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Upcoming Events

Feb 27—WISA Section Meeting

Mar 5-9—ISA Spring Training at Philly Airport

Mar 27—WISA Section Meeting

April 24—WISA Shrimp Boil

May 22—WISA Section Meeting

June 26—WISA Family Picnic

February 27, 2006
Section meeting
Remote Equipment
Management
by Frank San Miguel
At the ACE office in Newark
5:30 PM

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Remote Equipment Management

Speaker Frank San Miguel of San Miguel Technology

REM is an integrated approach to managing automated systems where the equipment is: complex, distributed, remote, and networked. REM integrates the following processes and capabilities that are typically separate: real-time monitoring, predictive maintenance, field support process, help desk, call center business analytics, management reporting, reliability engineering, inventory management, and logistics and supply chain management

Implementing an automated Remote Equipment Management system can dramatically lower maintenance / field support costs while increasing the level of service to all customers / stakeholders. All improvements and subsequent operations will be quantifiable and measurable. You can do it yourself. This presentation will discuss each of the critical components of REM in detail and illustrate with examples from an actual field experience.

President's Message

By Steve Prettyman

I write to you this month from the kitchen at my home in Newark on a snowy Valentine's Day. The location of the creation of this month's WISA President's message is a direct result of the weather and has given me the occasion to reflect upon what it means to be the ISA Wilmington Section President. For me, being the Section President reflects many of the same values expressed on Valentine's Day; love, admiration, joy, and companionship.

I know, it sounds crazy, but allow me to explain. Being the ISA Wilmington Section President means love because in order to perform the duties of the position, one must love what it is that the ISA stands for. One must fully embrace the ideals, principles, and concepts that the ISA promotes. Love and passion for the work of the ISA is the leading motivation for seeking a leadership position and continuing to volunteer after the obligations of the office have been fulfilled. Love is forever and this applies to the commitment to the ISA.

The second aspect of my perspective of the ISA is admiration. This feature permeates all of the activities that support the ISA because there is such a depth of commitment and talent within the volunteers that make the ISA what it is. I truly respect and admire all those that have chosen to volunteer their time and efforts to support the ISA. These are some of the most educated, intelligent, dedicated, and thoughtful people I have ever had the pleasure of being involved with and they all deserve my admiration.

The third feature of my view of the ISA is joy. This aspect involves truly enjoying the work of the ISA, the time spent with fellow volunteers, and the realization of the vision of the ISA. This joy is unique and personal for each ISA volunteer. For me joy involves leadership opportunities, management training, and growth experiences. Each volunteer must determine his or her own source of joy in the ISA as in life.

Finally, the aspect of companionship also supports the ISA. Volunteering for the ISA is more than the work, the growth, and the training. Volunteering is also a human endeavor in which we share laughs, tears, accomplishments, and milestones. The experiences that surround the volunteer efforts required to support the ISA are the most satisfying feature of volunteering in my opinion.

Volunteering for the ISA is a personal experience much like that those experiences involving that special someone in one's life. To be complete, one must have the balance of work, home, and volunteering to fully realize the love, admiration, joy, and companionship of the human experience. This year, volunteer, support your love, and make the ISA your Valentine. Happy Valentine's Day!

The Next Phase
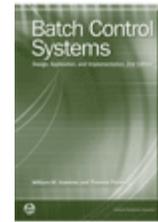
Batch Control Systems: Design, Application, and Implementation
by William Hawkins and Thomas Fisher
BBBB (Buy)
Reviewed by Nick Sands

Finally, the long awaited 2nd edition of the classic Batch Control Systems has arrived. This edition was written by William Hawkins in dedication to Thomas Fisher, regarded as the father of batch automation. Hawkins has an impressive background; a BS in ME from MIT, 20 years as an engineer with Hercules, 20 years with Rosemount as a manager and architect for control systems, including RS3, and 5 years as a consultant with HLQ Ltd. Along the way he has worked on both S50, the fieldbus standard, and of course S88 (ANSI/ISA 88.01-1995 Batch Control Part 1: Models and Terminology), the batch control standard. Hawkins was one of the founding members of the World Batch Forum, and its first Treasurer. He is a Senior Member of ISA.

The first group of chapters serves as an introduction, to manufacturing processes, to process design, to process control, to controlled equipment, and to recipes. Just as in S88.01, the purpose here is to build a common language. Most important is to understand the definition of a batch process: a process that leads to the production of finite quantities of material by subjecting quantities of input materials to an ordered set of processing activities over a finite period of time using one or more pieces of equipment. The concepts of controlled equipment and recipes are key to understanding the rest of the book.

The middle chapters, the core of the book, explain the concepts and model of S88.01. There is a lot to absorb here. The SP88 committee took years to refine the ideas of batch control and show them in the cactus model, the entity relationship models, and the state transition diagrams. The physical model, the procedural control model, and the control activity model are all described along with other possible models or background on how the final model was selected. The short chapters break this into digestible pieces.

In the final chapters Hawkins provides some guidance that only comes from experience. Chapter 14 provides extensions, clarifications and suggestions on some tricky situations. Chapter 15 outlines a process for designing an S88 implementation. Chapter 16 hints at other standards and efforts that may influence future versions of S88, particularly the SP95 committee working on Manufacturing Enterprise Integration and Fieldbus technology.

Standards & Practices: SP77 Fossil Power Plant Standards

(Part I)

By Nick Sands

This committee is one of ISA's most active standards committees. The scope is to develop instrumentation standards for use in fossil power plants, documenting through standards publications: criteria, standards, practices, and procedures related to instrumentation controls in fossil power generating stations. The chairman is David Roney. Here is part of the description of SP77 committees and standards.

SP77.13, Turbine Steam By-Pass Systems is a standard that covers the design requirements and operator interface for steam turbine bypass systems for drum and once-through steam generators and combined cycle plants. Both fixed percentage bypass and variable pressure systems are covered. Applicable to boilers with steam capacities of 200,000 lb/hr (25 kg/s) or greater.

SP77.14, Steam Turbine Controls is a committee that has not issued a separate standard.

SP77.20, Fossil Simulators Functional Requirements is a standard that establishes the functional requirements for several types of fossil-fuel power plant control room simulators primarily used for operator training. Sets criteria for the degree of hardware replication and software modeling detail.

SP77.21, Fossil Simulators for DCS Controlled Fossil Power Plants is a committee that has not issued a separate standard.

SP77.40, Boiler Controls is a committee that has worked on three standards, two of which appear to be obsolete; ISA-77.41-1992, Fossil Fuel Power Plant Boiler Combustion Controls and ANSI/ISA-77.43-1994, Fossil Fuel Power Plant Unit/Plant Demand Development

ANSI/ISA-77.42.01-1999, Fossil Fuel Power Plant Feedwater Control System - Drum Type is a standard that establishes minimum criteria for the control of levels, pressures, and flow for the safe and reliable operation of drum-type feedwater systems in fossil power plants. Aids in the development of design specifications covering the measurement and control of feedwater systems.

Sensor Trivia Question
Where did Steve write his column?

Send your answer to Nicholas.P.Sands@usa.Dupont.com

Win an ISA shirt.

Frank San Miguel of San Miguel Technology

Frank San Miguel has a BSME from Tulane University, an MSEE from University of Maryland and has received patents and awards for his work in controls and automation. He has been building complex distributed systems for 22 years. During the time of the first web browsers, he was an enthusiastic evangelist and principal architect of Mapquest.com. Most recently, his company created a Remote Equipment Management solution for a network of highly complex environmental sensors dispersed throughout the US. This REM solution filters massive amounts of real-time data and automatically directs the activities of field support technicians - often predicting problems before they occur. It supports a call center staffed with trained technicians and includes BlackBerry mobile applications, inventory services and logistics modules. Frank is the President / CTO of San Miguel Technology, LLC - http://www.sanmigueltechnology.com

January IEEE/ISA Meeting

Steve Prettyman

Each year in January, the ISA and the IEEE join forces to conduct a joint meeting, taking turns leading the scheduling and arranging of the topic, speaker, and location. This year the cost of the meeting was split based upon membership attendance. This years meeting as in recent years was overwhelmingly attended by IEEE. The ISA Wilmington Section was well represented and the ISA New Jersey Section was represented by Section President Joe Jastrzembski.

The location was comfortable and the food was plentiful and tasty. The room was adequately sized for the 60 or so attendees and the University catering staff was friendly and attentive.

Doug Tipton, IEEE Delaware Bay Chapter President, made a few IEEE announcements, introduced the Chapter officers, and then introduced Debasish Mukhopadhyay who presented "Ethernet IP and wireless PLC control".

The presentation was commercial, frequently referring to Rockwell products. The presentation included a PowerPoint slideshow and a Rockwell hardware demonstration; however, the topic of the presentation was wireless and the demonstration was wired.

The presenter was knowledgeable and experienced, but the presentation lasted nearly an hour and a half, discussing wireless installations at an aircraft manufacturer and a cement manufacturer, but did not provide much new information for the audience.

It is the opinion of this writer that the IEEE is an academic technical society and the ISA is a practical technical society. This makes presenting to a combined audience a very difficult endeavor indeed. The ISA Wilmington Section appreciates the opportunity to continue learning and growing with the ISA and looks forward to next January when the ISA hosts the annual event.

The Next Phase cont..

ISA Spring Training
March 5-9—15 Courses
Philadelphia Airport Hilton

Introduction to Automation and Control
Process and Lab Analytical Technologies Overview
Automation Systems Integration
Understanding and Applying Motor Control
Understanding and Applying Instrumentation in
 Hazardous Locations
Safety Instrumented Systems: Design, Analysis, and
 Justification
Advanced SIS Design, Analysis, and Justification
Boiler Control Systems Engineering
Burner Management Systems Engineering
Industrial Data Communications
Installing, Calibrating & Maintaining Electronic
 Instruments
Grounding in Electrical Systems and Noise Reduction
in Instrument Loops
Understanding and Tuning Control Loops
Troubleshooting Instrumentation & Control Systems
Certified Control Systems Technician Exam Review
 Course

Hawkins has performed a great service to the automation profession and an honor to the memory of the late great Tom Fisher with his update of Batch Control Systems. The book is a guide to the S88.01 standard and beyond. It explains, step by step, the concepts of the standard, and develops those concepts to a higher level of detail. It may take more than a single pass for many readers to comprehend the intricacies of S88. The only thing missing is a more comprehensive example. This is a buy (BBBB) for any automation professional not already an expert in batch. Find it at ISA.Org for $89 (member price).

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