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## AT&C loss reduction: Hopes pinned on UDAY

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The electricity distribution sector in India is considered to be the most important link in the entire power sector value chain. It is also the face of the electricity sector for consumers. The most critical issues plaguing the distribution sector are high aggregate technical and commercial (AT&C) losses, poor billing and revenue collection efficiency and inadequate infrastructure. This sector has been reeling under losses to the tune of Rs.3.8 trillion due to systemic inefficiencies. High AT&C losses are the most pressing problem as it affects the overall performance of the sector.

What are AT&C losses?

AT&C losses have two components—technical loss and commercial loss. Technical loss is the energy that dissipates into the equipment used for transmission and distribution of energy to end users, commonly known as transmission and distribution (T&D) losses. Losses which occur mostly due to human errors, theft, meter tampering and defective meters, among others, are known as commercial losses. Apparently, accurate quantification of commercial losses has not been done till date. Sometimes, unaccounted losses are also grouped under commercial losses. Effective energy auditing aids in measuring wastage, leakages and inefficient use.

As per the World Development Indicators, the European Union and the US register T&D losses between 6% and 8%, while Korea and Germany witness even lower loss levels of 3-4%, and T&D losses in China stood at 2.6% for financial year 2015. As per a Central Electricity Authority (CEA) report, India's T&D losses currently stand at 22.7%, which is far higher than the world average of 8.6%. Though efforts are underway to reduce T&D losses in India, the pace of reduction is slow.

Efforts to reduce AT&C losses

There have been various efforts undertaken by the government to reduce AT&C losses in the past decade. The first initiative was the launch of the Accelerated Power Development and Reform Programme (APDRP) in 2001. Its goal was to bring down losses from 34% to 15% in five years by undertaking projects to strengthen the sub-transmission and distribution system. Unfortunately, the scheme was not entirely successful and unable to produce the

desired results due to non-utilisation of funds by the states, poor response from suppliers or contractors, and no provision for penal mechanism for non-utilisation of funds (according to the 9th report of Standing Committee of Energy on Implementation of APDRP, 2005-06).

In order to mitigate the challenges mentioned above, the scheme was reintroduced as Restructured Accelerated Power Development and Reform Programme (RAPDRP) in 2008, with the same objective (as APDRP) of reducing AT&C losses to 15% in five years. In this programme, emphasis was laid on the adoption of information technology for base lining data, in addition to its main objective of bringing down losses through strengthening the network. RAPDRP is under progress and yet to achieve its loss reduction target.

In view of the government's vision to provide 24×7 reliable and quality power supply to all households by financial year 2019, the Ujjwal Discom Assurance Yojana (UDAY) was launched in November 2015. The scheme envisages that state-run distribution companies (DISCOMs) will be able to improve their operational and financial efficiencies by accomplishing the targets set under UDAY by financial year 2019. State governments will take over 75% of DISCOM debts, thereby allowing them to clear past dues. Additionally, DISCOMs will also be able to receive financial incentives in lieu of improvement in operational performance within the targeted timeline.

Unlike some of the earlier schemes, loss reduction targets under UDAY are not limited at the distribution level, but extend to the division and sub-division levels, thereby making concerned officers accountable for reduction in losses. Furthermore, initiatives such as feeder and distribution transformer metering, feeder improvement programmes and physical feeder segregation also form a part of the operational objectives under UDAY, thereby making it a comprehensive reform package. Completion of 100% distribution transformer metering will help in energy auditing and detecting high-loss zones. Feeder improvement programmes will aid loss reduction through measures such as re-conductoring of distribution line as per load and improving the ratio of low tension and high tension lines. Accounting of energy flow and effective demand-side management are some of the other significant features of the smart metering initiative that is a part of the scheme, which are expected to bring down losses. The initiative currently focuses on smart meter installation for consumers with a consumption of more than 500 units by financial year 2017 and more than 200 units by financial year 2019. It is envisaged that UDAY will not only help in the revival of the distribution sector, but also align central and state government initiatives.

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