EDEMSA Minimizes Loss and Maximizes Profits with ION Technology

CASE STUDY

Like all energy suppliers, EDEMSA (Empresa Distribuidora de Energía de Mendoza S.A.), a major utility in Argentina, must monitor fundamental system parameters constantly and consistently to effectively manage their transmission and distribution network. But EDEMSA required an energy management system that went a step beyond the usual, because its Commercial Management group launched a project to monitor and track losses throughout its entire system in an attempt to increase efficiency and maximize profitability.

ION®

Application: Utility - Loss Control

System: ***ION 7600™ Meters***
ION 7300™ Meters

Benefits:
- Minimized losses
- Increased efficiency
- Maximized profitability

An ION enterprise energy management system from Power Measurement was an ideal solution for EDEMSA's needs. It enables EDEMSA to examine the technical losses that occur within its substation equipment (such as transformer loss), as well as the non-technical losses that occur elsewhere in the system, while still providing the operations management data required for day-to-day operations.

Calculating & Controlling Losses

Non-technical losses for all utilities connected to the Argentinean distribution network have increased significantly in recent years. EDEMSA's loss control project is designed to minimize these losses and increase efficiency, by monitoring and analyzing data from three different internal systems:

- SCADA (Supervisory Control and Data Acquisition) system, starting with the collection and transmission of meter data from remote substations to a main control center
- The Commercial Management group's OPEN system, which tracks each client's energy consumption
- SIGRID (Integrated Administration System for the Electric Distribution Network) system, which interfaces between the SCADA system and the OPEN system, and allows the transmission of meter data from the feeder outputs within each substation as well as tracking the clients associated with each circuit

Two sets of measurements are taken for each feeder: imported and exported active energy and imported and exported reactive energy. This information is collected through the SCADA system.

Variations in these readings are balanced monthly for each of the 330 feeders as a double-check on the system, at two levels:

- At substation level: The active and reactive energy values from the feeders are compared with each substation's entrance and exit line measurements, to reveal the technical losses of the substation's transformers.
- At feeder level: Using the consolidated active and reactive energy data, the import and export data for each feeder is compared to calculate the real total energy value of the feeder.

Once this calculation has been carried out, the information from the SCADA system is transmitted to the SIGRID system, which also accesses the OPEN system to determine which clients are connected to the particular feeders. SIGRID then compares the monthly feeder values to the customer's bill to ensure accuracy. The difference between the measured values and the billing totals, plus the technical losses, constitutes the non-technical losses. The system helps to isolate problem areas and identify potential solutions to reduce or prevent losses.

The ION 7600 meter acts as a data concentrator and communications gateway for lower-cost submeters in **EDEMSA**'s energy management system.

a company of Schneider Electric

POWER MEASUREMENT

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