MOSCAD Improves Electricity Service in Argentina

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The Motorola SCADA system described in this article was purchased by SECHEEP – the utility company that supplies electricity to the Chaco province, located about 1000 km from Buenos Aires, Argentina.

SECHEEP provides transmission of electricity over 132 kV lines. Transformer stations reduce the very high voltage to medium-voltage lines. From the medium voltage lines, electricity is distributed to the utility's customers.

The Challenge

The management of SECHEEP realized that an advanced SCADA system is required to accomplish the following: (a) to improve customer service, (b) to improve the efficiency of the electricity distribution network, and (c) to cut operating expenses.

The specifications of the SCADA system called for two control centers in the cities of Resistencia and Saenz Pena (located approximately 160 km apart). Another requirement was for RTUs that could provide highly accurate measurements of electrical values in real-time, and report them to the control centers. Since the province is very large, the system required advanced communications capabilities to cover the entire area in an efficient and economical manner. And the customer required a communications link between the two control centers, as well.

The Solution

The customer ultimately contracted BGH, Motorola's representative in Argentina, to install a MOSCAD SCADA system. The following are some of the system's highlights.

Seven MOSCAD RTUs report to the control center in Resistencia, with another two reporting to the control center in Saenz Pena. Each of the nine MOSCAD RTUs in the system have approximately 260 I/O points (2300 I/O points total).

The communications links between the RTUs and their respective control centers, as well as the link between the two control centers, are in the UHF band. Two RTUs in the system serve as Store-and-Forward (S&F) repeaters, to provide radio coverage between the two control centers.

The control centers in the system are PC-based, using the RealFlex SCADA software by BJ Software Systems. Each central features a hot-standby configuration, to provide redundant operation. The centrals are connected to a front-end unit via the MODBUS protocol. The front end unit provides the interface to the radio links and the MDLC protocol supported by the MOSCAD RTUs.

Benefits

The SECHEEP system incorporates several highly advanced features, making it a truly state-of-the-art SCADA system. The store and forward operation provided by the MOSCAD RTU is not available with many of the other RTUs on the market. A RTU that functions as a store-and-forward repeater provides several benefits. It extends the radio link coverage by acting as a repeater. And it can be used as a backup when important data at the central gets lost, or is unavailable.