

ACTIVITIES REPORT OF ENERGY DEPARTMENT FOR THE YEAR 2019-20

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	-	2877 MW
(c)	Central allocation (Hydro)	-	268MW
(d)	Central allocation (Thermal)	-	1008 MW
(e)	New & Renewable Energy	-	<u>611 MW</u>
Total		-	6,628MW

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 four years achievement on revenue receipt against the target fixed is given below:

During 2016-17 to 2019-20

Sl. No.	Year	Target fixed (Rs. In Cr.)	Achievement (Rs. In Cr.)	Remarks
1	2016-17	1500.00	1638.16	Revenue Receipt in respect of non-captive, captive ED and inspection fees.
2	2017-18	1900.00	1967.48	
3	2018-19	2400.00	3258.61	
4	2019-20	3000.00	2076.7789 (Upto 31 December, 2019)	

The above figure shows a rising trend of revenue collection.

During the Financial Year 2019-20, an amount of Rs.2076.7789 Crore of revenue (ED) has been collected upto December, 2019 against the annual target of Rs.3000.00 Crore.

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. A Budget provision of Rs.200.00 Crore during the Financial Year 2017-18 & Rs.150.00 Crore in the Financial Year 2018-19 was made under the scheme.

During 2019-20, a plan provision of Rs.75.00 Crore has been made under the Scheme.

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 and Rs.125.00 Crore in the Financial Year 2018-19 was made in the State budget for this purpose.

During the Financial Year 2019-20, a plan provision of Rs.1012.50 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 and Rs.10.00 Crore in the Financial Year 2018-19 was made under the scheme.

During 2019-20, 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.781.00 Crore during the financial year 2017-18 and Rs.500.00 Crore in the Financial Year 2018-19 were made to continue the project work. The funds are being released in favour of OPTCL, the Nodal Agency for implementation of the project. The work is in progress.

During the Financial Year 2019-20, a plan provision of Rs.443.00 Crore has been made in the Budget under the Scheme.

ENERGY CONSERVATION

Conservation and energy efficiency measures are given a central role in our national energy policy. A national movement on energy conservation has already taken shape. Promotion of energy efficiency and its conservation in the country is one of the least cost options to

bridge the gap between demand and supply. The Energy Department, State Designated Agency (SDA) and Government of India organization Bureau of Energy Efficiency (BEE) work in tandem with our national objective and play a bigger role in achieving efficient use of energy.

It is imperative that all-out efforts are made to realize this potential of Energy Conservation as an objective to which all the people of the state can contribute. Whether a household or a factory, a small shop or a large commercial building, a farmer or an office worker, every user and producer of energy must make efforts for his own benefit, as well as for the nation. All would be the part of solution but not part of problem.

The key schemes and activities for Energy Conservation under implementation in the state are as follows:

- 1.** Under Perform, Achieve and Trade (PAT) Scheme, 64 energy intensive industries were notified as Designated Consumers in Odisha till now & in PAT Cycle V for energy efficiency improvements in industry sector. First PAT cycle (2012-15) was completed resulting with a national energy saving of 8.67Mtoe.
- 2.** In order to stimulate demand for LED lighting in domestic and street lighting sector, Energy Efficiency Services Limited (EESL) has developed an innovative scheme for replacement of inefficient lighting with energy efficient LED lighting. As on 29.11.2019, LED bulbs of 5.22 Crore has been distributed across the household of the State under UJALA program which accounts 6780.973 MU energy saving per year and suppression of 1358 MW peak demand. About 1.59 lakh LED tube lights and 37,470 numbers of BEE Star rated “UJALA” fans have been distributed across the State.
- 3.** OMFED has been provided funds for replacement of old compressors, boilers & plant lighting by energy efficient equipment's to achieve more efficiency & thereby saving quite good quantity (10% to 12 %) of energy.

- 4.** 3715 nos. Agriculture pumps have been replaced in two phases by energy efficient pumps (ranging from 5 HP to 15 HP) through OLIC who assured more than 15 MU of energy saving annually.
- 5.** The old & very inefficient water pumps in PHED have been replaced by energy efficient pumps in 3 phases. In first phase 5 nos. DWPS were taken up in which 9.61 MU of energy saving and 4.88 MW capacity avoidance has been accomplished. Phase-II is expected to yield 8.15 MU of energy saving and 4.14 MW of capacity avoidance from the 9 DWPS.
- 6.** 120 nos. of “Energy Club” in schools have been created and funded for different energy conservation activities besides academic to promote awareness.
- 7.** Energy Conservation Day is being celebrated successfully every year to create awareness on Conservation of Energy. Various awareness programmes are conducted at Block, District and State level. Quiz competitions along with the mass rally are 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.
- 8.** An energy efficiency and energy conservation promotion stall has been 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.
- 9.** Awareness campaign on Energy Conservation among school children is conducted with the supply of 3000 nos. of T-Shirts and Caps printed with Energy Conservation messages for the mass rally organized by School & Mass Education Department, Government of Odisha on 14th November i.e. on Suravi.
- 10.** A tripartite MoU has been signed between SDA, BEE and each of the DISCOMs i.e. NESCO, SOUTHCO and CESU for capacity building of DISCOMs on Demand Side Management. Capacity Building

programme for DISCOMs has been conducted with support of FICCI at Berhampur, Jeypore, Bhubaneswar, Balasore. Other Capacity Building Programmes have also been conducted to build the capacity of Energy professionals, Industry Professionals, Boiler Operators, Financial Institutions etc.

11. DSM Programs in Agriculture sector: Capacity building of farmers and pump operators through 31 Krishi Vigyan Kendra (KVK) of Odisha is under process with the support from OUAT.

12. Odisha State Energy Conservation awards are given for different categories such as MSMEs, IT Industries, Hospitals, Educational Institutions, Commercial Buildings and Hotels of Odisha, who have been making systematic attempts for efficient utilization and conservation of energy.

13. 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. SDA is working on draft OECBC & OECBC rule to be notified in the state in line with ECBC-2017 & same would be incorporated in the bylaws for enforcement.

14. The street lights in colony area of Hydro projects have been replaced by energy efficient LED bulb to reduce electricity consumption.

Standard Testing Laboratory (STL)

Standard Testing Laboratory (STL), Bhubaneswar is a Government laboratory in the field of testing and calibration of electrical equipment and materials under the Engineer-in Chief (Electricity)-cum-Principal Chief Electrical Inspector (O), Department of Energy, Government of Odisha. It is a statutory organization created in the year 1988 under the Section-26 of the Indian Electricity Act-1910 to ensure quality and standard of electrical equipment's used in various industries, transmission and distribution system and electrification work in the state. STL also acts as an arbitrator laboratory in case of any dispute in the field of meter testing. The aim

of the Standard Testing Laboratory is to ensure the highest possible standard of test and to ensure credibility and impartiality of test results, maximum fulfilment of customer requirements for quality of services. STL has been granted accreditation in accordance with **ISO/IEC 17025:2005** by NABL for testing and calibration of energy meter with effect from 01.02.2019.

Small Hydro Electrical Project Development:

Renewable energy assumes great significance in the wake of huge demand of electricity throughout the country outstripping the supply which is being largely met from coal based thermal generation. Odisha, besides solar power generation, has good potential in the small hydro-electric power generation. Keeping in view the requirements under Renewable Purchase Obligation (RPO), State Renewable Policy 2016 envisages achieving 150 MW capacity additions under SHEP by the Year 2022. Small hydro power is a green energy source and environmental friendly. They produce less pollution which will help protect the environment and provide us with cleaner air and water.

Under SHEP development programme, three nos. of projects have already been commissioned in 2009 adding 57 MW to the State Grid. On an average 260 MU green energy is being supplied each year by these SHEPs. Further, another four projects i.e. 24 MW Lower Baitarani SHEP in the Keonjhar district, 18 MW Saptadhara SHEP in Malkangiri district, 9 MW Bargarh Head Regulator SHEP in Bargarh district & 15 MW Dumajhori SHEP in Koraput district are in different phases of construction. In a year or two, these four SHEPs will become operational and contribute another 66 MW to the grid under green power category. Apart from these, Government is actively involved to clear other viable SHEP proposals (26 nos.) which would be executed by the private entrepreneurs adding about 100 MW by 2022. The target of SHEP envisaged under renewable policy will be achieved.

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. During the Financial Year 2017-18, a plan provision of Rs.20.00 Crore and Rs.20.00 Crore in the Financial Year 2018-19 was provided under the Scheme.

During the Financial Year 2019-20, keeping in view its importance Rs.100.00 Crore has been made provision.

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, a provision of Rs.10.03 Crore and Rs.12.20 Crore was provided in the Financial Year 2018-19.

During the Financial Year 2019-20, 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 2017-18, a provision of Rs.50.00 Crore and Rs.45.00 Crore in the Financial Year 2018-19 was provided in the State Budget to OPTCL for this purpose.

During the Financial Year 2019-20, a provision of Rs.55.00 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.19.00 Crore in the Financial Year 2017-18 and Rs.49.00 Crore in the Financial Year 2018-19 was made under the Scheme to extend equity support to GEDCOL through OHPC.

During the Financial Year 2019-20, 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. In the Financial Year 2017-18, plan provision of another Rs.10.00 Crore and Rs.10.00 Crore for the Financial Year 2018-19 was 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 2019-20, a plan provision of 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. During the Financial Year 2017-18, a plan provision of Rs.1.00 Crore & Rs.50.01 lakh in the Financial Year 2018-19 was made under the Scheme.

During the Financial Year 2019-20, a plan provision of Rs.1.70 Crore has been made under the Scheme.

ODISHA TRANSMISSION 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. During the Financial Year 2017-18, a budget provision of Rs.20.00 Crore and Rs.44.00 Crore was made under the scheme for implementation of the project for the Financial Year 2018-19.

During the Financial Year 2019-20, a plan provision of Rs.100.00 Crore has been made under the Scheme

DEEN DAYAL UPADHYAYA GRAM JYOTI YOJANA (DDUGJY)

Deen Dayal 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 Government of India. Under this Scheme, the detail survey of the un-electrified villages has been completed and LOA issued. In the Financial Year 2017-18, a provision of Rs.200.00 Crore and Rs.155.08 Crore in the Financial Year 2018-19 was kept under this scheme as State Share.

During the Financial Year 2019-20, a plan provision of Rs.240.00 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 2017-18, a plan provision of Rs.100.00 Crore and Rs.100.00 Crore in the Financial Year 2018-19 was kept under this scheme as State share.

During the Financial Year 2019-20, a plan provision of 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 2017-18, a provision of Rs.230.00 Crore & Rs.150.00 Crore in the Financial Year 2018-19 was made under the Scheme.

During the Financial Year 2019-20, a plan provision of Rs.350.00 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 viz; GIS, SCADA,

OPGW and AMI for un-interrupted and reliable power supply to the consumers of the State. In the Financial Year 2017-18, a budget provision of Rs.70.00 Crore & Rs.55.00 Crore in the Financial Year 2018-19 was kept under the Scheme.

During the Financial Year 2019-20, a plan provision of Rs.14.70 Crore has been made in the Budget under the Scheme.

REDIAL TO RING CONVERSION PROJECT

The Redial 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 Sub-station 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 'Redial to Ring Conversion Project'. For this purpose in the Financial Year 2017-18, a plan provision of Rs.40.00 Crore and Rs.40.00 Crore in the Financial Year 2018-19 was made under the Scheme.

During the Financial Year 2019-20, a plan provision of Rs.54.95 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. In the Financial Year 2017-18, a budget provision of Rs.30.00 Crore & Rs.40.00 Crore in the Financial Year 2018-19 was made under the scheme like that in the previous year.

During the Financial Year 2019-20, a plan provision of Rs.61.33 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. In the Financial Year 2017-18, a budget provision of Rs.40.00 Crore & Rs.35.00 Crore in the Financial Year 2018-19 was made under the scheme.

During the Financial Year 2019-20, a plan provision of Rs.106.43 Crore 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 in the Financial Year 2018-19 was made under the Scheme.

During the Financial Year 2019-20, a plan provision of Rs.0.30 Crore has been made in the Budget under the Scheme.

UNDERGROUND CABLING OF IMPORTANT SITES

During the year 2011-12, Government has decided for underground cabling of Grand road and Temple Area, Puri to be implemented by CESU. Later on underground cabling work of Lingaraj Ratha Danda, Bhubaneswar and Konark Temple area was added to it which has already been completed by CESU.

Similarly, the underground cabling of Maa Samaleswari Temple area, Sambalpur & Ratha Danda, Baripada were taken up by WESCO and NESCO. 70% of the underground cabling work of Maa Samaleswari Temple area has been completed and work for the rest is in progress. The Underground cabling work of Rathadanda, Baripada is also in progress. For this project Rs.1000.00 was provisioned as "token" during 2017-18 and Rs.4.50 Crore has been made in the Financial Year 2018-19 under the Scheme.

During the Financial Year 2019-20, a plan provision of Rs.4.00 Crore has been kept under the Scheme.

AMA GHARE LED LIGHT 'KARYAKRAMA'

In order to provide LED bulb to all, a 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 for this purpose.

During the Financial Year 2019-20, a plan provision of Rs.10.00 Crore has been kept under the Scheme.

SAHAJ BIJLI HAR GHAR YOJONA (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 Yojona (Rural) – Soubhagya” to achieve universal household electrification. In anticipation of availing funds from Government of India, State Government has kept Rs.274.03 Crore under the scheme (as State Matching Share) for the Financial Year 2018-19.

During the Financial Year 2019-20, a plan provision of Rs.150.00 Crore has been kept under the Scheme.

UMPP BEDABAHAL

In order to provide Odisha's Share towards additional land cost for UMPP Bedabahal in Sundargarh District, budget provision of Rs.89.70 Crore has been made for the Financial Year 2019-20.

NEW SCHEMES/PROJECTS & INITIATIVES

DISCOMS IT SYSTEM

It is a new scheme for development of IT System in DISCOMs functioning in the State. Budget provision of Rs.20.00 Crore is made for this purpose in the Financial Year 2019-20.

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 H.E Project	Installed Capacity (MW)	Design Energy (MU)		Design Energy for Sale (MU)
1	Hirakud, Burla	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 a cheapest rate. The average tariff approved by OERC for the Financial Year 2019-20, is 87.73 Paise/Kwh. The Power generation from different power stations for the Financial Year 2019-20 upto October, 2019 is 4045.004 MU (excluding Machhakund) and 4217.56 MU (including Machhakund). It is programmed to generate 6119.7098 MU of electricity in the current financial year. Power Generation from different power stations of OHPC for 2019-20 upto end of October, 2019 and programmed generation for the balance year in MU:

Year	Hirakud	Chiplima	Balimela	Rengali	Upper Kolab	Upper Indravati	Sub Total	Machhakund	Total
2019-20 (upto 31.10.19)	382.985	154.5360	1061.8	437.5906	491.9190	1516.1754	4045.006	172.552	4217.558
From November, 19 to March, 20	185.6048	90.8	406.8	237.9999	258.9989	632.0002	1812.2038	89.948	1902.1518
Total	568.5898	245.336	1468.60	675.5905	750.9179	2148.1756	5857.2098	262.50	6119.7098

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 15.11.2019, 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. 15.11.18	RL as on Dated. 15.11.19	% filled up
1	Hirakud, Burla	630 ft. / 590 ft.	625.25 ft.	629.87 ft.	99.48%
2	BHEP, Balimela	1516 ft. / 1440 ft.	1510.45 ft.	1513.90 ft.	87.43 %
3	RHEP, Rengali	123.5 m / 109.72 m	118.49 m	123.78 m	102.97 %
4	Upper Kolab HEP, Bariniput	858 m / 844 m	855.65 m	857.19 m	91.79 %
5	Upper Indravati HEP, Mukhiguda	642 m / 625 m	639.02 m	640.47 m	88.31 %
6	Machhkund (JT)	2750 ft. / 2685 ft.	2745.75 ft	2748.70 ft	--

The important activities of OHPC for 2019-20 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. Views of Government of Odisha and Department of Water Resources on Draft DPR have been received. The draft DPR is also under scrutiny at various Departments of CEA and CWC for clearances. Work order issued in favour of M/s. Grow Green Consortium Pvt. Limited for providing consultancy services to obtain Clearance for carrying out Drifting Study.
- ii) DPR for a 320 MW capacity Pumped Storage Power Plant at Upper Kolab is under preparation. WAPCOS has submitted the conceptual layout to OHPC and same was forwarded to Department of Water Resources, Government of Odisha to obtain in principle approval of the same. After getting the approval further study will be carried out.
- iii) DPR for a 500 MW capacity Pumped Storage Power Plant at Balimela is under preparation. WAPCOS has submitted the conceptual layout, Revised PFR, Topographical Survey Report. OHPC requested to Department of Water Resources, Government

of Odisha to accord in principle approval of the proposed project outlay.

- iv) DPR for a 63 MW capacity Kharag Hydro Electric Project is under preparation. WAPCOS has submitted the Inception Report, Topographical Survey Report. OHPC requested to Department of Water Resources, Government of Odisha to accord in principle approval of the proposed project layout. After getting Clearance from Forest Department the geotechnical investigation will be carried out by M/s. WAPCOS.
- v) DPR for Salki Hydro Electric Project is under preparation. WAPCOS submitted the Conceptual Layout for acceptance. OHPC requested to Department of Water Resources, Government of Odisha to accord in principle approval of the proposed project layout. The capacity of the project is yet to be finalized.
- vi) Contract Agreement for R&M work of Unit # 3 CHEP, Chiplima signed on dated.15.10.2015 with M/s. Voith Hydro Power Limited, Noida at a Project cost of Rs.65.67 Crore. Test Synchronization of the Unit with Grid has been conducted successfully on 7.11.2019, the Unit is under trial operation. The Commercial operation of the Unit is expected on December, 2019.
- vii) Contract Agreement for R&M work of Unit # 5 & 6 of HHEP, Burla signed on dated.16.10.2015 with M/s. Voith Hydro Power Limited, Noida at a Project cost of Rs.158.77 Crore. Refurbishment works of Draft tube gates & intake gates completed. Dismantling of Generator, turbine & its auxiliaries of Unit # 5 & 6 completed. Refurbishment of spiral casing, piping work of Cooling water system and compressed air system and Cable Installation work for Unit # 5 is under progress. Penstock Repair Work, piping work of Cooling water system and compressed air system and Cable Installation work for Unit # 6 is under progress.
- viii) Contract Agreement for R&M work 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 of SRV & BFV of Unit # 1 & 2.

Assembly of Guide Apparatus of Unit # 2, Refurbishment of Penstock of Unit # 1 & 2, Generator Rotor building of Unit-I, Generator Stator assembly of Unit # 1 & 2, Draft tube gate of refurbishment work of Unit # 2 and Erection of bus Duct of Unit-1 & 2 are under progress. Civil work of Extension Bay of 220 KV switchyard is also under progress.

- ix) Annual / Quarterly/ Monthly maintenance of generating Units in different units in different power stations are being carried out regularly as per maintenance schedule. Annual maintenance of 19 nos. of generating units has been programmed in the current Financial Year of which annual maintenance in 5 nos. of generating units has been completed.

The important activities of Green Energy Development Corporation Ltd (GEDCOL) for 2019-20 are as follows:

A. Small Hydro Electric Projects:

- i. PFRs of 15 (Fifteen) nos. SHEPs (approx.192 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 modified draft tender document for selection of a firm for execution of project has been prepared by M/s. WAPCOS and the same is placed for vetting.

B. Solar Power Projects:

- i. Letter of Award has been issued in favour of L 1 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.
- ii. 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 19 MW Capacity on 612 nos. of buildings under Gross Metering Model. MNRE has approved 18.5 MW Roof Top Project on achievement linked incentive scheme. RFP request for proposal will be invited after ORC order on Gross Metering & receipt of approval on Tender Documents from ECI.
- iii. DPR has been prepared for 275 MW Solar Park at five sites in Sambalpur and Boudh District and submitted to MNRE for approval. The transmission infrastructure for power evacuation shall be constructed by OPTCL for which DPR has been approved by CEA. MNRE approved the DPR on 28.1.2019 with Project cost of Rs.199.17 Crore with MNRE grant of Rs.29.5 Crore.

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.1822.4974 Crore as on 31.3.2019. The share holding pattern is as below:

A.GENERAL INFORMATION:**1.Year of Registration of the Company:**

OPGC has registered in the year of 1984 under Company Act-1956.

2. Status of the Company:

This is a Government of Odisha Company under Gold category

Objectives –

- Establish, operate and maintain electric power generating station, tie lines, Sub-stations and transmission lines connection therewith.
- Develop and deal in fuel i.e. coal, lignite, coke-bed methane etc.

3. Share Capital Authorized– Rs.3000 Crores

Paid up – Rs.1,822.4974 Crore (as on 31.03.2019)

Reserve & Surplus----- Rs.1133 Crore

Net Worth----- Rs.2714 Crore (provisional)

Fixed asset-----Rs.10389 Crore (Provisional)

Share Holding; -

Share holders	% of share holdings	Numbers of shares	Amount in Rs.
Government of Odisha	51	92,94,737	929,47,37,000
AES	49	89,30,237	893,02,37,000
Total	100	182,24,974	1822,49,74,000

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

Total Dividend paid –Rs.1411.08 crore

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

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

5. Investment vs. Return to the State from OPGC

Initial Investment- Rs.450 Crore Share Capital.

Disinvestment of 49% made in Year 1998 (Realized amount- Rs.603 Crore)

Subsequently the position of share capital is as above at Sl.No-3 above.

Dividend paid by the Company till 2017-18 Rs.736.16 Crore

B. 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, Banharpali in the District Jharsuguda (Odisha) at a cost of Rs.1135.00 Crore.

Units Commissioning dates:

Unit- I of ITPS (210 MW) - 21.12.1994

Unit-II of ITPS (210 MW) – 01.07.1996

Generation and Profitability (last seven years)

Year	Units of Power generated (in MU)	PLF%	Turnover Rs. in Crore (incl. other income)	Net Profit after Tax Rs. in Crore
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
2018-19	3085.45	83.86	897.86	166.88


C. 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 Crore. The agencies like BHEL for BTG package, BGRE for BOP package, L&T for MGR, Shree Balajee Engicons Pvt. Ltd for Ash Pond and NCC for Township development etc. have been engaged for construction of power plant. Both units have achieved its commercial operation. Status of both units are given below.

Construction Status (up to Nov'2019):

Major Package	Percentage of Construction
BTG	99.8%
BOP	98.3%
MGR	87.9%
ASH POND (Phase-I)	94%

Major Milestone:

Events 	Boiler Light Up	Synchronization	COD
Unit # 3	Nov'18	Mar'19	03rd July'19
Unit # 4	Aug'18	Jan'19	21st Aug'19

Project Expenditure (provisional up to October'2019)

Approved Project cost- Rs.10165 Crore		
Debt	75% (Rs.7624.00 Crore)	<ul style="list-style-type: none"> • Loan from PFC & REC equally.
Equity	25% (Rs.2541.00 Crore)	<ul style="list-style-type: none"> • OPGC internal reserve • GoO Contribution • AES Contribution

Expenditure up to October'2019 (Rs.9,759.26 Crore)		
Debt	Rs.7408.28 Crore.	<ul style="list-style-type: none"> • Loan from PFC & REC
Equity	Rs.2350.98 Crore.	<ul style="list-style-type: none"> • GoO Contribution • AES Contribution • Balance from OPGC internal accruals.

Amount to be expended	Rs.405.74 Crore
Debt	Rs.215.72 Crore
Equity	Rs.190.02 Crore

The present Installed Capacity of OPGCL is:

Sl. No	Particulars	Capacity
1	Thermal	1740 MW (2 X 210 MW + 2 X 660 MW)

The entire generation from Ib Thermal Power Station is committed to GRIDCO Ltd. on the basis of a long term PPA / OERC Tariff.

Corporate Social Responsibility – Updates:

In last 5 years OPGC-I expenditure is as follows.

- FY 2014-15: INR 1.17 Crore
- FY 2015-16: INR 2.68 Crore
- FY 2016-17: INR 3.24 Crore
- FY 2017-18: INR 1.42 Crore
- FY 2018-19: INR 1.55 Crore
- FY 2019-20: INR 3.10 Crore (Target)

Amount to be spent on CSR activities through OPGC-II is Rs.24.36 Crore during construction period. Out of which Rs.14.50 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 2019-20
(As on November, 2019)

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 is as follows:-

155 nos. of Grid Sub-stations including Switching Station with transformation capacity of 20376 MVA and 14250.395 Ckt.Kms. of Transmission lines of 400 KV, 220 KV and 132 KV levels . The present peak demand of the state is around 4200 MW, which is handled by the existing network and equipment of the system.

(A) Important Operation & Maintenance Activities (Financial Year 2019-20 as on 30.11.2019):

(a) Completed Works :

- (i) 170 MVA Transformation capacity addition in 04 nos. of Grid S/s.
- (ii) Conversion of S/C (Single Circuit) to D/C (Double Circuit) of 132 KV New Bolangir-Patnagarh line, 132 KV Akhusingh – Paralakhemundi line.
- (iii) Conversion of 132 KV Switching Station to 132/33 KV Grid Sub-station.
- (iv) Addition of 132 KV Feeder bays at Sunabeda, Digapahandi, New Bolangir, Patnagarh.
- (v) Addition of 220 KV and 132 KV Transformer bays at New Bolangir, Therubali, Mendhasal, Rairakhole, Padampur.
- (vi) Sub-station Automation System (SAS): A protection up gradation and SAS is completed for 132/33 KV Grid Sub-station Jajpur Road and Kendrapara. The Sub-station has been equipped with IEC 61850 complied IED and distributed architecture with Bay Control Units.
- (vii) Sub-station Automation System having IEC 61850 complied protection relays adopting distributed architecture with retrofitting Bay Control Units has been completed for Basta, Arugul, Konark, Shamuka, Kuchinda, Karanjia and Anandpur Grid Sub-stations.

(b) On-going Works :-

- (i) Augmentation of 477.5 MVA Transformation capacity additions in 15 nos. of Grid S/s during Financial Year 2019-20.
- (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, New Bolangir-Sonepur line.
- (iii) Addition of Transformer bays at Budhipadar, New Bolangir, Sambalpur, Rayagada, Jayanagar, Chandpur, Bhawanipatna, Kalunga.
- (iv) Replacement of old conductor with new in 132 KV Berhampur-Digapahandi, Kendrapara-Paradeep- I & II, 220 KV Joda-TTPS-II Line, 220 KV Meramundali-Bhanjanagar-II, 132 KV TTPS-Duburi-I and 132 KV Digapahandi - Mohana.
- (v) Sub-station Automation System (SAS): A protection up gradation and SAS is in progress for 132/33 KV Grid Sub-station Aska, Rayagada, Brajarajnagar and Sambalpur. The Sub-stations will be equipped with IEC 61850 complied IED and distributed architecture with Bay Control Units.
- (vi) Sub-station Automation System to 3 nos. of Sub-stations i.e. 400 KV Grid S/S Mendhasal, 132/33 KV Grid S/S Kesura and Bhawanipatna having IEC 61850 complied protection relays adopting distributed architecture with retrofitting Bay Control Units has been under progress.
- (vii) Sub-station Automation System of 16 nos. of Grid Sub-stations (Details below) are to be executed shortly on OPTCL funding.
 - a) 132/33 KV Grid S/s Bhubaneswar b) 132/33 KV Grid S/s Sunabeda c) 220/132/33 KV Grid S/s Nayagarh d) 132/33 KV Grid S/s Khurda e) 132/33 KV Grid S/s Chainpal f) 132/33 KV Grid S/s Rairangpur g) 132/33 KV Grid S/s Dhenkanal h) 132/33 KV Grid S/s Puri i) 132/33 KV Grid S/s Phulanakhara j) 132/33 KV Grid

S/s Chandpur k) 132/33 KV Grid S/s Khargaprasad l) 132/33 KV Grid S/s Ransingpur m) 132/33 KV Grid S/s Banki n) Jharsuguda o) Khajuriakata p) 132/33 KV Grid S/s Laxmipur.

- (viii) Sub-station Automation System of 7 nos. of Grid Sub stations (Details below) are to be taken up on PSDF funding which are sanctioned by PSDF and are under tendering process at CPC branch of OPTCL.
 - (a) 220/132/33 KV Grid Sub-station Tarkera
 - (b) 220/132/33 KV Grid Sub-station Bidanasi
 - (c) 220/132/33 KV Grid Sub-station Paradeep
 - (d) 220/132/33 KV Grid Sub-station Budhipadar
 - (e) 220/132/33 KV Grid Sub-station Baleswar
 - (f) 220/132/33 KV Grid Sub-station Narendrapur
 - (g) 220/132/33 KV Grid Sub-station New Bolangir
 - (h) 220/132/33 KV Grid Sub-station Katapali
- (ix) 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.
- (x) Replacement of old & obsolete breakers, CT, PT, LA, isolators etc. and relays. Renovation of Earthing System at selected Grid S/s is going on.
- (xi) Implementation of OPGW based reliable communication at 132 KV and above level on **PSDF funding** and work is under progress on supervision of Telecom wing of OPTCL.
- (xii) Implementation of Automatic Demand Management Scheme (ADMS) **under PSDF** funding which is to be taken up by OPTCL under supervision of SLDC, Bhubaneswar.
- (xiii) Installation of 125 MVAR Bus Reactor along with construction of associated bay each at 400 KV Grid S/s of Mendhasal, Meramundali & New Duburi for VAR control & stabilization of system voltage which are sanctioned by PSDF and are under tendering process at

CPC branch of OPTCL.

- (xiv) Renovation and Up gradation of protection system of 08 nos. of Grid Sub-stations under PSDF funding (Chandaka, Duburi, Meramundali, Tarkera, Bhanjanagar, Budhipadar, Jayanagar and Katapali) work is in progress.

(B) Important Construction Activities (Financial Year 2019-20 as on 30.11.2019):

(i) Projects Completed During Financial Year 2019-20

220KV S/s & line: Aska S/s, Kashipur S/s, Jayapatna S/s.

132 KV S/s & line: Unit-VIII – BBSR S/s, Betonati S/s, Agarpada S/s, Potangi S/s, Bhadrak – Anandapur Line, Baner-Jayapatna line.

(ii) Ongoing Projects:

400 KV S/s & line: Meramundali B GIS S/s, 3rd ICT at Duburi, Diversion of 400 KV & 220 KV LILO arrangements at Meramundali-B.

220 KV S/s & line: Pratapsasan S/s, Deogarh S/s (JICA), Lephripara S/s (JICA), Kiakata S/s (JICA), Dasapalla S/s (JICA), Govindpalli S/s (JICA), Turumunga S/s (JICA), Godachhak S/s, Kesinga S/s, Baliguda S/s, Kalimela S/s, Kuanramunda S/s, Bamra S/s, Dhamra S/s, Godishahi S/s (SCRIPS), Kantabada S/s (Gothapatna - SCRIPS), Baliana S/s (SCRIPS), Balichandrapur (Palei) S/s, Telkoi S/s, Gunupur S/s, Pandiabil - Pratapsasan line, Jayanagar - Ayanagar PG line, 220 KV LILO of Narendrapur - Therubali at Aska, 2nd Transformer bay at Laxmipur.

132 KV S/s & line: Maneswar S/s, Mancheswar GIS S/s, Satasankha S/s, R Udayagiri S/s, G-Udayagiri S/s, Lakhanpur S/s (JICA), Thuapalli S/s (JICA), Hinjili S/S (GIS), Birmaharajpur S/s, Brajabiharipur S/s, Gondia S/s, Rajnagar S/s, Boriguma S/s, Nayapalli S/s (SCRIPS), Bhatali S/s, Lamtaput S/s, Chandipur S/s (JICA), Satyanagar S/s (SCRIPS), Badagada S/s (SCRIPS), Bahugram S/s (JICA), Nabarangapur S/s, Hirakud S/s (GIS), Jayanagar - Sunabeda line, Jayanagar - Tentulikhunti SC line, Kuchei - Bangiriposi SC line, Digapahandi-Aska DC line, Padmapur-Nuapada SC line, Lapanga-Brajarajpur DC line, Paralakhemundi-R.Udayagiri DC line,

Boudh-Phulbani DC line, Chandbali- Dhamara DC line, Podagada-Potangi line, Jayapatna-Junagarh DC line, Kesinga-Junagarh SC line, Barpali-Bargarh LILO line.

(iii) Projects under Tender evaluation:

400 KV S/s & Line: Nildunguri Solar Pooling Station GIS, Paradeep GIS S/s, Ramkrishnapur (Bhadrak) GIS S/s, LILO line to Ramkrishnapur.

220 KV S/s & Line: Dhenkanal-B GIS S/s, LILO of Joda-TTPS at Keonjhar, LILO line to Kuakhia LILO line to Denkhanal-B.

132 KV S/s: Manmunda Solar Pooling Station.

(iv) Projects under Tendering:

220 KV S/s: Chitalo (Jajpur) AIS, Kuakhia GIS.

(C) Important Telecom Activities (Financial Year 2019-20 as on 30.11.2019):

In addition to the regular maintenance/Repair/Renovation works of existing PLCC/SCADA/ OPGW equipment, SCADA facility to DISCOMs have been provided for real time data through Remote Visual Display Unit (RVDU). ERP, AMI and Video conferencing system have been adopted successfully in OPTCL using its own reliable OPGW network.

ONGOING PROJECTS:

- i) To extend OPGW connectivity to vital 132 KV S/s by laying 1745 KM length of cable. (The Work is completed.)
- ii) Provision of Digital Tele Protection Coupler (DTPC) in 220 KV and above line sections through OPGW SDH equipment. (The work is completed)
- iii) To extend OPGW connectivity to balance line section of OPTCL by laying 2289 KM length of cable with PSDF support. (Work order has been issued. Project completion is 2 years)
- iv) **Bharat Net Phase-II:** Under the project high speed internet connectivity will be extended to 2945 nos. of Gram Panchayat (GP) covering 30 nos. of districts of Odisha by way of laying Aerial optical fibre (15,171 km) on electric poles. Survey work has been completed. The work has been started and target date of completion is 31.03.2020.

- v) Provision of Battery set: Under the project provision of Battery set have been made for different Telecom sections in OPTCL and tendering process is in progress.
- vi) Provision of Battery charger (FCBC): Under the project provision of Battery charger (FCBC) set have been provided to different Telecom sections in OPTCL. The work order is issued to the firm. Materials have been delivered at site.

New Projects:

1. Provision of 78 nos. of RTUs under RTU replacement scheme and for new S/s. Tendering is finalized. LOA will be issued shortly.
2. PMU: 32 nos. of PMUs have been integrated with OPTCL network under URTDSM project.
3. 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 4000 KM of OPGW and another 3400 KM of OPGW will be covered under new projects. OPTCL is earning revenue of Rs.2.01 Crore per annum presently by way of leasing out dark fibre to Power grid & BSNL. This amount will increase substantially over the years after commissioning of OPGW networks in upcoming projects.

4. Bharat Net Phase-II:

Under the project high speed internet connectivity will be extended to 2945 nos. of Gram Panchayat (GP) covering 30 nos. of districts of Odisha by way of laying Aerial optical fibre (15,171 km) on electric poles. The project is fully funded by Government of India. MoU has been signed amongst USOF, BBNL, Government of Odisha & OPTCL on 19.01.2018. The project will be implemented through State Implementing Agency (SIA) i.e. OPTCL. The project construction period is one year extended guarantee period 3 years and comprehensive AMC period is 3 years. OPTCL has issued the LOA at a price of Rs.547.46 Crore and work is in progress. Survey work is completed. Laying of ADSS fibre along with commissioning of terminal equipment at BSNL exchanges & GP are in progress and Completion dated.31.3.2020.

(D) Important IT Activities (Financial Year 2019-20 as on 30.11.2019):

1. **CCTV Surveillance of Grid Sub-stations –**

- **CCTV Pilot Project:** Four major grid Sub-stations (Meramundali, Chandaka, Budhipadar, Jayanagar) of OPTCL are being monitored 24x7 through CCTV & the project has gone live. The project adopts modern technologies like motion based recording, Local recording and monitoring through IP cameras, 24x7 surveillance through PTZ cameras and night vision cameras.
- **CCTV Project Phase 1 (at 10 Grid S/s):** Contract for CCTV Implementation for another 10 grid Sub-stations (Detailed list enclosed in Annexure-1) has been awarded. Out of which, Commissioning work for 8 grid Sub-stations has been completed and balance 2 grid Sub-stations work is currently Work-in-Progress.
- **CCTV Project Phase 2 (at 18 as per Initial Work Order; additional 05 through repeat order) :** The work for CCTV implementation of 18 grid Sub-stations (Detailed list enclosed in Annexure-2) has been awarded in the month of January, 2019 and delivery, installation & Commissioning work for the same has been completed in August, 2019 for all grid Sub-stations.
- Presently, repeat order has been awarded for CCTV implementation at additional 5 numbers of Grid S/s in June, 2019 (Detailed list enclosed in Annexure-3) and the delivery has been completed and Installation and commissioning shall be completed by mid of December, 2019.
- **CCTV Project Phase 3 (at 26 grid Sub-stations and 3 Stores):** Work order has been awarded on 22nd November, 2019 (Detailed list enclosed in Annexure-4). The Work is expected to be completed by end of June 2020.

2. **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, GoI. The civil works for the PDC has already completed and the Centre is expected to be ready by the end of June, 2020 for use.

- As per the 107th Board Meeting, the Board decided to award the project to M/s Wizertech. The LoA has been placed to M/s Wizertech on 28th October, 2019.

3. **GIS: Geographical Information System –**

- Under GIS project all engineering assets of OPTCL i.e. EHT O&M Network of OPTCL (127 Grid Substations), 29456 no's of EHT Towers, 8427.445 Route Kms have been geo-referenced and Power Atlas has been prepared. The GIS project is also integrated with e-Shakti to retrieve real-time asset information. The project has been rolled out in March, 2018. OPTCL-IT has imparted Training to 100 no's of O&M Executives during Dec, 2018- January, 2019.
- During the Cyclone “Fani”, this application contributed a lot for Information Retrieval and Report generation.
- Presently, a Proposal has been received from ORSAC in the month of October, 2019 (Which was being invited from OPTCL end) for the augmentation of the new 29 no's of Grid S/s and lines of 525 Route Kms and also for the maintenance of the GIS application. Further Decision is to be made by the OPTCL management in December, 2019.

4. **AMI: Advanced Metering Infrastructure Project –**

- Installation of AMI infrastructure has been completed at 124 EHT S/s including 6 Power Houses having a total of 846 no's of meters of OPTCL. 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 846 metering points.
- OPTCL has introduced new version of meters of variant DLMS-3 category in 2016, which the AMI System of

OPTCL could not able to retrieve. Hence, the implementer again re-engineered the Firmware, which took some time.

- Currently, the installation process of the Beta version of the Re-engineered Firmware (as per DLMS Amendment 3) is work in Progress across all grids. Simultaneously, integration of the new meters with the AMR System is being addressed.
- The installation work has been scheduled to be completed by end of November, 2019 in CESU and SOUTHCO Zone. Phase wise it will also be completed in the other 2 DISCOMs (expected by end of January, 2020).

5. Cyber Security:

- The Data Centres of OPTCL, GRIDCO & SLDC and the Supervisory Control and Data Acquisition (SCADA), Main Control Centre (MCC) & Backup Control Centre (BCC) of SLDC is now maintaining the ISO 27001:2013 Certification by continuous follow of ISMS (Information Security and Management System) Standards. The lead ISMS auditors of OPTCL, GRIDCO & SLDC has conducted 2nd phase ISMS Internal Audit in June, 2019. The reports of the audit have been forwarded to the concern Department for the immediate mitigation of the findings.
- The ISMS experts from M/s Digital Age Strategies, Bangalore has conducted external ISMS audit, from 20th-23rd November, 2019 in Data Centres of OPTCL, GRIDCO & SLDC and the Supervisory Control and Data Acquisition (SCADA), Main Control Centre (MCC) and the VAPT audit (Vulnerability Assessment and Penetration Testing) for the same locations has been conducted from 25th-27th November, 2019.
- The Surveillance audit by the Certification body shall be completed by February, 2020.

6. OPTCL, GRIDCO, SLDC Wide area network(OGS-WAN) –

- The existing Networking Items used in OGS-WAN project has passed its End of Life (EOL) and End of Service (EOS). For this, a fresh tender is to be floated in FY 2019-2020.
- A 50Mbps internet access is currently provided in the head quarter of OPTCL by enhancing the bandwidth from 30Mbps to comply the requirement of its official executives.
- OPTCL-IT has renewed the contract with M/s Bharati Airtel Limited, Bhubaneswar for providing 83 no's of MPLS (Multi-Level Protocol Switching) Links to different locations of OPTCL throughout Odisha.
- The extension of 12 nos. of OPGW link (OPTCL's own) has been commissioned and 12 nos. of MPLS (Multi-Level Protocol Switching) Links has been surrendered during the period 01.04.2019 to 30.11.2019. Till date, at 59 nos. of Grid Sub-stations (in total) the extension of OPGW Links has been done by OPTCL-IT.
- The AMC of OGS-Wan Project has been awarded to M/s. Karvy Innotech Pvt. Ltd., Hyderabad for a period of one year after immediate effect of contract expiry of M/s. HCL Commnet, Kolkata. OPTCL-IT has initiated the tender floating process for the AMC Support of OGS-WAN Project which is going to be expired on February, 2020.

7. Video Conferencing –

- Video Conferencing facility has been established at 94 Major Grid Sub-stations and locations of OPTCL (PTC Chandaka & OPTCL Headquarters). The facility is majorly operated over OGS-WAN network and hence is very successful.
- Work order for VC implementation at OERC, Energy Department (GoO), NESCO, WESCO, SOUTHCO and Office of EIC has been completed by OPTCL in September, 2019 but only CESU is left over, which is expected to be completed by end of December, 2019.

**(E) Important Activities of Government Grant Schemes
(Financial Year 2019-20 as on 30.11.2019):**

(a) ODSSP STATUS

- i) Government of Odisha initially sanctioned Rs.2600.00 Crore as Grant for construction of 500 nos. of 33/11 KV 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) Government later added one more 33/11 KV Sub-station to be constructed at BADAPADA in Malkangiri district.
- iv) The estimated cost of above Sub-station and line is Rs.13.96 Crore and OPTCL have received the above estimated amount from Government.
- v) Total 302 nos. 33/11KV Sub-stations have been Test Charged till 27.11.2019.

It is expected to charge balance 172 nos Substations by March, 2020.

(b) ODAFFP STATUS

- i) Government of Odisha have 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 11KV dedicated Fishery feeder was issued to M/s Gupta Power Infrastructure Limited on 10.06.2015. **(Contract Price Rs.128.93Crore)**
Regarding dedicated Agriculture feeders [written below at bit (i) sub-bit Sl.5 under DDUGJY NEW]
- iii) Till date the following Fishery Feeders have been charged.
 - a) 11 KV Konark- Chandrabhaga Feeder
 - b) 11 KV Sutan – Tikina Feeder

- c) 11 KV Jagapur- Sonpur Feeder
- d) 11 KV Langaleswar- Kasafal – Bahabalpur – Sartha Feeder
- e) 11 KV Srijang – Inchudi Feeder
- f) 11 KV Swadhinpadia – Gudupahi Feeder
- g) 11 KV Rasalpur - Bardhanpur Feeder
- h) 11 KV Jaganathpur – Ranakotha Feeder
- i) 11 KV Eram - Aadhuan – Padhuan Feeder
- j) 11 KV Bideipur – Sunamuhin Feeder

It is expected that balance works will be completed by March, 2020.

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

The SCRIPS scheme has been planned and taken up with an investment of Rs.1492.07 Crore to meet the energy needs of State Capital Region ensuring 24 x 7 uninterrupted stable power supplies to all classes of consumers including public services. The scheme envisages underground cabling for 132 KV & below voltage level and all Grid S/s shall be of GIS type and the system shall use Smart Grid Technology which will ensure more reliable supply of electricity.

Sl. No	Name of The Work	Achievement (as on 30.11.2019)	Remarks
1	Bhubaneswar UG Cabling Work: (Bidyut Marg, Sachivalaya Marg, Janpath, Cuttack Road and major linking roads with 132kV UG Cabling from Chandaka-B GIS Grid to Unit-VIII GIS Grid	98.20KM of Trench Route Completed alongwith Installation & Testing of Major Equipments	Till date out of 3350 nos., 912 nos. Consumers got Power Supply through UG Cabling
2	Cuttack UG Cabling Work: alongside some major roads like Link Road, Buxi Bazar, Road connecting College Square to Medical Square, Cuttack Grid to OGP, OGP to Kalyani Nagar S/s, Badambadi to Ranihat, Ranihat to Stadium,	54.96KM of Trench Route Completed alongwith Installation & Testing of Major Equipments	Till date out of 3220 nos., 420 nos. Connections are ready to get Power Supply through UG Cabling

	Stadium to Baliyatra Ground etc. (plus linking roads as necessary)		
3	132kV UG Cabling connectivity to a. Chandaka-B GIS Grid to Mancheswar-B GIS Grid b. Mancheswar-A AIS Grid to Mancheswar-B GIS Grid	11.2KM of Trench Route Completed	Both circuits are ready for Charging
4	Construction of 7 nos. 33/11KV GIS PSS in Bhubaneswar City	LoA issued on 07.03.19 & Work in Progress	a. Land for 4 nos. GIS PSS at Unit-8, Badagada, Satyanagar-II & Bapujinagar are available & CESU has been requested for handover of same b. For balance 3 nos. Land at Mastercanteen, Kharavelnagar & Shantipalli- Application has been sent to GA & PG Department for allotment.
5	Construction of 2x63MVA, 220/33KV GIS Grid at Godisahi & Kantabada	"Godisahi: Contour Survey, Soil Investigation, Leveling and General layout completed. Boundary wall in progress. Kantabad: BDA clearance waited. Then RI will give demarcation of the land. "	Completion Target- 21.08.2020
6	Construction of 2x63MVA, 132/33KV GIS Grid at Satyanagar & Badagada with its associated 132KV UG Cable Lines & AIS Bay Extension at Keshura Grid	"Satyanagar: Land is not finalized. No approach road is available. Badagada: Space for GIS will be available	Completion Target- 21.08.2020

		after completion of the 33/11KV GIS to be executed through M/s. Siemens. UG Cable Feeders: Finalization of Cable Routes is subject to finalization of Satyanagar Land."	
7	Construction of 2x160MVA, 220/132KV, & 2x63MVA, 132/33KV, 220/132/33KV GIS Grid at Baliana with its associated 220KV LILO OH Line and 132 KV OH Line on Monopole	"Transmission Line: Survey Works completed. Authentication of the Land Schedules by the Revenue Department is completed. Sub-station : De-reservation of the identified Government Gochar Land (Area : Ac 7.3 dec., Plot : 448, Khata: 338, Mouza: Bhubanpur) is in process	Completion Target- 21.08.2020
8	Construction of 2x63MVA, 132/33KV GIS Grid at Nayapalli with its associated 132KV UG Cable Lines & AIS Bay Extension at Mancheswar Grid	"Substation: CESU offices vacated. One new G+4 building for CESU offices is under tendering by OPTCL.UG Cable Feeders: Route Survey is completed. Awaiting approval from NHAI."	Completion Target- 06.09.2020
9	2x40MVA, 132/33KV GIS with SAS at Unit-8, Bhubaneswar	Commissioned on 31.03.2019 with 11Kms of 132KV UG Cabling & 40MVA Trf.	2nd 40MVA is awaited.
10	2x40MVA, 132/33KV GIS with SAS at Mancheswar, Bhubaneswar	11kms. of 132KV UG Cabling system complete and under pre-commissioning tests. Erection of 2nd 40 MVA completed.	Testing & commissioning will commence soon

11	220KV D/C Transmission Line (32.84Kms) from 220/132/33KV Grid Sub-station, Pratapsasan to 220/132/33KV Grid Sub-station, Nuapada (Cuttack)	"Status : Foundation : 18/102, Erection : 2/116 Hindrances: Non-availability of fronts due to paddy seasons and Right of Way settlement."	Completion Target-09.04.2020
12	220KV D/C Transmission Line from Nuapada (Cuttack) to Pratapsasan (15.28 Km) [From loc. No.50 to loc. 102]	"Status : Foundation : 37/53 Hindrances: Sub-judice at the High Court of Odisha.	RoW issue

(d) Radial to Ring Conversion Project (RRCP)

The RRCP scheme has been planned and taken up with an investment of Rs.249.94 Crore for reducing interruption in power supply by interconnecting all radial Grid Sub-stations with interconnecting lines to put the radial Grid S/S's in ring mode of operation so that the Grid S/S's can have multisource connectivity and will satisfy n-1 condition in all parts of state and will also satisfy n-1-1 contingency condition in all urban area.

Under this scheme the construction of 132 KV transmission line i.e. Bhadrakh - Anandpur, Boudh - Phulbani, Padmapur - Nuapada, Digapahandi - Aska, Paralakhemundi-R.Udaygiri, Lapanga - Brajarajnagar, Potangi - Podagada, Aska-Narendrapur have been taken up & out of which Bhadrakh-Anandapur line has already been completed and the work of the rest of the lines are under progress.

(e) Disaster Response Centre(DRC)

The DRC scheme is planned & taken up with an investment of Rs.151.33 Crore to facilitate quick restoration of power supply within a minimum possible time during different natural disasters like cyclone, flood etc. This scheme includes the procurement of ERS Towers which is normally used for restoration of line on temporary basis in a very short time period. In addition to the above, DG Sets has been planned to be placed in most vulnerable areas and to be used as and when

required. Further, spare Transformers of 160 MVA, 20 MVA and 315 MVA capacities were procured & kept ready at Important Grid S/S's and can be moved in case of emergency to other areas to restore the steady power supply.

(f) Disaster Resilient Power System (DRPS)

The DRPS scheme is planned & taken up with an investment of Rs.231.43 Crore to reduce as well as to prevent the damage to the Transmission lines and EHT Sub stations during natural disasters in and around the coastal belt up to a distance of 60kms from the Coast line. Under this scheme, the construction of Chandabali GIS, Khuntuni Grid S/s, Olavar-Chandabali line have been completed and Pratapsasan-Pandiabil line is under progress.

(g) Smart Grid

The Smart Grid Scheme is planned & taken up with an investment of Rs.249.70 Crore to ensure more reliable, efficient and cost effective transmission of electricity by introducing new concepts like Advance Metering Infrastructure(AMI), Geological Information System(GIS), fault locator, energy audit metering, laying OPGW in all its line starting from 132 KV to 400 KV and Supervisory Control and Data Acquisition (SCADA) monitoring facility in some of the existing 220KV and 132 KV Grids have been completed. In addition, OPTCL has constructed a 220/132/33 KV GIS (Gas Insulated Substation) with SAS(Sub-station Automated System) at Chandaka "B".

(h) Evacuation of Solar Power

OPTCL is also planning to develop the EHV network at 400KV voltage level to evacuate solar power of 275 MW from two nos. of Solar Park coming in the Nildungri (Jujumara) & Manmunda area through 2 nos. Solar Evacuation Pooling Station at Jujumara and Manmunda. Both the schemes have already got approval from CEA at an estimated cost of Rs.313.00 crore to be executed under GEC-II. The DPR has already been approved. Technical bid evaluation completed, waiting to issue LoA. The release of 40% from NCEF fund to be expedited.

(i) DDUGJY NEW (Deen Dayal Upadhyaya Gram Jyoti Yojana),

This scheme has been envisaged by Central Government for ensuring round the clock power supply to rural households and adequate power to agricultural consumers through feeder separation between agricultural and non-agricultural consumers, metering, strengthening of sub-transmission and distribution infrastructure.

1. Status of UE Villages:

Package	Scope	Works Completed	Works in Progress
CESU	42	42	Nil
SOUTHCO	114	114	Nil
WESCO	93	93	Nil
TOTAL	249	249	

2. Status of SAGY villages:

Package	Scope	Works Completed	Works in Progress
CESU	13	13	0
NESCO	07	07	0
SOUTHCO	04	04	0
WESCO	06	06	0
TOTAL	30	30	0

3. Status of PE Villages –

Package	Scope	Works Completed	Works in Progress
CESU	730	730	0
NESCO	565	565	0
SOUTHCO	319	319	0
WESCO	45	45	0
TOTAL	1659	1659	0

4. Progress of Households Electrification

Package	Scope	Completed	Balance
CESU	21836	21836	0
NESCO	35670	35670	0
SOUTHCO	21559	21559	0
WESCO	7673	7673	0
TOTAL	86738	86738	0

5. Status of Feeder Separation (Dedicated Agriculture Feeder)

Package	Scope	Works completed	Works in Progress
CESU	23	7	16
NESCO	48	44	4
SOUTHCO	24	0	24
WESCO	06	1	05
TOTAL	101	52	49

6. Status of New 33/11 KV Substations:

Package	Scope	Site Handed over	Boundary wall work started
WESCO	07	All sites Handed Over	Completed and Charged – 4 nos. (Rengali, Larambha, Kudasingha & Bandhapala) Kudasinga S/S-Tapping from ODSSP-PH2 Budhabahal New PSS I/C Line- forest clearance received. Raibahal S/S-Out of 4nos. of tower 3 nos. completed. One no. under progress. Govindpur S/S-Completed.
CESU	05	All sites Handed Over	(Charichhak, Dandipur, Hatabasta, Solari & Naranpur) Sub-station completed -03nos. (Charichhak, Hatabasta, Naranpur) Work under progress-02nos. (Dandipur, Solari)
TOTAL	12		

(j) IPDS (Integrated Power Development Scheme):

The scheme has been envisaged by Central Government for strengthening of the sub-transmission and distribution network and reduction of losses in urban and semi-urban areas.

Status of towns

Package	Scope in no. of Towns	Works started in no. of towns	Works completed in no. of towns	Work status
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CESU	28	28	6	<p>Pole erection in 11KV & LT line is in progress in 22 towns.</p> <p>11KV Line stringing completed- 188.56 CKm</p> <p>LT AB Cable Line Stringing completed -122 KM</p> <p>33KV Line stringing completed- 17.95 CKm</p> <p>New DTR installation completed- 608nos</p> <p>New PTR Installation completed -25 nos.</p> <p>PSS Augmentation -23 nos. complete, 46 WIP</p>
NESCO	19	19	0	<p>In 19 towns Pole erection work in 11KV & LT line is in progress</p> <p>11KV Line stringing completed- 140 CKm</p> <p>LT AB Cable Line Stringing completed -883 Km</p> <p>33KV Line stringing completed- 22 CKm</p> <p>New DTR installation completed-637 nos.</p>
SOUTH CO	35	35	15	<p>Pole erection in 11KV & LT line works is in progress in 22 towns.</p> <p>11KV Line stringing completed- 168 CKm</p> <p>LT AB Cable Line Stringing completed - 586 Km</p> <p>33KV Line stringing completed- 74 CKm</p> <p>DTR installation completed- 721 nos.</p> <p>New PTR Installation completed -45 nos.</p> <p>PSS Augmentation completed -27 nos., 12 nos. WIP</p>
WESCO	30	30	16	<p>Pole erection in 11KV & LT line is in progress in 15 towns.</p> <p>11KV Line stringing completed-369 CKm</p> <p>LT AB Cable Line Stringing completed -721 Km</p> <p>33KV Line stringing completed- 82 CKm</p> <p>DTR installation completed-</p>

				333 nos. New PTR Installation completed - 13 nos. PSS Augmentation progress -16 nos. completed 12 nos. WIP
Total	112	112	37	

Status of New 33/11KV Sub-stations:

Package	Scope	Site Handed Over	Works status
CESU	4	4	Boundary wall completed – 04 nos. Roof casting completed- 04 nos. Equipment foundation completed-04 nos. Equipment installation complete:- 04 nos. Gantry foundation completed-04 nos. Equipment commissioning : 04 WIP
NESCO	7	7	Boundary wall complete– 07 nos., 01 no WIP Control Room Building completes- 06 nos., 02 nos. WIP Equipment Foundation - 5 nos. completes 02 nos. WIP Equipment installation complete: 04 nos. Gantry foundation completed-04 nos. 03 WIP
SOUTHCO	1	1	Boundary wall complete – 01no Control room building complete- 01 no Gantry work complete:- 01 No Equipment Foundation complete-1no Equipment installation complete – 1 no
WESCO	2	2	Boundary wall completed -2nos Control room Building Foundation with Roof Casting-2nos Gantry completed 02 nos. Equipment foundation completed -02nos Equipment commissioning : 02 WIP

**IMPORTANT ACTIVITIES OF GRIDCO DURING FINANCIAL YEAR
2019-20**

Origin and Mandate of GRIDCO:

Pursuant to the implementation of Orissa Electricity Reform Act (OERA), 1995, GRIDCO was constituted as a State owned Corporation of the Government of Odisha on 20th April, 1995 registered 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 function of bulk supply of power as a Deemed Trading Utility. Being nominated 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 generators 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.

Recent Development:

The Central Electricity Supply Utility (CESU) is under the control of Odisha Electricity Regulatory Commission (OERC) and the other DISCOMs, viz., Western Electricity Supply Company (WESCO), North Eastern Electricity Supply Company (NESCO) and Southern Electricity Supply Company (SOUTHCO) were managed by Reliance Infra Ltd. (RIL). In a development during March, 2015, the Retail Supply Licence of the RIL Managed 3 DISCOMs (WESCO, NESCO & SOUTHCO) was revoked and vested with three DISCOM Utilities namely WESCO Utility, NESCO Utility & SOUTHCO Utility the management & control of these 3 DISCOM Utilities was vested with the Chairman-cum-Managing Director (CMD), GRIDCO as the Administrator of the said Utilities w.e.f.04.03.2015 as per the Hon'ble Odisha Electricity Regulatory Commission (OERC) Order dated 04.03.2015 in Case No. 55/2013. In order to ensure the electricity supply in the respective area of the DISCOM Utilities, the Administrator took effective measures like posting of Authorized Officers who are later assisted by appointing Chief Operating Officers in each of these 3 DISCOM Utilities. The DISCOM Utilities, as of date, are functioning smoothly under control of the Administrator.

Meanwhile, GRIDCO after extensive legal consultation filed a Petition before Hon'ble OERC for recovery of outstanding dues as on 04.03.2015 (Date of License Revocation) amounting to Rs.4234.09 Core payable by the erstwhile Reliance Infra Limited (RIL) managed three DISCOMs to GRIDCO.

Action Plan for Power Management during FY 2019-20:

1. Power Scenario:

Present entitlement of power for GRIDCO from different sources is as furnished below:

<u>Sources of Power</u>	<u>Allocation (MW)</u>
State hydro	: 1,864
OPGC (Unit-1 & 2)	: 420
OPGC Expansion Project (Unit-3 & 4)(75%):	990
TTPS	: 460
IPP (Vedanta, GMR & JITPL)	: 1,007
New & Renewable sources	: 611
Sub-total (State)	: 5,352
Central allocation (Hydro)	: 268
Central allocation (Thermal)	: 1,008
Sub-total (Central Allocation)	: 1,276
Total	: 6,628

Details of existing sources of power for the State of Odisha are furnished at below:

EXISTING SOURCES OF POWER FOR ODISHA			
Sl. No.	Name of power station	Odisha Share	
		%	(MW)
A.	STATE SECTOR		
	<u>STATE HYDRO</u>		
(i)	Burla Power House		196
(ii)	Chiplima Power House	100%	48
(iii)	Balimela Power House	100%	390
(iv)	Rengali Power House	100%	250
(v)	Upper Kolab Power House	100%	320
(vi)	Upper Indravati HEP	100%	600
(vii)	Machhkund Power House	50%	60
	Sub-total (State Hydro)		1,864
	<u>STATE THERMAL</u>		

(i)	TTPS (NTPC - State dedicated)	100%	460
(ii)	Ib Thermal Power Station (OPGC), Unit 1 & 2	100%	420
(iii)	Ib Thermal Power Station (OPGC), Unit 3 & 4	75%	990
	Sub-total (State Thermal)		1,870
	<u>IPP</u>		
(i)	Vedanta Ltd.	25%	600
(ii)	GMR Kamalanga Energy Ltd.	25%	263
(iii)	Jindal India Thermal Power Ltd.	12%	144
	Sub-total (IPP)		1,007
	<u>NEW & RENEWABLE ENERGY</u>		611
	Sub-total (State Sector)		5,352
B.	CENTRAL SECTOR		
	<u>NTPC (ER Stations)</u>		
(i)	Farakka STPS, Stage-I & II	14.184%	227
(ii)	Farakka STPS, Stage-III	17.150%	86
(iii)	Kahalgaon STPS, Stage-I	15.775%	133
(iv)	Kahalgaon STPS, Stage-II	2.621%	39
(v)	Talcher STPS, Stage-I	32.344%	323
(vi)	Home State share from Talcher STPS, Stage-II	10.000%	200
	Sub-total (NTPC)		1,008
	<u>NHPC</u>		
(i)	Teesta-V Hydro Electric Project (NHPC)	21%	105
(ii)	Mangdechhu HEP	11%	79
	Sub-total (NHPC)		184
	<u>Bhutan Power</u>		
(i)	Chukha Hydro Electric Project	15.19%	41
(ii)	Tala Hydro Electric Project	4.25%	43
	Sub-total (Bhutan Power)		84
	Sub-total (ISGS - HYDRO)		

			268
	Sub-total (Central Sector)		1,276
	TOTAL		6,628

2. OERC approval for procuring power during FY 2019-20:

Generator (Source)	FY 2018-19				FY 2019-20			
	OERC Approval		Actual (Prov.)		OERC Approval		Actual (April, 2019- September, 2019) (Prov.)	
	(MU)	(Rs. Crore)	(MU)	(Rs. Crore)	(MU)	(Rs. Crore)	(MU)	(Rs. Crore)
State Hydro	5881.74	517.38	6154.32	553.83	5,881.74	533.04	3363.58	257.94
State Thermal including IPPs. & CGPs	14178.42	3700.02	9187.35	2648.60	15,073.05	3917.43	4868.05	1,377.13
Non-Solar	422.00	172.07	392.49	161.70	787.00	291.00	324.51	122.17
Solar	680.00	365.80	442.73	249.35	680.00	365.80	199.77	122.47
Total State	21162.16	4755.27	16176.89	3613.48	22,421.79	5107.27	8755.91	1,879.71
Total Central Hydro	913.82	213.61	865.57	225.68	912.27	217.68	709.54	219.01
Total Central Thermal	4727.83	1511.06	8272.92	2653.99	5396.97	1733.82	3285.98	1249.88
Others (UI Over-drawal, Banking & Trading, PGCIL & ERLDC Charge etc.)		471.45	2122.64	1103.89		494.22	1873.14	604.81
Total	26803.81	6951.39	27438.01	7597.04	28731.03	7552.99	14624.57	3953.40
Rate per Unit(Rs/kWh)		2.59		2.77		2.63		2.70

3. Reservoir Levels:

Sl. No.	Name of Power Station	RL Unit	FRL/MDDL	RL as on 13.11.2018	RL as on 13.11.2019
1.	Burla	Ft.	630.00/ 590.00	626.35	629.85
2.	Chiplima	Ft.	-	-	-
3.	Balimela	Ft.	1516.00/ 1440.00	1510.40	1514.20
4.	Rengali	Mt.	123.50/ 109.72	118.52	123.81
5.	U. Kolab	Mt.	858.00/	855.69	857.21

			844.00		
6.	U. Indravati	Mt.	642.00/ 625.00	639.10	640.56
7.	Machhkund	Ft.	2750.00/ 2685.00	2745.95	2748.75

4. Present demand and availability position of power (November, 2019)

State availability of peak and average power estimated for the month of November, 2019 is furnished below:

<u>Source of power</u>	<u>Peak Power Availability</u>
State Hydro	: 1500 MW
State Thermal (OPGC + TTPS)	: 1480 MW
IPP (GMR)	: 246 MW
Renewables	: 80 MW
CGP (OA Transaction)	: 230 MW
Sub-total (State)	: 3536 MW
ISGS Share	: 782 MW
Total Availability	: 4,318 MW
Banking obligation	: 137 MW
Surplus	: 718 MW

The above availability is against demand of 3600 MW during peak load hours. The surplus observed in both average and peak load hours shall be sold on best effort basis through Power Exchanges/Bilateral arrangements.

5. BANKING DURING 2019-20

- GRIDCO has availed 371.34 MU from April '2019 to September, 2019 in power banking arrangement.
- GRIDCO has returned 143.67 MU during 2019-20 (up to September, 2019) towards its return obligation of banked power.

6. DRAWL THROUGH UI/DSM & PURCHASE THROUGH POWER EXCHANGE

- GRIDCO managed to over draw 378.54 MU through UI during Financial Year 2019-20 (Up to September, 2019), at a cost of Rs.142.29 Crore (average rate of Rs.3.76 P/Unit).
- During FY 2019-20 (Up to September, 2019) GRIDCO has purchased through power Exchange trading 1127.01 MU, at a cost of Rs.438.55 Crore (average rate of Rs.3.89/Kwh).

7. SALE THROUGH BI-LATERAL TRADING & POWER EXCHANGE DEVIATION (UI):

- During FY 2019-20 (up to 30.09.2019), GRIDCO has earned a revenue of Rs.116.49 Crore, at an average rate of Rs.5.33/Kwh, by selling its surplus power of 218.45 MU.

- During Financial Year 2019-20 (up to 30.09.2019), GRIDCO has under drawn 92.87 MU through UI at a cost of Rs.21.99 Crore (average rate of Rs.2.37/Unit).

8. **Capacity addition programme by the end of 13th Plan**

Following generating units are likely to be commissioned by the end of 13th Plan:

Sl. No.	Name of IPPs	Location	Capacity (MW)	Odisha Share (MW)	Expected date of commissioning
1.	Integrated Thermal Power Station, NTPC	Darlipalli, Sundargarh	1,600	800.0	# 1: Expected to achieve COD in Dec, 2019 # 2: Six months thereafter
2.	OPGC Expansion Project (Unit 3 & 4)	Brajaraj nagar, Jharsuguda	1,320	990.0 up to 31.03.2023 and 1,320 thereafter	# 3: Achieved COD on 03.07.2019 # 4: Achieved COD on 20.08.2019
3.	North Karanpura STPS, NTPC	Hazaribag & Chhatra, Bihar	1,980	396.0	# 1 : Mar, 2021 # 2: Sep, 2021 # 3: Mar, 2022
	Total		4,900	2,186.0	

9. **Action plan to meet RPO target**

RPO target specified by OERC for Financial Year 2019-20:

As per OERC (Procurement of Energy from Renewable Sources and its Compliance) Regulations, 2015, dated.10.09.2015, the RPO target for FY 2019-20 has been calculated based on the total State consumption of 27,870 MU as approved by OERC.

RPO scenario for Financial Year 2019-20

Category of Renewable Energy	RPO Target		Existing Capacity	Expected Availability	Actual procurement up to September, 2019
	(%)	(MU)	(MW)	(MU)	(MU)
Non- Solar	5.50	1532.85	195	787	324.51
Solar	5.50	1532.85	412	686	199.77

Total	11.00	3065.7	607	1473	524.28
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Renewable Energy Action Plan towards the future RPO:

- a) At present GRIDCO has 607 MW to its credit from different New & Renewable sources of Energy, out of which 57 MW is from Small Hydro Electric Projects, 412 MW from Solar PV Projects, 20 MW from one no. of Bio-mass Power Project and 118 MW from Wind sources.
- b) Following 2 nos. of SHEPs with total installed capacity of 42 MW are under different stages of implementation and are likely to be commissioned in Financial Year 2019-20:
 - i. Sri Avantika Projects Pvt. Ltd. (18 MW) in March, 2020,
 - ii. Baitarani Power Project Pvt. Ltd. (24 MW) in December, 2019.
- c) 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 68 MW is already being scheduled in favour of GRIDCO and 32 MW is expected in 2019-20 in Phase-II.
- d) 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 1,000 MW.
- e) GRIDCO as an intermediary procurer through e-bidding Reverse Auction process floated the tender to procure 200 MW solar PV power in the state and subsequently PPA has been executed with M/s. Aditya Birla Renewables Pvt. Ltd., Mumbai on 28.12.2018 for implementation of 75 MW solar projects under the said scheme.
- f) GRIDCO has signed PSA with SECI on dated 21.08.2018 to avail 300 MW solar power under ISTS- connected Solar power project scheme, expected to be available by October, 2020.
- g) GRIDCO has issued in-principle approval in favour of NHPC Ltd. for procuring total power from their proposed 40 MW solar power at Jagannathprasad, Ganjam.
- h) GRIDCO shall avail the entire solar power from the 8 MW Solar PV project to be implemented in the un-utilized lands available at OPTCL Grid Substations to be implemented by GEDCOL.
- i) GEDCOL is Implementing 19 MW Roof-top solar project in the non-residential Government Buildings in 15 other cities

of Odisha replicating the scheme done for 4 MW Bhubaneswar- Cuttack twin city Roof-top projects on gross metering basis.

ODISHA THERMAL POWER CORPORATION (OTPC)

Pursuant to the decision of the State Government 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.
- Payment of compensation in respect of all the 7 (seven) villages for the project area has already been paid to the land losers. The Tahasildar-cum-LAO, Kamakhyanagar has handed over physical possession of all private land. Alienation of non-forest Government land is under process by the Tahasildar-cum-Land Acquisition Officer, Kamakhyanagar.
- The cost of the project estimated at Rs.18,218 Crores i.e. Rs.7.59 Crore per MW. The levelised tariff for 25 years with discount factor 10% is estimated at Rs.4.04 per kwh. An expenditure of Rs.263.83crore has been incurred on the project as on 31.10.2019.
- 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 have allocated 80 Cusecs water for the project.
- Peripheral developmental activities have been going on in project affected areas.
- Demarcation of acquired land has been started by the Project Authority.

- Construction of Boundary wall of main plant area has already been commenced. The work carried by WAPCOS.
- Project Level RPDAC Committee in its 1st meeting has already approved the R & R Package for the displaced families.
- Construction of R & R Colony work will be commenced soon.
- Stage-I/ in principle approval has been obtained from MoEF & CC, Eastern Regional Office, Bhubaneswar vide letter No.5-ORV383/2019 BHU, dated.7.6.2019 for diversion of forest land in the project area. Compliances regarding Stage-I clearance are under process for submission to get stage-II clearance.
- A sum of Rs.2,38,49,348/- towards NPV and Rs.1,57,38,000/- towards cost of CA has already been deposited with State CAMPA fund in compliance to Stage-I clearance.
- The site specific wildlife conservation plan in respect of OTPC has been approved by the PCCF (Wildlife) & Chief Wildlife Warden, Odisha with a financial forecast of Rs.1558.54 lakh. A sum of Rs.1129.73 lakh only has already been deposited in CAMPA fund as per demand notice of DFO, Dhenkanal.
- The EAC (Thermal) of MoEF&CC vide minutes of 27th held on 26.4.2019 has already recommended to MoEF&CC to grant Environmental Clearance in favour of OTPC for its project.
- 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) has 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.
- The Ministry of Coal, Government of India vide letter No.CA1-13016/2/2017-CA1(FTS:333462), dated.10.7.2019 has cancelled the allocation of Tentuloi coal block as it is a deep cast coal mine also not viable for the project and advised to apply afresh for

allocation of coal block as and when a public notice is issued by the MoC/ Nominate Authority.

ODISHA COAL AND POWER LIMITED (OCPL)

Odisha Coal and Power Limited (OPCL) is a Government Company in the State of Odisha. OCPL is a Joint Venture Company formed between Odisha Power Generation Corp. Ltd. (OPGC) & Odisha Hydro Power Corp. 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), GoI 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

- Phase I at Sukhabandh: The relocation of entire Manoharpur village is completed on 23-11-2019.
- Phase-II at Hemgir: Out of 165 DFs, 117 DFs have opted to move to R&R colony and 48 DFs have opted for self-relocation to the place of their choice. 73 DFs have taken possession of houses allotted in their favour and 1 DF has self-relocated to the place of his choice.

2. Permits/Clearances/Compliances:

- All the permits and clearances including mine opening permission in respect of Manoharpur coal mine has been obtained.

3. Land:

- The land acquisition (Private, Government & Forest) is almost complete.

4. Financing:

- The estimated project cost of Manoharpur coalmine project is Rs.2143 Crore.

5. Mine Operation:

- The coal mine operation commenced in Manoharpur coal mine since 01.11.2018 and coal production started from 10.10.2019. Till November, 2019, around 2.57 Million Cum of OB removed and around 20,000 tonnes of coal extracted and

stocked at the pit head coal stock yard. It has been planned to sell the coal to MCL at CIL notified price.

6. Coal Handling Plant (CHP):

- Construction work is going on.

7. Manoharpur Township Project:

- Contract awarded to M/s Diversified Energy Solution Pvt. Ltd for construction of Manoharpur Township Project.
- Construction work under progress.

B. Dip-side Manoharpur coal block

- Grant of Mining Lease: Mining Lease application filed on 07.02.2018. Previous Approval obtained on 31.10.2019.
- The Mining Plan including the Mine Closure Plan (Rev-III) for Manoharpur and Dip-side Manoharpur coal mine approved on 26.09.2019.
- Gazette Notification under Sec(3) and Sec 4(1) of the CBA (A&D) Act, 1957 published in respect of Dip-side Manoharpur coal mine. Application for notification under Sec 7(1) submitted to MoC on 06.11.2019.

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C. Manpower:

- A dedicated team of 22 regular cadre employees and 22 deputed employees of OPGC are working for the development of the coal mines.
