Setting the Standard for Automation

ISA Wilmington Delaware
Section

The Sensor
May 2016

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Upcoming Events

May 24 — Meeting: Hazardous Area Electrical Protection

June 28 — WISA Picnic

Section Meeting:
Hazardous Area Electrical Protection

Tuesday, May 24, 2016
5:30 PM
Applied Control Engineering, Newark, DE

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Visit Wilmington ISA on the Web!

www.wilmingtonisa.org

Join us for our next Wilmington ISA Section Meeting

Tuesday, May 24 (5:30 PM)

Hazardous Area Electrical Protection
Understanding the Pros and Cons of Intrinsic Safety, Explosion Proof, Purging / Pressurizing, and Non-Incendive Methodologies

presented by

Shane Filer
VP of Sales, Neal Systems Inc. (NSI)

@

Applied Control Engineering
700 Creek View Road, Newark, DE 19711-8544

President's Message
Another Strong Year

By Jeff Arbogast

It is hard to believe that we are at the end of another strong year of Wilmington ISA programs. We started in September and October with technical meetings on applying ISA-101 (HMI) and engineering ethics. In November, we held our **2015 Wilmington ISA Industrial Automation Show and Technical Conference**. Thank you to our exhibitors, speakers, and volunteers, particularly Shawn Coughlan, for making this event (and our annual program of events) possible. In January, we organized our annual joint meeting with the Delaware Bay IEEE with a presentation by Tim Shaw on cybersecurity. In March, we followed up with another cybersecurity talk followed by our annual Shrimp Boil in April. This month, we will have our final technical meeting of the year—on the topic of hazardous area electrical protection.

For those of you who are not yet ISA members, I encourage you to join. For your $110 membership, you receive many benefits, including (but not limited to) the following: online access to technical papers, presentations, recorded webinars, and our scientific journal, *ISA Transactions*; a subscription to our magazine, *InTech*; online reading access to ISA standards documents; a $110 credit toward the purchase and download of an ISA standards document; discounts on ISA publications and symposia. (Please talk with an experienced ISA leader at our Wilmington ISA registration booth for more information.)

I encourage you to involve yourself in the various activities of the Wilmington ISA. There are many ways to be an active member: participating in section meetings; encouraging others to join ISA and participate in our activities; mentoring others in the automation profession; and participating in section committees. Please contact me at jeffrey.arbogast@airliquide.com if you are interested in becoming more involved or if you have any questions, suggestions, concerns, or comments about the Wilmington ISA and its activities. (**Interested? – please contact me or any of our leadership.**)

Thank you, Shrimp Boil sponsors!
(list on back page)

More Than Just Pretty Pictures

More Than Just Pretty Pictures - BBBB (Buy)
ASM Consortium Guidelines: Effective Operator Interface Design
By ASM Joint R&D Consortium
Reviewed by Nick Sands

One of the first organizations to address the design of control system displays was the Abnormal Situation Management Consortium (ASM). The group formed between 1992-1994, evolving from a task group of Honeywell users concerned about alarm system performance to an organization that includes user companies, technology companies and universities that also addresses other issues of user-control system interaction. ASM members developed the guidelines on Effective Operator Interface Design, but until recently the document was available only to member companies. It provides a list of 81 guidelines, grouped into 16 categories, and prioritized for relative importance.

Several categories target the organization of displays including; display types, display content, display style, display layout, and navigation. One of the important concepts is a well structured display hierarchy that provides levels of information from overview to detail. They recommend displays be designed and organized to support operator tasks. A guideline on animation and detailed drawings states they should be used by rarely, except in the case of alarm indications. A consistent layout suggested, like process flows moving left to right, increases clarity and the navigation from one display to another should be simple and clear to the operator.

The use of color, symbols and process connections, text and numbers, and the interactions with displays are categories related to display design. The guidance is to use a minimum of colors, less than seven, and use them consistently, with bright colors used only for alarms. Also, the number of symbols and line weights should also be limited and used consistently. They point out that text should be readable from the operator's position, and the meaning should be clear. Consider too that entry of data can be error checked and commands should be quickly acknowledged.

More Than Just Pretty Pictures

Alarming is always a topic of concern in HMI design and several guideline categories address it, including; alarm configuration schemes, audible and visual annunciation of alarms. In addition to reserving bright colors for alarms, it is recommended to use symbols for alarm and to ensure they are visible at all times. Also, the operator should be able to see the alarms that are disabled or inhibited if needed. There is also guidance on the relative volume for audible alarms.

Several categories briefly address some of the work process aspects of HMIs with topics like training, online user assistance, design methodology, and management of change. The guidance includes getting user involvement in the development of displays and including task analysis, and then training on the product HMI. Also, when changes are made, the users should receive notice. A recommendation is to have some level of help screens or other online assistance for the users.

These guidelines will help many users to develop or improve their HMI. There is a very good introductory section on abnormal situations and a final chapter on determining conformance to the guidelines. A salute to the ASM Consortium for sharing their Effective Operator Display Design guidelines with the world. While it is Honeywell-centric at times, there is plenty of excellent guidance to make it worth buying (BBBB) for any automation professional that works on control system. It is available from Amazon.com for ~$115US.

Encourage colleagues to join ISA!

Benefits include:

Membership in Local Section
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Free access to ISA Standards
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Grazie Vic Maggioli

By Nick Sands

One of the great members of the Wilmington section passed away on April 29, 2016; Vic Maggioli, Sr. Vic made the world a safer place. Through his long career with DuPont, he helped lead the development of guidelines on what would become known as safety instrumented systems. That knowledge was shared through the Center for Chemical Process Safety (CCPS) in the book Safe Automation of Process Industries. Vic first chaired and then directed the ISA84 standards committee through the development of ANSI/ISA84.00.01-1996, and then led the IEC committee to the development of IEC61511. He was passionate about safety, in his Italian way, and continued working with the IEC and ISA committees into this year.

Over the years Vic was recognized in many ways for his contributions: ISA Standards Excellence award in 1997, CONTROL magazine's Control Engineer of the year in 1998, ISA Fellow in 2006. Vic served as the ISA Vice President of standards and Practices 2003-2004. He truly made an impact on Automation around the world.

Vic made an impact on me as well. Though he had retired from DuPont before I hired on, I worked with him on several company standards. In 2003, Vic asked me to get involved with a new ISA standard effort on alarm management, which became ANSI/ISA-18.2. In 2004, he appointed me to the ISA Standards and Practices Board, for which I now serve the same role Vic once held. His actions truly changed my life. Grazie Vic.

You can read more about Vic, his family, and his life at http://www.dohertyfh.com/notices/Victor-MaggioliSr .

WISA thanks our Shrimp Boil Sponsors

Meet our **Friends of the Shrimp** at their Table Top Displays

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and thank our **Boil Buddies** as well

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Upcoming ISA Training
In the Delaware Valley

13-17 June 2016 in King of Prussia, PA
Introduction to Industrial Processes, Measurement and Control

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