

COURSE DESCRIPTION

CHH651B – System 800xA Applications for Minerals Configuration (with CDE) and Operation

Course goal

The goal of this course is to learn the operation and configuration of the Extended Automation System 800xA with AC800M controllers and the Control Builder M tool utilizing the Minerals Library.

Main learning objectives

The participants will be able to:

- Explain the System 800xA architecture and the function of the different components
- Monitor and control the minerals process objects
- Navigate in the system and create new objects and aspects using Plant Explorer
- Create a new control project using Plant Explorer and Control Builder M (CBM)
- Configure the AC800M hardware and corresponding I/Os
- Use the standard libraries and the Minerals Library as well as create project specific libraries
- Design and configure applications using Control Diagram Editor (CDE) within CBM
- Setup the OPC connectivity to AC800M
- Customize and use the operator's workplace and its functions and operate the Minerals Library objects
- Configure process graphic displays and define navigation links
- Manage and configure events and alarms
- Set up the historical data collection and configure trend displays

- Use the import/export tool
- Backup and restore the System 800xA

Participant profile

This training is targeted to engineering, planning, advanced operating, commissioning, maintenance and service personnel working in the field of minerals applications.

Prerequisites

Participants should know the fundamentals of working with control systems and have basic knowledge of the Windows XP or Windows 7 operating system and of technical English.

Topics

- System 800xA architecture
- Plant Explorer, engineering workplace and Control Builder M
- Application and system structures
- Controller AC800M hardware configuration
- Overview of standard libraries
- Variables and data types
- Using Control Diagram Editor (CDE) for programming applications with functions, function blocks and control modules
- Structured text (ST) programming
- Monitoring and testing applications

- Minerals Library and minerals applications
- Task assignment and memory
- OPC communication
- IAC communication
- Operator workplace
- Operating minerals process objects
- Process graphics
- Events and alarms
- Historical data collection and trend displays
- Import/export tool
- Backup and restore of the System 800xA
- Workshop engineering

Course type and methods

This is an instructor-led course with lectures, demonstrations, interactive discussions and practical exercises. At the end of the course a workshop is done. This workshop covers larger exercises consolidating the most important items from the training which the students will need for their future work.

Duration

The duration is 10 days:

- 8 hours daily for face-to-face classes
- 5 hours daily for remote sessions

Remarks

This course can be delivered at our Learning Center in Switzerland, at your site or as a remote session.

Course map

	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
Topics	Welcome, personnel introduction Course overview To get started – operating of Minerals applications System 800xA architecture Plant Explorer / engineering workplace	Review day 1 Control Builder M and Control Diagram Editor AC800M hardware	Review day 2 AC800M hardware (continues) Project backup Standard libraries, overview and handling	Review day 3 Variables and data types More about programming with: Function block diagram Structured text Control modules	Review day 4 Task assignment and memory handling IAC communi- cation Minerals Library Overview of the different object categories and object types
Time	9:00 am – 5:00 pm	9:00 am – 5:00 pm	9:00 am – 5:00 pm	9:00 am – 5:00 pm	9:00 am – 5:00 pm
	DAY 6	DAY 7	DAY 8	DAY 9	DAY 10
Topics	Review day 5 Minerals Library (continues) Variable and application structure Design rules Interlocks Preselections OPC connectivity	Review day 6 Operating Minerals workplace layout Process graphics Display navigation Object handling Alarm and event handling Trend handling Process graphics Creation of graphic displays Configuration of graphic elements	Review day 7 Process graphics (continues) Use of expression editor Configuration of display navigation Configuration of alarms and events Historical data collection and trend displays Log configuration Creation of trend displays	Review day 8 Use of import/export tool Use of backup and restore functions Configuration wizard Operators workplace configuration	Review day 9 Workshop engineering: Utilizing Minerals Library, starting from scratch, realizing material transport groups with conveyers, preselections and interlocks – implementing and testing Summary Evaluation Course close
Time (face-to-face class)	9:00 am – 5:00 pm	9:00 am – 5:00 pm	9:00 am – 5:00 pm	9:00 am – 5:00 pm	9:00 am – 5:00 pm
Time (remote session)	to be defined	to be defined	to be defined	to be defined	to be defined

Typical course layout (time or sequence may change)