

Reliability in Power Systems: Reliability is critical for modern power systems due to resource adequacy, operational reliability, and resilience. Importance of Continuous Improvement and Innovation: Adaptability: Power systems must evolve to accommodate changing energy sources and technologies. Transmission reliability involves high-voltage lines, substations, and grid operators. Operational Strategies for Reliability: Preventive maintenance, real-time monitoring, demand response, and emergency plans enhance reliability. Efficiency: Continuous improvement ensures optimal resource utilization. Future Recommendations: Embrace Emerging Technologies: Invest in energy storage systems (ESS) and microgrids. The transition to inverter-based resources (IBRs) impacts reliability. Transmission lines, substations, and distribution networks ensure efficient power transfer.