INP Reference

Hsinta – Combined Cycle Power Plant

LOCATION: Taiwan

SYSTEM/TECHNOLOGY: SIPROTEC 5

SERVICES: Commissioning

INDUSTRY BRANCH/TYPE OF PLANT: Power Generation, Power plants

CLIENT: Siemens Energy Sector

POINTS OF CONTACT

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Tasks

Modernization and upgrading of efficiency of a combined cycle power plant.

Project description

The 2,410 MW combined cycle power plant was completed in 1999. The plant comprises 5 units of 442 MW and is configured for normal and peak load operation. Each of these units consists in 3 gas turbines connected to the 345 kV high-voltage system via a 3-winding transformer and one steam turbine connected via a separate unit transformer.
In the course of modernisation and upgrading the efficiency of the gas and steam turbines, Siemens AG was contracted by the Taiwan Power Company to retrofit an instrumentation and control system as well as to modernise the generator and transformer protection.
For the modernization of the protection the latest generation of the Siemens SIPROTEC 5 device family was used, including the operating and parameter setting software DIGSI 5. As a first step, units 10 & 20 were modernised with a total of 48 protective devices.

INP Services

Carrying out the commissioning for:

- Unit protection devices (2 x GT and 1 x DT)
- Transformer protection devices (2 x 2 EB transformers and 2 impedance correctors)
- Generator protection devices (2 x 3 GTs-generator and 2 x 1 DT-generator)
- Synchronization for 3 x GTs and 2 x DTs
- Troubleshooting
- Site support – electrical systems