INP Reference

Merck service water supply

LOCATION: Darmstadt, Germany

SYSTEM/TECHNOLOGY: PCS7 V9.0 with CPU 410H and ET200SPHA periphery, E-Plan P8

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

CLIENT: Merck KGaA Darmstadt

Project description

The Merck Pharma location in Darmstadt operates a generation and supply facility for its own as well as the surrounding area's process and service water requirements. It consists of 42 raw water wells and central water treatment systems with corresponding distribution facilities.

Scope of Work

The control systems of this service water system was divided between two different systems: Siemens S7 V5.5 with WinCC V7.0 and IDS Highleit. They were connected to each other via a partly outdated infrastructure. The system technology has been discontinued in places and thus had to be replaced to ensure continued reliable operation. Furthermore, a central and uniform control/operation/monitoring concept had to be integrated into the already existing process control system PCS7 V9.0, using standardized Siemens libraries APL and IL, special customer-specific proprietary libraries, and SFC types.

The actuators, sensors, controllers, tanks, wells, and their infrastructure are distributed throughout and outside the plant and were linked via existing conventional cable connections. They should be used for modern and new state-of-the-art bus connections, partly also with transmission via DSL technologies due to the very long distances.

Generally speaking, the plant had to make provisions for various necessary plant operation modes and develop an overall process engineering concept with the plant. The goal was to improve the automation level compared to the original status.

INP Services

- On-site start of measurement, instrumentation and controls technology
- Elaboration of basic process engineering concepts including the desired operating conditions and operating modes

POINTS OF CONTACT



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INP Reference

- Basic engineering software and hardware incl. conversion planning for shortest possible downtimes
- Detail engineering hardware as well as documentation in E-Plan P8
- PCS7 system project development in version 9.0, deployment of Siemens APL and IL as well as use of customer-specific libraries and SFC types
- Delivery of PCS7 system with latest output levels of the hardware (2 x CPU 410H as well as ET200SPHA periphery)
- Supply of central switch cabinets and decentralized well control boxes
- FAT of the software and hardware through simulation of the PCS7 system and systematic peripheral simulation of the field components
- Installation of instrumentation and controls technology incl. supplementary new sensor technology to increase the automation level
- System commissioning of the PCS7 system and the numerous interfaces
- Commissioning of actuators and sensors
- Commissioning of all software functions and overlaid semi-automatic features
- Training
- Optimization