposi Line, Bhatali Sub-Station, Lamtaput Sub-Station.

(c) <u>Projects for which Tenders floated:</u>

i. **220 KV Sub-Station:** Balichandrapur (Palei) Sub-Station.

ii. **132 KV Sub-Station:** Nawarangpur Sub-Station.

(d) <u>Work Order (Expected to be issued by Financial Year 2018-19)</u>

i. **220 KV Sub-Station:** Turumunga Sub-Station.

ii. **132 KV Sub-Station & line:**
Chandipur Sub-Statio, Hinjilicut Sub-Station, Chandbali-Dhamra line, Potangi-Podagada line.

(e) <u>JICA Funded Projects:</u>
<u>Ongoing Projects: (Awarded during 2017-18 & 2018-19)</u>

i. **220 KV Sub-Station & Line:** Deogarh, Pephripada, Kiakata, Dasapalla, Govindapalli Sub-Station.

ii. **132 KV Sub-Station & line:**
Lakhanpur, Thuapalli, Gondia, Rajnagar Sub-Station.

<u>(Expected to be Awarded Financial Year 2018-19)</u>

i. **400 KV Sub-Station & Line**:-Bhadrak (new) Sub-Station.

ii. **220 KV Sub-Station & Line:** Turumunga, Gunupur, Dhenkanal & Kuakhaia Sub-Station.

iii. **132 KV Sub-Station & Line**:
Chandipur, Bahugram Sub-Station.

(C) <u>Important Telecom Activities (2018-19)</u>:

In addition to the regular maintenance/Repair/Renovation works of existing PLCC/SCADA/OPGW equipment, SCADA facility to DISCOMS has been provided for real time data through Remote Visual Display Unit (RVDU).

The following Ongoing and New Projects are undertaken by the Telecom Wing.

ONGOING PROJECTS:

i. To extend OPGW connectivity to vital 132 KV Sub-stations by laying 1745 Km (approx) length of cable.

ii. Provision of Digital Tele Protection Coupler (DTPC) in all 220 KV & above lines through OPGW SDH equipment.

NEW PROJECTS:

i. Provision of RTUs under RTU replacement scheme & for new Sub-stations

ii. Provision of Optical Fiber based communication through OPGW for providing reliable communication to all Grid Sub-Station with PSDF support.

Bharat Net phase-II:

Under the project Aerial optical fibre (15,171 km) will be laid on electric poles to 2945 nos. of Gram Panchayat (GP) covering 15 nos. of districts of Odisha. MoU has been signed amongst USOF, BBNL, Government of Odisha & OPTCL on 19.01.2018. Tendering activity etc. is in progress.

Leasing of spare fibre in OPTCL OPGW Network:

OPTCL has a strong back bone of optic fibre communication network through its OPGW laid over 400 KV, 220 KV & 132 KV transmission lines. OPTCL has already laid 3400 KM of OPGW & another 4000 KM of OPGW will be covered under new projects.

Up-gradation and enhancement of VPS at SLDC:

Under the project there will be expansion of existing 8 quadrant lamp based UPS to 16 quadrant LED lit DLP video wall to accommodate upcoming RTU stations of OPTCL, GPs, IPPs & Industries.

Provision of Battery set & battery charger (FCBC):

Under the project provision of Battery set & Battery Charger (FCBC) have been made for different Telecom Sections in OPTCL. Tendering activity etc. in progress.

(D) Important IT Activities for Financial Year 2018-19:

1. **AMI: Advanced Metering Infrastructure Project -** Installation of AMI infrastructure has been completed at 124 Locations of OPTCL. Automatic data collection from 100 plus substations has been completed. The connectivity backbone of the project is served through OGS-WAN as well as back up GPRS links. Once gone live, the Project shall enable OPTCL in automatic collection of energy accounting data around 824 metering points and the Energy Accounting Settlement Services can run on weekly basis. The reasons of delay for completion of project are that the UAT (User Acceptance Test) has not yet been confirmed by SLDC/ GRIDCO.
2. **GIS: Geographical Information System** - Under GIS project all the engineering assets of OPTCL have already been geo-referenced and Power Atlas has been prepared. Assets like Sub-stations, Lines and EHT towers are now can be rendered over spatial map. The GIS project is also integrated with e-Shakti to retrieve real-time asset information. The project is completed and 6 months hand holding period was completed on 30.9.2018.
3. **CCTV Surveillance of Grid Sub-stations:** Four major Grid Sub-stations (Meramundali, Chandaka, Budhipadar, Jayanagar) of OPTCL are being monitored 24x7 through CCTV on pilot basis. The Project adopts modern technologies like motion based recording, Local recording and Monitoring through IP cameras, 24X7 surveillance for another 10 Grid Sub-stations are currently Work in Progress. The work of 18 Grid Sub-stations is under tendering process and subsequently will be implemented.
4. **Cyber Security:** The Data Centers of OPTCL, GRIDCO & SLDC and the Supervisory Control and Data Acquisition (SCADA) Main Control Center (MCC) & Backup Control Center (BCC) of SLDC is secured with implementation of information Security and Management System (ISMS) as per the standard and now OPTCL is certified with ISO 27001:2013. OPTCL-IT is conducting the Cyber Security mock drills like Vulnerabilities Assessment Test. Internal Audit and Cyber Security Awareness

Training twice in a year. OPTCL has nominated Chief Information Security Officer (CISO) with lead ISO Certified Auditor Team for ensuring and conducting Cyber Security Activities in OPTCL, SLDC & GRIDCO. The implementation of Crisis Management plan for OPTCL, SLDC & GRIDCO is to be done soon.

5. **OPTCL, GRIDCO, SLDC Wide Area Network (OGS-WAN)** - The OPTCL, GRIDCO & SLDC Wide Area Network (WAN) which is a full hybrid network of various connectivity technologies went through a major upgrade. The service provider was changed from BSNL to Airtel and the stability of the network has increased manifold since then. OPGW connectivity was extended for IT usage at major 220 KV Grid Sub-stations also.
6. **Video Conferencing -** Video Conferencing facility has been established at 94 Major Grid Substations and locations of OPTCL. The facility is majorly operated over OGS-WAN network and hence is very successful. Video Conferencing Studio is currently under progress in IT Department Conference Hall for Multipurpose use of the facility.
7. **Website & Portal Services –** OPTCL, GRIDCO and SLDC Website is going through a major overhaul and thus make way for a web-portal instead of static websites.
8. **Primary Data Centre (PDC) -** OPTCL-IT is coming up with a state of the art Primary Data Centre (PDC) which shall serve not only to OPTCL, GRIDCO and SLDC but also for three DISCOMS under IPDS Phase-II IT Project of MOP, Government of India. The civil works for the PDC is already started and the Centre is expected to be ready by the end of March, 2019 for use. The Tender for IT and Non-IT items shall be floated in November, 2018.

(E) Important Activities of Government Grant Schemes (Financial Year 2018-19):

(a) <u>ODSSP STATUS</u>

i) Government of Odisha has sanctioned Rs.2600.00 Crore as Grant for construction of 500 nos. of 33/11KV Sub-stations in the State of Odisha. OPTCL is the Nodal agency for

construction of the above Sub-stations. The sanctioned amount further enhanced to Rs.3843.00 Crore as per the proposal of OPTCL.

ii) LOA have been issued to the EPC Contractors in different Phases for construction of 473 nos. of 33/11 KV Sub-stations in the State of Odisha at a Contract Price of Rs.3625.00 Crore.

iii) 232 nos. of 33/11 KV Sub-stations have been Test Charged till date.

iv) It is expected to charge the balance 241 nos. of 33/11 KV Sub-stations by March,2019.

(b) <u>ODAFFP STATUS:</u>

i) Government of Odisha has sanctioned Rs.1000.00 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.

ii) LOA for construction of 19 nos. of 11 KV dedicated Fishery feeder was issued on 10.06.2015 at the Contract Price of Rs.128.93 Crore. Till date the following Fishery Feeders have been charged:

i) 11 KV Konark – Chandrabhaga Feeder

ii) 11 KV Sutan – Tikina Feeder.

iii) 11 KV Jagapur – Sonepur Feeder.

iv) 11 KV Langaleswar – Kasafal – Bahabalpur – Sartha Feeder.

v) 11 KV Srijang – Inchudi Feeder.

It is expected that balance works will be completed by this Financial Year.

(c) SCRIPS (State Capital Region Improvement of Power System):

SCRIPS UG Cabling Work		
Sl. No	**Name of the work**	**Achievement made as on October, 2018**
1	Bhubaneswar UG Cabling Work (Sachivalaya Marg, Bidyut Marg, Cuttack Road, Janpath Road and major linking roads with 132 KV UG Cabling from Chandaka-B GIS Grid to Unit-	69 Km of Trench Route completed alongwith installation & Testing of Major Equipments

	VIII GIS Grid	
2	Cuttack UG Cabling alongside some major roads like Link Road, Buxi Bazar, Road connecting College Square to Medical Square, Cuttack Grid to OGP, OGP to Kalyani Nagar Sub-Station. Badambadi to Ranihat, Ranihat to Stadium, Stadium to Baliyatra Ground etc. (plus linking roads as necessary)	43 Km of Trench Route completed alongwith installation & Testing of Major Equipments
3	132 KV UG Cabling connectivity to Mancheswar-B GIS Grid from Chandaka-B GIS Grid & Mancheswar-A AIS Grid	7.9 Km of Trench Route completed
4	Construction of 7 nos. 33/11 KV GIS PSS in Bhubaneswar City	Tendering Stage
5	Construction of 2X63 MVA, 220/33 KV GIS Grid at Godisahi & Kantabada	Tendering Stage
6	Construction of 2X63 MVA, 132/33 KV GIS Grid at Satyanagar & Badagarda with its associated 132 KV UG Cable Lines	Tendering Stage

(d) **Radial to Ring Conversion Project (RRCP)** :

Keeping in view supplying quality and un-interrupted power to the consumers in “Radial to Ring Conversion Projects”. In this system, one Sub-station can be fed from two sources of power which is capable of supplying power at the time of need from other sources.

(f) **Disaster Resilient Power System (DRPS)** :

This Scheme conceptualized for creation of energy infrastructure having capability to combat the natural calamities like Cyclone and Flood.

(g) **Disaster Response Centre (DRC)**:

From the experiences learnt from in order to restore power supply within minimum possible time, the organization started maintaining “Transformer Banks” at 9 (nine) at distributed locations having total capacity of 875 MVA at different voltage levels which will come in handy for replacement during any transformer failure. Already 12 sets of ERS (Emergency

Restoration System) towers suitable for 400 KV have been received.

(h) <u>Deen Dayal Upadhaya Gram Jyoti Yojana (DDUGJY)</u>:

1. Status of UE Villages:

Package	Scope	Works completed	Works in progress
WESCO	95	95	Nil
SOUTHCO	116	116	Nil
CESU	42	42	Nil
TOTAL	**253**	**253**	

2. Status of SAGY villages:

Package	Scope	Works completed	Works in progress
NESCO	07	07	Nil
WESCO	06	06	Nil
SOUTHCO	04	2	02
CESU	13	6	07
TOTAL	**30**	**21**	**9**

3. Status of PE villages:

Package	Scope	Works completed	Works in progress
NESCO	764	540	224
WESCO	68	68	Nil
SOUTHCO	319	182	137
CESU	773	350	423
TOTAL	**1924**	**1140**	**784**

4. Status of Feeder Separation (Dedicated Agriculture Feeder)

Package	Scope	Works completed	Works in progress
NESCO	47	35	12
WESCO	09	--	02
SOUTHCO	25	--	13
CESU	19	--	9
TOTAL	**100**	**35**	**36**

5. Status of New 33/ 11 KV Sub-stations:

Package	Scope	Site Handed over	Boundary wall work started
WESCO	07	All sites handover	Completed and offered for inspection- 2 nos. (Rengali & Larambha) Boundary wall completed -7 nos. Control Room completed – 7 nos. Roof casting completed-07 nos.
CESU	05	All sites	Boundary wall completed – 5 nos.

		handover	Power Transformer erection completed – 2 nos. Control Room completed – 4 nos. Roof casting completed - 4 nos.
TOTAL	**12**		

(i) <u>Integrated Power Development Scheme (IPDS)</u> :

<u>Status of towns:</u>

Package	Scope in no. of Towns	Works started in no. of Towns	Works status
CESU	28	28	All 28 towns Pole erection in 11 KV & L.T line is in progress. 11 KV line stringing completed – 90.566 CKM L.T AB Cable Line Stringing completed –71.973 Km 33 KV Line stringing completed-1.35 CKm New DTR installation completed-277 nos. New PTR installation completed -5 nos. PSS Augmentation progress-11 nos. WIP
NESCO	19	19	In 19 towns Pole erection work in 11 KV & L.T Line is in progress. 11 KV line stringing completed – 4.5 CKm L.T AB Line Stringing completed – 33.48 Km 33 KV Line stringing completed-0.325 CKm New DTR installation completed- 352 nos.
SOUTHCO	35	35	In 35 towns Pole erection work in 11 KV & L.T line works is in progress. 11 KV line stringing completed – 55.490 CKm L.T AB Cable line stringing completed – 238.962 Km 33 KV line stringing completed – 40.09 CKm New DTR installation completed-271 nos. New PTR installation completed-10 nos. PSS Augmentation progress– 3 nos. WIP

WESCO	30	30	In 30 towns Pole erection work in 11 KV & L.T line works is in progress. 11 KV line stringing completed – 167.715 CKm L.T AB Cable line stringing completed – 380.163 Km 33 KV line stringing completed – 25.785 CKm New DTR installation completed – 178 nos. New PTR installation completed-8 nos. PSS Augmentation progress– 3 nos. WIP
Total	**112**	**112**	

Status of New 33/ 11 KV Sub-stations:

Package	Scope	Site handed over	Works status
CESU	4	4	Boundary wall completed – 4 nos. Roof casting completed-4 nos. Equipment foundation completed-3 nos. Gantry foundation completed-3 nos.
NESCO	7	7	Boundary WIP – 6 nos. Control Room Building Foundation with Roof Casting -4 nos. Equipment foundation WIP-4 nos.
SOUTHCO	1	1	Boundary wall completed – 2 nos. Equipment foundation WIP-1 no
WESCO	2	2	Boundary wall completed – 2 nos. Control Room Building Foundation with Roof Casting -2 nos. Gantry foundation WIP-2 nos. Equipment foundation WIP-2 nos.
Total	**14**	**14**	

Important Activities of GRIDCO during FY 2017-18 and for the period up to Sept'2018 of Financial Year 2018-19

Pursuant to the implementation of Orissa Electricity Reform Act (OERA), 1995, GRIDCO was incorporated 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 Licensee. 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) in the State for onward retail sale to the consumers of the State. Surplus Power, if any is traded to maximise the revenue.

1. Power Procurement:

Source-wise actual power procurement during the Financial Year 2017-18 and approval of OERC for 2018-19 & actual up to Sept-2018, by GRIDCO is furnished in the Table below:

Generator (Source)	**FY 2017-18**		**FY 2018-19**		**FY 2018-19**	
	Actual		**As approved by OERC**		**Actual drawl up to Sept-2018**	
	(MU)	**(Rs. Crore)**	**(MU)**	**(Rs. Crore)**	**MU**	**(Rs. Crore)**
State Hydro	5589.60	485.43	5881.74	517.38	3516.45	282.33
State Thermal incl IPPs & CGPs.	9315.58	2387.82	14178.42	3700.01	4550.21	1195.74
Non-Solar	312.79	125.25	422.00	172.07	192.62	76.81
Solar	373.84	209.42	680.00	365.80	197.47	111.30
Total State	**15591.81**	**3207.92**	**21162.16**	**4755.26**	**8456.75**	**1666.18**
Total Central Hydro	923.27	270.69	913.82	213.61	606.92	173.22
Total Central Thermal	9127.38	3265.35	4727.83	1511.06	4683.08	1674.60
Others	388.18	88.37	--	471.45	643.53	101.33
Total	**26030.64**	**6832.33**	**26803.81**	**6951.38**	**14390.28**	**3615.33**
Per Unit Ch.		**2.62**		**2.59**		**2.51**

(Rs./kWh)						

2. Power Scenario:

i. Details of Installed Capacity / entitlement of availability of power by GRIDCO from various sources as on November, 2018 are indicated below:

Sources of Power		**Allocation (MW)**
State hydro	:	1,864
OPGC	:	420
TTPS	:	460
IPP (Vedanta, GMR, JITPL & NBVL	:	1,386
New & Renewable sources	:	280
Sub-total (State)	**:**	**4,410**
Central allocation (Hydro)	:	189
Central allocation (Thermal)	:	1,203
Sub-total (Central Allocation)	**:**	**1,392**
Total	**:**	**5,802**

ii. The present availability (November'2018) of peak and average power is as furnished below:

Source of power	**Average Power Availability In MW**	**Peak Power Availability In MW**
State Hydro	550	1040
State Thermal (OPGC + TTPS)	750	750
IPP (VEDANTA, GMR & CGPs)	527	610
Renewables	20	0
Sub-total (State)	**1847**	**2400**
ISGS Share	1100	1200
Total Availability	**2947**	**3600**

Above availability is against peak demand of **4,000 MW** and average demand of **3,350 MW**. Shortfall both in Average & Peak Demand shall be met by procuring power through Power Exchanges & Power Banking.

3. Commissioning of IPPs:

Keeping in view of the growing power demand in the State and in the country Government had executed MoUs with 27 nos. of IPPs for setting up of coal based thermal power stations in the State and GRIDCO has signed PPAs for procurement of state's entitlement of a total of about 7,000 MW.

Out of the above IPPs, M/s. Vedanta Ltd. (VL), M/s. GMR Kamalanga Energy Ltd. (GKEL) and M/s. Jindal India Thermal Power Ltd. (JITPL) have already started commercial operation of their thermal power plants of 2,400 MW, 1,050 MW and 1,200 MW capacities respectively. Odisha has shares of 720 MW, 472.50 MW and 144 MW respectively from these aforesaid power plants.

4. Capacity addition programme up to 2020-21:

Following generating units are likely to be commissioned during Financial Year 2018-19 & 2019-20:

Sl. No	**Name of IPPs**	**Location**	**Capacity (MW)**	**Odisha Share (MW)**	**Expected date of commissioning**
1.	M/s. Ind-Barath Energy (Utkal) Ltd.	Sahajbahal, Dist. Jharsuguda	350	42.0	# March, 2019
2.	M/s. Maa Durga Thermal Power Co. Ltd.	Tangi, Cuttack	60	7.2	# March, 2019
3.	Integrate Thermal Power Station, NTPC	Darlipalli, Sundargarh	1,600	800.0	# 1 : December, 2018 # 2: May, 2019
4.	OPGC Expansion Project (Unit 3 & 4)	Brajarajnagar, Jharsuguda	1,320	660.0	# 1 : Dec, 2018 # 2: Jun, 2019
5.	North Karanpura STPS, NTPC	Hazaribag & Chhatra, Bihar	1,980	396.0	# 1 : Mar, 2020 # 2: Sep, 2020 # 3: Mar, 2021
	Total		**5,310**	**1,905.2**	

5. Proposal for surrender of high cost NTPC power:

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, but,

excluding share from the proposed 3x660 MW North Karanpura STPS, tariff for which is comparatively cheaper and affordable.

6. Procurement of Power from New & Renewable Sources and meeting RPO:

At present GRIDCO has 280 MW to its credit from different New & Renewable sources of Energy, out of which 57 MW is from Small Hydro Electric Projects, 168 MW from Solar PV Projects, 20 MW from one no. Bio-mass Power Project and 35 MW from Wind sources.

2 nos. of SHEPs with total installed capacity of 42 MW and are under different stages of implementation and are likely to be commissioned in Financial Year 2019-20.

i. Shri Avantika Projects Pvt Ltd. (18MW) in December,2019

ii. Baitarani Power Project Pvt. Ltd (24 MW) in May, 2019

GRIDCO will be availing the entire power from the 4 MW Solar rooftop Projects being implemented at Bhubaneswar & Cuttack, out of which 3.6 MW is already commissioned by September, 2018 and rest capacity will be added by the end of Financial Year 2018-19.

GRIDCO has recently signed PSA with PTC India Ltd. on 20-07-2017 to avail 50 MW wind power under MNRE Scheme. The Wind Project has been implemented by M/s. Ostro Kutch Power Ltd. in the Kutch district of Gujarat, out of which 35 MW is scheduled to GRIDCO w.e.f. August, 2018. GRIDCO has also executed PSA with SECI to avail another 250 MW Wind Power under MNRE Scheme, Phase-II, Phase-III & Phase-IV, to be made available within next two years, out of which 100 MW is expected in 2019-20 in Phase-II.

GRIDCO has also in-principle agreed to procure the total power from the proposed 275 MW Solar Park Project, Phase-I to be implemented by GEDCOL, out of the total allocated project of 100 MW.

GRIDCO as an Intermediary through e-bidding Reverse Auction Process floated the tender to procure 200 MW Solar Power PV in the State and so far Letter of Intent (LoI) has been issued for only 75 MW and the PPA will be executed in November, 2018.

200 MW Solar PV Power is also under active consideration by M/s. NEEPCO through Tariff Based Competitive Bidding to be implemented in next two years' time.

GRIDCO shall avail the entire Solar PV Power of 8 MW to be implemented at the un-utilised lands available at OPTCL Grid Sub-stations to be implemented by GEDCOL.

7. Power Sales to DISCOM Utilities & Power Trading:

The actual quantum of sale of power to DISCOMs and trading of power during Financial Year 2017-18 & upto September, 2018 of Financial Year 2018-19 are furnished in the Table below:

(Supply in MU)

Name of Utility	**FY 2017-18**	**FY 2018-19 (Aprl'18 to Sept'18)**
DISCOMs	24571.21	13305.04
IMFA & NALCO	34.43	35.94
Sales to Others	51.52	16.79
Trading of power	434.26	544.92
Total	**25091.42**	**13902.69**

The total amount of sales registered by GRIDCO in Financial Year 2017-18 is around Rs.7,035 Crore and Rs.3,977.13 Crore during April, 2018 to September, 2018 of Financial Year 2018-19.

8. Facilitating smooth Grid Management:

GRIDCO being one of the major entities drawing power from the Eastern Region Pool 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 grid management by SLDC easy.

9. Finance:

During Financial Year 2017-18, GRIDCO has witnessed a turnover of Rs.7,851.22 Crore but suffered losses of about Rs.197.50 Crore especially due to low hydel conditions alongwith lower availability of IPP Power leading to sourcing of more Costly Thermal Power.

10. Subsequent Development:

During March, 2015, the Retail Supply Licence of the erstwhile RIL Managed 3 DISCOMs namely, Western Electricity Supply Company of Odisha Limited (WESCO), North Eastern Electricity Supply Company of Odisha Limited (NESCO) & Southern Electricity Supply Company of Odisha Limited (SOUTHCO) were revoked and the management and control of the 3 DISCOM Utilities were vested with the Chairman-cum-Managing Director, GRIDCO as the Administrator of the said Utilities.

The 3 DISCOMs (Reliance Infrastructure Limited-RIL) immediately moved an Appeal before the Hon'ble Appellate Tribunal for Electricity, New Delhi against the above OERC Order dated.4.3.2015. However, Hon'ble Tribunal in their Judgement dated 21.08.2017 dismissed the Appeal and allowed the DISCOM Utilities to be managed by the CMD, GRIDCO-cum-Administrator as approved by the Hon'ble OERC. The 3 DISCOMs then moved to an Appeal in the Hon'ble Supreme Court of India against the judgement of Hon'ble APTEL. Hon'ble Apex Court dismissed the Appeal in the admission stage itself during November, 2017.

ODISHA THERMAL POWER CORPORATION (OTPC)

Pursuant to the decision of the State Govt of Odisha, the Odisha Thermal Power Corporation Limited (OTPC) was established on 29th Jan'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 + 1x800MW 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 1833.927 acres.
- The Tahasildar-cum-LAO, Kamakhyanagar has handed over physical possession of all private land. Alienation of non-forest Govt land is under process by the Tahasildar-cum-Land Acquisition Officer, Kamakhyanagar.
- Rehabilitation & Resettlement package declared to displaced families by RDC (ND), Sambalpur and Chairman of RPDAC and Collector, Dhenkanal on behalf of OTPC.
- The cost of the project estimated at `18,218 Crores i.e. `7.59 Crores per MW. The levelised tariff for 25 years with discount factor 10% is estimated at `4.04 per kwh. An expenditure of `242.24croreshas been incurred on the project till date.

- 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 haveallocated 80 Cusecs water for the project.
- Peripheral developmental activities have been going on in project affected areas.
- Forest Diversion proposal having State Sl.No.OR-062/2017 dtd.24.10.2017 have been processed by the concerned authorities of State Forest Department.
- The Environment Clearance proposal was submitted on 01.03.2017 and MoEF&CC have sought certain additional informations which have been uploaded to MoEF&CC's website on 31.10.2017. The same is expected for disposal shortly.
- Coal for the project shall be conveyed by a Captive Rail System from Sadashibapur Railway station of East Coast Railway and to the project site. M/s RITES are the consultant of the project. Detailed survey of the Railway Corridor has been completed. Detailed Project Report (DPR) have been submitted to East Coast Railway for approval which is expected shortly.
- The coal requirement for the above thermal power plant at 85% PLF is 12.07 million tonne per annum. Tentuloi coal block was allocated to OTPC by the Ministry of Coal, Govt of India. The request for an open cast coal block in lieu of Tentuloi underground coal block is under active consideration of MoC, Govt. of India.

THE FOLLOWING TARGETS HAVE BEEN SET BY OTPC FOR 2019-20

- The request for an open cast coal block in lieu of Tentuloi underground coal block to MoC, Govt. of India.
- Getting approval of Railways for the rail linkage to the project and land acquisition of the same.
- Acquisition of private land measuring Ac.148.352 acres under Kamakhyanagar Tahasilin lieu of Govt. Gochar land to be alienated in favour of OTPC for the project.
- Starting of construction works in respect of house, road, drain, drinking water and electrification work in R&R colony.
- Getting Environment Clearance for the project site.
- Getting the Forest Diversion proposal approved and to endeavor to financial closure of the project.

ODISHA COAL AND POWER LIMITED (OCPL)

Odisha Coal and Power Limited (OCPL) is a joint Venture Company of Odisha Power Generation Corporation Ltd (OPGC) & Odisha Hydro Power Corporation Ltd (OHPC) with a shareholding ratio of 51:49. The Manoharpur & Dip-side Manoharpur coal blocks have been allotted

to OCPL by the Nominated Authority, Ministry of Coal (MoC), Government of India on 31st August, 2015 to supply coal exclusively to OPGC expansion power plant (4X660 MW). These coal blocks are situated in IB-Valley coalfields in the district of Sundargarh.

Project Activities:

A. Manoharpur Coal block

1. R & R
    - Construction of R & R colony (Phase-I) at Sukhabandh for resettlement of Project Displaced Families (PDFs) of Manoharpur village completed in all respects.
    - Till date 233 PDFs relocated from the Manoharpur Village.
    - R & R colony (Phase-II) at Hemgir: Contract for construction of R & R colony Phase-II awarded to Shree Balaji Engicons Pvt, Ltd. and construction work is going on at a faster pace.
2. Permits/ Clearances/ Compliances:
    - The major permits and clearances including surface right permission of explosives permission, forest clearance, environment clearance, consent to establish, consent to operate, road diversion permission, nalla diversion permission, environment clearance for R & R colony, consent to establish & consent to Operate for R & R colony are in place.
    - Mining Plan & Mine Closure Plan (Rev-II) approved by Ministry of Coal on 17.4.2018.
    - NoC for ground water abstraction obtained from Central Ground Water Authority on 17.7.2018.
    - Mine opening permission obtained from Coal Controller's Office on 28.8.2018.
3. Land:
    - 1004.69 Ac out of 1041 Ac of Government land allotted in favour of OCPL. Possession of 822.45 AC of Government land taken over.

- 1036.90 out of 1040 Ac of Private land allotted in favour of OCPL. Possession of 1036.90 AC of Private land taken over.
- 491 Ac out of 495 Ac of Forest land handed over to OCPL. In addition, 141.04 Ac of Forest Land and 50.98 Ac of Private Land has been transferred from OPGC to OCPL.

4. Financing:
    - The estimated project cost of Manoharpur coal mine project is Rs.1382.00 Crore.
    - Term Loan of Rs.536.00 Crore sanctioned by Punjab National Bank. Rs.167.293 Crore drawn down till October, 2018.
    - Total expenditure incurred till 31.10.2018 is Rs.828.51 Crore.
5. Selection of Mine Operator (MO):
    - BGR Mining & Infra Limited has been appointed as the Mine Operator and LoA issued on10.7.2018.
    - Mining Service Agreement (MSA) executed on 31.8.2018.
    - Mobilization of Resources and basic ground work initiated by the Mine Operator.
    - The Mine Operator has carried out various development work including in filling drilling, tree felling etc. The Mine Operator has commenced the top soil removal engaging its resources on 1.11.2018.
6. Coal Handling Plant (CHP):
    - Contract has been awarded for construction of CHP and other allied infrastructures to MoNally Bharat Engineering Company Limited.
    - Construction Work under process.
7. 33 KV Power line for construction of CHP has been charged.

B. Dip-side Manoharpur coal block

- The application for grant of ML was submitted to the Collector, Sundargarh on 6.2.2018. The application has been forwarded by the Collector, Sundargarh to the

Director of Mines, on 3.8.2018. Director of Mines has forwarded to ML application to Department of Steel & Mines on 10.10.2018 for onward transmission to the Ministry of Coal for according previous approval. An early recommendation from the Department of Steel & Mines is requested.

- Mining Plan and Mine Closure Plan covering Manoharpur & Dip-side Manoharpur is under preparation by CMPDI.

C. Manpower

A dedicated team of 27 people deputed from OPGC are working for development of the coal blocks.

Activities of Odisha Electricity Regulatory Commission (OERC) for the year 2018-19

1. Overview of the Commission:

The Odisha Electricity Report Act, 1995 (Odisha Act 2 of 1996), in short OER Act, 1995 was enacted for the purpose of restructuring the electricity industry, for rationalization of Generation, Transmission, Distribution and Supply of Electricity, for opening avenues for participation of private sector entrepreneurs and for establishment of a Regulatory Commission for the State, independent of the State Government. OER Act, 1995 is the first of its kind in the country. The Electricity Act, 2003 has been modeled mostly on the provisions of the OER Act, 1995.

An important component of power sector reform is establishment of an independent autonomous Regulator, the Odisha Electricity Regulatory Commission (OERC) for achievement of objectives enshrined in the OER Act, 1995. It became functional on 1.8.1996 with the joining of its three members, as the pioneer electricity regulators of the country.

The property, interest in property, rights and liabilities belonging to the erstwhile Odisha State Electricity Board (OSB) were vested in the State Government as on 1.4.1996. All loans, subventions and obligations of the Board towards the State stood extinguished. The

State Government classified the assets, liabilities and proceedings acquired by the State as well as the assets, liabilities and proceedings relating to the undertakings owned by the State Government to (a) Generation Undertaking (b) Transmission Undertaking and those not classified within (a) & (b) to residual assets. The State Government was empower to vest the Undertakings in GRIDCO & OHPC which the State executed only after up valuation of assets on the same day and restructured the Balance Sheet of GRIDCO & OHPC.

The Grid Corporation of Odisha Limited (GRIDCO) was incorporated under Companies Act, 1995 on 20.4.1995. All Transmission and Distribution Undertakings were transferred to GRIDCO on 1.4.1996 with up valued cost with a restructured Balance Sheet. It was to engage in the business of procurement, transmission & bulk supply of electric energy apart from planning, co-ordination & load forecast.

The Odisha Hydro Power Corporation Limited (OHPC) was incorporated under the Companies Act, 1995 on 21.4.1995. All the generating assets of Government as well as OSEB was transferred to OHPC on 1.4.1996. This Corporation takes care of all the operating and ongoing Hydro Power Stations. 49% of the share of the Odisha Power Generation Corporation (OPGC) were disinvested to the US based AES Company in January, 1999.

As a sequel to the passing of the Act, the distribution of power was privatized in Odisha and the management of the four subsidiary companies in charge of distribution in the Central Northern, Southern and Western zones of Odisha, namely CESCO, NESCO, SOUTHCO and WESCO were entrusted to private companies which took over 51% of the shares. GRIDCO became a deemed trading licensee from 10.6.2005. The Odisha Power Transmission Corporation Ltd (OPTCL) took over intra-state transmission & function of the State Load Despatch Centre (SLDC) on the same date.

The Electricity Act, 2003 was enacted by Government of India and came into force w.e.f. 10.6.2003. The Electricity Act, 2003 aims to promote competition, protect interest of consumers while supplying electricity to all areas, rationalize electricity tariff, ensure transparent policies regarding subsidies and provide an enabling regulatory

environment. Besides, allowing private investment in all the segments of the electricity supply chain, the Act provides various measures to introduce competition in the electricity industry. Now, the Chairperson and Members of OERC are appointed under Section 82(5) of the Electricity Act, 2003 (No.36 of 2003) which is a Central Act.

The OERC completed 22nd year of its operation on 1.8.2018. Since 9.5.2016 the Commission is operating at its New Building at Plot No.4, Chunokoli, Sailashree Vihar, Bhubaneswar-751021.

2. Organizational Structure of OERC:

The OERC is a three-member Commission headed by the Chairperson. The Commission has four Divisions namely, Tariff, Engineering, Regulatory Affairs and Secretariat Division. Tariff Division is entrusted upon the responsibilities of assisting the Commission in preparing various Tariffs and/or Commercial Orders based on applications of licensees, generators, consumers, government and other stakeholders. Engineering Division assists the Commission in monitoring technical performance of the Utilities under various technical parameters, including License Conditions and Performance Standards. The Commission is assisted by Regulatory Affairs Division on all legal matters. This Division renders necessary legal advice to the Commission and with help of advocates represents the Commission in various Courts, Fora and Tribunals. The Secretariat Division assists the Commission in day-to-day administrative functioning. It is the repository of the Commission's order and records and carries out all correspondences on behalf of the Commission. This Division authenticates all the orders passed by the Commission. A State Advisory Committee (SAC) is functional and its meetings are held in OERC once in a quarter to discuss various practical issues facing the licensees/ consumers/ other stakeholders. The Commission benefits by interacting with the Members of SAC, who represent every corner of the State.

3. Functions of OERC:

Section 86 of the Electricity Act, 2003 deals with the functions of the State Commission. As per Section 86(1) the State Commission shall discharge the following functions, namely;

(a) Determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be, within the State.

(b) Regulate electricity purchase and procurement process of distribution licensees including the price at which electricity shall be procured from the generating companies or licensees or from other sources through agreements for purchase of power for distribution and supply within the State.

(c) Facilitate intra-State transmission and wheeling of electricity.

(d) Issue licenses to persons seeking to act as transmission licensees, distribution licensees and electricity traders with respect to their operations within the State.

(e) Promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee;

(f) Adjudicate upon the disputes between the licensees and generating companies and to refer any dispute for arbitration.

(g) Levy fee for the purpose of this Act.

(h) Specify State Grid Code consistent with Grid Code specified under clause 9h) of sub-section (1) of Section 79 of the Electricity Act, 2003.

(i) Specify or enforce standards with respect to quality, continuity and reliability of service by licenses;

(j) Fix the trading margin in the intra-State trading of electricity; if considered, necessary; and

(k) Discharge such other functions as may be assigned to it under the Electricity Act, 2003.

As per Section 86 (2) of the Electricity Act, 2003, the State Commission shall advise the State Government on all or any of the following matters namely:

(i) Promotion of competition, efficiency and economy in activities of the electricity industry;

(ii) Promotion of investment in electricity industry;

(iii) Reorganization and restructuring of electricity industry in the State.

(iv) Matters concerning generation, transmission, distribution and trading of electricity or any other matter referred to the State Commission by the Government.

As per Section 86 (3) the State Commission shall ensure transparency while exercising its powers and discharging its functions. Section 86(4) envisages that in discharge of its functions, the State Commission shall be guided by the National Electricity Policy, 2005, National Electricity Plan and Tariff Policy, 2016 published under Sub-section (2) of Section-3 of the Electricity Act, 2003.

Besides, the other provisions of the Electricity Act, 2003 which have a direct bearing on the functioning of the Commission are extracted below for reference.

(a) Section 11 – Direction to generating Companies

(1) The Appropriate Government may specify that a generating company shall, in extraordinary circumstances operate and maintain any generating station in accordance with the directions of that Government. Explanation – For the purposes of this Section, the expression "extraordinary circumstances" means circumstances arising out of threat to security of the State, public order or a natural calamity or such other circumstances arising in the public interest.

The Appropriate Commission may offset the adverse financial impact of the directions referred to in sub-section (1) on any generating company in such manner as it considers appropriate.

(b) *Section 23 – Directions to Licensees*

If the Appropriate Commission is of the opinion that it is necessary or expedient so to do for maintaining the efficient supply, securing the equitable distribution of elexctricity and promoting competition, it may, by order, provide for regulating supply, distribution, consumption or use thereof.

(c) *Section 37 – Direction by Appropriate Government*

The Appropriate Government may issue direction to the Regional Load Despatch Centres or State Load Despatch Centres, as the case may be to take such measures as may be necessary for maintaining smooth and stable transmission and supply of electricity to any region or State.

(d) Section 108 – Directions by State Government

In the discharge of its functions, the State Commission shall be guided by such directions in matters of policy involving public interest as the State Government may give to it in writing. If any question arises as to whether any such direction relates to a matter of policy involving public interest, the decision of the State Government thereon shall be final.

4. Tariff Determination by OERC for Financial Year 2018-19

OERC determines tariff for all categories of electricity consumers in the State of Odisha. Besides that, the Commission determine generation tariff for OHPC, OPGC, NTPC Stations, IPPs, CGPs, Transmission tariff for OPTCL, Fees and charges for SLDC, and open Access charges for Open Access customers. The Commission also determines Bulk purchase cost for GRIDCO which is the average price at which it purchases the total power required by the State consumers. The Commission then determines the average Bulk Supply Price which is further split into four Bulk Supply Prices for four DISCOMs, namely; CESU, NESCO Utility, SOTHCO Utility and WESCO Utility. Accordingly, the following Tariff orders have been passed by the Commission during March, 2018 which are applicable for different stakeholders for Financial Year 2018-19.

(i) Approval of Annual Revenue Requirement & Generation Tariff of OHPC for Financial Year 2018-19 (Case No.74 of 2017);

(ii) Approval of Annual Revenue Requirement & Generation Tariff of OPGC for Financial Year 2018-19 (Case No.75 of 2017);

(iii) Approval of Annual Revenue Requirement & Bulk Supply Price of GRIDCO for Financial Year 2018-19 (Case No.76 of 2017);

(iv) Approval of Annual Revenue Requirement & Transmission Tariff of OPTCL for Financial Year 2018-19 (Case No.77 of 2017);

(v) Approval of Annual Revenue Requirement and Fees & Charges of State Load Dispatch Centre for Financial Year 2018-19 (Case No.78 of 2017);

(vi) Approval of Annual Revenue Requirement & Retail Supply Tariff of four DISCOM Utilities for Financial Year 2018-19 (Case No.79,80,81 & 82 of 2017);

Highlights of Tariff:

- The Retail Supply Tariff for 2018-19 remains unaltered.
- There is no change in meter rent.
- The new LT supply upto 5 KW should not be denied by the DISCOM on the plea of non availability of transformer capacity.
- 1% rebate over and above normal rebate shall be allowed on the bill to the LT domestic category of consumers only over and above all the rebates who pay through digital means. This rebate shall be applicable on the current month bill if paid in full.
- A Special rebate to the LT single phase consumers in addition to any other rebate he is otherwise eligible for shall be allowed at the end of the financial year (the bill for month of March) if he has paid the bill for all the 12 months of the financial year consistently without fail within due date during the relevant financial year. The amount of rebate shall be equal to the rebate of the month of March for timely payment of bill.
- The Commission has not accepted the proposed ARR of DISCOMs of Rs.11,265.90 Crore and approved an amount of Rs.9562.63 Crore.
- The Commission has approved the distribution loss of 21.32% against the proposed distribution loss of 26.32% by DISCOMs. Similarly, the Commission has approved AT & C loss of 22.11% instead of 28.13% proposed by DISCOMs.
- Cross subsidy has remained within +_20% for all categories (LT/HT/EHT)
- The average cost of supply for DISCOMs has increased from 488.26 Paise/unit in 2017-18 to 489.47 Paise/unit in 2018-19.
- No change in transmission charges of OPTCL for Financial Year 2018-19. It remains same as 25 paise per unit as was in 2017-18.

- However, the approved transmission loss in OPTCL system has been approved @ 3.0% in Financial Year 2018-19 against 3.5% of past year.
- The Commission approves full State Share of Power from the State IPPs for State consumption. Otherwise, power purchase cost would have been much higher on account of purchase of high cost power from NTPC stations.
- The Average Bulk Supply Price of GRIDCO has been reduced from 277.21 paise/ unit in Financial Year 2017-18 to 276.66 paise/unit in Financial Year 2018-19 against the GRIDCO's proposal of 353.26 paise/unit.
- The average power purchase price of GRIDCO has increased from 246.42 Paise/Unit in 2017-18 to 259.34 Paise/Unit in 2018-19 against the GRIDCO's proposal of 284.77 Paise/Unit.
- Out of average bulk supply price of 276.66 paise/unit of GRIDCO, CESU is required to pay 274.00 paise/unit, NESCO 301.00 paise/unit, WESCO 300.00 paise/unit and SOUTHCO 197.00 paise/unit. All the distribution companies to pay 25 paise/unit as Transmission cost to OPTCL.
- Section 61 (g) Electricity Act, 2003 read with Para 8.3.2 of Tariff Policy, 2006 stipulates that the tariff should be within _+20% of the average cost of supply. Hence, average tariff of any consumer should not be more than 587.37 paise and less than 391.58 paise. With this mandate, the Commission has fixed 398.72 paise in case of LT (-18.54% of average cost of supply of 489.47 paise), 579.18 paise for HT (+18.33% of average cost of supply of 489.47 paise) and 576.88 paise for EHT (+17.86% of average cost of supply of 489.47 paise).
- Surcharge, Wheeling Charge & Transmission Charge for open access consumer IMW & above w.e.f. 1st April, 2018.
- In exercise of the powers conferred under Section 39, 40 and 42 of the Electricity Act, 2003 read with the provisions of Chapter-II of OERC (Determination of Open Access Charges) Regulations, 2006, the Odisha Electricity Regulatory Commission has passed Common order on 22.3.2018 in Case Nos.83,84,85 & 86 of 2017 with regard to approval of Open Access Charges (Transmission/Wheeling Charges, Surcharge and Additional Surcharge applicable to open access customers for use Intra-State transmission/ distribution system) which shall be effective from 1st April, 2018.
- The Wheeling Charge and Surcharge as indicated in Table below shall be applicable w.e.f. 1.4.2018.

Surcharge, Wheeling Charge & Transmission Charge for Open Access Consumer IMW & above

Name of	Cross Subsidy	Wheeling Charge	Transmission Charges for Short

the Licensee	Surcharge (Paise/Unit)		Paise/ Unit applicable to HT Consumers only	Term Open Assess Customer (applicable for HT & EHT Consumers)
	EHT	HT		
CESU	146.18	97.43	53.98	Rs.1500/MW/day or Rs.62.5/MWh
NESCO	128.63	63.56	76.75	Rs.1500/MW/day or Rs.62.5/MWh
WESCO	129.28	83.22	47.58	Rs.1500/MW/day or Rs.62.5/MWh
SOUTHCO	196.26	140.20	71.88	Rs.1500/MW/day or Rs.62.5/MWh

(a) The normative transmission loss at EHT (3.00%) and normative wheeling loss for HT level (8%) are applicable for the year 2018-19.

(b) Additional Surcharge: No additional surcharge over and above the Cross-Subsidy Surcharge needs to be given to the embedded licensee.

(c) No Cross-Subsidy Surcharge are payable by the consumers availing Renewable power.

(d) 20% wheeling charge is payable by the consumer drawing power from Renewable source excluding Co-generation & Bio mass power plant.

These charges as notified for the Financial Year 2018-19 will remain in force until further order.

5. Energy Audit:

Commission has been consistently pursuing the DISCOMs to establish a system for energy audit and has issued a protocol to carry out Energy Audit vide letter No.OERC-Eng-4/G-2010/130, dated.11.9.2017. As per the said protocol Energy Audit has to be carried out in four stage such as

(i) Energy Audit between 33 KV to 11 KV.
(ii) Energy Audit from 11 KV feeder upto consumer.
(iii) Energy Audit from DTR to the consumer.
(iv) Energy Audit from 33 KV to 11 KV, DTR and upto the consumer.

Without effective metering of the consumers, the utilities as of now are carrying out Energy Audit from 11 KV feeder to the consumer level based on the binder number instead of directly linking to the meter reading of the consumers. As submitted by the DISCOM Utilities, metering of the entire distribution system is expected to be completed during the ensuing year 2018-19.

7. Performance of DISCOMs

The Commission monitors the performance of the utilities under various financial & technical parameters, including distribution loss, AT & C loss, collection efficiency, license conditions and performance standards, etc. Interruptions in Distribution System are measured in

terms of Reliability Indices. The performance of DISCOMs for Financial Year 2017-18 and the corresponding approved figures for Financial Year 2018-19 are furnished in the table below:

Proposed and Approved Loss of DISCOM Utilities

	2016-17 (Actual)	**2017-18 Approved**	**2017-18 Estimated**	**2018-19 Proposed**	**2018-19 Approved**
CESU					
Distribution Loss	32.57%	23.00%	31.57%	28.79%	23.00%
Collection Efficiency	96.56%	99.00%	98.60%	99.00%	99.00%
AT & C Loss	34.89%	23.77%	32.53%	29.50%	23.77%
NESCO UTILITY					
Distribution Loss	23.50%	18.35%	21.00%	19.00%	18.35%
Collection Efficiency	88.00%	99.00%	96.00%	97.00%	99.00%
AT & C Loss	39.41%	20.40%	32.80%	30.08%	20.40%
WESCO UTILITY					
Distribution Loss	31.14%	19.60%	30.00%	27.92%	19.60%
Collection Efficiency	88.00%	99.00%	96.00%	97.00%	99.00%
AT & C Loss	39.41%	20.40%	32.80%	30.08%	20.40%
SOUTHCO UTILITY					
Distribution Loss	34.59%	25.50%	32.06%	29.37%	25.50%
Collection Efficiency	89.90%	99.00%	95.00%	96.00%	99.00%
AT & C Loss	41.20%	26.25%	34.46%	32.19%	26.25%
ODISHA					
Distribution Loss	30.39%	21.35%	28.83%	26.32%	21.35%
Collection Efficiency	92.91%	99.00%	96.97%	97.55%	99.00%
AT & C Loss	35.33%	22.14%	30.99%	28.13%	22.14%

The above table shows that the actual Distribution Loss and AT & C Loss figures are much higher than the approved ones by the Commission. Similarly, collection efficiency figures are much lower than the approved figures of the Commission. All these signify that the DISCOMs are unable to check losses in the system and improve their collection efficiency to the desired levels.

8. Segregation of wheeling and retail supply business:

Wheeling Business:

The ARR for wheeling business for WESCO, NESCO, SOUTHCO Utilities and CESU is approved at Rs.291.22 Crore, Rs.314.58 Crore, Rs.236.89 Crore and Rs.439.28 Crore respectively for Financial Year 2018-19. The wheeling charges (per unit) for WESCO, NESCO, SOUTHCO Utilities and for CESU has been accordingly determined at 47.58 paise/unit, 76.75 paise/unit, 71.88 paise/unit and 53.98 paise/unit respectively.

Retail Supply Business:

The net retail supply cost for WESCO, NESCO, SOUTHCO Utilities and for CESU is approved at Rs.2397.29 Crore, Rs.2082.33 Crore, Rs.935.79 Crore and Rs.2865.24 Crore respectively for Financial Year 2018-19.

9. Tariff for Renewable Energy:

OERC has passed different tariff orders for Renewable Sources of Energy. The latest tariff order was passed on 15.1.2014 in Case No.80 of 2013, wherein the Commission determine the generic tariff of Renewable Energy Sources for the Second Control Period i.e. from 2013-14 to 2015-16.

11. Implementation of Renewable Purchase Obligation (RPO) in the State:

Promotion of Renewable Energy Sources is being done through a host of policies. The latest policy tool which is about to join the bandwagon is the proposed Renewable Energy Certification mechanism. The proposed mechanism, if implemented appropriately, could go a long way in overcoming the hurdles currently being faced by obligated entities in fulfilling their Renewable Purchase Obligations. An effective implementation of this mechanism would help increase flexibility for all the players and would help in overcoming the geographical constraints to harness Renewable Energy Sources.

One of the policy tools being put to practice is the Renewable Purchase Obligations (RPO). As per an RPO mandate, State Electricity Regulatory Commissions (SERCs) under Section 86 of the Electricity Act, 2003 (Act) and clause 5.12 of the National Electricity Policy are empowered to specify a percentage of electricity to be procured by

obligated entities from Renewable sources of Energy. This policy of mandating the compulsory purchase of electricity generated through Renewable Sources is not unique to India but has proliferated among other nations as well to reduce the dependence on conventional sources of energy.

In the above backdrop and in exercise of powers conferred under Section 61, 66, 86(1)(e) and 181 of the Electricity Act, 2003 and all other powers enabling it in this behalf, Orissa Electricity Regulatory Commission has notified the OERC (Renewable and Co-generation Purchase Obligation and its Compliance) Regulations, 2010 on 30th September, 2010 and published the same in the Official Gazette. Further, OERC has replaced the said Regulation and published a new Regulation named as OERC (procurement of Energy from Renewable Sources and its Compliance) Regulations, 2015 during September, 2015. The year and source wise RCPO Target & Achievement is an mentioned below:

Table – 11

	2014-15		**2015-16**		**2016-17**		**2017-18**	
	RPO target as per Regulation	**Achievement**	**RPO target as per Regulation**	**Achievement**	**RPO target as per Regulation**	**Achievement**	**RPO target as per Regulation**	**Achievement**
Co-Gene (%)	4.45%	1.19%						
Non Solar (%)	1.80%	1.22%	2.50%	1.21%	3.00%	1.26%	4.50%	1.27%
Solar (%)	0.25%	0.25%	0.50%	0.67%	1.50%	0.99%	3.00%	0.92%
Total (%)	**6.50%**	**2.66%**	**3.00%**	**7.88%**	**4.50%**	**2.25%**	**7.50%**	**2.19%**

12. Promotion of Solar Power through Net Metering:

The Commission has promoted Solar Power both rooftop and ground mounted Solar Power through net metering. The highlights of the order are as follows:

(a) Two meters would have to be installed by the Solar Power Generator, One is for measuring Solar Generation and the other one is for Import/export measurement. The first meter, the Solar Generation Meter, has to be installed at the generator end after the inverter at the ground floor of the premises to

facilitate easy access for meter reading. In case of multiple Solar Generation Sources in a single premise, separate solar meters would have to be installed by the Solar Power Generator/ prosumer for each of the sources with facility for installation of modem along with all the solar meters for remote recording of monthly generation data through GSM or GPRS to the concerned distribution licensee.

(b) To address technical, safety and grid security issues arising out of possible reverse flow of electricity in the local grids, the distribution licensee shall provide net metering/bi-directional metering arrangement to all eligible consumers as long as the cumulative capacity to be allowed for a particular distribution transformer shall not exceed 75% of the capacity of the distribution transformer.

(c) Electricity generated from a Solar PV Project shall be capped cumulatively at 90% of the electricity consumption by the eligible consumer at the end of a settlement period which ends with the financial year to allow for seasonality in generation. In case of the financial year where Commercial Operation Date (COD) occurs, the 90% capping shall be on the energy consumed by the consumer from the date of COD to the end of the financial year.

(d) The carry forwarded of excess energy generation will be allowed from one billing cycle to the next billing cycle till the end of the same financial year. Any excess generation (above 90 percent) at the end of the financial year would be considered as free energy and shall not be offset against the consumer's consumption. There shall not be any carry forward of energy to the next financial year.

(e) The imported energy shall be eligible for normal ToD benefit as per the order of the Commission prevailing at that time.

(f) The quantum of electricity consumed by an eligible consumer, who is not defined as an obligated entity from the solar system under net-metering/bi-directional metering arrangement shall qualify as deemed Renewable Purchase Obligation (RPO) for the distribution licensee/bulk supplier.

12. Demand side Management (DSM) activities:

OERC has notified OERC (Demand Side Management) Regulations, 2011, which came in to force from the date of publication in the Extra Ordinary Odisha Gazette No.2489, dated.16.11.2011. DSM requires the DISCOMS to plan, implement and monitor their own activity of retail supply of electricity in such a manner which encourages the ordinary consumer to design their electricity consumption pattern in

such a manner that both their timing and quantum of demand is such as to optimize its use in the most economic and efficient manner.

In this connection, OERC has also directed DISCOMs to furnish the under mentioned information for taking further action on this matter.

(i) Creation of DSM Cell.
(ii) Public awareness by arrangement of Public lectures on DSM in local various areas of your utility.
(iii) Wide publicity for consumer awareness through NGO's, RWAs, TV and other media.
(iv) Formulation of DSM plan and its implementation process.
(v) Load research to find out possibility of shifting of some of the load of off-peak hours in order to reduce the demand during peak hours.
(vi) Creation of suitable advance metering infrastructure.
(vii) Creation of smart grid infrastructure as a pre-requisite to DSM.

In the meantime, DISCOMs have constituted separate cell to carry out DSM activities for end use electricity efficiency improvement and to encourage consumers to modify their electricity usage pattern. In this connection, steps like distribution of LED bulbs, provision of LED street lights, mandatory use (procurement) of Energy Efficient Star rated transformers etc. have been taken up by DOSCOMs. Further, energy audit and load research activities are being carried out on regular basis to ascertain the possibility of shifting of load to off-peak hours to reduce the demand during peak hours.

13. Present Status of Open Access:

(i) All the STOA applications for inter-State/Intra-State Open Access have been processed by SLDC.

(ii) In Financial Year 2016-17, 1502 numbers of applications were received for STOA/MTOA in Inter-State Transmission System. Consent had been accorded for 1366 numbers of applications. The remaining 136 numbers have been rejected/ withdrawn by applicants.

(iii) Similarly, 130 nos. of Intra-State STOA applications are allowed against the receipt of total 143 nos. of applications.

(iv) In Financial Year 2017-18, 1586 numbers of applications were received for STOA/MTOA in Inter-State Transmission

System. 1373 numbers of applications have been processed for consent. The remaining 92 numbers have been rejected/ withdrawn by applicants.

(v) Similarly, 213 nos. of Inter-State STOA applications are allowed against the receipt of total 213 nos. of applications.

(vi) Generally the status of the applications is conveyed to the applicant by SLDC within the stipulated time as per the Regulations.

(vii) There was two nos. of Intra-State long term Open Access consumers such as M/s. ICCL and NALCO who have been availing Open Access in State Transmission System since OSEB days.

14. Case Matters:

Various stakeholders filed different petitions during Financial Year 2017-18 in OERC. 88 nos. of Cases were registered and 79 nos. of Cases were disposed of by the OERC during the period from 1.4.2017 to 31.3.2018 including 10 nos. of Cases of Tariff matters for Financial Year 2018-19.

During the year 2017-18 the Commission had received notices in 6 nos. of Cases from the Hon'ble High Court of Odisha, Cuttack. The Commission also received notices in 3 nos. of appeals from the Appellate Tribunal for Electricity (ATE), New Delhi and received notices in 2 nos. of Civil Appeals from the Hon'ble Supreme Court of India & also the Commission has filed Caveat Petition before the Hon'ble Supreme Court of India apprehending stay of operation of the judgement dated.21.8.2017 of the Hon'ble ATE passed in Appeal No.64/2015 (Revocation of Licenses of RIL Managed DISCOMs namely, WESCO, NESCO & SOUTHCO). The Hon'ble Supreme Court of India vide their judgement dated.24.11.2017 in Civil Appeal No.18500 of 2017 has confirmed the judgement dated.21.8.2017 of the Hon'ble ATE passed in Appeal No.64/2015 (Revocation of Licenses of RIL Managed DISCOMs wherein the finding of the Commission of revocation of licenses is uphold.

15. Status of Regulations Framed under Electricity Act, 2003 by OERC:

Consequent upon implementation of the Electricity Act, 2003, the Odisha Electricity Regulatory Commission has framed of Regulations which are shown in the Table below:

Sl. No	**Name of the documents/ Regulations**	**Approved under OER Act, 1995**	**Approved/ Modified under Electricity Act, 2003**	**New Regulation**
1	OERC (Conduct of Business) Regulations	November, 1996	May, 2004	
2	Transmission Planning & Security Standards, Power Supply Planning & Security Standards, Transmission Operating Standards and Power Supply Operating Standards	March, 1998	Continuing	
3	Distribution System Planning & Security Standards, Operating Standards	May, 1998	Continuing	
4	OERC (Licensee's Standards of Performance) Regulations	September, 1998	May, 2004	
5	OERC Distribution (Condition of Supply) Code	September, 1998	May, 2004	
6	Distribution Planning & Operation Code	November, 1998	Continuing	
7	OERC (Grievance Redressal Forum and Ombudsman) Regulations	Bijli Adalat from dated.16.11. 1998	May, 2004	
8	OERC (Procedure for filling Appeal before the Appellate Authority) Regulations		May, 2004	
9	OERC (State Advisory Committee) Regulations		May, 2004	
10	OERC (Terms & Conditions for Determination of Tariff) Regulations		June, 2004	Repealed
11	OERC (Terms & Conditions for Open Access) Regulations, 2005		June, 2005	
12	OERC (Determination of Open Access Charges) Regulations		July, 2006	
13	Orissa Grid Code (OGC) Regulations	September, 1997	July, 2006	Decembe r, 2015

14	License Condition for DISCOMs	1997, Amended in March, 1999	October, 2006	
15	License Condition for TRANSCO	1997, Amended in March, 1999	October, 2006	
16	Complaint Handling Procedure	November, 1998	December, 2007	
17	Code of Practice on Payment of Bills	January, 2000	December, 2007	
18	Consumer Rights Statement	January, 2000	December, 2007	
19	OERC (Intra-State ABT) Regulations		February, 2008	
20	OERC Filing Fees Notification		August, 2009	
21	OERC (Fees & Charges of State Load Despatch Center and Other related matters) Regulations		June, 2010	
22	OERC (Renewable and Co-generation Purchase Obligation and its Compliance) Regulations		September, 2010	Repealed
23	OERC (Demand Side Management) Regulations		August, 2011	
24	OERC (Terms & Conditions for Determination of Generation Tariff) Regulations			October, 2014
25	OERC (Terms & Conditions for Determination of Transmission Tariff) Regulations			Decembe r, 2014
26	OERC (Terms & Conditions for Determination of Wheeling Tariff & Retail Supply Tariff) Regulations			Decembe r, 2014
27	OERC (Procurement of Energy from Renewable Sources and its Compliance) Regulations			Septembe r, 2015

16. Standards of Performance:

(a) The Annual Guaranteed and Overall Performance report for the year 2014-15 were submitted by the DISCOMs. The consolidated Annual Guaranteed Performance Report was published in the OERC website and Overall Performance Report was published in daily newspapers on 4.12.2015 and also in the OERC website.

(b) The Annual System Performance of OPTCL for the year 2014-15 submitted to OERC was scrutinised and subsequently published.

17. Other important tasks carried out by OERC:

(i) Annual System Performance of OPTCL.

(ii) Long Term Demand Forecast & Transmission Plan for the State of Odisha.

(iii) Finalisation of Intra-State Transmission Plan.

(iv) Order on net metering/ bi-directional metering and their connectivity with respect to roof-top Solar PV Projects.

(v) CEA, CERC, FOR, Assembly Questions, Parliament Questions.

(vi) General Consumer Complaints.

(vii) Monitoring of License Fees.

(viii) Technical visit to licensee area, S/S and Electrical Installations.

(ix) Energy Conservation and Demand Side Management (DSM).

(x) Renewable Energy Certificate Mechanism.

(xi) Investment approval of the licensees.

(xii) Inspection of GRF, Consumer Interface and Workshop in distribution licensees on various issues.

(xiii) Design and Implementation of a Network and Wi-fi System in OERC's New Building.

(xiv) Implementation of a 25 KWp Grid Interactive Solar PV Power Plant in OERC's new Building.

18. OERC published the consolidated Annual Guarantee Performance Report in its website and overall performance Report in

Daily News papers and in its website for the year 2016-17. Commission has approved new transmission projects, augmented the existing ones and has allowed higher amount of R & M expenses for the licensee to undertake regular and adequate maintenance.

Due to procurement of around 31 lakh meters by the licensees, the Commission has directed to install the meters in the following priority to achieve optimum results.

(a) New Supply connection
(b) Consumer without meter
(c) Consumer with defective meter and
(d) Consumer with electro-mechanical meter.

The Power utilities throughout the country are moving towards smart metering/ digitisation/ automation etc. in order to stay competitive and extend quality service to their consumers. Further, the Smart metering solution in the DISCOM System would eliminate human interface and thus it is the need of the hour. It will also help in implementation of Demand Side Management (DSM) and remote connection/ disconnection of power supply. The Commission therefore is keeping track of the developments in the field of smart metering.

The Commission is in the process of implementing Consumer Indexing practice which is necessary in order to tag all the elements of a distribution system to a network path. In order to provide quality power and reliable power supply the Commission has directed the DISCOMs to comply the following:

- The DISCOMs should complete pole scheduling, consumer indexing, distribution network mapping linking with indexed consumer and also ensure that reliable & correct meters are installed at all points of consumption for the purpose of Energy Audit to identify revenue leakage.
- Pro-active action for disconnection of such consumers whose bills are not paid continuously (including Government Connections).

- In order to have the capacity building of employees and officers as regards to enhancement of knowledge on evolving technologies and best practices being used by the other organizations, the licensees should impart training to its personnel to upgrade their skills to cope up with the changing needs.
- A special rebate of 1% over and above normal rebate shall be allowed on the bill to the LT category of consumers over and above all the rebates who pay through digital means (cash less).
- A special rebate to the LT single phase consumers in additional to any other rebate, he is otherwise eligible for, shall be allowed at the end of the financial year (the bill for month of March), if he has paid the bill for all the 12 months of the financial year consistently without fail within due date during the relevant financial year. The amount of rebate shall be equal to the rebate of the month of March for timely payment of bill.
- The Standard of Performance should be verified by a third party on behalf of licensee itself.
- The DISCOMs should ensure that the Standard of Performance in the OERC (Licensees' Standard of Performance) Regulation, 2004 are displayed prominently at all section offices and bill collection counters.
- The DISCOMs should establish centralized customer care centres at urban and suburban areas also.
- The DISCOM should fulfill their obligation of energy conservation and DSM activities under OERC (DSM) Regulation, 2011.

The Commission has received of Restructured Accelerated Power Development and Reforms Programme (R-APDRP) work of CESU during the period under review.

19. Case matters before the High Court/ Supreme Court/ ATE:

During the year 2015-16, the Commission had received notices in 17 nos. of cases from the Hon'ble High Court of Odisha, Cuttack. The Commission also received notices in 10 nos. of appeals from the Appellate Tribunal for Electricity (ATE), New Delhi and received notices in 3 nos. of Civil Appeals from the Hon'ble Supreme Court of India, & also the Commission has filed Caveat Petitions 2 nos. before the Hon'ble ATE apprehending stay of operation of its order passed in Case No.53 of 2015 (Generation Tariff for Financial Year 2016-17 of OPGC) and before the Hon'ble High Court of Odisha under Section 148 A of the Civil Procedure Code, 1908 apprehending stay of operation of its Retail Supply Tariff Orders for Financial Year 2016-17.

20. Consumer Interest:

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

(a) Issue of regulations, codes, licenses and practice directions
(b) Consumer Friendly Tariff
(c) Standards of Performance & Grievance Redressal
(d) Alternate Dispute Resolution Forum in OERC
(e) Creation of 12 Grievance Redressal For a and 2 Ombudsmen to dispose of consumer complaints.
(f) Pro-active Consumer Education
(g) Training & Capacity Building
(h) Approval of Consumer Service Documents of DISCOMs and their license conditions

21. State Advisory Committee (SAC) Meetings:

The State Advisory Committee Meetings are usually held in every quarter of a year. During the year there were four meetings held in the Commission on 31.5.2017, 30.8.2017, 28.11.2017, 20.2.2018 and 30.5.2018. The SAC Members advised the Commission on various matters relating to Retail Supply Tariff, maintaining quality of supply, designing distribution code for DISCOMs etc.

*****