INP Reference

WODEGO – Turbine Control

LOCATION: Neumarkt, Germany

SYSTEM/TECHNOLOGY: Siemens STEP7 V5.5 SP3, WinCC V7.0, EPLAN Electric P8

SERVICES: Commissioning, Project management, Quality assurance, Pre-project planning and tendering, Basic-engineering and pre-engineering, Detail engineering, Installation supervision, Operations

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

CLIENT: Wodego GmbH, Neumarkt

POINTS OF CONTACT

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TASK

- Functional one-to-one conversion of turbine control from S5-115U to S7-400
- Conversion of the existing interface between the turbine control and turbine regulator from TTY 4-20mA to Profibus-DP

DESCRIPTION OF DELIVERIES AND ACTIVITIES

SOFTWARE PLANNING

- Working out the process functions and creating graphical P-FUPs
- Development of our own S7 drive modules to replace the existing drive modules with the objective of transparent and open-source program structure in S7-FUP
- Partial conversion of the system-specific program sections from STEP 5 to STEP 7
- Programming of the process functions using drive modules developed by INP
- Adaptation of the WinCC interface

HARDWARE PLANNING

- Configuration of the S7-400 hardware
- The existing S5 front-panel connectors were retained with the help of Siemens peripheral adapters in order to minimize the installation time and thus reduce the plant downtime
- Documentation of the hardware planning in EPLAN Electric P8

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WORKS TEST

- Carrying out the works test in INP Deutschland GmbH
- Installation and system commissioning of the S7-400 hardware to be supplied
- 100% signal test (input channel to WinCC) using our own test cabinets
- Test of the Profibus interface to the turbine regulator
- Functional test of the software by simulation
- Logging of results

Installation

- Removal of the existing S5 controller
- Installation and new wiring of the new S7 controller in the same location

Commissioning

- Writing the commissioning sequence plan
- Carrying out commissioning under our own responsibility
- Logging the results of the individual commissioning steps
- Customer acceptance

RESULTS/CHARACTERISTIC VALUES

- Improved functions adapted to the customer's wishes by in-house development of the drive modules
- Reuse of the S5 front-panel connectors and carrying out the works tests made it possible to reduce the commissioning time and thus the plant downtime to only four days