



TATA CONSULTING ENGINEERS
ENGINEERING A BETTER TOMORROW™

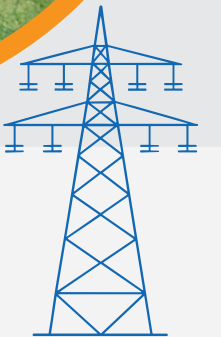
Dynamic Line Rating (DLR) Solution for Transmission Lines

Empowering Reliable & Sustainable Grid Operation

Smarter Transmission. Stronger Grid

The National Electricity Plan (NEP) 2024 identifies Dynamic Line Rating (DLR) as a key digital technology enabling energy transition, grid reliability, and asset optimisation.

DLR uses sensors and satellite data to capture live weather and line conditions, helping operators maximize capacity and ensure safe, efficient power delivery.



TCE'S DLR **ADVANTAGE**

Tata Consulting Engineers Ltd. (TCE) offers end-to-end DLR implementation across all voltage levels.

We proudly delivered India's first 400 kV DLR project in the Southern Region, empowering utilities with real-time insights and AI-driven analytics.

WHY **CHOOSE TCE**

- **Proven Expertise** in Transmission Systems
- **End-to-end Capability** from design to commissioning
- **First 400 kV DLR Commissioned** in Indian conditions
- **Compliant with Safety & Regulatory** standards

Project **HIGHLIGHTS**

- **95 km, 400 kV Double Circuit Line**
- **DLR sensors on critical spans** for weather & line data
- **AI-powered platform** with 168-hour forecasting
- **Hotline installation** meeting safety norms
- **Comprehensive training & annual maintenance**

PROJECT **BENEFITS**

- **Increase Revenue**
Unlock up to 20-40% additional capacity* on existing lines, enabling more power transfer and wheeling revenue
- **Defer Capital Expenditure**
Postpone or eliminate the need for costly new transmission line projects
- **Accelerate Renewable Integration**
Provide the dynamic capacity needed to handle variable generation from solar and wind farms
- **Enhance Grid Reliability & Safety**
Make informed operational decisions based on real-time conductor conditions, preventing outages and enhancing safety
- **Achieve Sustainability Goals**
Maximize the efficiency of existing assets, supporting India's decarbonisation mission

*Capacity increase is weather and line dependent

Powering a Reliable, Sustainable Future

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