

'Power grid ready to meet UP's investment needs'



Uttar Pradesh Power Transmission Corporation Limited (UPPTCL) manages the state's vast power transmission infrastructure. The corporation is committed to creating a green, reliable and technology-driven network that supports the state's ambition to become a \$1 trillion economy, **Mayur Maheshwari**, managing director of UPPTCL, told **Virendra Singh Rawat**, in an interview in Lucknow. Edited excerpts:

Give an outline of the transmission infrastructure UPPTCL has

■ UPPTCL manages one of the largest and most complex transmission networks in the country, ensuring reliable power flow across a geographically vast and industrially vibrant state. Our current asset base includes over 59,169 circuit-kilometres of extra high voltage (EHV) transmission lines across 765 kilovolts (kV), 400 kV, 220 kV and 132 kV levels. There are 703 extra high voltage substations, forming a robust grid backbone.

We have transformation capacity exceeding 200,000 Mega Volt-Ampere, enabling bulk power transfer from generators to distribution utilities. UPPTCL has catered to approximately 35,000 megawatt (Mw) and is ready to meet 40,000 Mw in the next two to three years.

An extensive, modernised infrastructure enables UPPTCL to support energy demand and the state's future growth trajectory. In fact, the legacy grid which is vast, actively growing and capital intensive serves as the backbone of the state's power needs.

UP is ramping up the transmission network to cater for the projected uptick in power consumption. How is UPPTCL gearing up?

■ UPPTCL has undertaken a massive, forward-looking capacity augmentation programme aligned with projected load growth up to 2030-35. Key elements of our preparation include ensuring sufficient number of extra high-voltage substations with additional transformation capacity planned in a phased manner, and approved by the Central Electricity Authority. We are strengthening the 400/220/132 kV backbone, including multiple new 765 kV nodes, to ensure a strong N-1 compliant grid.

The corporation is rapidly expan-



ding 765/400 kV grids, enabling high-capacity power flow and inter-regional exchange. It is adopting advanced technologies such as digital substations, online monitoring sensors, transformer health assessment portals, drone patrolling, and predictive maintenance.

We have streamlined processes such as unified tendering for operations and maintenance (O&M), accelerated construction mechanisms, and faster land acquisition coordination.

There is automated tower-to-tower line patrolling, drone surveillance and asset management integrated into our operational systems for reliability enhancement. Green energy corridors have been set up for solar parks in Bundelkhand, Jhansi, Jalaun, Lalitpur, Prayagraj, Mirzapur and Western UP.

The state government seeks to achieve 22,000 Mw of solar power. How

does the UPPTCL align with this green energy goal?

■ UPPTCL is playing a critical role in harnessing the solar potential. It is on the path of realising the Chief Minister's target of 22,000 Mw solar capacity by developing a green energy-optimised grid. Our initiatives include establishment of dedicated solar evacuation corridors and transmission pooling stations in solar-rich zones.

The state is ensuring time-bound connectivity approvals under regulations for developers, with transparent and time-bound procedures. There is integration of reactive power compen-

sation and automated demand-supply balancing to manage variability of renewables. We are promoting zero-carbon operational practices, digitalisation and predictive asset management to minimise carbon footprint.

UPPTCL's planning already incorporates renewable-dominated load flows, ensuring that solar generation is reliably absorbed into the grid.

UP is among the leading states in terms of attracting private investment across sectors. Since power is a basic requirement for industrial growth, can you elaborate upon the readiness of UPPTCL to meet the requirements of the industry?

■ UPPTCL is fully geared to support Uttar Pradesh as one of India's top investment destinations. Our readiness framework includes plug-and-play EHV connectivity for industrial clusters, manufacturing zones, defence corridors, information technology parks and logistics hubs. There are dedicated transmission schemes for the UP-Defence Corridor, Film City, data centres, expressways and industrial corridors.

A fast-track single window connectivity mechanism has been set up to ensure industries receive time-bound and transparent responses. High-capacity substations have been expanded near Noida-Greater Noida, Gorakhpur, Lucknow, Kanpur, Jhansi, Prayagraj and Western UP — places which are witnessing significant industrial investment.

There is a future-ready grid capable of supporting electrification of mobility, EV charging networks, green hydrogen, and manufacturing loads.

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