

KORONA

Hassi Berkine Algeria

ABB MicroSCADA

Supervision and control system for 220 kV switchyard of gas power plant with
3 x 120 MW and three 220/30 kV transformer substations



CLIENT

SONATRACH

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SCOPE OF WORK

SONATRACH company from Algeria (earth gas and oil pumping, processing and transportation), in years 2000-2001 invested in expansion of electrical power grid. Four objects were built in the neighborhood of Hassi Mesaouda: gas power plant with three 120 MW generators (fourth is planned in the near future) with 220 kV switchyard and three 220/30 kV transformer substations.

Highly established ABB MicroSCADA system was chosen for local supervision and control of switchyard and transformer substations. Communication between MicroSCADA base computer and peripheral equipment (control and protection equipment) was realized with optical links and LON protocol. All events in the system are time-tagged (at the incoming point in the system) with ms resolution and are divided into alarms and events. Further more, it's possible for each point to define weather it is printed or goes to event or alarm list. Whole system is synchronized with GPS system. GPS clock is connected to MicroSCADA base system that is time master and synchronizes all peripheral equipment connected to it.

Process displays enable overview of complete station and straightforward visual diagnostics (based on object colors). Besides that it is possible to control stations by controlling circuit breakers, disconnectors and transformer regulator with TAP changer.

Korona company competed following works regarding SCADA system:

- Checking and modifying process displays and connections between them;
- Checking, modifying and adding of signals and their classification (printing, alarms, events);
- Engineering of complete system for 30 kV part;
- Establishment of communication between SCADA system and SPA devices (protection and control) via LON/SPA gateway;
- Checking of control functions for switches, transformer regulator and interlock logic for switches;
- Overall check of SCADA system (hot backup, printing, time synchronization);
- Checking diagnostic functions of the system (application software errors and hardware errors, broken optical link, device malfunction).

