Course description

CHP173
COM581 for Gateway Communication Solutions – Configuration & Engineering

Course goal
The participants acquire in-depth product knowledge that enables them to implement communication solutions in practice. They are using the operating program CAP581 to manage, structure and configure a communication application. They are able to integrate the unit COM581 into an SA system.

Learning objectives
- Understand product/system architecture and its ordering specification
- Describe the tool environment and installation
- Explain the basic configuration principle
- Configure device hardware, dataflow and measurement scales
- Implement communication application solution with the tool on the training model
- Configure the communication interface
- Realize additional logic with the PSF (project specific function) e.g. alarm groups
- Implement modifications in the system such as additional signals, commands and other functions
- Test and verify the implemented application example
- Troubleshoot the system, using the application and configuration manual

Participants
Consultants and employees from the electricity supply industry. Technical personnel of ABB companies.

Prerequisites
Electrical or mechanical engineering degree, technical college qualifications or equivalent. Basic knowledge of protection and substation automation as well as PC based data processing.
Required courses or relevant experience:
- CHP142 Communication Protocols for Power Utilities
Recommended course or relevant experience:
- CHP143 IEC 61850 for Substation Automation
- CHP105 Substation Automation System

Topics
- Introduction
  Main features, application, documentation, tools
- Hardware and software concept
  System layout and components, identification, technical data, functionality
- HMI program (human machine interface)
  Configuration and parameters, event/alarm handling, data display, diagnostics, operation of process etc.
- An applied example
  Build a gateway configuration according to the setting of the demo-system with IEC 61850 station bus and IEC 101 NCC protocols
- Operation and testing
  Installation, database generation, download of database, testing of gateway functionality with help of the appropriate protocol analyzer and simulator, diagnostic, troubleshooting and error handling, safety instructions

Methods
Lectures, demonstrations, practical exercises and hands-on.

Duration
3 days