



The Energy and Resources Institute



Webinar on *Distribution System Operator (DSO): Emerging need, roles and responsibilities*

Date: 24.10.2020

Time: 2:30 p.m. to 4:30 p.m.

Venue: Virtual platform

The steadfast commitment of Government of India to Renewable Energy (RE) during the last ten years and increasing penetration RE into the grid during the recent years has ushered supply-side as well as demand-side transition in the power sector in the country. The increasing emergence of Distributed Energy Resources (DERs), including energy storage, Electric Vehicles (EVs), and Demand Response (DR) at the distribution level, is expected to bring new operational issues and challenges. However, the awareness and appreciation regarding these have been limited among a handful of stakeholders at the central and state level. Therefore, it is necessary to examine the technical and operational issues and challenges from a holistic perspective. Distribution System Operation (DSO) and planning would, therefore, demand a serious discussion well in time before it assumes critical importance.

Ministry of Power in the report of the Technical Committee on Large Scale Integration of Renewable Energy, need for Balancing, Deviation Settlement Mechanism and associated issues has taken note of the need of DSOs and their role in the wake emerging .

The Forum of Regulators (FOR) has, recognized the need for Distribution System Operators (DSOs) in the Indian power system as well as need for capacity building in this regard. The Forum has, in its report on Scheduling, Accounting, Metering, and Settlement of Transactions in Electricity (SAMAST), underlined the difficulties likely to be faced by SLDCs/RLDCs/NLDC in operation and financial settlement because of increasing number of Short Term Open Access (STOA) customers, Prosumers, EVs, battery storage, and DERs (specially Rooftop solar) within the distribution control area. The Technical Committee on implementation of framework on renewables at the State level acknowledged the need for a robust institution as a system operator which should be neutral, independent, transparent, non-discriminatory, and equipped with skilled manpower and concept of DSO on bylines of SLDC was also elaborated.

Similarly, in the FOR report on Capacity Building of Indian Load Despatch Centers (CABIL), establishing DSOs in each state has been recommended. The DSOs are envisaged to interact with the SLDCs to keep the system secure. DSO functions like operating the distribution grid, managing DERs, etc., coordinated operation between distribution and transmission grids for switching, managing bi-directional power flow, optimized shutdown planning, etc., managing DSO-TSO and DSO-ISO interactions have been mentioned in the report.

In the above backdrop, it is an appropriate time for planning and thinking for DSO in the Indian electricity sector, which can utilize various DERs through real-time control along with flexibility services and improve reliability & operational efficiency in the system. As part of the UI-ASSIST team, TERI and IIT Delhi are organizing a webinar to discuss the emerging need, roles, and responsibilities of DSO in the Indian context.