



SIEMENS

Ingenuity for life

Ensuring reliable, uninterrupted power supply

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Reliable, uninterrupted power supply is an essential prerequisite for sustainable economic growth of the country. At the same time it is also crucial to meet the increasing demand for power by way of optimized utilization of available energy resources. This includes renewable energy to enable sustainable growth and safeguard the environment. A robust Supervisory Control and Data Acquisition (SCADA) / Energy Management System (EMS) for monitoring and controlling the power grid is required to meet this objective.

Increasing power demand is pushing the boundaries of the grid

- geographically as more substations and power plants are getting added,
- the voltage levels are increasing up to 1200KV,
- newer technologies such as HVDC, FACT are becoming common and
- proliferation of renewable energy sources.

All of these advances and changes are placing challenging demands on the grid operators while monitoring and controlling of the power grids. To meet these challenges, the Northern Region Transmission Grid needed to replace its existing system, which was at the end of its life, by a new state-of-the-art, scalable and future-proof system for the long term. The system was also required to be fast, accurate and to be able to integrate newer technologies used for early detections of grid disturbances.

Siemens has been at the forefront of Control Center Technology across the globe. In India too Siemens has been the earliest provider of this technology for the transmission and distribution networks in various government and private utilities.

Siemens provided Northern Regional Load Despatch Centre (NRLDC) with an innovative hardware and software solution built around the state-of-the-art Spectrum Power 7 Control

Center Platform. The Northern Regional Transmission Grid is the largest transmission system in India which encompasses 9 states covering 30% of the population. Siemens' innovative Spectrum Power 7 control center platform enabled NRLDC to gain visibility to a much larger part of the grid and to manage the grid operations more effectively.

An intelligent control center is of crucial importance for the secure, economical, and reliable operation of any electric power system. Spectrum Power covers all aspects of power management. Customized grid control systems are developed from a range of solutions based on proven and innovative components.

Basic components for SCADA, communications, and data modeling are provided for grid control and monitoring. In addition, other applications for grid optimization and generation management are available. They span from analytical functions for distribution and transportation networks to forecasting and optimization applications, and all the way to scheduling applications for generation companies

Spectrum Power 7 comes as a collection of application components that are configured into control center solutions for

- Microgrids
- Distribution
- Transmission

The application components are:

- Modular in nature
- Independent
- Self-contained
- Based on a common architecture