

**NOW is the time...**

**Learn to be more  
competitive in the  
slowing economy!**



Your invitation  
to attend  
March 24-26

Now, more than ever, energy  
efficiency and productivity  
improvements are critical.

ABB Automation & Power  
World offers over 500 hours  
of training workshops focused  
on improving profitability in  
today's economic environment.

NOW is the time! This is  
essential business travel for  
anyone wanting to learn how  
to beat the competition.



**ABB**  
**Automation &  
Power  
World**

**2009**  
March 24-26  
Orlando, Florida

Collaboration. Learning. Results.

[www.abb.com/a&pworld](http://www.abb.com/a&pworld)

Register today!

**Process Management & Control Systems  
Workshop Sessions**



## Process Management and Control Systems Workshop Sessions

Achieving Operational Excellence .....	Page 3
Automation Systems Integration .....	Page 5
Collaborative Manufacturing .....	Page 7
Control System Life Cycle & Evolution .....	Page 9
Fieldbus & Wireless Technology .....	Page 11
Instrumentation & Control & Electrical Integration .....	Page 13
Practical Applications of Safety Fundamentals .....	Page 15
System 800xA Engineering & Administration .....	Page 17

### Code Descriptions:

C = Customer Case Study  
 P = Panel Discussion  
 T = Technical Training  
 W = Workshop

“1-5” at the end of a session code indicates the length of the session. “1” being a one-hour session, “2” being a two-hour session, etc.

“A, B or C” at the end of a session code indicates the session is given more than one time. “A” represents the first time the session is being offered, “B” the second time, and “C” the third time. If an A, B or C does not follow a session code, the session is given only once.

## Achieving Operational Excellence

### TUESDAY, MARCH 24, 2009

#### Session 1: 9:30 a.m. – 10:30 a.m.

##### **TCS-23-1A System 800xA introduction**

This training session will introduce the System 800xA Extended Automation System and the benefits it delivers. This overview presentation will exhibit how System 800xA extends functionality beyond that of other control systems through unparalleled connectivity, integrated applications and its many industrial IT enabled partners. This presentation sets the stage for many subsequent sessions and shouldn't be missed.

#### Session 2: 11:00 a.m. – 12:00 p.m.

##### **WCS-21-1 Managing plant complexity with advanced process control**

Rising competition and costs are eroding the profit margins of many process industries. Optimization is essential to their survival, but constant process streamlining brings its own problems for operators. ABB's Expert Optimizer v6.0, a computer-based system for controlling, stabilizing and optimizing industrial processes is an extremely effective solution to these issues. It is keeping industrial processes on target in over 300 sites today, with new installations coming online with regularity. Multiple case studies of its use in the minerals and utilities industries will be discussed in this workshop.

#### Session 3: 1:30 p.m. – 2:30 p.m.

##### **WCS-36-1 Using energy management to drive profitability and sustainability**

The continued rise in energy costs has significantly impacted the profit margins of manufacturers. While the introduction of alternative fuels may lessen this impact, it adds new complexities to the overall management of energy throughout a single facility, especially from the corporate perspective. This workshop will examine this problem and showcase a solution that increases profitability in a sustainable fashion.

#### Session 4: 3:00 p.m. – 4:00 p.m.

##### **WCS-13-1 Collaboration with the operator in focus**

This workshop focuses on how you can better adapt the operator environment for a more collaborative and productive operation. The fact is that we will have a shortage of operators within 5-10 years. Therefore, it is important to put the operator in focus, to create a more attractive working environment and to design your control rooms to better accommodate the needs of the future, based on ergonomics and human factors. See how the features of System 800xA Operations and the Extended Operator Workplace can enable users to perform operating tasks in a quicker, more secure way, saving time and money.

#### Session 5: 4:30 p.m. – 5:30 p.m.

##### **CCS-13-1 Vale Inco asset optimization case study**

In this workshop, Vale Inco engineers describe the success Vale Inco realized by utilizing ABB's asset optimization as a maintenance management tool. At Vale Inco, an ABB full service site, maintenance is a profit center, not a cost center. Here, maintenance personnel are incentivized to improve Overall Equipment Effectiveness (OEE) - with impressive results. Anyone looking to lower costs or otherwise improve their maintenance department will benefit from attending this workshop.

### WEDNESDAY, MARCH 25, 2009

#### Session 6: 8:00 a.m. – 9:00 a.m.

##### **WGC-03-1 Industrial energy management: Developing an effective energy strategy**

Effective operators take a strategic approach to energy efficiency. This presentation stresses the importance of moving energy from the plant room to the board room. Attendees will be able to identify the value drivers that make energy management a strategic issue. They will also develop the components of a successful energy strategy.

#### Session 7: 9:30 a.m. – 10:30 a.m.

##### **WCS-33-1 Connecting automation to ERP systems such as SAP**

One of the common questions that we hear is, "Can you connect to SAP?" This session will focus on ABB's Industrial IT Enterprise Connectivity product, and show how ABB's System 800xA platform can be easily connected to enterprise systems or manufacturing systems, using various strategies such as Web Services, ODBC, or direct connections to SAP. This workshop will include a demonstration on how quickly and easily the connection to SAP can be established and show how the business information can be used inside of the 800xA or manufacturing environment.

#### Session 8: 11:00 a.m. – 12:00 p.m.

##### **CCS-01-1 Hemlock Semiconductor Asset Management Pilot program with Consult IT**

The Consult IT Asset Management Pilot is designed to help customers understand System 800xA's Asset Management capabilities by actually using one of their higher level units for a prototype effort. It is tailored to the customer's working environment and based on interviews with plant maintenance and operations personnel to provide a complete asset management experience. This workshop discusses how such a pilot program was delivered at Hemlock Semiconductor Corporation.

**Session 9: 1:30 p.m. – 2:30 p.m.****WCS-09-1 Combining process and product information as part of an Operational Excellence program**

ABB Full Service is a globally supported, performance based partnership where ABB assumes full responsibility for maintaining and improving the production performance of an entire industrial facility. In this presentation we discuss how the ABB cpmPlus technology is used in a systematic way in the ABB Full Service operational excellence process - Plant Performance Improvement - to continuously improve the manufacturing performance of an industrial plant.

**Session 10: 3:00 p.m. – 4:00 p.m.****CCS-05-1****Control system networks, integration and architecture on the corporate network**

The eternally difficult question: Do I allow my plant controls network (DCS, PCS, SCADA, etc) to be connected to the Corporate network or not? By allowing the connection visibility is gained; plant information can be used to increase business operations and efficiency as well as lowering overall costs of support by allowing remote access into the network. At the same time, it also increases the potential for a security event to occur by 100%. Are the benefits enough to outweigh the risks? Can this new connectivity be implemented in a manner that allows enough protection to make the risk insignificant? While it may be hard to make the first step, a proper design and implementation of infrastructure and controls will allow for safe connectivity between plant control network and the business corporate network.

**Session 11: 4:30 p.m. – 5:30 p.m.****WCS-41-1 Alarm management from start to finish: A case study presentation**

This presentation will give a real life case study of a large energy company's implementation of Matrikon Alarm Manager. Find out the company's needs, how they were addressed by Matrikon Alarm Manager, and hear the results.

**THURSDAY, MARCH 26, 2009****Session 12: 8:00 a.m. – 9:00 a.m.****CCS-03-1 Asset optimization through control system evolution: Bayer Berkeley**

In this workshop, Bayer Corporation describes the collaboration between ABB and Bayer's Berkeley facility to evolve Bayer's existing control system to include System 800xA Asset Optimization. Strategy development, business needs, budget, goals and project results will be discussed, as well as Bayer's plans to capitalize on their asset optimization capabilities in the future.

**Session 13: 9:30 a.m. – 10:30 a.m.****WCS-37-1 Collaborative research on alarms and display effectiveness**

The Center for Operator Performance is a collaboration between industry and academia that researches human factors issues of interest, of which ABB is a founding member. The results of two recent research efforts that have focused on the impact of alarm and display design on operator performance will be presented. One study quantified the impact of ten different alarm actuation rates on two different alarm display designs. The other study surveyed color usage in process control and compared it to best practices in military and aviation. Implications of both studies on operator interface design will be discussed.

**Session 14: 11:00 a.m. – 12:00 p.m.****WCS-48-1 Using cameras with System 800xA**

This workshop focuses on how to integrate cameras and live video into an 800xA system environment. We will demonstrate/explain how to configure and use an integrated solution with multiple cameras, both analog and web-enabled. We will cover functions like: camera group displays, camera faceplates, camera recording and live video aspects of process objects. We will also explain how you can configure display format, refresh rate, recording time, camera position, etc. This workshop is a must if you are planning to integrate cameras into your 800xA system.

**Session 15: 1:30 p.m. – 2:30 p.m.****WIN-11-1B Wireless and asset management in process industries**

The arrival of the industry standard WirelessHART specification has resulted in the development of wireless instruments that can work together within a multivendor application. This presentation will describe typical applications of monitoring, control and asset management using such a wireless instrument network.

**Session 16: 3:00 p.m. – 4:00 p.m.****WCS-07-1 Emerging technologies and the impact on automation systems**

New technologies are being released constantly. New ways of communicating and collaborating become more popular and widespread every day. New graduates have different experiences and expectations regarding technology and communications. When you think about cloud computing, RFID, social networking, next generation Microsoft software, nano-technology, wireless, and next generation fieldbuses and standards, you might wonder how all of these things can and should be applied to automation systems. Attend this workshop to hear thoughts and predictions from the automation technology experts.

**Session 17: 4:30 p.m. – 5:30 p.m.**

## Automation Systems Integration

### TUESDAY, MARCH 24, 2009

#### Session 1: 9:30 a.m. – 10:30 a.m.

##### **TCS-23-1A System 800xA introduction**

This training session will introduce the System 800xA Extended Automation System and the benefits it delivers. This overview presentation will exhibit how System 800xA extends functionality beyond that of other control systems through unparalleled connectivity, integrated applications and its many industrial IT enabled partners. This presentation sets the stage for many subsequent sessions and shouldn't be missed.

#### Session 2: 11:00 a.m. – 12:00 p.m.

##### **WCS-06-1 Electrical integration: A strategy for achieving unified operations and extended asset management**

Electrical integration is the next frontier in delivering a unified environment that will drive improvements in productivity, increased safety and cost savings over the total lifecycle of a plant. ABB continues its effort in this area. IEC61850, the protocol which integrates high and medium voltage substation equipment with the DCS, is now well established and used by many ABB projects. Come and listen to the success stories, and hear about the next steps in electrical integration.

#### Session 3: 1:30 p.m. – 2:30 p.m.

##### **WCS-16-1 Implementing System 800xA connectivity to third party DCSs and PLCs**

ABB's Industrial IT System 800xA platform provides the infrastructure to consolidate disparate controllers, such as PLCs and third party DCSs, allowing for seamless access and control. This reduces the number of 'pieces of glass' in the control room which improves operator effectiveness by reducing time to decision and action as well as reducing lifecycle costs. This workshop will show options System 800xA users have when interfacing third party control systems to System 800xA.

#### Session 4: 3:00 p.m. – 4:00 p.m.

##### **WCS-08-1 Energy integration, collaboration between manufacturing and utilities**

Coordination of the production needs for power and steam generation plays an essential role in several industries. High reliability requirements, large variations in energy consumption and changing market conditions are all critical factors. ABB's cpmPlus Expert Optimizer (EO) and cpmPlus Energy Management and Optimization (EMO) enable producers to manage this complexity. EMO monitors energy efficiency and costs, ensures power balance and generates load forecasting and planning (among other features), while EO increases power output, boiler efficiency and usage of most efficient boilers while reducing steam parameter variability (and more). Use both for true collaboration of production and utilities.

#### Session 5: 4:30 p.m. – 5:30 p.m.

##### **WSE-02-1 Excellent service strategies for ABB Control Systems and products**

Learn how ABB embeds service in products to ensure that an excellent service strategy is in place, in order to provide reduced total cost of ownership, enhanced overall equipment effectiveness and increased reliability.

### WEDNESDAY, MARCH 25, 2009

#### Session 6: 8:00 a.m. – 9:00 a.m.

##### **WCS-12-1 Fieldbuses and device integration with System 800xA**

In an effort to lower lifecycle costs and improve productivity, many companies are integrating their intelligent field devices into their process control systems via fieldbus technologies. This enables them to exploit new levels of field device information in order to streamline work processes and maximize availability. Attend this workshop to learn how ABB's System 800xA seamlessly integrates intelligent field devices using the capabilities of aspect object technology, and makes this device information available in the right context to the right people at the right time.

#### Session 7: 9:30 a.m. – 10:30 a.m.

##### **WCS-33-1 Connecting automation to ERP systems such as SAP**

One of the common questions that we hear is, "Can you connect to SAP?" This session will focus on ABB's Industrial IT Enterprise Connectivity product, and show how ABB's System 800xA platform can be easily connected to enterprise systems or manufacturing systems, using various strategies such as Web Services, ODBC, or direct connections to SAP. This workshop will include a demonstration on how quickly and easily the connection to SAP can be established and show how the business information can be used inside of the 800xA or manufacturing environment.

#### Session 8: 11:00 a.m. – 12:00 p.m.

##### **CCS-01-1 Hemlock Semiconductor Asset Management Pilot program with Consult IT**

The Consult IT Asset Management Pilot is designed to help customers understand System 800xA's Asset Management capabilities by actually using one of their higher level units for a prototype effort. It is tailored to the customer's working environment and based on interviews with plant maintenance and operations personnel to provide a complete asset management experience. This workshop discusses how such a pilot program was delivered at Hemlock Semiconductor Corporation.

**Session 9: 1:30 p.m. – 2:30 p.m.****WCS-24-1 Reliable communications with the ABB controllers and operator interfaces**

This workshop will take you through a couple of actual successful applications of ABB's AC800M programmable logic controllers, Compact HMI 800 operator interfaces and ACS350 variable frequency drives integrated with Westermo's reliable industrial data communications products. These applications include both wired, wireless and fiber optic transmission of data with a special focus given to Ethernet applications involving redundant rings and "barbed wire." Application notes, data sheets and programming hints will be distributed for all of the class examples, as well as actual hands-on opportunities to work with the different technologies in the exhibit area.

**Session 10: 3:00 p.m. – 4:00 p.m.****CCS-05-1****Control system networks, integration and architecture on the corporate network**

The eternally difficult question: Do I allow my plant controls network (DCS, PCS, SCADA, etc) to be connected to the Corporate network or not? By allowing the connection visibility is gained; plant information can be used to increase business operations and efficiency as well as lowering overall costs of support by allowing remote access into the network. At the same time, it also increases the potential for a security event to occur by 100%. Are the benefits enough to outweigh the risks? Can this new connectivity be implemented in a manner that allows enough protection to make the risk insignificant? While it may be hard to make the first step, a proper design and implementation of infrastructure and controls will allow for safe connectivity between plant control network and the business corporate network.

**Session 11: 4:30 p.m. – 5:30 p.m.****WCS-27-1 State Based Control techniques for process automation using System 800xA**

Does your automation design provide direct opportunities for Production Optimization and Operational Excellence regardless of whether your process is continuous, batch or a hybrid of both? State Based Control (SBC), implemented with System 800xA, delivers direct benefits in productivity increases, higher asset utilization and automated response and recovery for abnormal conditions. It also provides an environment for capturing knowledge directly from the control design for any process. The ABB solution overcomes many economic and implementation hurdles that have limited SBC use.

**THURSDAY, MARCH 26, 2009****Session 12: 8:00 a.m. – 9:00 a.m.****WSE-06-1 Security and remote monitoring with System 800xA**

Learn how System 800xA's inherent access control features, network architecture and integrated secure broadband remote access technologies enable reliable and secure remote monitoring. Discover various control system network

configurations and secure communications technologies that can be used to make remote monitoring of your System 800xA viable.

**Session 13: 9:30 a.m. – 10:30 a.m.****WCS-40-1 Understanding the Unified OPC architecture**

The focus of this workshop is to provide an overview of the OPC Unified Architecture specification. The OPC Unified Architecture provides a foundation of base service developed as web services providing architecture for secure, reliable interoperability for the transportation of data/information across the automation and enterprise hemisphere. The OPC Unified Architecture brings together the existing OPC technology that has been developed over the last 10 years to an integrated platform based on web services.

**Session 14: 11:00 a.m. – 12:00 p.m.****WCS-19-1 Apple or snake? Picking cyber security's low hanging fruit**

No one questions that improving the security of control and SCADA systems is important to industry. What is debated is the road to true security versus just spending a lot of money. This session analyzes security program successes and failures in industrial operations, distilling the three key tasks that have had the biggest impact in improving control system security at the lowest cost. Finally, we discuss two key causes of program failures – why well-intended security projects end up biting their sponsors. Armed with this information, you can create a program that delivers security without costing the farm.

**Session 15: 1:30 p.m. – 2:30 p.m.****CCS-10-1 Klabin MA1100 project: Expansion and integration of a pulp and paper mill**

This presentation will describe how ABB, using the System 800xA Extended Automation platform, helped Klabin, the largest producer, exporter and recycler of paper in Brazil, to overcome the challenge of a production expansion within an existing plant. This was achieved without interfering in routine operations of the mill, integrating the new automation system with the existing DCS in a transparent way. Additionally, ABB extended the former DCS functionality, providing advanced features such as process simulator's interface, asset management and remote access to instrumentation and motors.

**Session 16: 3:00 p.m. – 4:00 p.m.****WCS-07-1 Emerging technologies and the impact on automation systems**

New technologies are being released constantly. New ways of communicating and collaborating become more popular and widespread every day. New graduates have different experiences and expectations regarding technology and communications. When you think about cloud computing, RFID, social networking, next generation Microsoft software, nano-technology, wireless, and next generation fieldbuses and standards, you might wonder how all of these things can and should be applied to automation systems. Attend this workshop to hear thoughts and predictions from the automation technology experts.

## Collaborative Manufacturing

### TUESDAY, MARCH 24, 2009

#### Session 1: 9:30 a.m. – 10:30 a.m.

##### **TCS-15-1 Collaborative manufacturing:**

##### **Managing the complex manufacturing environment**

For the past 20 years, manufacturers have been trying to eliminate the "islands of information" that exist in a traditional facility. Today, a typical manufacturing facility has between 10 and 50 shop floor systems, ranging from traditional MES (Manufacturing Execution System) "track and trace" functions to LIMS (Laboratory Information Management System), maintenance or attendance systems. This workshop will explore how ABB's solutions integrate automation, manufacturing and business environments to form a truly collaborative manufacturing facility.

#### Session 2: 11:00 a.m. – 12:00 p.m.

##### **PCS-01-1 Manufacturing system security roundtable**

The usage of commercial operating systems has dramatically lowered the cost of modern systems, but coupled with the ever increasing requirement of global access, has introduced new complexities. One of the largest issues facing manufacturers today is the security of their systems' infrastructure. This roundtable, with representation from both technology vendors and end users, will explore how this issue is affecting manufacturers today. It will provide some guidance on best practices in the area of system security.

#### Session 3: 1:30 p.m. – 2:30 p.m.

##### **WCS-36-1 Using energy management to drive profitability and sustainability**

The continued rise in energy costs has significantly impacted the profit margins of manufacturers. While the introduction of alternative fuels may lessen this impact, it adds new complexities to the overall management of energy throughout a single facility, especially from the corporate perspective. This workshop will examine this problem and showcase a solution that increases profitability in a sustainable fashion.

#### Session 4: 3:00 p.m. – 4:00 p.m.

##### **WCS-08-1 Energy integration, collaboration between manufacturing and utilities**

Coordination of the production needs for power and steam generation plays an essential role in several industries. High reliability requirements, large variations in energy consumption and changing market conditions are all critical factors. ABB's cpmPlus Expert Optimizer (EO) and cpmPlus Energy Management and Optimization (EMO) enable producers to manage this complexity. EMO monitors energy efficiency and costs, ensures power balance and generates load forecasting and planning (among other features), while EO increases power output, boiler efficiency and usage of most efficient boilers while reducing steam parameter variability (and more). Use both for true collaboration of production and utilities.

#### Session 5: 4:30 p.m. – 5:30 p.m.

##### **WCS-18-1 Justifying projects from a financial perspective**

A plant manager we interviewed said, "If you can't show me the results on a balance sheet, it didn't happen." This workshop will focus first on explaining how projects are financially justified; then on showing how improvements in manufacturing can impact the financial statement. It will explain those improvements in terms that can be readily understood by financially focused managers.

### WEDNESDAY, MARCH 25, 2009

#### Session 6: 8:00 a.m. – 9:00 a.m.

##### **CCS-07-1 Energy management at Rautaruukki Steel**

Steel manufacturing is, by nature, an energy intensive operation. This session will examine how Rautaruukki Steel has worked with ABB to improve performance and profitability by lowering overall energy costs in a managed, sustainable fashion.

#### Session 7: 9:30 a.m. – 10:30 a.m.

##### **WCS-33-1 Connecting automation to ERP systems such as SAP**

One of the common questions that we hear is, "Can you connect to SAP?" This session will focus on ABB's Industrial IT Enterprise Connectivity product, and show how ABB's System 800xA platform can be easily connected to enterprise systems or manufacturing systems, using various strategies such as Web Services, ODBC, or direct connections to SAP. This workshop will include a demonstration on how quickly and easily the connection to SAP can be established and show how the business information can be used inside of the 800xA or manufacturing environment.

#### Session 8: 11:00 a.m. – 12:00 p.m.

##### **CCS-01-1 Hemlock Semiconductor Asset Management Pilot program with Consult IT**

The Consult IT Asset Management Pilot is designed to help customers understand System 800xA's Asset Management capabilities by actually using one of their higher level units for a prototype effort. It is tailored to the customer's working environment and based on interviews with plant maintenance and operations personnel to provide a complete asset management experience. This workshop discusses how such a pilot program was delivered at Hemlock Semiconductor Corporation.

#### Session 9: 1:30 p.m. – 2:30 p.m.

##### **WCS-09-1 Combining process and product information as part of an Operational Excellence program**

ABB Full Service is a globally supported, performance based partnership where ABB assumes full responsibility for maintaining and improving the production performance of an entire industrial facility. In this presentation we discuss how the ABB cpmPlus technology is used in a systematic way in

the ABB Full Service operational excellence process - Plant Performance Improvement - to continuously improve the manufacturing performance of an industrial plant.

**Session 10: 3:00 p.m. – 4:00 p.m.**

**WCS-26-1 Software Lifecycle Management: Upgrade or wait, standardize or customize, enterprise or localize**  
Modern manufacturing organizations rely increasingly on investments in software technology. These investments all share one common reality – ‘versionitis’ – or the compounding effect of software revisions. A modern manufacturing facility must have dozens of different applications in good health in order to run at peak performance. The modern industrial IT manager has a challenging assignment. This workshop examines the challenges of managing lifecycles in large software installations. The latest in best practices will be covered including agile development and continuous release process. A real example of a continuous release process being used for multiple manufacturing sites will be presented.

**Session 11: 4:30 p.m. – 5:30 p.m.**

**WCS-20-1 Managing manufacturing information from the user perspective**

ABB is a large international manufacturer of industrial goods with factories all over the world. In this presentation we discuss the implementation of the cpmPlus Enterprise Connectivity technology in ABB's own power products factories, and the benefits achieved by seamless integration of global business process and local manufacturing operations. Special emphasis is put on the benefits of the new technology for the average manufacturing system user.

**THURSDAY, MARCH 26, 2009**

**Session 12: 8:00 a.m. – 9:00 a.m.**

**WCS-15-1 How to choose KPIs relevant to your business objectives**

One of the main buzzwords used in business today is Key Performance Indicators (KPIs). These are being touted by consultants and industry analysts as the mechanism to drive organizational change and improve performance. While the value of KPIs and the visibility that they provide is unquestionable, the challenge comes from picking the ones that are most appropriate to the business. This workshop will explore ways to determine which KPIs should be focused on, and how to use them once they are in place.

**Session 13: 9:30 a.m. – 10:30 a.m.**

**WCS-40-1 Understanding the Unified OPC architecture**

The focus of this workshop is to provide an overview of the OPC Unified Architecture specification. The OPC Unified Architecture provides a foundation of base service developed as web services providing architecture for secure, reliable interoperability for the transportation of data/information across the automation and enterprise hemisphere. The OPC

Unified Architecture brings together the existing OPC technology that has been developed over the last 10 years to an integrated platform based on web services.

**Session 14: 11:00 a.m. – 12:00 p.m.**

**WCS-38-1 The next generation of managing information**

Are you managing your data, or is the data managing you? Do you have data or do you have information? Is the information with the people that need it to make key business decisions? These are three key questions to be answered when designing and augmenting your next generation information system layer. This workshop will focus on how ABB's Industrial IT Collaborative Production Management product portfolio can provide the necessary ingredients to deploy next generation information systems.

**Session 15: 1:30 p.m. – 2:30 p.m.**

**WLS-03-1 CPM for life sciences**

Manufacturing production operations can no longer operate with shop floor control separate from business management systems and remain competitive. The operations manager needs real-time insight to key performance indicators for the production processes, and real-time understanding of the impact on production commitments, Overall Equipment Effectiveness (OEE), and the return on investment from the production operation. Overall Equipment Effectiveness is a hierarchy of metrics, which focus on how effectively a manufacturing operation is utilized. The results are stated in a generic form that allows comparison between manufacturing units in the same or different industries.

**Session 16: 3:00 p.m. – 4:00 p.m.**

**WCS-07-1 Emerging technologies and the impact on automation systems**

New technologies are being released constantly. New ways of communicating and collaborating become more popular and widespread every day. New graduates have different experiences and expectations regarding technology and communications. When you think about cloud computing, RFID, social networking, next generation Microsoft software, nano-technology, wireless, and next generation fieldbuses and standards, you might wonder how all of these things can and should be applied to automation systems. Attend this workshop to hear thoughts and predictions from the automation technology experts.

**Session 17: 4:30 p.m. – 5:30 p.m.**

**PCS-02-1 Ask the experts: Panel discussion of lifecycle and evolution**

This is an open forum discussion designed to answer any questions that attendees may have regarding the lifecycle management of ABB control systems. Discussion may include ABB's lifecycle programs, such as Automation Sentinel and OCS functionality, as well as implementation considerations. Experienced ABB personnel will be present to address participant comments and questions.

## Control System Life Cycle & Evolution

### TUESDAY, MARCH 24, 2009

#### **Session 1: 9:30 a.m. – 10:30 a.m.**

##### **TCS-23-1A System 800xA introduction**

This training session will introduce the System 800xA Extended Automation System and the benefits it delivers. This overview presentation will exhibit how System 800xA extends functionality beyond that of other control systems through unparalleled connectivity, integrated applications and its many industrial IT enabled partners. This presentation sets the stage for many subsequent sessions and shouldn't be missed.

#### **Session 2: 11:00 a.m. – 12:00 p.m.**

##### **WCS-01-1 ABB's control evolution solutions**

ABB has maintained a long-standing commitment to system owners that ensures future advances in system technologies will enhance rather than compromise their current system investments. This commitment extends to control assets, where ABB solutions minimize production risk while providing flexible, cost-effective, step-wise evolution options. For control upgrades, "rip and replace" is not an option. This workshop will discuss how it is possible to meet process control challenges by leveraging new control technologies while protecting investments in existing control applications, hardware and wiring.

#### **Sessions 3 and 4: 1:30 p.m. – 4:00 p.m.**

##### **WCS-14-2 (NOTE: 2 hour session)**

##### **Getting the full value of ABB's Lifecycle programs**

ABB has a number of policies and programs that help manage and sustain automation assets through their lifecycles. Learn how these policies and programs can minimize total cost, maximize return on investment and help derive added value from automation systems to meet ever changing business needs. This workshop will discuss the ABB Lifecycle Policy, 800xA software support policy, the software asset management program (Automation Sentinel), and the system evolution planning process. These topics will be discussed in the context of the financial arguments required to justify long-term system lifecycle management needs.

#### **Session 5: 4:30 p.m. – 5:30 p.m.**

##### **CCS-13-1 Vale Inco asset optimization case study**

In this workshop, Vale Inco engineers describe the success Vale Inco realized by utilizing ABB's asset optimization as a maintenance management tool. At Vale Inco, an ABB full service site, maintenance is a profit center, not a cost center. Here, maintenance personnel are incentivized to improve Overall Equipment Effectiveness (OEE) - with impressive results. Anyone looking to lower costs or otherwise improve their maintenance department will benefit from attending this workshop.

### WEDNESDAY, MARCH 25, 2009

#### **Session 6: 8:00 a.m. – 9:00 a.m.**

#### **Session 7: 9:30 a.m. – 10:30 a.m.**

##### **CCS-09-1 Human Machine Interface (HMI) evolution: Bayer case study**

In this workshop, the Bayer Corporation (Berkeley, California location) describes their control system evolution process. The presentation will include technical considerations, scheduling and the project management required for upgrading a MOD 300 Process Portal B control system to System 800xA, as well as subsequent integration with a third party Enterprise Resource Planning (ERP).

#### **Session 8: 11:00 a.m. – 12:00 p.m.**

##### **CCS-01-1 Hemlock Semiconductor Asset Management Pilot program with Consult IT**

The Consult IT Asset Management Pilot is designed to help customers understand System 800xA's Asset Management capabilities by actually using one of their higher level units for a prototype effort. It is tailored to the customer's working environment and based on interviews with plant maintenance and operations personnel to provide a complete asset management experience. This workshop discusses how such a pilot program was delivered at Hemlock Semiconductor Corporation.

#### **Session 9: 1:30 p.m. – 2:30 p.m.**

##### **CCS-08-1 Ventura Foods control system evolution case study**

Ventura Foods, located in Chambersburg, Pennsylvania, describes their decision, plan and process to upgrade and extend their traditional MOD 300 multibus, Model 'B' control system with ABB's System 800xA. This evolution project includes a multibus DPSS upgrade to AdvaBuild for Windows, replacement of existing local control panels (LCP+) and multibus console evolution to Process Portal. This case study will review project considerations, the approach used, issues, lessons learned and future steps.

**Session 10: 3:00 p.m. – 4:00 p.m.****CCS-05-1 Control system networks, integration and architecture on the corporate network**

The eternally difficult question: Do I allow my plant controls network (DCS, PCS, SCADA, etc) to be connected to the Corporate network or not? By allowing the connection visibility is gained; plant information can be used to increase business operations and efficiency as well as lowering overall costs of support by allowing remote access into the network. At the same time, it also increases the potential for a security event to occur by 100%. Are the benefits enough to outweigh the risks? Can this new connectivity be implemented in a manner that allows enough protection to make the risk insignificant? While it may be hard to make the first step, a proper design and implementation of infrastructure and controls will allow for safe connectivity between plant control network and the business corporate network.

**Session 11: 4:30 p.m. – 5:30 p.m.****CCS-04-1 BASF control system evolution case study**

BASF Windsor recently decided to move forward from its first distributed control system, an INFI 90 system with Conductor VMS (OIS 42) workstations - to System 800xA for Harmony. This evolution solution combines the Harmony control environment with System 800xA extended functions including tags, faceplates, displays and all associated aspects. It also enables BASF to extend their system to include System 800xA Process Portal, Asset Optimization and Information Management. This presentation will review the DCS evolution and the collaboration between BASF and ABB which resulted in improved productivity and efficiency.

**THURSDAY, MARCH 26, 2009****Session 12: 8:00 a.m. – 9:00 a.m.****CCS-03-1 Asset optimization through control system evolution: Bayer Berkeley**

In this workshop, Bayer Corporation describes the collaboration between ABB and Bayer's Berkeley facility to evolve Bayer's existing control system to include System 800xA Asset Optimization. Strategy development, business needs, budget, goals and project results will be discussed, as well as Bayer's plans to capitalize on their asset optimization capabilities in the future.

**Session 13: 9:30 a.m. – 10:30 a.m.****WCS-37-1 Collaborative research on alarms and display effectiveness**

The Center for Operator Performance is a collaboration between industry and academia that researches human factors issues of interest, of which ABB is a founding member. The results of two recent research efforts that have focused on the impact of alarm and display design on operator performance will be presented. One study quantified the impact of ten different alarm actuation rates on two different alarm display designs. The other study surveyed color usage in process control and compared it to best practices in military

and aviation. Implications of both studies on operator interface design will be discussed.

**Session 14: 11:00 a.m. – 12:00 p.m.****COG-01-1B OIS/OIC evolution to 800xA workplaces at Petrobras REDUC Refinery**

Petrobras REDUC Refinery had the most operator stations based on INFI 90 equipment. This workshop shows the evolution from OIS/OIC and Conductor NT Operation Stations to Process Portal A (PPA) using Harmony Connect interface on 800xA system. The project will also show the most important topics used during conversion, in order to reach a better performance with risk mitigation once these projects were made with a hot swap methodology. Important lessons of operational excellence, optimization, efficiency and productivity will be presented.

**Session 15: 1:30 p.m. – 2:30 p.m.****CCS-10-1 Klabin MA1100 project: Expansion and integration of a pulp and paper mill**

This presentation will describe how ABB, using the System 800xA Extended Automation platform, helped Klabin, the largest producer, exporter and recycler of paper in Brazil, to overcome the challenge of a production expansion within an existing plant. This was achieved without interfering in routine operations of the mill, integrating the new automation system with the existing DCS in a transparent way. Additionally, ABB extended the former DCS functionality, providing advanced features such as process simulator's interface, asset management and remote access to instrumentation and motors.

**Session 16: 3:00 p.m. – 4:00 p.m.****WCS-07-1 Emerging technologies and the impact on automation systems**

New technologies are being released constantly. New ways of communicating and collaborating become more popular and widespread every day. New graduates have different experiences and expectations regarding technology and communications. When you think about cloud computing, RFID, social networking, next generation Microsoft software, nano-technology, wireless, and next generation fieldbuses and standards, you might wonder how all of these things can and should be applied to automation systems. Attend this workshop to hear thoughts and predictions from the automation technology experts.

**Session 17: 4:30 p.m. – 5:30 p.m.****PCS-02-1 Ask the experts: Panel discussion of lifecycle and evolution**

This is an open forum discussion designed to answer any questions that attendees may have regarding the lifecycle management of ABB control systems. Discussion may include ABB's lifecycle programs, such as Automation Sentinel and OCS functionality, as well as implementation considerations. Experienced ABB personnel will be present to address participant comments and questions.

## Fieldbus & Wireless Technology

### TUESDAY, MARCH 24, 2009

#### Session 1: 9:30 a.m. – 10:30 a.m.

##### **TCS-23-1A System 800xA introduction**

This training session will introduce the System 800xA Extended Automation System and the benefits it delivers. This overview presentation will exhibit how System 800xA extends functionality beyond that of other control systems through unparalleled connectivity, integrated applications and its many industrial IT enabled partners. This presentation sets the stage for many subsequent sessions and shouldn't be missed.

#### Session 2: 11:00 a.m. – 12:00 p.m.

##### **WCS-06-1 Electrical integration: A strategy for achieving unified operations and extended asset management**

Electrical integration is the next frontier in delivering a unified environment that will drive improvements in productivity, increased safety and cost savings over the total lifecycle of a plant. ABB continues its effort in this area. IEC61850, the protocol which integrates high and medium voltage substation equipment with the DCS, is now well established and used by many ABB projects. Come and listen to the success stories, and hear about the next steps in electrical integration.

#### Session 3: 1:30 p.m. – 2:30 p.m.

##### **TCS-17-1 Overview and comparison of the Fieldbuses: HART, FOUNDATION Fieldbus and PROFIBUS**

This workshop is beneficial to anyone seeking information on any one - or all three - fieldbus technologies (HART, PROFIBUS and FOUNDATION Fieldbus). It provides discussion and overview of the architectures, integration components, concepts behind and various strengths of each technology. This introductory comparison sets the stage for the detailed workshops which follow. The workshops are presented by the fieldbus organizations: the PROFIBUS organization presents, "PROFIBUS and PROFINET: An Introduction;" the Fieldbus Foundation presents "Fieldbus Foundation: Beyond the Industry Standard;" and the HART Communication Foundation presents their detailed HART workshop.

#### Session 4: 3:00 p.m. – 4:00 p.m.

##### **WCS-22-1 PROFIBUS and PROFINET: An Introduction**

PROFIBUS is widely used by ABB to provide the benefits of fieldbus to end users. This introduction provides an overview of the technology and highlights the benefits. PROFINET, the Industrial Ethernet companion to PROFIBUS, is also introduced. See how these two technologies work together and with other fieldbuses, including HART, to provide connectivity to any device. Wired and wireless; process, discrete and motion control are integrated to provide a plant-wide solution.

#### Session 5: 4:30 p.m. – 5:30 p.m.

##### **CCS-02-1 Alunorte: Integrating different vendors' fieldbus equipment with System 800xA**

This case study shows how, through a collaborative effort, ABB, Alunorte and third party suppliers realized integration of field devices to the 800xA automation system. Short commissioning time has been attributed in part to the success of this collaboration. Alunorte's objectives to obtain maximum integration between field devices and the control and supervisory system, and to acquire information allowing future implementation of an asset management and optimization system were successfully met.

### WEDNESDAY, MARCH 25, 2009

#### Session 6: 8:00 a.m. – 9:00 a.m.

##### **WCS-12-1 Fieldbuses and device integration with System 800xA**

In an effort to lower lifecycle costs and improve productivity, many companies are integrating their intelligent field devices into their process control systems via fieldbus technologies. This enables them to exploit new levels of field device information in order to streamline work processes and maximize availability. Attend this workshop to learn how ABB's System 800xA seamlessly integrates intelligent field devices using the capabilities of aspect object technology, and makes this device information available in the right context to the right people at the right time.

#### Session 7: 9:30 a.m. – 10:30 a.m.

##### **WCS-45-1 Economic case for using FOUNDATION technology**

Modern DCS systems are major distributed networks with multiple data paths, which, in the interests of security and the highest plant availability, are almost always duplicated and made redundant. This session discusses how FOUNDATION Fieldbus systems can now incorporate redundancy and fault-tolerance right down to the H1 field layer. The major impact is on project ROI and plant revenues, and only FOUNDATION technology can offer this level of security and benefit to the plant operator.

#### Session 8: 11:00 a.m. – 12:00 p.m.

##### **WCS-42-1 Reaching your OpX (Operational Excellence) goals with mobile, wireless devices**

Meeting operational excellence goals is all about getting the right information at the right time to the right person. This session will address how using mobile/wireless devices helps achieve these goals and overcome barriers to designing, installing and using this technology. You will learn how Panasonic and our partners facilitate efficient, effective wireless/mobile communication and computation to deliver a new paradigm for factory automation that has remarkable impacts on control, tracking, monitoring, and diagnostics of

the manufacturing processes and equipment. This session will address new technologies for reducing time to decision and action, integrating information for improved OpX performance.

**Session 9: 1:30 p.m. – 2:30 p.m.**

**WCS-11-1 Fieldbus FOUNDATION:  
Beyond the industry standard**

FOUNDATION Fieldbus (FF) is already an internationally-recognized industry standard. Now let's look beyond basic process automation - to tomorrow's generation of digital communications. In this workshop, you'll gain an understanding of where FF is headed with regard to advanced NAMUR NE107 diagnostics, Safety Instrumented Functions (SIF), wireless technology and remote I/O. Anyone working with FF or budgeting for fieldbus-related projects, including system engineers, plant operators, system integrators and plant managers can benefit from attending this workshop.

**Session 10: 3:00 p.m. – 4:00 p.m.**

**WCS-44-1 WirelessHART for process measurement and control**

There are many wireless standards to choose from, but only one is built on technology proven reliable enough for process measurement and control applications. WirelessHART provides a single solution to get device diagnostics and process information from installed devices along with the application of new wireless devices on a single network dedicated to process M&C applications. In this workshop, the presenter will review use case scenarios and the technology advantages of WirelessHART, exploring new ways to extend the capabilities of your installed base and automate manual measurements previously thought to be too expensive to monitor.

**Session 11: 4:30 p.m. – 5:30 p.m.**

**WCS-43-1 Wireless LAN data communication in industrial networks**

This presentation highlights Wireless LAN technology with regard to its implementation into industrial plants with maximum data security and network reliability. Wireless LAN technology offers an alternative to data cable installations for short and long distances. It can be implemented in new installations as well as expansions of existing industrial data networks.

**THURSDAY, MARCH 26, 2009**

**Session 12: 8:00 a.m. – 9:00 a.m.**

**Session 13: 9:30 a.m. – 10:30 a.m.**

**WIN-09-1 Unlocking applications in your plant by using wireless**

The intrinsic low cost nature of a wireless solution means that you can now consider monitoring process points which were previously too costly. A wireless solution is not limited to monitoring new information. Less than 10 percent of the 26 million installed HART devices are remotely monitored. The ABB wireless adapter can unlock this stranded information to maximize availability. ABB has worked in collaboration with major users and specification bodies to release WirelessHART, the industry wireless standard at the instrument level.

**Session 14: 11:00 a.m. – 12:00 p.m.**

**WIN-02-1 Commissioning a wireless network**

The planning and commissioning of a wireless instrument network is not too dissimilar to that of the wired version. This presentation will describe how the concerns of reliability, security and interoperability are addressed during planning.

**Session 15: 1:30 p.m. – 2:30 p.m.**

**WIN-11-1B Wireless and asset management in process industries**

The arrival of the industry standard WirelessHART specification has resulted in the development of wireless instruments that can work together within a multivendor application. This presentation will describe typical applications of monitoring, control and asset management using such a wireless instrument network.

**Session 16: 3:00 p.m. – 4:00 p.m.**

**WCS-32-1 FOUNDATION Fieldbus enhancements in System 800xA**

With the new feature release of Device Management FOUNDATION Fieldbus (FF) for System 800xA a new improved engineering workflow is supported by means of 800xA Bulk Data Manager (BDM) support, intelligent copying mechanisms and easier device exchange support. Come to this workshop and learn how the new FF enhancements will reduce the FF engineering complexity leading to high efficiency in engineering and commissioning.

**Session 17: 4:30 p.m. – 5:30 p.m.**

**WCS-10-1 FDT: The powerful choice for device integration**

The FDT Group consists of 70 leading global users and providers of process and factory automation. The major purpose of this group is to provide an open, non proprietary interface for the integration of field devices with engineering, automation, and asset management systems. Come hear an update/overview of this industry wide, collaborative effort. Participants will gain an understanding of the complementary nature of FDT technology and Electronic Device Descriptor Language (EDDL). Results from end user collaborations and automation projects worldwide will be shared as well as an update on collaborative Field Device Integration (FDI) efforts.

## Instrumentation & Control & Electrical Integration

### TUESDAY, MARCH 24, 2009

#### Session 1: 9:30 a.m. – 10:30 a.m.

##### **TCS-23-1A System 800xA introduction**

This training session will introduce the System 800xA Extended Automation System and the benefits it delivers. This overview presentation will exhibit how System 800xA extends functionality beyond that of other control systems through unparalleled connectivity, integrated applications and its many industrial IT enabled partners. This presentation sets the stage for many subsequent sessions and shouldn't be missed.

#### Session 2: 11:00 a.m. – 12:00 p.m.

##### **WCS-06-1 Electrical integration: A strategy for achieving unified operations and extended asset management**

Electrical integration is the next frontier in delivering a unified environment that will drive improvements in productivity, increased safety and cost savings over the total lifecycle of a plant. ABB continues its effort in this area. IEC61850, the protocol which integrates high and medium voltage substation equipment with the DCS, is now well established and used by many ABB projects. Come and listen to the success stories, and hear about the next steps in electrical integration.

#### Session 3: 1:30 p.m. – 2:30 p.m.

##### **WCS-05-1 Electronic Device Description Language (EDDL) integration**

If future plans include management of devices that are integrated into ABB System 800xA, then learning about Electronic Device Description Language (EDDL) is a must. Many new instruments already support EDDL, and System 800xA keeps you current with the latest features developing within the process automation industry. Similar to, but different from Field Device Tool and Device Type Managers (FDT/DTM) that System 800xA already supports, EDDL provides another window into the inner workings of your field devices.

#### Session 4: 3:00 p.m. – 4:00 p.m.

##### **WCS-08-1 Energy integration, collaboration between manufacturing and utilities**

Coordination of the production needs for power and steam generation plays an essential role in several industries. High reliability requirements, large variations in energy consumption and changing market conditions are all critical factors. ABB's cpmPlus Expert Optimizer (EO) and cpmPlus Energy Management and Optimization (EMO) enable producers to manage this complexity. EMO monitors energy efficiency and costs, ensures power balance and generates load forecasting and planning (among other features), while EO increases power output, boiler efficiency and usage of most efficient boilers while reducing steam parameter variability (and more). Use both for true collaboration of production and utilities.

#### Session 5: 4:30 p.m. – 5:30 p.m.

##### **WSE-02-1 Excellent service strategies for ABB Control Systems and products**

Learn how ABB embeds service in products to ensure that an excellent service strategy is in place, in order to provide reduced total cost of ownership, enhanced overall equipment effectiveness and increased reliability

### WEDNESDAY, MARCH 25, 2009

#### Session 6: 8:00 a.m. – 9:00 a.m.

##### **WPO-04-1 Benefits of bundling instrumentation, control and electrical for lower cost and improved execution**

The advantages of sourcing integrated instrumentation, control and electrical systems for the critical electrical package of a manufacturing plant. Industrial projects are more complex, involve new technologies and have tighter schedules than ever before. In addition, there is a growing trend where the major power components and systems are segregated into pre-engineered packages that are integrated on site. Delivering an engineered electrical package mitigates risk, reduces start up time, optimizes the system, reduces field wiring and lowers the cost of plant ownership. This approach meets the demand for engineered packages by offering an option for a fully integrated electrical power system.

#### Session 7: 9:30 a.m. – 10:30 a.m.

##### **WCS-33-1 Connecting automation to ERP systems such as SAP**

One of the common questions that we hear is, "Can you connect to SAP?" This session will focus on ABB's Industrial IT Enterprise Connectivity product, and show how ABB's System 800xA platform can be easily connected to enterprise systems or manufacturing systems, using various strategies such as Web Services, ODBC, or direct connections to SAP. This workshop will include a demonstration on how quickly and easily the connection to SAP can be established and show how the business information can be used inside of the 800xA or manufacturing environment.

#### Session 8: 11:00 a.m. – 12:00 p.m.

##### **TPO-28-1 Substation equipment overview**

This class will discuss the different components of a substation and various roles a new engineer would play. It will serve to provide a better understanding of how each component is related and their function in providing the transmission of power. It is necessary to understand how each component is related to ensure the proper protection is in place for all equipment. With the existence of many different substation voltage ratings, it is imperative to understand how to match up the correct voltages between products.

**Session 9: 1:30 p.m. – 2:30 p.m.****TPO-13-1 How to choose the right transformer technology for your application**

This session will provide you with a discussion of the different technologies available for industrial distribution transformers. From cast to liquid to dry, each of these technologies has its own inherent strengths. Our presentation assembles data from various sources in order to provide information to evaluate liquid-filled and dry-type transformers. The basis of comparison is a general product description of product development and design. We will outline the unique capabilities and strengths of each technology, and provide you with a decision matrix for selecting the right technology for your needs and applications.

**Session 10: 3:00 p.m. – 4:00 p.m.****CCS-05-1 Control system networks, integration and architecture on the corporate network**

The eternally difficult question: Do I allow my plant controls network (DCS, PCS, SCADA, etc) to be connected to the Corporate network or not? By allowing the connection visibility is gained; plant information can be used to increase business operations and efficiency as well as lowering overall costs of support by allowing remote access into the network. At the same time, it also increases the potential for a security event to occur by 100%. Are the benefits enough to outweigh the risks? Can this new connectivity be implemented in a manner that allows enough protection to make the risk insignificant? While it may be hard to make the first step, a proper design and implementation of infrastructure and controls will allow for safe connectivity between plant control network and the business corporate network.

**Session 11: 4:30 p.m. – 5:30 p.m.****WIN-06-1 Instrumentation solutions for the power industry**

The efficiency of your power generation process calls for reliable and accurate instrumentation. As important is the ability to have access to an intelligent, informed support network that will assist you throughout all stages of your process. With ABB you have a broad selection of process instrumentation equipment and systems for use throughout all stages of the power generation process. The utilization of the ABB Instrumentation product portfolio offers you the opportunity to create advanced systems that will help to ensure the safe, reliable and economical performance of power plant facilities.

**THURSDAY, MARCH 26, 2009****Session 12: 8:00 a.m. – 9:00 a.m.****WSE-06-1 Security and remote monitoring with System 800xA**

Learn how System 800xA's inherent access control features, network architecture and integrated secure broadband remote access technologies enable reliable and secure remote monitoring. Discover various control system network configurations and secure communications technologies that can be used to make remote monitoring of your System 800xA viable.

**Sessions 13 and 14: 9:30 a.m. – 12:00 a.m.****TPO-22-2 (NOTE: 2 hour session)****Power equipment 101**

This session will give an overview of many different types of power equipment. It serves to give a better understanding of what type of equipment is available and what is required in the power industry. This course is perfect for new engineers attempting to understand the functions of various equipment types and how everything in the power industry is related.

**Session 15: 1:30 p.m. – 2:30 p.m.****TPO-29-1 Application of breakers and reclosers for reliable distribution operation**

This course will provide new engineers with an introduction to the use of breakers and reclosers in the power industry. Participants will learn what makes up a breaker, its functionality and constraints, and the roles of a recloser. Discussion will focus in particular on how and when this equipment is applied for reliable distribution operation today.

**Session 16: 3:00 p.m. – 4:00 p.m.****TPO-17-1 Introduction to surge arrester sizing and applications**

This session will serve to describe surge arresters and their applications. Continuous operating voltage, temporary overvoltage and insulation coordination will be described in order to assist in the understanding of how arresters are selected and sized. Various sources of disturbances can create high overvoltage conditions which can result in damage to expensive equipment or lead to insulator flashovers. Surge arresters are selected and applied to protect against all types of overvoltage conditions.

**Session 17: 4:30 p.m. – 5:30 p.m.****TPG-01-1 Reliable profitability for power**

This presentation will focus on how the power generation, transmission and distribution industry can reduce cost per megawatt and increase system reliability. Industry specific examples of successes and challenges that can arise will be addressed focusing on how to capture departing knowledge, create a sustainable solid reliability culture, simulate and utilize existing data to make solid business decisions and ensure a quick return on investment. Attendees can expect to gain a basic understanding of how to reengineer work processes, quantify gains using effective metrics, uses of reliability modeling, change management tools and the change process.

## Practical Applications of Safety Fundamentals

### TUESDAY, MARCH 24, 2009

#### Session 1: 9:30 a.m. – 10:30 a.m.

##### **TCS-23-1A System 800xA introduction**

This training session will introduce the System 800xA Extended Automation System and the benefits it delivers. This overview presentation will exhibit how System 800xA extends functionality beyond that of other control systems through unparalleled connectivity, integrated applications and its many industrial IT enabled partners. This presentation sets the stage for many subsequent sessions and shouldn't be missed.

#### Session 2: 11:00 a.m. – 12:00 p.m.

#### Session 3: 1:30 p.m. – 2:30 p.m.

#### Session 4: 3:00 p.m. – 4:00 p.m.

##### **WCS-23-1 Reducing risk with System 800xA High Integrity**

At this presentation, you will learn how System 800xA can help you reduce risk to people, the environment, and business through its High Integrity Safety Instrumented System (SIS) technology. We will talk about industry requirements throughout the safety lifecycle, and how System 800xA can provide the most comprehensive platform for process safety management, including safety engineering systems, services, instrumentation, logic solvers, and final control devices.

#### Session 5: 4:30 p.m. – 5:30 p.m.

##### **WGC-02-1 Hints and tips for undertaking practical Safety Integrity Level (SIL) determination**

To comply with IEC61511, Safety Instrumented Systems on process plants need to be assessed for their required reliability, which affects the system architecture and proof testing requirements. This presentation gives hints and tips for the Safety Integrity Level (SIL) determination process, covering the range of methods available and calibration requirements.

### WEDNESDAY, MARCH 25, 2009

#### Session 6: 8:00 a.m. – 9:00 a.m.

#### Session 7: 9:30 a.m. – 10:30 a.m.

##### **WGC-04-1 Process hazard review for existing plants**

It's easy to be wise after events like BP's Texas City explosion, but more challenging is to identify weaknesses and implement targeted improvements to prevent such disasters. ABB's Process Hazard Review (PHR) method is an efficient and well proven technique for process safety risk assessments on operational plants. This presentation describes a sample PHR from within the oil and gas sector.

#### Session 8: 11:00 a.m. – 12:00 p.m.

##### **WGC-01-1 Experiences of undertaking occupied building risk assessments**

Major accidents like BP Texas City, often result in multiple fatalities to those located within on-site buildings in control rooms or temporary buildings. This presentation describes the methods and practical experiences for occupied building risk assessments on sites where major explosion, fire or toxic releases can occur.

#### Session 9: 1:30 p.m. – 2:30 p.m.

##### **WCS-35-1 The benefits of considering SIL rather than architecture when buying safety systems**

Use Safety Integrity Level (SIL) requirements to choose the most appropriate safety controller platform. According to IEC 61508 / 61511 standards, Safety Instrumented System (SIS) effectiveness is measured in terms of hardware safety integrity, ability to react in a predetermined way upon fault detection, increased diagnostics and proper design, implementation and operation. ABB's System 800xA HI (High Integrity) SIS logic solver uses increased diagnostics and diverse processing to achieve SIL 3. Come and learn how focusing on SIL rather than architecture results in a cost effective, safe and reliable safety system.

#### Session 10: 3:00 p.m. – 4:00 p.m.

##### **WCS-03-1 Combining process control and safety in System 800xA**

At this presentation, you will learn how System 800xA can help you reduce risk to people, the environment and business through its High Integrity Safety Instrumented System (SIS) technology. We will talk about industry requirements throughout the safety lifecycle, and how System 800xA can provide the most comprehensive platform for process safety management, including safety engineering systems, services, instrumentation, logic solvers and final control devices.

This page intentionally left blank

## System 800xA Engineering & Administration

### TUESDAY, MARCH 24, 2009

#### Session 1: 9:30 a.m. – 10:30 a.m.

##### **TCS-23-1A System 800xA introduction**

This training session will introduce the System 800xA Extended Automation System and the benefits it delivers. This overview presentation will exhibit how System 800xA extends functionality beyond that of other control systems through unparalleled connectivity, integrated applications and its many industrial IT enabled partners. This presentation sets the stage for many subsequent sessions and shouldn't be missed.

#### Session 2: 11:00 a.m. – 12:00 p.m.

##### **WCS-30-1 System 800xA: Implementing version upgrades**

Follow an updated version of last year's popular Automation World presentation about the steps necessary when upgrading an 800xA Extended Automation Control System from one version to the next. The session will describe how an installation is kept updated with the latest System 800xA software and security updates, including the latest tool support.

#### Session 3: 1:30 p.m. – 2:30 p.m.

##### **WCS-34-1 System 800xA system sizing guidelines**

In this workshop, you'll learn how best to apply the latest optimized System 800xA configuration rules, based on accurate capacity calculations, to properly "dimension" an 800xA system. We will also look into how to determine how many controllers, workstations and servers you will need. Additionally, we'll discuss virtualization; the latest technology to help you shrink the footprint, while achieving system maintenance advantages.

#### Session 4: 3:00 p.m. – 4:00 p.m.

##### **WCS-31-1 Report on new projects from the System 800xA Customer Reference Group**

Automation and Power World 2009 marks the 3rd anniversary of the System 800xA Customer Reference Group. This 25+ member System 800xA user's community represents multiple industries and countries whose purpose is to review future product direction and collaborate with ABB to provide input and guidance on which new features are implemented in System 800xA. Come to this workshop to find out how this group functions, its accomplishments and how you can participate.

#### Session 5: 4:30 p.m. – 5:30 p.m.

##### **WCS-29-1 System 800xA engineering with Function Designer and bulk tools**

This technical workshop will provide to attendees a demonstration of ABB's System 800xA's Function Designer. Function Designer is a graphical tool which is used to create control logic via easy to read diagrams. You will also learn how System 800xA's bulk configuration tools can be used to rapidly create a project configuration using these logic diagrams.

### WEDNESDAY, MARCH 25, 2009

#### Session 6: 8:00 a.m. – 9:00 a.m.

##### **WCS-39-1 Optimizing operator productivity with advanced graphics technology**

Recent advances in multi-display graphics hardware and software have introduced new possibilities for the customization of operations in control rooms. Matrox offers multi-display add-in cards, remote graphics units, graphics expansion modules, and display wall controller boards. This session will cover how these technologies can be tied together to reduce the use of expensive display technology and cabling, decrease noise and temperature levels and increase the scalability and flexibility of operator station layouts. Options for sharing monitor information on data walls and remote monitors will also be discussed. New concepts will be on display in the Matrox Graphics booth.

#### Session 7: 9:30 a.m. – 10:30 a.m.

##### **WSE-07-1 Verify compatibility of your security policies with the functionality of your control systems**

Malicious activity and heightened regulatory environment make development and application of control system security policies necessary. Your policy compatibility with the functionality of your systems is important. ABB can test for compatibility and apply your security policies to your ABB products. This can simplify the process of determining what changes may affect system functionality. Learn more about the validation service robust offering, which provides auditing, testing, remedial actions and compliance maintenance activities.

#### Session 8: 11:00 a.m. – 12:00 p.m.

##### **WCS-25-1 Designing Fieldbus systems**

Engineering PROFIBUS and FOUNDATION Fieldbus field installations involves much more detail than the traditional point-to-point wiring designs for 4-20 mA/HART installations. This workshop will address the general design concepts, introduce the necessary hardware components, and cover a basic introduction to the resources available from ABB to design a workable system using these fieldbus technologies.

**Session 9: 1:30 p.m. – 2:30 p.m.****TCS-22-1 System 800xA Batch Recipe Management**

This workshop will provide a brief overview of the all key features of 800xA Batch Management. After the overview, the workshop will present in depth the Recipe Management features of System 800xA. Specific focus will be given to development of reusable components, versioning, formulation parameter management and flexible operator interface functions. The workshop concludes with a brief demonstration of 800xA Batch Management.

**Session 10: 3:00 p.m. – 4:00 p.m.****WCS-28-1 Significant ROI gains by integrating System 800xA engineering with SmartPlant instrumentation**

In this co-presentation, ABB and Intergraph Corp. will explore workflows to address resource and schedule demands with innovative solutions to help improve business. Benefits discussed of Intergraph's SmartPlant Instrumentation for Operations and Maintenance solution with integration of ABB's System 800xA utilizing PETI (Process Engineering Tools Integration). Learn how this collaboration results in significant ROI gains in CAPEX projects and in management of change issues in brownfield operations, such as optimized project schedules and reduced time to market. Integration eliminates significant amounts of manual data re-entry and conversion and ABB's key differentiator ensures systems are synchronized throughout the plant lifecycle.

**Session 11: 4:30 p.m. – 5:30 p.m.****WCS-02-1 System 800xA operations: New graphics evolution**

This workshop describes how to evolve from the VB6 based graphics environment in System 800xA to the new graphics engine. We will focus on system and hardware requirements, as well as the appropriate workflow to employ when converting graphic displays. Functionality of the Migration Tool that comes with the new graphics will be exemplified. Preconditions for successful evolution and considerations to bear in mind when converting graphic libraries will also be covered in this workshop.

**THURSDAY, MARCH 26, 2009****Session 12: 8:00 a.m. – 9:00 a.m.****CCS-06-1 Custom solutions with NOVA Chemicals**

Customers are often looking for creative software solutions to extend the functionality of System 800xA, integrate existing plant systems or facilitate evolution and migration strategies. Consult IT's Solutions Group offers these capabilities. This workshop describes the types of solutions already provided by this team, and specifically discusses how several custom solutions were used to assist NOVA Chemicals in reaching its goals.

**Session 13: 9:30 a.m. – 10:30 a.m.****WCS-04-1 Configuring personalized workplaces for multiple monitors and large screens**

This workshop focuses on how to better adapt the operator environment based on personal preferences. See how to configure an operator workplace for a single screen, as well as for multiple monitors and large screens. We will cover different display ratios/resolutions, workplace configuration, user configuration, view class configuration, navigation alternatives, display aspect links and display parameters. This workshop is a must if you are planning an operator environment with System 800xA using multiple monitors and large screens.

**Session 14: 11:00 a.m. – 12:00 p.m.****CCS-12-1 PC Device Library benefits during System 800xA engineering**

This workshop discusses the benefits of using the Process Control Device Library (PCDeviceLib) as an engineering standard within System 800xA. The PCDeviceLib includes control modules, faceplates and graphic display elements for a wide range of device objects commonly found in industries like oil and gas, chemicals, life sciences, pharmaceutical, and pulp and paper. During this workshop we will take a detailed look at how the PCDeviceLib can simplify your engineering efforts, reduce your configuration, testing and commissioning time, lower project costs and simplify the overall long term maintenance of your system.

**Session 15: 1:30 p.m. – 2:30 p.m.****WCS-17-1 Integrating documentation in System 800xA**

This technical workshop will show how much time can be saved if all the reference material needed for daily activities with System 800xA was integrated and available on-line. Participants will see a demonstration to illustrate how easy it is to integrate documents and reference material into System 800xA. Anyone can easily take advantage of this time-saving capability, making this workshop a must for all System 800xA users.

**Sessions 16 and 17: 3:00 p.m. – 5:30 p.m.****TCS-14-2 (NOTE: 2 hour session)****AC 800M and S800 I/O installation and configuration considerations**

AC 800M controllers and S800 I/O from ABB are broadly used in numerous industries all over the world. Their scalability makes them the perfect choices in PLC, hybrid and DCS applications. This presentation will bring up key considerations with regard to how to install and configure these devices. We'll also discuss controller performance and application execution.