

GRID MANAGEMENT | This solution promises to enhance real-time visibility

IIT-I software brings real time stability monitoring to every dispatch centre

Our staff reporter

INDORE

In a significant advancement for power grid management, IIT Indore's cutting-edge software technology, spearheaded by Prof Trapti Jain from the Electrical Engineering Department, is set to transform how Load Dispatch Centres (LDCs) monitor and maintain grid stability.

This innovative solution promises to enhance real-time visibility and operational efficiency without the need for additional hardware, offering a streamlined and cost-effective approach to power grid management.

The patented technology is developed to quantify the angular stability of a power grid and identify out-of-step generators using positive sequence voltage phasor measurements. This sophisticated software-based system utilises a phasor measurement unit, signal sending unit, fibre-optics/TCP/IP connection, phasor data concentrator (PDC) and a database, all combine to display grid's stability in real time.

Load dispatch centres can easily integrate the system into their current operations, facilitating immediate access to crucial stability information directly on their displays. This

ease of integration is a key advantage, allowing for rapid deployment across multiple locations without logistical challenges associated with physical hardware installations.

IIT Indore director Prof Suhas Joshi said, 'This software technology exemplifies the future of power grid management. By offering a cost-effective, easy-to-implement solution that delivers real-time stability information, this technology not only enhances operational efficiency but also contributes to the overall safety and reliability of power grid systems. Once adopted by Load Dispatch Centres, it promises to have a profound

impact on how power grids are monitored and managed, paving the way for a more resilient and responsive energy infrastructure.'

Jain said, 'The real-time data provided by this technology offers a significant leap forward in grid management capabilities. By continuously monitoring and analysing the stability status of the power grid, the system enables operators to quickly identify potential issues and take corrective actions before they escalate into more serious problems. This proactive approach enhances the reliability and safety of power supply networks, ulti-

mately benefiting both industrial operations and end consumers.'

She further said, 'It not only addresses a critical need in power grid management but also sets a new standard for software solutions in the field. The ability to provide detailed and accurate stability information in real-time, without the need for additional equipment, positions this technology as a game-changer in the industry. It represents a significant step forward in the ongoing effort to improve grid stability and reliability, making it an invaluable tool for load dispatch centres worldwide.'