



Empresa Distribuidora Sur S. A. (EDESUR)

Sector of activity :

Energy Control Systems

Client :

Empresa Distribuidora Sur S.A. (EDESUR)

Year of completion :

1999

Financing :

Client

Mandate :

To design, supply, install, and commission a new Distribution SCADA System for Empresa Distribuidora Sur S.A. (EDESUR), which operates and maintains the transmission and distribution network in the southern part of Buenos Aires, Argentina. The scope of supply included all hardware, software, documentation, and training for the SCADA system, as well as the supply and installation of eleven substation RTUs supporting the DNP3 protocol.

Description :

EDESUR is a private electricity distribution utility, serving the southern parts of Buenos Aires City and Greater Buenos Aires in Argentina, covering a service territory of approximately 3,300 square kilometres. The EDESUR network includes more than 30,000 km of transmission and distribution lines, serving more than 6 million people.

The Distribution SCADA System is installed in Buenos Aires, the capital city of Argentina, and is used to monitor and control the power distribution network in EDESUR's service territory. The objective of the system is to improve the quality and reliability of service; this is achieved primarily by the SCADA applications developed by SNC-Lavalin Energy Control Systems.

Eleven substation RTUs (CAE MRTU) including cabinet, I/O boards, power supply, relays, modem, and all other peripheral equipment were supplied. The MRTU is a distributed, floor mounted modular unit, especially designed for use in substation automation. Each RTU communicates with the master station through redundant paths using DNP3 protocol.

The SCADA system design is based on a distributed client/server architecture designed to internationally recognized standards. Commercial off-the-shelf equipment is used throughout the system, and includes redundant HP Alpha servers, HP Alpha workstations, communication equipment, large screen display, and peripheral equipment connected to a redundant local area network. The system includes redundant components to ensure high availability, and provides automatic fail-over features to survive any single hardware device failure.

The SCADA software is based on the GEN-3 product developed by SNC-Lavalin Energy Control Systems. The database is maintained in an Oracle RDBMS stored on RAID-1 storage arrays, and is complemented by a set of memory-resident real-time databases that are replicated to all of the servers

and workstations on the local area network for optimal performance. All database edits can be performed online without the need to failover any servers or workstations to bring the changes online. The system includes redundant serial channels supporting the DNP3 and Selenia protocols for communicating with the remote terminal units. The system includes a Load Forecasting application, and supports the ELCOM-90 protocol for communicating with neighbouring utilities.

The SCADA system allows EDESUR to effectively manage the operation of the distribution system in real-time, and provides planning tools that identify ways to optimize the use of the utility's resources, and improve the quality and reliability of service. Customer training consisted of extensive classroom training and on-the-job training (OJT) to ensure EDESUR was well prepared to operate and maintain the system.

Services provided :

A turnkey contract including project management, hardware, software, system integration, acceptance testing, documentation, customer training, and all necessary field installation and adaptation services.



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SNC-LAVALIN ENERGY CONTROL SYSTEMS INC. SNC-Lavalin is Canada's largest engineering and construction firm. SNC-Lavalin Energy Control Systems has nearly 40 years experience, with systems installed on six continents. Our SCADA, Distribution Management System (DMS), Energy Management System (EMS) and Generation Management System (GMS) products are being used by some of the world's largest utilities. We also offer SCADA systems to monitor and control water distribution networks and natural gas distribution systems.