

ENERGY CONSERVATION

Power and Fuel Consumption:

| Sl. No. | Particulars | Unit | 2020-21 | 2019-20 |
|---------|---|------------|---------|---------|
| I. | ELECTRICITY PURCHASED | | | |
| | a. Purchased Units | M.KWH | 846.02 | 824.97 |
| | b. Total amount paid to the supply agencies (Approx.) | ₹ in Crore | 599.27 | 599.60 |
| | c. Rate/Unit (Average) | ₹/KWH | 7.08 | 7.27 |
| | d. Specific Consumption of Electricity (Approx.) | KWH/Cum | 14.13 | 14.86 |
| II. | OWN GENERATION (Through DG Sets) | | | |
| | a. Generated Units | Lakh KWH | 7.04 | 7.17 |
| | b. Unit generated per Ltr. of Diesel Oil | KWH/Ltr. | 7.96 | 8.10 |
| | c. Cost of Generation | ₹/KWH | 10.88 | 8.23 |
| III. | DEMAND OF POWER | | | |
| | a. Average demand of power | MVA | 170.73 | 162.35 |
| | b. Contract Demand | MVA | 198.00 | 185.50 |
| | c. % Utilisation | % | 86.23 | 87.52 |



Hydraulic Shovel HS-37 with frontload bucket capacity of 12.2 Cum introduced at Rajmahal

Installation of 1.665 MW Roof Top Solar:

Work Order has been issued to M/s. Acesolar Energy and Power Pvt. Ltd., Kolkata (a Project Company/ SPV of M/s. Acesolar Renewable Energy LLP, Kolkata) on 19.01.2021 for implementation of 250 kWp Roof Top Solar Project at ECL HQ (Project Cost - ₹ 65 Lakh). Letter of Acceptance (LOA) has been issued to M/s. Acesolar Renewable Energy LLP, Kolkata on 18.02.2021 for implementation of 1415 kWp Roof Top Solar Project at 26 different locations of ECL at 11 Areas (Project Cost - ₹ 5.008 Crore). After submission of Performance Bank Guarantee (PBG) on 09.02.2021, site handover-takeover has also been completed by 22.02.2021 and Work Order has been issued on 23.02.2021. Job has commenced from 29.03.2021 and is expected to complete in September, 2021.

Installed capacity of Roof Top Solar Plants & units generated in 2020-21:

| Name of Project | Location | Generation |
|--|---|---------------|
| Rooftop solar Plant, Sodepur | Sodepur Area, ECL | 1445 |
| Rooftop solar Plant, Sodepur | Sodepur VTC, ECL | 5124 |
| Rooftop solar Plant, Jhanjra Area Office | Jhanjra Area Office, ECL | 21045 |
| Rooftop solar Plant at Jhanjra Guest House | Jhanjra Guest House, ECL | 38326 |
| Rooftop solar Plant at J K Ropeway | J K Ropeway, ECL | 13784 |
| Rooftop solar Plant at Area Office. | Area Office, Pandaveswar, ECL | 16532 |
| Solar Rooftop Project Salanpur | Area Office, Area Store, Area VTC, Agent Office, Salanpur Area, ECL | 14631 |
| Solar Rooftop Project at Kenda Area | Kenda Area, ECL | 10367 |
| Total | | 147450 |

Energy Conservation & Audit:

Energy Audit has been undertaken departmentally for the following two units of ECL:

Bonjemehari OCP, Salanpur Area

Parascole West UG, Kajora Area

The observation and recommendation of the Energy Audit regarding overall 5% Energy Saving by implementing the following measures:

Improvement of Power Factor (PF) from present PF of 0.88 to 0.98 by installing capacitor bank of 300 kVAR at Parascole West UG, Kajora Area. This will further reduce the maximum demand from present level of 972 kVA to 872 kVA for same active power. This will result in net saving of ₹ 12.6 Lakh per annum from PF rebate and savings in MD charge.

To implement Energy Efficient light fittings, it has been proposed to install LED tube light, LED lamp and LED Flood Light, LED Street Light etc in place of CFL and HPSV lamp which shall result 30% Energy Savings.

Pumping Layout re-organized.

Use of Energy Efficient Motors.

Use of Super-Efficient BLDC Fan (35 W) in place of conventional Fan (65-80 W) which shall result 50% energy savings.

Auto time-based street lighting.

Installation of Maximum Demand Controller and frequent rationalization to optimise excess demand charge.

Underground Machinery Performance:

Mechanized Production has been increased by 1.78443 Lakh Te in F.Y. 2020-21 in comparison to F.Y. 2019-20 which is 1.97% increase in percentage term. Apart from this, Productivity of SDL has increased by 8.06% in F.Y. 2020-21 in comparison to F.Y. 2019-20 and productivity of LHD has increased by 5.50% in F.Y. 2020-21 in comparison to F.Y. 2019-20.

The detail of Underground Machineries with productivity is given below:

| Equipment | 2020-21 | | 2019-20 | |
|------------------|---------|--------------------|---------|--------------------|
| | On Roll | Productivity (TPD) | On Roll | Productivity (TPD) |
| SDL | 237 | 67 | 244 | 62 |
| LHD | 39 | 115 | 40 | 109 |
| Continuous Miner | 7 | 1512 | 6 | 1361 |
| Road Header | 1 | 230 | 2 | 333 |
| Longwall | 1 | 3995 | 1 | 5133 |

Performance of CHPs:

As on 31st March, 2021, the two Major CHPs at Sonepur Bazari and Rajmahal handled 12.356 MT and two Mini CHP at Shyamsundarpur and Kenda handled 1.20 MT of coal.

Major achievements during 2020-21:

Mechanized Production has increased by 1,78,443 Te upto March, 2021 in comparison to March, 2020 i.e. increase by 1.97%.

Energy consumption of ECL is 8460.21 L.KWH upto March, 2021 as compared to 8249.69 L.KWH upto March, 2020 i.e. increase by 210.52 L.KWH i.e. 2.55%, which is marginally higher than the increased mechanized production of 1.97%.

Power Cost of ECL is ₹ 599.27 Crore upto March, 2021 as compared to ₹ 599.60 Crore upto March, 2020 i.e. the power cost has decreased by ₹ 33 Lakh.

Net Gain from Power Factor Rebate is ₹ 13.7503 Crore upto March, 2021 as compared to ₹ 11.3561 Crore upto March, 2020 i.e. increase by 21.08%.

First Mile Connectivity - Rajmahal CHP (10 MTY): The scheme for additional CHP at Rajmahal OCP (10 MTY) has been approved by ECL Board and CIL Board. Letter of Acceptance (LOA) was issued to M/s Mecon Ltd., Ranchi on 07.12.2020 and work order issued on 28.12.2020. Thereafter, the agreement was signed on 17.02.2021. Apart from this, work order has been issued to CMPDIL for carrying out the work of "Scrutiny of Design and Drawing to be submitted by Contractor".

First Mile Connectivity - Jhanjra CHP (5 MTY): NIT and Tender Document of Jhanjra CHP (5 MTY) has been approved by ECL Board. Letter of Acceptance (LOA) was issued on 07.12.2020 to M/s. Shapoorji Pallonji & Co. Pvt. Ltd. and work order was issued on 28.12.2020. Thereafter, the agreement was signed on 17.02.2021. PERT network submitted by Contractor for CHP approved by CMPDIL. Apart from that, work order was issued to CMPDIL for carrying out the work of "Scrutiny of Design and Drawing to be submitted by Contractor".

Status of achievement of MOU Target for the year 2020-21:

| Sl. No. | Performance Criteria | Unit in Measurement | Target for the year | Achievement |
|---------|--|---------------------|---------------------|--|
| 1. | Installation and operationalisation of Rooftop/ground mounted 1.571 MW aggregate capacity of Solar Power Plant | Date | 01.03.2021 | Work order issued on 19.01.2021 for installation of 250 KWP Rooftop solar project at ECL HQ. Further, Work Order issued on 23.03..2021 for implementation of 1415 KWP Roof Top Solar Project at different unit of ECL. Expected Commissioning by September, 2021 |



