INP Reference

Dillingen – Gas-Fired Power Plant

LOCATION: Dillingen, Germany (Saarland)

SYSTEM/TECHNOLOGY: ABB Melody / 800xA, HIMA H51q

SERVICES: Commissioning, Project management, Site management, Documentation, As-built status and data recording, Pre-project planning and tendering, Basic-engineering and pre-engineering, Detail engineering, Installation supervision, Operations, Training

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

CLIENT: AE&E Inova

PROJECT SIZE: EUR 2 m.

POINTS OF CONTACT

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Tasks

Ever stricter legal requirements for emission controls, coupled with increasing economic pressures, have boosted demand for innovative and sustainable solutions that will lower costs while at the same time enhancing efficiency. This is especially true in energy-intensive processes such as steel production. In addition to the economic advantages, it also makes sense from an ecological perspective to recover energy from blast furnace gases.

Project description

Considerable volumes of energy-yielding gases are produced in the process of steel production (coke gas, furnace gas). The aim is for the Dillingen gas-fired power plant to utilize the energy from these gases. Evonik (formerly STEAG Saar Energy AG), Rogesa, and the Dillinger smelting plant have commissioned AE&E Inova with of the task of constructing a turnkey furnace-gas-fired power plant. The task comprises of complete design of the automation system, of the operator and monitoring interface, and of the external system link. INP International Projects is also supplying the main control technology (ABB Melody / 800xA), boiler protection (HIMA) and the furnace control system. Once constructed, this gas-fired power plant will cover the mayority of the Dillingen smelting plant’s energy requirements.

INP Services

Basic engineering

- Basic and detailed engineering for turnkey development of a gas-fired power plant providing a dependable and economical energy supply
- Design of the automation system, of the operator and monitoring interface and of the external system link

Process engineering

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- Transfer of functional units to the individual process areas
- Creation of a functional planning structure (start-up concept, sequencers, automatic processes, controls, protection criteria and messages)
- Selection of automation components for Melody / 800xA

Hardware planning

- Hardware planning for measuring and control equipment, black boxes, switchgear in E-plan
- Specifications and order guidelines for the required hardware components, control technology and network components
- Cable layout
- Cabling planning for actuator elements and sensors, as well as cabinet planning

Software planning / Visualization / IMS

- Software creation with Composer engineering tool
- Functional planning according to VGB R 170 C
- Configuration of operator and monitoring interface 800xA
- Integration of alternate power plant library INP Case Control

Furnace controls and boiler protection

- Software engineering with HIMA Elop II for gas furnace and boiler protection as security-oriented control with TÜV-approval
- Delivery of required hardware components for furnace control system and boiler protection, installed pre-wired in equipment cabinets
- Link to main control technology

Functional test and commissioning

- System start-up
- Links to external systems (Profi Bus, Ethernet, OPC)
- Test bay, TT, FAT
- Functional test of overall cabling (loop check)
- Functional tests (loop check) after switch-over of field devices
- Start-up of boiler system, subsystems and water-steam cycle
- Trial operation
- Training of system personnel