

### IHKW Heidenheim – Superordinate Main Control Technology

**LOCATION:** Heidenheim, Germany

**SYSTEM/TECHNOLOGY:** Siemens PCS7 incl. F-Systems

**SERVICES:** Commissioning, Project management, Basic-engineering and pre-engineering, Detail engineering

**INDUSTRY BRANCH/TYPE OF PLANT:** Green Energy, Power Generation, Power plants

**CLIENT:** EnBW

#### Project description

INP International Projects was awarded the contract to outfit the combined heat and power plant Heidenheim at the factory premises of the company Voith with the control system Siemens PCS7 as the superordinate main control system (2 gas boilers, 5 combined heat and power units as well as all associated ancillary equipment).

INP International Projects will also provide all of the scheduling here - with a dialog - of the existing S5 controls, the integration of superordinate S7 BlackBox controls in the new control technology as well as the re-commissioning of the system based on substantial technical changes and important control technology improvements intended to increase the degree of automation. In this way, an operation can be achieved in the future without ongoing monitoring. Of particular note here is the realization of the superordinate control regulation of the boilers, the CHP and the entire hot water and steam network for the automatic heating or current-controlled operation of the combined heat and power plant and thus the assurance of the district heating supply of the Voith plant as well as several companies based in Heidenheim.

#### INP Services

Project management, basic engineering, detail engineering software and hardware, operating image creation, control cabinet construction, installation, wiring and connection, commissioning, optimization:

- Main control system Siemens PCS7 with a new Siemens PCS7 controller 410H, including the network in the distributed field distribution box for the decentralized Profibus, system and terminal bus coupling
- Use of the library APL (Advanced Process Library)
- Integration of process historian server, web server with web clients, OPC server for the coupling of the plant remote monitoring and remote control via OPC A&E, DA and HDA
- M-BUS system for processing and archiving various quantity counters
- Software and hardware upgrading of the auxiliary equipment controls, including control cabinet conversions of existing S5 cabinets with re-commissioning and optimization of individual

#### POINTS OF CONTACT



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## INP Reference

subsystems

- Complete integration of new measurements and drives to be included
- Integration of safety shutdowns, including the emergency off concept in the PCS7 fail-safe part F system with control technology TÜV approval
- Control technology integration of the new 400V switchgear, the DC distribution and the UPS system
- Coupling of subordinate S7 BlackBox controls to the new redundant main control technology with 100% integration to the full-fledged operating and monitoring capability of the BlackBox systems
- Implementation of a unified system-wide visualization for the operator
- Optimization of the control functions of all subsystems of the auxiliary installations (hot water, water-steam, cooling water system, oil supply, additional auxiliary installations)
- Automatic load-dependent overall regulation of the combined heat and power plant Heidenheim for summer/winter and mixed operation as a current or heatoperated mode of operation
- Integration of the required load reduction of the requirements for the Heidenheim municipal services
- Control technology implementation of the blackout and reconnection concept