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India's power sector: Cutting distribution losses amid rising demand

Energy / By Vivek Kumar Dewangan / August 23, 2024



Power distribution is the final and most crucial link in the electricity supply value chain which is directly connected to the consumers. Historically, power distribution has been the monopoly of Government-owned state utilities, being a concurrent subject, with the private sector playing only a limited part.

Recently this situation is reforming, as increasing number of private players are engaging in the sector.

Over the years, distribution sector has faced various challenges like unreliable power supply, high AT&C losses, old and overloaded network, low-cost recovery, low consumer satisfaction, poor financial health of DISCOMs and they were not able to undertake corresponding investments in infrastructure augmentation.

Recently in last few years, the distribution sector has received greater attention and various reforms measures/ Rules have been notified by Ministry of Power, Government of India for improving financial viability of distribution utilities. The country has achieved universal electrification as every village, every hamlet and every willing household has been connected to electricity thereby ensuring universal access. In the recent past, various schemes like Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY), Integrated Power Development Scheme (IPDS) and Pradhan Mantri Sahaj Bijli Har Ghar Yojana –SAUBHAGYA were implemented for strengthening the distribution system and providing access to electricity to all. A total of 18,374 villages were electrified under DDUGJY and 2.86 crore households were electrified during SAUBHAGYA.

Electricity supply being vital component of the entire power sector value chain, many initiatives have been undertaken by Ministry of Power, Government of India to reduce the losses of DISCOMs across the country and make them financially viable. Some of the key interventions in this direction are follows:

A. Revamped Distribution Sector Scheme (RDSS)

Government of India has launched Revamped Distribution Sector Scheme (RDSS) with the aim to improve the quality and reliability of power supply to consumers through a financially sustainable and operationally efficient distribution Sector. The Scheme aims to reduce the AT&C losses to Pan-India levels of 12-15% and reduction of ACS – ARR gap to zero by 2025-26. The Scheme has an outlay of Rs.3,03,758 crores for over 5 years i.e FY 2021-22 to FY 2025-26, with an estimated GBS from Central Government of Rs. 97,631 crore. The Scheme has two major components- Prepaid Smart metering and Loss Reduction work.

i. Prepaid Smart metering is the critical intervention envisaged under RDSS and under this vertical Rs. 1,30,474 Cr (with Gross Budgetary Support i.e. GBS of Rs. 24,139 Cr) have been sanctioned. Along with the prepaid Smart metering for consumers, system metering at feeder and Distribution Transformers (DTs) level with communication feature along with associated Advanced Metering Infrastructure (AMI) are being implemented under TOTEX mode, thereby allowing the Discoms for measurement of energy flows at all levels as well as energy accounting without any human interference. Approximately 19.8 crore smart prepaid consumer meters, 52.2 lakh DT meters, and 1.88 lakh feeder meters have already been approved under the RDSS program. According to the

Electricity (Rights of Consumers) Rules, 2020 and metering regulations, all new meters will be prepaid. The installation of smart prepaid meters will improve cash flows for distribution companies and lessen their need for borrowing due to reduced working capital requirements. Consequently, consumer tariffs are expected to decrease. Smart Metering will be crucial for reducing the commercial losses of DISCOMs.

ii. Distribution Infrastructure works for Loss Reduction amounting to Rs. 1,26,137 Cr (GBS: Rs. 80,740 Cr) has been sanctioned under RDSS scheme. Loss Reduction works majorly include replacement of bare conductor with Air Bunched (AB) cable, High Voltage Distribution System (HVDS), feeder bifurcation, etc. while system strengthening works include creation of new substations, feeders, up-gradation of transformation capacity, cables, etc. Modernization works include SCADA, DMS, IT/OT, ERP, GIS enabled applications, Advanced Distribution Management System (ADMS) etc. to make distributions systems smarter. The Loss reduction works are envisaged to reduce the technical losses and also enhance the reliability and system stability of DISCOMs.

RDSS is a reform based & result-linked scheme which provides financial assistance to DISCOMs to strengthen supply infrastructure based on meeting pre-qualifying criteria and achieving basic minimum benchmarks. RDSS has two tier evaluation criteria for fund eligibility of DISCOMs:

Pre-Qualification Criteria (PQ)	Result Evaluation Matrix (REM) with Yearly Targets
 Timely publishing of un-audited quarter accounts and audited annual accounts 	AT&C losses
 No new Regulatory Assets created in latest tar determination cycle 	Operational – Outcomes of infrastructure works
 100% payment of subsidy for previous year are advance payment of subsidy up to current period. Timely payment of Government department dues by State/UT Progress commensurate to commitment putting Govt. Offices on prepaid meters 	 Infrastructure works Policy & Structural Reforms, Capacity Building and IT/OT Enablement DISCOMs need to comply with all pre- qualifying criteria and achieve minimum score of 60% in REM
 Timely payment of GENCO dues. Creditor da as per REF/ LPS Compliance Timely publishing of Tariff & True up Orders 	

iii. National Feeder Monitoring System (NFMS): Under RDSS, a National Feeder Monitoring System is being developed by REC Power Development & Consultancy Limited (RECPDCL), a wholly owned subsidiary of REC Limited, to create a centralized distribution feeder monitoring system for the country. The system aims to bring transparency, efficiency, and accountability to India's power sector, ultimately improving the quality of life for all Indians by providing real-time Interruption alerts. About 1.5 lakh feeders have already been integrated with NFMS out of 2.5 lakh 11KV feeders across the country. The remaining feeders are also likely to be integrated with NFMS as these Feeder meters have already been sanctioned under RDSS.



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With the help from RDSS scheme, The AT&C losses has been improved to 15.4% in FY23 from 22.2% in FY 21 and Collection Efficiency has also been improved to 97.3% in FY 23 from 92.9% in FY 21.

B. Late Payment Surcharge (LPS) Rules' 2022

The Ministry of Power has taken significant steps to tackle the mounting dues of State power utilities, which had exceeded ₹1,39,947 crore as on 03.06.2022. the Electricity (Late Payment Surcharge and Related Matters) Rules, 2022 were issued to address this issue. These rules establish a framework for reassessing and settling outstanding dues, including Late Payment Surcharge (LPS), through equated monthly installments, while ensuring timely payment of current dues.

To enhance financial discipline in the power sector, DISCOMs were offered a one-time option to reschedule past dues to Gencos without penalty, with repayment spread over up to 4 years. REC and PFC, State-run power sector financial institutions, have supported DISCOMs in timely payment of their legacy dues under the new LPS rules. The legacy dues have reduced to Rs. 49,452 crores after timely payment of eighteen (18) monthly installments as on 31.01.2024, with current payments up-to-date. LPS rules also helped in bringing down dues to Gencos & Transcos despite a considerable rise in power purchase expenses.

C. Additional Prudential Norms (APN)

Power sector NBFCs (REC & PFC), under administrative control of Ministry of Power (MoP), have introduced Additional Prudential Norms (APN), for sanctioning loans to DISCOMs/TRANSCOs/GENCOs. These guidelines link loans to performance against specified conditions. For DISCOMs, norms include Timely publishing of annual a/c, issuance of Tariff and true-up order, timely release of subsidy, Govt. Dues, restriction of Working Capital, adherence to loss reduction trajectory, etc. Other financial institutions/banks are urged to adopt these norms for power sector lending, aiming to encourage states to undertake necessary reform measures for financial sustainability.

Government of India has taken many consumer-centric exercise to identify the critical improvement areas & strengthen their services within DOSCOMs. Consumer Service Rating of DISCOMs (CSRD) is one among such. It has been initiated by REC Limited on behalf of Ministry of Power to report performance of DISCOMs on key parameters of consumer services such as operational reliability, connection services, metering, billing and collection services, fault rectification and grievance redressal. Three editions of CSRD have already been published – FY20–21, FY21–22 and FY22–23. In parallel, the annual Integrated Rating of DISCOMs is also being conducted by PFC to ensure competition amongst DISCOMs to improve on financial and operational parameters. Significant emphasis is put on financial performance along with assessing operational efficiencies. Moreover, as a part of RDSS Scheme, POWERTHON was lunched in Feb' 2022 aiming at leveraging the existing network of Technology Solution Providers (TSPs) to test & scale up use cases of AI/ML in DISCOMs to solve various issues such as AT&C Losses, DT Failure, Load forecasting, etc. These initiatives collectively contribute to the adoption of best practices across DISCOMs, driving improvements in service delivery and operational performance.

The Indian power distribution sector has seen significant reforms aimed at improving financial sustainability, reducing losses, and ensuring reliable power supply. These efforts have led to better electricity availability across both urban and rural areas.

To meet future demands, the Central Electricity Authority (CEA) has prepared a Distribution Perspective Plan up to 2029-30, identifying the need for an additional Rs. 2.86 lakh crore investment beyond what is planned under RDSS. The future of India's DISCOMs includes but not limited to goals like providing 24×7 reliable, affordable, and quality power to all, achieving 100% metering for feeders, DTs, and consumers, and ensuring the availability of robust distribution infrastructure with N-1 redundancy for reliability.

Full Story Link - https://etedge-insights.com/industry/energy/indias-power-sector-cutting-distribution-losses-amid-rising-demand/