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.
### Course map

<table>
<thead>
<tr>
<th>DAY 1</th>
<th>DAY 2</th>
<th>DAY 3</th>
<th>DAY 4</th>
<th>DAY 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welcome, personnel introduction</td>
<td>Review day 1</td>
<td>Review day 2</td>
<td>Review day 3</td>
<td>Review day 4</td>
</tr>
<tr>
<td>Course overview</td>
<td>Control Builder M and Control Diagram Editor</td>
<td>AC800M hardware (continues)</td>
<td>Variables and data types</td>
<td>Task assignment and memory handling</td>
</tr>
<tr>
<td>To get started – operating of Minerals applications</td>
<td>Project backup</td>
<td>More about programming with:</td>
<td>IAC communication</td>
<td>Minerals Library</td>
</tr>
<tr>
<td>System 800xA architecture</td>
<td>Standard libraries, overview and handling</td>
<td>Function block diagram</td>
<td>Overview of the different object categories and object types</td>
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</tr>
<tr>
<td>Plant Explorer / engineering workplace</td>
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<td>Structured text</td>
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<td>Control modules</td>
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</tbody>
</table>

**Topics**
- Welcome, personnel introduction
- Course overview
- To get started – operating of Minerals applications
- System 800xA architecture
- Plant Explorer / engineering workplace

**Time**
- 9:00 am – 5:00 pm

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<table>
<thead>
<tr>
<th>DAY 6</th>
<th>DAY 7</th>
<th>DAY 8</th>
<th>DAY 9</th>
<th>DAY 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review day 5</td>
<td>Review day 6</td>
<td>Review day 7</td>
<td>Review day 8</td>
<td>Review day 9</td>
</tr>
<tr>
<td>Minerals Library (continues)</td>
<td>Operating</td>
<td>Process graphics (continues)</td>
<td>Use of import/export tool</td>
<td>Workshop engineering:</td>
</tr>
<tr>
<td></td>
<td>Minerals workplace layout</td>
<td>Use of expression editor</td>
<td>Use of backup and restore functions</td>
<td>Utilizing Minerals Library, starting from</td>
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<tr>
<td></td>
<td>Process graphics</td>
<td>Configuration of display navigation</td>
<td>Configuration wizard</td>
<td>scratch, realizing material</td>
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<td>Display navigation</td>
<td>Configuration of alarms and events</td>
<td>Operators workplace configuration</td>
<td>transport groups with conveyers,</td>
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<td>Object handling</td>
<td>Historical data collection and trend displays</td>
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<td>preselections and interlocks –</td>
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<td>Alarm and event handling</td>
<td>Log configuration</td>
<td></td>
<td>implementing and testing</td>
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<td>Trend handling</td>
<td>Creation of trend displays</td>
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<td>Process graphics</td>
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<td>Creation of graphic displays</td>
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<td>Configuration of graphic elements</td>
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**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

**Time**
- 9:00 am – 5:00 pm

Typical course layout (time or sequence may change)