INP Reference

MD Albbruck - Paper Plant

LOCATION: Albbruck, Germany

SYSTEM/TECHNOLOGY: Siemens PCS7 incl. F-Systems

SERVICES: Commissioning, Project management, Documentation, As-built status and data recording, Basic-engineering and pre-engineering, Detail engineering, Installation supervision

INDUSTRY BRANCH/TYPE OF PLANT: Power plants, Industrial systems

CLIENT: Albbruck paper plant

PROJECT SIZE: approx. EUR 1 m

POINTS OF CONTACT

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Tasks

Within the Myllykoski Group, MD Albbruck is the location for the production and development of offset papers. With about 630 employees and three paper machines, it is the largest site within Myllykoski Continental. Each year, about 300,000 tons of woody, coated printing paper is produced. A dedicated power plant is used to generate electricity, water, and process steam.

Project description

INP International Projects was contracted to equip Boiler 6 of the steam power plant with the Siemens PCS7 controls system. Boiler 6 was built in 1981 by Sulzer, and has six burners and three coal pulverizers. The burners run on anthracite, heavy heating oil, and light heating oil. The boiler also has a grate stoker furnace, where tree bark and effluent sludge are burned. The maximum output of Boiler 6 is about 120 t/h at 150 bar. The steam generated in the boiler systems is used to drive various turbines, or the turbine bypass reducer stations, depending on the mode of operation. It is finally reduced to 1.5 bar. INP International Projects provides planning, engineering, and integration of existing systems into the new controls systems, and recommissioning of the system.

INP Services

Basic engineering

- Basic and detail engineering for modernization of systems controls for Boiler 6, for reliable and efficient energy supply to the production plants

Processing engineering

- Generation of the processing engineering requirements for the scope

of automation “Fully automated boiler systems operations”
- Determination of actions for operating mode “partial load 50-100 %”
- Determination of functional units for the individual process areas
- Generation of a structure for functional planning (start-up concept, sequencers, automation, controls systems, protection criteria, and messages)
- Determination of the automation components for PCS7

Hardware planning

- I&C part, including installation plan
- MCC system: integration and adaptation of existing documentation in overall planning
- Specification and ordering information for required hardware components PLC, controls systems, and network components; joint determination of level of automation, after determination of instrumentation and drives
- Cable reel lists
- Cable routing plan for modernizing controls systems for decentralized peripherals, and enclosure planning

Detail engineering

- PCS7 software generation, incl. application
- WinCC controls systems configuration, image generation for boiler, auxiliary systems, and power plant management

Burner controls and boiler protection

- Hardware and software engineering for levels 1, 2, 3, and boiler protection as a safety controller, with TÜV certification by INP International Projects
- Supply of required hardware components for burner controls, and boiler protection, ready to connect, installed in electrical enclosures

Functional testing and commissioning

- Controls systems with all operator screens and interfaces, prior to functional test (FAT)
- Functional test of all cable runs prior to shutdown date
- Functional tests (loop check) after field devices are reconfigured
- Commissioning of boiler system and auxiliary systems

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