

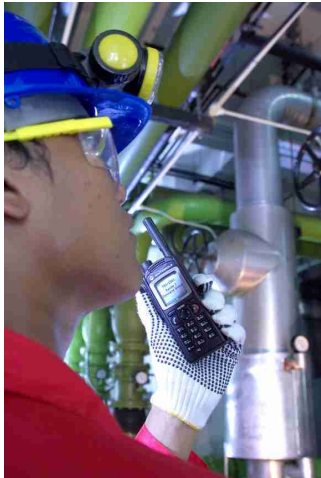
## CASE STUDY

Utilities • MOSCAD / SCADA • Taiwan Power Company



# Taiwan Power Company Taiwan

Motorola's Supervisory Control and Data Acquisition (SCADA) system adopted



Motorola MOSCAD™ address automation for fault management, site monitoring and correction for utility industry.

## BACKGROUND

Geographically, the island of Taiwan experiences wide fluctuations in climate between seasons. June through August marks the rainy season, when monsoons are most likely to hit. Earthquakes and typhoons are the two major natural hazards on the island. In 2004 alone, six typhoons hit the island, resulting in mudslides and heavy rains that severely damaged the Taiwan Power Company's (Taipower) hydro power and power supply facilities.

Despite the changes in the external environment, Taipower, a public utility and predominately a service company, remains committed to supplying high quality, stable and reasonable rate power, strengthening service measures to satisfy customer demands, and enhancing the nation's competitiveness. With a generating capacity of more than 33,000 MW, the state-owned utility serves nearly 11.1 million industrial, commercial, and residential customers.

To prevent or minimise the impact of power losses, electric distribution automation solves the problem by controlling power transmission and distributing it through an automated system so that electricity can be made available evenly and on-demand for organisations and communities to enjoy cost savings.

With these objectives in mind, Taipower awarded a contract to Motorola to provide a Supervisory Control and Data Acquisition (SCADA) system, MOSCAD™, for power automation and distribution in Taipei South District, to replace their existing system.

This marks the largest SCADA award for Motorola in Asia Pacific and was awarded as part of a larger project awarded to TECO Electric & Machinery Co., Ltd and SNC-LAVALIN Energy Control Systems Inc.

The SCADA system is scheduled for delivery in early 2006, and will be introduced to other districts in Taiwan in the future.

## BENEFITS

With an automated electrical distribution system powered by Motorola's reliable and intelligent MOSCAD solution, Taipower will be able to:

- Detect faults on feeders that cause switch problems and identify problems on the distribution network for immediate rectification
- Monitor the voltage level and send a message remotely when the level slumps below a certain Setpoint
- Collect data and generate reports that will help the company to rectify, manage and prevent faults and problems.



## MOTOROLA SOLUTIONS

One of the major requirements from Taipower was that the new system had to play a critical role in the automation process for fault management monitoring and correction. This will enable Taipower to manage remote control operations effectively.

The MOSCAD system serves as a Feeder Dispatch Control System to remotely monitor and control the power distribution network. It includes eight Feeder Terminal Unit (FTU), more than 560 Feeder Remote Terminal Unit (FRTU), Feeder Automation Software, Optical Fibre Network and Integrated Services. MOSCAD automatically perform the functions of fault detection, isolation and service restoration, remote control and monitoring of line switches, as well as event logging and loading report. This allows for a consistently high quality of electricity to be maintained in the distribution network.

The system will also monitor the security of all remote sites and report unauthorised entry, high or low temperature, high humidity, and other conditions as alarms requiring human intervention.

This enables Taipower to protect its critical infrastructure and respond quickly when an unexpected situation arises.

The system RTU complements the existing fibre optic system that provides data transmission in the distribution network, and is capable of supporting wireless VHF/UHF radio transmission for future expansion in other districts in Taiwan where the deployment of wire-line communications may be difficult.



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