![ISA logo]

Water/Wastewater
Industry Division

Setting the Standard for Automation™

Calendar of WWID Events

Jun 13-16, 2015	**ISA Spring Leaders Meeting** Raleigh, North Carolina, USA
Aug 4-6, 2015	**2015 ISA Water/Wastewater and Automatic Controls Symposium** Wyndham Lake Buena Vista Resort Orlando, Florida, USA
Oct 10-13, 2015	**ISA Fall Leaders Meeting & 53rd ISA Honors & Awards Gala** Louisville, Kentucky, USA

Winter 2015 Newsletter

Director's Welcome

Welcome to our Winter 2015 newsletter! In this issue you will read about our 2015 symposium as it begins to take shape; news about what our division has been up to; a technical article; and a welcome message from our incoming 2015 society present Rick Roop. As we start into a new year, I look forward to seeing our division continue to serve our automation community and attract new members.

As we enter 2015, we also get to look back at the first several years of offering our annual WWID student scholarship. It was in early 2009 that our longtime board member Michael Fedenyszen came up with the idea offering a student scholarship to encourage young people to enter our field. With the help of ISA staff and several dedicated volunteers, Michael launched the program in late-2009 with the first scholarship winner being selected in the spring 2010.

A total of 19 students applied in that first year, and a student named Brian Goldade of Mandan, North Dakota won the $1000 USD scholarship in 2010. Brianl was a student at the North Dakota State College of Science and had found out about our division via a family member. In 2011 due to several donations to our WWID scholarship endowment fund, we were able to increase the scholarship award to two annual scholarships of $1000 – a figure that has stayed steady over the past five years.

From 2011 to 2015 we have had a wide variety of students win the award from across North America. In 2011, two students from Reno, Nevada and Troy, New York won. In 2012 this was followed by students from South Bend Indiana, and a young lady from Riverdale, New York. In 2013 it was students from Fayetteville, Arkansas and Villanova, Pennsylvania. In 2014 our winners were from Montreal, Canada and Dolores, Colorado. The list continues.

Over the years we have received a growing collection of thank you letters for the recipients of our scholarships. One of the highlights of my term as WWID Director has been to receive these letters every year, and to continue to work our WWID scholarship committee Thanks to volunteers like Michael, and their insight, our division continues to touch the lives of many people in our profession – both young and old.

I invite you to become involved and reach out to those around you. Thank you for continuing to be a member of our ISA Water/Wastewater Industry Division.

Regards,
Graham Nasby
WWID Director
gaham.nasby@eramosa.com

www.isa.org/wwid/

Message from your Director-Elect

Hopefully, everyone reading this newsletter is enjoying it from a nice warm, breezy location as we say goodbye to the rough winter. Being from Dallas, the winters do not usually get too bad, but it's amazing what one day of ice can do to a large city.

Just as a quick safety moment, it is always best to leave yourself plenty of time to arrive at your destination based on the weather conditions. Although it may seem difficult to do that in the fast paced world we live in, the safety of your family, friends and you yourself are far more important than being on time.

This is also an exciting time of the year as we are inching ever so close to one of my favorite events, the ISA Water/Wastewater and Automatic Controls Symposium. This symposium has really grown over the past 3 years, which has caused us to move to an even bigger and better location which is also located within the Walt Disney World Resort at the Wyndham Lake Buena Vista Resort. The program for the symposium is being shaped as we speak and it is looking like it will be another great "can't miss" event for water/wastewater automation professionals.

As you go through the newsletter, be sure to read about our upcoming 2015 WWAC Symposium that is scheduled for Aug 4-6, 2015 in Orlando, Florida. Although we are not accepting any additional abstracts for this year's symposium, it's still a good time to be thinking about next year. We also have exhibit and sponsor slots available to help promote your company and support the symposium. The symposium is a great time to meet new professionals in our industry and share knowledge that will help you keep in touch with the future of automation. I hope to see you there!

As a final note, I want to say that the automation industry is continuously evolving, with some large shifts that are happening today. From industrial control system security and alarm management to mobile SCADA and situationally aware HMI graphics. The symposium tackles all of these topics and much, much more. It's great to be a part of this evolution of automation and to help to shape the future of automation.

As always, please do not hesitate to contact me with any of your ideas and suggestions for the division to help it continue to be beneficial for our members.

Respectfully,
Kevin Patel, PE, MBA
WWID Director-Elect

2015 WWAC Symposium Announced

We are pleased to announce that our 2015 symposium will be taking place August 4-6, 2015 at the Wyndham Lake Buena Vista Resort Hotel Orlando, Florida, USA.

> **VISIT THE SYMPOSIUM WEBSITE**
> www.isawwsymposium.com

The August 4-6, 2015 timeslot has been chosen so that we don't conflict with the major AWWA and WEF conferences. Keep in mind the ISA WWAC Symposium is the only conference that is focused solely on instrumentation, automation, and SCADA in the water/wastewater sector. We look forward to seeing you in 2015!

- ACE15: American Water Works Association (AWWA) June 7-10, 2015 – Anaheim, California, USA

- **2015 ISA Water/Wastewater and Automatic Controls Symposium** - Wyndham Lake Buena Vista Resort **August 4-6, 2015 - Orlando, Florida, USA**

- WEFTEC 2015: Water Environment Federation (WEF) Sept 26-30, 2015 – Chicago, Illinois, USA

We have selected the August timeslot for several reasons. First of all this is "low season" for the area which translates into better airline and hotel rates – we know that many of our attendees come from public utilities where every training dollar counts.

We also selected the August timeslot so that participants can bring their families – in August school is out and Walt Disney World is just around the corner.

ISA Water/Wastewater and Automatic Controls Symposium

AUGUST 4 - 6, 2015 **SAVE THE DATE**
Wyndham Lake Buena Vista Resort • Orlando, FL

Highlights:
- 2.5 Day Symposium with Short courses on Asset Management Integration and Alarm Management
- Attendee Registration Rate $425
  Discounts for ISA, AWWA, WEF, and ITA members

More Information:
www.isawwsymposium.com

Presented by the ISA Water and Wastewater Industries Division, in collaboration with WEF Automation and Info Tech Committee, the Florida AWWA Section, Florida Water Environment Association, the ISA Tampa Bay Section, and the Instrumentation Testing Association, the WWAC Symposium helps professionals in the water and wastewater sectors understand how to use instrumentation, SCADA (supervisory control and data acquisition), and automatic control applications for purification, distribution, collection, and treatment of water and wastewater.

Water Environment Federation
the water quality people®
Technical co-sponsor

Technical co-sponsor

Technical co-sponsor

American Water Works Association
AWWA FLORIDA
Florida's Water Professionals
Technical co-sponsor

www.isawwsymposium.com

Client expectations are high; your overhead shouldn't be.

Integrated water/wastewater solutions from Schneider Electric can deliver the best options with the least engineering overhead.

Flexible architectures that reduce capital costs

The decisions you make in the design phase will most certainly affect your network's performance throughout the life cycle of the system. Our scalable architectures bring together the best automation, motor control, and electrical distribution solutions and comply with all relevant international and local standards. You'll also be able to offer your clients additional value through energy savings programs, high-level dashboards, and more — all from Schneider Electric.

Long-term value through integration

Innovative water treatment solutions from Schneider Electric reduce design costs and facilitate better performance from your process. In addition, integrated end-to-end energy management optimizes operating exp enses and delivers savings that are both immediate and permanent. Our tested architectures integrate our best automation, motor control, electrical distribution, and software solutions. And essential features such as security and remote monitoring are fully integrated, meaning that you need look no further for an all-in-one treatment solution.

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> Our broad portfolio of expert-engineered reference designs save you time during the design phase and ensure a reliable, efficient architecture.

Schneider Electric

Symposium Planning Update

By Kevin Patel, General Symposium Chair

The symposium committee has been hard at work since I last wrote to you in our Fall 2014 newsletter. Our program committee has taken shape, and I look forward to introducing them to you later in this newsletter.

The response to our Call for Abstracts for the symposium was very good. We now have over 30 authors currently working on papers and presentations for our conference

I'm pleased to announce the two invited speakers for our symposium. They are:

John Krajewski, of Schneider Electric | Invensys, will be giving a presentation on situational awareness and how it is becoming prevalent in human machine interface design. Mr. Krajewski is the Director of Product Management HMI/SCADA for Schneider Electric.

Albert Rooyakkers, of Bedrock Automation, will give a presentation on industrial controller security and redefining the PLC. Mr. Rooyakkers is the Founder, CTO, and VP of Engineering for Bedrock Automation.

I'm also pleased to say that the optional ISA training courses that are being offered in conjunction with the symposium have also been finalized and will share the details about each one. Read on in this newsletter for more details.

About the Symposium Hotel

The 2015 ISA Water/Wastewater Symposium will be held at the Wyndham Lake Buena Vista Resort Hotel Orlando, Florida, USA. This modern hotel offers luxury accommodations and located right on the Walt Disney Resort property. It is also situated close to both Sea World and Universal Studio's theme parks. We have negotiated a special $89/night hotel rate for attendees. This rate is good from August 3 to 7, and is available for symposium attendees, speakers, exhibitors, and training course participants.

Wyndam Lake Buena Vista Resort

1850 Hotel Plaza Boulevard, Lake Buena Vista, FL, 32830
(located at Walt Disney World!)
http://www.wyndhamlakebuenavista.com
info@wyndhamlakebuenavista.com
Reservations: 1 877-999-3223 (toll free)
Local: 1 407-828-4444

Symposium Hotel Rate: $89 per night

The hotel is approximately 18 miles from Orlando International Airport (airport code: MCO). Click here for directions (courtesy of Google Maps).

There are several ways to get to the hotel. If you are driving to the symposium, the hotel is not far from Interstate 4, the Florida 528 Highway, and the Florida Turnpike. For those traveling by air, the airport has a large number of rental car agencies.

Shuttle bus and taxi service from the airport is available via Mears Transportation by visiting online at www.mearstransportation.com or by calling 1-800-223-3868. A one-way taxi trip from the airport to the hotel typically costs around $40 USD.

2015 WWAC Symposium Hotel – Wyndham Lake Buena Vista Resort

Overview of the 2015 Symposium

By the Symposium Committee

We are pleased to announce the dates and conference details of the 2015 ISA Water/Wastewater and Automatic Controls Symposium, which will take place 4-6 August 2015 at the Wyndham Lake Buena Vista Resort Hotel Orlando, Florida, USA. Now in its tenth year, the annual symposium offers a unique opportunity for automation, instrumentation and SCADA (supervisory control and data acquisition) professionals in the water and wastewater sectors to share ideas, network, and earn continuing education credits.

The 2015 ISA WWAC Symposium is a three-day event that focuses on the challenges associated with providing reliable, secure and cost-efficient automation for the world's municipal water/wastewater infrastructure.

The gathering features two full days of technical speakers/presentations, networking events, a poster session, and a supplier showcase. This year's program also includes an optional tour of a local water treatment facility, and two optional short courses on asset management integration and alarm management. More information is available at www.isawwsymposium.com.

Invited Speakers

This year's symposium will feature two prominent speakers who will present on pertinent industry topics, including situational awareness and integration into the HMI and industrial control system security and redefining the PLC.

John Krajewski, of Schneider Electric | Invensys, will be giving a presentation on situational awareness and how it is becoming prevalent in human machine interface design. Albert Rooyakkers of Bedrock Automation, will give a presentation on industrial controller security and redefining the PLC.

Call for Abstracts

The complete technical program for the symposium will feature speakers presenting on a variety of automation, instrumentation and SCADA topics unique to the water/wastewater sector.

We had a good response to our Call for Abstracts. Our program committee is now working with our various authors to get the presentations and papers prepared for our conference. As with past years, conference proceedings including full text copies of papers and power points will be available at the symposium.

Partnerships with WEF, the Florida AWWA, ITA and NRWA

The WWAC Symposium is experiencing a new-found growth in popularity thanks to continued alliances with the Water Environment Federation (WEF), the Florida Section of the American Water Works Association (FSAWWA) and the Instrumentation Testing Association (ITA).

By forming strong partnerships with other associations, the symposium has been able to reach a broader cross-section of water and wastewater professionals across the industry. For members of these associations, the symposium provides targeted professional development and training opportunities otherwise inaccessible.

"This collaboration aligns with WEF's Strategic Direction, connecting water professionals to leverage knowledge and promote innovation," says WEF Automation and Info Tech Committee Chair Zdenko Vitasovic. "I am very much looking forward to continuing WEF's technical co-sponsorship of the 2015 WWAC Symposium. It has been a pleasure to be part of the team that brought ISA and WEF together for this symposium, as well as on several other initiatives. The power of such collaboration is uplifting."

Cost-Effective Continuing Education Credits

The 2015 ISA WWAC Symposium offers a cost-effective way for operators and engineers who work in the municipal water and wastewater sectors to gain valuable continuing education credits. Thanks to partnerships with local organizations, and the ISA's own role as an education provider, attendees are able to receive both PDHs (professional development hours) and CEUs (continuing education units) for the time they spend at the symposium, and during the symposium's two optional training courses on asset management integration and alarm management.

Registration for the 2.5 day symposium costs only $425, and discounts are available for AWWA, WEF, ITA and ISA members. A special discounted hotel rate of $89/night has been arranged for symposium attendees.

Symposium Preview Brochure

Registration for the symposium is now open. Interested parties can find out more about the 2015 ISA WWAC Symposium via the symposium website at www.isawwsymposium.com or by viewing the four-page full color "conference preview" brochure, which is also available on the website. Both paper-based and online sign-up methods are outlined on the symposium website, as is information about the two optional training courses on asset management integration and alarm management that are being offered in conjunction with the symposium.

A copy of the 2015 WWAC Symposium preview brochure can be found attached to this newsletter.

2015 WWAC Symposium
Program Schedule Preview

Presented by the Water and Wastewater Division of ISA, our symposium helps in the water and wastewater industry understand how instrumentation, SCADA (supervisory control and data acquisition), and automatic control applications are vital to the treatment and distribution of water; the collection and treatment of wastewater; and the management of storm water. The preliminary program schedule is as follows:

Monday – Tuesday, August 3-4, 2015

- Optional 2-day course: Asset Management and Enterprise Integration Using the ANSI/ISA95 Standard
- Optional 1-day course: Introduction to the Management of Alarm Systems (Tuesday)
- Symposium Registration
- Local Water Treatment Plant Tour (Tues afternoon)

Wednesday, August 5, 2015

- Keynote speaker
- Invited Speaker
- Presentations and Papers
- Light Breakfast, Coffee Breaks and Buffet Lunch Provided
- Supplier Showcase & Vendor Presentations
- Evening Reception

Thursday, August 6, 2015

- Invited & Guest Speakers
- Forum Session
- Presentations and Papers
- Light Breakfast, Coffee Breaks and Buffet Lunch Provided
- Poster Session
- Supplier Showcase

Attendees at the symposium can earn up to 20 PDHs (professional development hours).

ISA has been approved as an Authorized Provider by the International Association for Continuing Education and Training (IACET), 1760 Old Meadow Road, Suite 500, McLean, VA 22102; (703) 506-3275. In obtaining this approval, ISA has demonstrated that it complies with the ANSI/IACET 1-2007 Standard which is widely recognized as a standard of good practice internationally. As a result of their Authorized Provider membership status, ISA is authorized to offer IACET CEUs for its programs that qualify under the ANSI/IACET 1-2007 Standard.

Provider #1001262

Earning CEUs and PDHs
Continuing Education Credits at the Symposium

At the 2015 WWAC Symposium, attendees can earn Continuing Education Units (CEUs) and Professional Development Hours (PDHs) for attending the sessions and ISA training courses. Engaging in continuing education and professional development is an ongoing requirement for many professional designations, certifications and licenses. By attending the WWAC Symposium, you can help satisfy your personal professional development and continuing education requirements.

The number of PDHs and CEUs for this year are:
- Symposium attendees will receive 20 PDHs / 2.0 CEUs

- Asset Management and Enterprise Integration Using the ANSI/ISA95 Standard Course attendees 1.4 CEUs

- Introduction to the Management of Alarm Systems Course attendees: 0.7 CEUs

As an IACET authorized education provider, the ISA can issue PDHs/CEUs for symposium and training course participation.

Additionally, the ISA has also partnered with the Florida Section of the AWWA and the Water Environment Federation (WEF) to certify training credits for use for state-licensed water and wastewater operators, and for state-registered professional engineers. For the 2015 symposium, this certification process is currently in progress. An announcement will be made once this process is complete.

As part of the 2015 symposium, all attendees will have the benefit of receiving approved CEUs/PDHs for the hours spent in the training course and symposium towards their water/wastewater operator and PE license continuing education requirements. We will be doing the same this year.

Optional Symposium Training Course
Introduction to the Management of Alarm Systems (course: IC39C)

August 4, 2015
Instructor: John Bogdan
Credits: 0.7 CEUs / 7 PDHs
Course Fee: $720 List Price; $575 ISA Members

This course focuses on the key activities of the alarm management lifecycle provided in the ANSI/ISA18.00.02 standard, Management of Alarm Systems for the Process Industries. The activities include the alarm philosophy development, alarm rationalization, basic alarm design, advanced alarm techniques, Human Machine Interface (HMI) design for alarms, monitoring, assessment, management of change, and audit.

You will be able to:
- Develop an Alarm Management Philosophy
- Identify types of alarms
- Discuss rationalization, classification, and prioritization of alarms
- Design basic alarms
- Determine when advance alarm techniques should be used
- Document alarms for operations
- Design reports for monitoring and assessment of alarm system performance
- Manage changes to alarm systems
- Test and audit alarm systems

About the Instructor

John Bogdan has significant experience in alarm management, advanced process control, safety systems, and process optimization, as wells as Six Sigma certification. His past work experience includes various positions with Invensys, ABB, and DuPont. He holds a B.S. & M.S. in Chemical Engineering from Washington University in St. Louis, MO. He is currently an independent consultant in alarm management and process control in Vienna, WV.

Optional Symposium Training Course
Asset Management & Enterprise Integration Using the ANSI/ISA95 Standard (IC55)

August 3-4, 2015 (2 day course)
Instructor: Paul Nowicki
Credits: 1.4 CEUs / 14 PDHs
Course Fee: $1585 List Price; $1265 ISA Members

Modern asset management, maintenance, and process monitoring systems offer a wide range of capabilities for municipal water / wastewater utilities. However, connecting SCADA systems to these advanced tools tends to be overlooked and remains a challenge. The ANSI / ISA 95 standard provides a standardized method for communicating process data between SCADA and these enterprise tools. Using examples from the manufacturing industry, this course outlines how these same techniques can be used to enable the integration of DCS and SCADA systems with these value added systems in the municipal water / wastewater sector. This course also teaches the terminology used in Information Technology (IT) departments so that manufacturing and IT personnel can effectively work together on integration projects.
You will be able to:
- Specify the requirements for an enterprise/control integration solution
- Identify the issues involved in the integration of logistics to manufacturing control
- Identify the business processes that need information from manufacturing systems
- Identify the manufacturing control processes that need information from business systems
- Explain the business drivers involved in integration
- Identify the detailed information associated with enterprise/control integration
- Discuss the roles of UML, XML, and B2MML in vertical integration
- Apply the ISA95 object models

About the Instructor

Paul Nowicki is the Global Information Design Engineer for Heat and Control Inc. With over 30 years of experience in manufacturing information, process automation, and control systems, Paul has applied his problem solving capabilities to a wide variety of industrial challenges. Paul has worked in specialty chemical, pharmaceutical, food/beverage, paper, and consumer products facilities. He is an original architect of the ISA S88 Batch Control standards and recently chaired the update committee for Part 1. He has authored numerous papers with a wide range of topics from expert systems and enthalpy control strategies, to project management and team building..

Symposium Registration

Registration for the symposium is now open! Attendees can register online or using the provided PDF registration form.

www.isawwsymposium.com/register

Symposium Registration (Aug 4-6, 2015) includes:

- 2 full days of papers and presentations
- poster session
- networking events
- tour of a local water/wastewater facility late-afternoon of Tues, Aug 4
- admission to supplier showcase
- light breakfasts on Aug 5 and Aug 6
- full buffet lunches on Aug 5 and Aug 6
- evening reception on Wednesday, Aug 5 with cash bar and 2 free drink tickets
- name badge
- list of attendees with contact information
- printed onsite program booklet
- printed copy of symposium proceedings
- There are also two optional training courses (additional course fees applies)

Full Symposium registration

List Price..$425
ISA Members: $325
AWWA / FSAWWA members...........................$375
WEF / FWEA / ITA members: $375
Students: $125
Authors/Speakers:.................................$125

Optional Training Courses (Aug 3-4):
2-day Asset Management Integration $1265
1-day Intro to Alarm Management (Aug 4) $575

Photo from WWAC 2014 in Orlando, Florida

Quotes from Past Symposium Attendees

You and the other members of the symposium team did a masterful job. I am looking forward to next year when I hope bring other members of the staff, here at the North Broward Regional Wastewater Plant. I came away from that three day event "loaded for bear" in terms of how I want to influence my organization with our many upcoming projects. I sincerely thank you for the opportunity afforded me during that awesome event.
Best regards,
- Tom McGovern, Broward County – Water and Wastewater Services

Congratulations on this successful summit. You did an outstanding job organizing this, sticking to the schedule and keeping us informed. I learned a lot, met some great people (including colleagues at CDM Smith) and was very impressed by your leadership. Not to mention Graham's sense of humor. Superb!
Best regards,
- Michael Waddell – CDM Smith

Thank you Graham [and the rest of the team] for a great Symposium, I will certainly recommend an ongoing attendance for the staff in my group of Electrical and I & Engineers in the future as this was a great learning experience for all and a chance to show other industry experts what we and our company is doing in the Water and Wastewater field and a great opportunity to meet and talk with other professionals in the industry.
- David R. Wilcoxson - MWH Americas Inc.

I want to thank you and all of your volunteers for the great training session and very informative symposium. Cyber Security information and training is paramount to secure and safe water delivery in the US and the world. The plant tour was very informative and the hosts were very personable to us all. The symposium had a wide variety of topics for control system design and operational considerations.
The speakers were very diverse and shared a wealth of information with us all. Thank you again for heading up a great team of dedicated ISA/AWWA Water/Wastewater volunteer professionals. My hat is off to you.
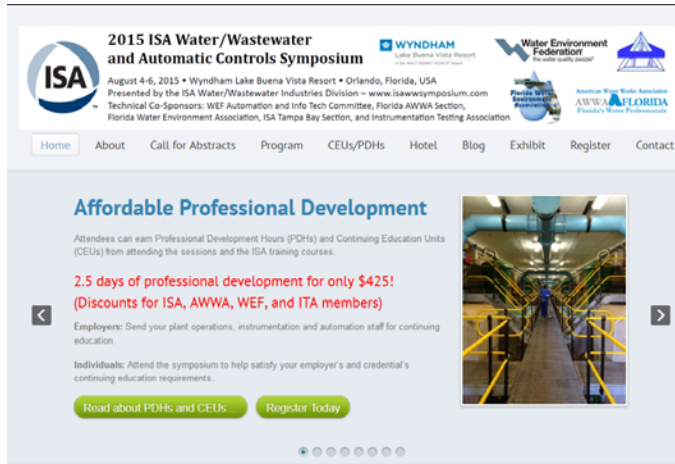- Jeff Blue, Southern Nevada Water System

The Alarm Management Course offered at the 2011 WWAC Symposium has provided us with important information to setup an Alarm Philosophy for both the Water and Wastewater SCADA Systems. This will provide a template for future work by System Integrators that will have to be followed and provide consistent information for the operators. It was one of the best courses that I have taken in a while.
- -Bob Dusza, Manchester Water Services -

Visit the 2015 WWAC Symposium website

Visit our newly updated 2015 WWAC symposium website at:
www.isawwsymposium.com

On the website you will find:
- Overview of the symposium
- Call for Abstracts
- Author Information Kit/Guidelines
- Attendee Information
- Online Registration for the Symposium and Hotel
- Online Registration for the full-day training courses
- Local Plant Tour Information
- Exhibitor Information
- Sponsorship Opportunities
- Exhibitor Prospectus & Sponsorship Program Details
- Program Committee Member Bios
- Press Kit / Media Information
- Hotel Information
- Key Symposium Contacts & Contact Information

Welcome to our Title Sponsors:

Symposium Platinum Sponsor

Symposium Platinum Sponsor

Check for the symposium website for the most up to date list of symposium sponsors and exhibitors.

How do I sponsor or exhibit for 2015?

For more information on how to become a sponsor or exhibitor at this coming year's 2015 ISA Water/Wastewater and Automatic Controls Symposium, please refer to our 4-page full-color sponsorship and exhibitor opportunities brochure: **www.isawwsymposium.com/exhibit-sponsor/**

Now is the time to consider sponsoring or exhibiting for WWAC 2015. Exhibitor booths are priced at $875 and include 2 full vendor passes with full access to the symposium. For additional onsite, pre-event, and post event exposure, sponsorship are available at the $500, $1500 and $300 levels.

Contact our general symposium chair via email at knpatel@sig-auto.com for more information.

Thank you to our 2014 Symposium Exhibitors

Sign up as as 2015 Exhibitor &Sponsor

For more information on how to exhibit and sponsor at the symposium please refer to our sponsorship and exhibitor opportunities brochure: **www.isawwsymposium.com/exhibit-sponsor/.**

Exhibit Booth Information for WWAC2015

Exhibitor tables are **still available** for WWAC2015, which will be taking place August 4-6, 2015 in Orlando, Florida at the Wyndham Lake Buena Vista Resort.

Exhibitor tables at the 2015 ISA Water/Wastewater and Automatic Controls Symposium are priced at $875 each which include:

- one six foot table with skirting, 2 chairs, duplex electrical outlet
- two full conference passes, which include ID badges and full conference access (an $850 value)
- additional vendor passes can be purchased for $200/each
- breakfasts, coffee breaks, and lunches on Day 1 and Day 2
- admission to the general reception with cash bar on the evening of Day 1
- exhibits room hours: Day 1 & 2 (8:00am-5:00pm), and during Aug. 5th evening reception
- exhibit setup: on Tues August 4, 2015 from 6pm-9pm. exhibit teardown is Thursday, August 6 from 5pm-8pm

How to Sign up as an Exhibitor

For more information on how to exhibit at the symposium please refer to our 4-page full-color sponsorship and exhibitor opportunities brochure: **www.isawwsymposium.com/exhibit-sponsor/** . Now is a good time to start thinking about our upcoming 2015 symposium. Reserve your spot today!

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Introducing Our 2015 Program Committee

Joe Provenzano, MSc
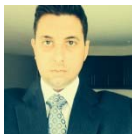Program Committee Chair

KRPO Engineering Services
Naugatuck, Connecticut, USA

Richard Birdsell, PE
Orange County Sanitation District
Orange County, California, USA

Peter Craan, PE, CAP
Hazen and Sawyer
New York, New York, USA

Mike Crawford
Haldimand County
Caledonia, Ontario, Canada

Jon DiPietro
Bridge-Soft LLC & Domesticating IT
Manchester, New Hampshire, USA

Bob Dusza
Manchester Water and Sewer Dept.
Manchester, Connecticut, USA

Joshua Gelman, PE
CDM Smith
Fairfax, Virginia, USA

David Hobart, P.Eng.
Hobart Automation Engineering
Stowe, Vermont, USA

Michael Fedenyszen
R.G Vanderweil Engineers LLP
Boston, Massachusetts, USA

Paul Lanzillotta
Consultant
Smithtown, New York, USA

Bob Loncar
The Regional Municipality of Halton
Oakville, Ontario, Canada

Dan Machado
Cobb County Water System – Water
Protection Division
Marietta, GA, USA

Paul McGuire, PE
North East Ohio Regional Sewer District
Cleveland, Ohio, USA

Graham Nasby, P.Eng., PMP
Eramosa Engineering Inc.
Guelph, Ontario, Canada

Matthew Phillips, P.Eng.
City of Guelph Water Services Department
Guelph, Ontario, Canada

Emile Richard, PE
Portland Water District
Portland, Maine, USA

Pavol Segedy, PE
Brown & Caldwell
Raleigh-Durham, North Carolina, USA

Steve Valdez
GE – Water/Wastewater Division
New York City, New York State, USA

![ISA] **Water/Wastewater Industry Division**

Introducing our 2015 Symposium Committee

Kevin Patel, PE, MBA
Signature Automation
General Symposium Chair
& Director-elect, WWID

Pavol Segedy, PE
Brown & Caldwell
Assistant Symposium Chair
& Membership Chair, WWID

Graham Nasby, P.Eng., PMP
Eramosa Engineering Inc.
Past Symposium Chair
& Director, WWID

Jon DiPietro
Bridge-Soft LLC & Domesticating IT
Social Media Chair
& Past-Director, WWID

Tom DeLaura, PE
Eramosa Engineering International
WEF Liaison

David Wilcoxson, PE
MWH Global
Committee Member
& Secretary/Treasurer, WWID

Derrick Stableford, MIET, LCGI
Associated Engineering
Committee Member

Bryan Sinkler
Trihedral Engineering
Plant Tour Coordinator

Dan Machado
Cobb County Water System – Water
Protection Division
Honors & Awards Chair

Rodney Jones
ISA Staff
Senior Administrator,
ISA Technical Divisions

Congratulations on this successful summit [WWAC Symposium]. You did an outstanding job organizing this, sticking to the schedule and keeping us informed. I learned a lot, met some great people (including colleagues at CDM Smith) and was very impressed by your leadership. Not to mention Graham's sense of humor. Superb!

– Michael Waddell - Principal, Application Development Practice Leader, CDM Smith

Announcing the 2015 ISA Water/Wastewater Division Student Scholarships

By Michael Fedenyszen, 2015 Scholarship Chair

The ISA Water & Wastewater Industries Division (WWID) is pleased to announce the winners of the 2015 WWID Student Scholarships. Open to college and university students and awarded in March, the WWID student scholarships are given out to promote higher learning and to encourage students to pursue technical careers in the municipal water/wastewater sector.

This year's recipients are **Ka Yee Lam** and **Charles Viola**. Each will receive a $1000 USD scholarship prize to help with their school costs. Please join us in congratulating this year's winners.

2015 ISA Water/Wastewater Industries Division Student Scholarship winner

Ka Yee Lam
University of Toronto
Toronto, Ontario, Canada

"I would like to thank ISA Water and Wastewater Division for their generosity. This scholarship will help me fund for future conferences where I will be able to present my research to others."

Biography: Ka Yee Lam is a first year PhD student at the University of Toronto, Toronto, Canada studying chemical engineering. She graduated from the University of Guelph, Guelph, Canada with a Master of Applied Science in 2014 and a Bachelor of Engineering in 2012 for environmental engineering. After her studies, she hopes to become a professor in the field of wastewater and surface water research.

2015 ISA Water/Wastewater Industries Division Student Scholarship winner

Charles Viola
Pennsylvania State University
State College Pennsylvania,
USA

"Thank you to the ISA Water and Wastewater division for choosing me for this scholarship. It is an honor to be considered so highly by this organization and I am very grateful for this award."

Biography: Charles Viola is a junior majoring in chemical engineering at The Pennsylvania State University. He has also worked for an integrator, Allied Control Services, Inc., that specializes in water and wastewater control systems. Using this work experience along with my academic knowledge, he hopes to one day design water treatment systems that are not only on the cutting edge of the automation industry but are also models of sustainability.

How to apply for next year's 2016 Scholarship

2016 ISA WWID Student Scholarship: Applications are due January 31, 2016.

The 2016 Scholarship Application form will be available shortly.

For more information about the ISA water/wastewater division visit www.isa.org/wwid/

ISA Bookstore has WEF Automation Book:

By Graham Nasby, WWID Director

As part of the partnership between our ISA Water/Wastewater Division and the AIT-committee of the WEF, we are pleased to announce that one of WEF's newest books on wastewater plant automation is now available in the ISA's online bookstore:

www.isa.org/books/

Automation of Water Resource Recovery Facilities, 4th Edition, Manual of Practice 21

- **Paperback:** 722 pages
- **Publisher:** Water Environment Federation; 4th edition edition (June 20 2013)
- **Language:** English
- **ISBN-10:** 1572782757
- **ISBN-13:** 978-1572782754
- **Product Dimensions:** 17.8 x 3.7 x 25.4 cm
- **Shipping Weight:** 1.2 Kg
- **ISA Price**: $155 USD

Book Synopsis:

As automation continues to be a growing component of the water industry, new technologies and applications are constantly being developed and are producing great benefits. This manual will introduce the reader to the technological advancement and present the reader with the elements and standards of a complete automation design. Ideal for designers, utility managers, and operators. Table of contents Chapter 1: Introduction to Automation of Water Resource Recovery Facilities Chapter 2: The Business Case for Automation Chapter 3: Complete Automation Design Chapter 4: Process and Instrumentation Diagram Chapter 5: Process Control Narratives Chapter 6: Specifications Chapter 7: Process Control Strategies Chapter 8: General Instrument Characteristics Chapter 9: Sensors Chapter 10: Final Control Element Chapter 11: Communications and Connectivity Chapter 12: Physical and Cyber Security Chapter 13: Human-Machine Interfaces Chapter 14: Process Controllers Chapter 15: Maintenance and Troubleshooting Chapter 16: Control Systems Training

Partnerships with WEF, FWEA, FSAWWA, and ITA Renewed for 2015

By Graham Nasby, WWID Director

I am pleased to announce that we will again be partnering with various other organizations to put on our 2015 ISA Water/Wastewater and Automatic Controls Symposium.

Our 2015 technical co-sponsors will again be:

- WEF Automation and Information Technology Committee , Water Environment Federation (WEF AIT)
- Florida Section of the American Water Works Association (FSAWWA)
- Florida Water Environment Association (FWEA)
- Instrumentation Testing Association (ITA)

Part of these partnerships means discounted symposium rates for AWWA, WEF, FSAWWA, FWEA and ITA members. Members of these organizations are able to register at a discounted rate compared to the normal list price. (ISA members also get a discount as well.)

We will again be offering a tour of a local water treatment plant as part of the 2015 WWAC Symposium. Note: An announcement about which facility we will be touring will be made closer to the symposium.

We look forward to reporting more details about these partnerships in the next issue of this newsletter.

ISA PUBLISHING
Collaborative Process Automation Systems

Our friends at ISA headquarters have a very handy reference book about how to develop collaborative automation systems. Below is an overview:

Collaborative Process Automation Systems
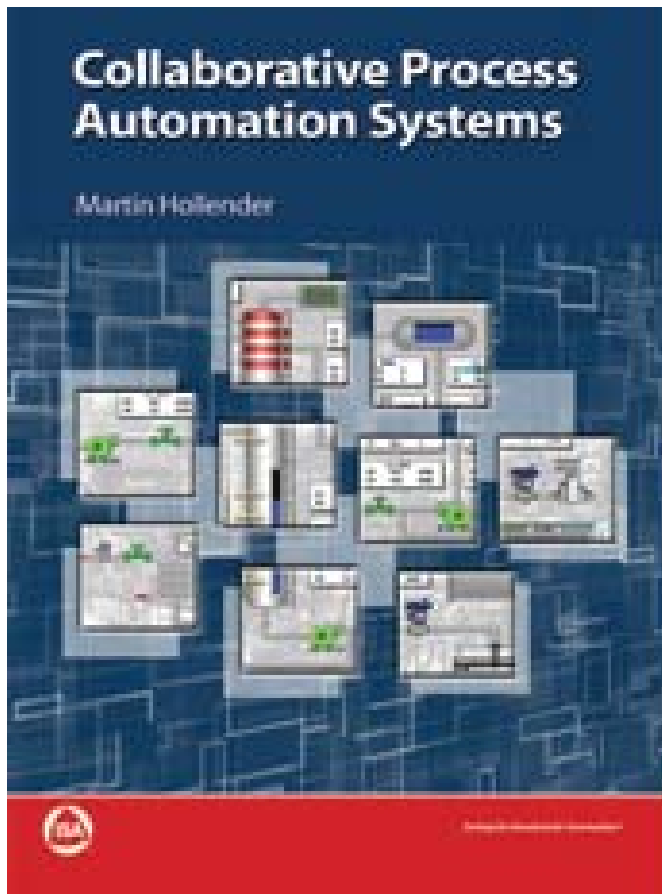Author: Martin Hollender
Copyright 2010
Length: 420 pages
List price $99.00 USD
ISA Member Price: $79.00 USD

Providing a comprehensive overview of the state-of-the-art in Collaborative Process Automation Systems (CPAS), this book discusses topics such as engineering, security, enterprise connectivity, advanced process control, plant asset management, and operator efficiency. Collaborating with other industry experts, the author covers the system architecture and infrastructure required for a CPAS, as well as important standards like OPC and the ISA-95 series of standards. This in-depth reference focuses on the differences between a CPAS and traditional automation systems. Implications on modern automation systems are outlined in theory and practice. This book is ideal for industrial engineers, as well as graduate students in control and automation. –

To order a copy, go to www.isa.org/books/

TECHNICAL ARTICLE

Sequential Function Chart Programming:
Processing sequential and parallel operations based on time or events
By Charles M. Fialkowski, Siemens Process Automation

In December 1993, the International Electrotechnical Commission (IEC) recognized five standard programming languages that could be used for implementing either process or discrete programmable controllers. The IEC is an organization that prepares and publishes international standards for all electrical, electronic, and related technologies, including controllers. The organization identified five programming languages and their common abbreviations as: ladder diagram (LD), instruction list (IL), function block diagram (FBD), structured text (ST), and sequential function chart (SFC). The third edition was published in February 2013.

The IEC developed these programming standards in response to the growing number of automation vendors, the growing complexity of applications, and the multiplying methods of implementing control functions. This article provides a brief overview of sequential function charts, describing proper implementation and common mistakes.

Overview

Sequential controls allow organizations to process sequential and parallel operations in a mode that is discrete with respect to time or events. They are used to coordinate different continuous functions, as well as to control complex process sequences. Depending on the defined state or events, operating and mode changes are generated, which results in a desired sequential implementation. Control system engineers learn to understand the interaction between the programs for basic automation and the sequential controls and how to generate sequential controls in their distributed control system.

Sequential controls specify one or several step sequences. The implementation of sequential control algorithms are generally referred to as *sequential function charts*. A step sequence is the alternating sequence of steps that trigger certain actions, respectively, and transitions that cause a step to change into another one when the corresponding step enabling condition is met. Each step sequence has exactly one start step and one end step and in addition may contain any number of intermediate steps that are interconnected through transitions. These transitions are triggered via "rising edge" signals. The diagrams may also generate feedback through loops within the step sequence. They can include parallel or alternative branches. In this case, however, the design must be done so that the sequence does not contain unsafe or unavailable segments.

To design sequential controls, a method called *state diagrams* may be used. State diagrams are easily learned, make automatic error diagnosis possible, and can be converted without a problem into many existing programming languages for sequence controls. However, designing parallel structures may not be possible, because a state diagram, by definition, is in exactly one state at any given time; otherwise, it cannot be considered a state diagram.

One of the core benefits of sequential controls is that all structures can be modeled and extensively analyzed, thus significantly reducing the time it would take to validate conventional structures. Sequential controls parameterize and activate lower-level logical control systems by setting corresponding global control signals. These control signals can have a brief or a lasting, a direct or a delayed effect. Sequential controls, as well as logical controls, have to support different operating modes. Particularly, manual control of the transitions and temporary or permanent interruptions of the process sequences have to be possible. In addition, process-specific protective functions are implemented with sequence controls.

Continuous and sequential controls

Within the scope of basic automation, different logic control systems are developed that implement a limited, clearly defined function. The functions continuously process input signals and generate corresponding output signals. By means of different control signals, the functions can also be activated and parameterized. To implement complex process sequences—for example, manufacturing recipes for products—it is necessary to coordinate the different functions and to activate them at the right time with the correct parameters. This task can be handled using sequential controls.

Sequential controls make step-by-step, event-discrete processing of sequential and parallel operations possible using step sequences. Depending on defined states or events, they generate operating and mode changes in the existing logic control systems and thus implement the desired sequential behavior.

Structure of step sequences

The step sequence is the alternating sequence of steps and transitions. The individual steps activate certain actions. The transitions control the change from one step to the next.

The first step of a step sequence is referred to as the *start step*. It is the unique entry point in the sequence and is always executed. The last step in a step sequence is referred to as the *end step*. It is the only step in a sequence that does not have a sequence transition. After the end step is processed, the step sequence is terminated, or processing starts again. The latter case is also referred to as a *sequence loop*.

Steps and transitions are connected to one another with oriented edges. It is possible to connect a step with several sequential transitions, as well as one transition to multiple steps. A transition is enabled if all series of connected steps are active and the step-enabling condition is met. In this case,

first the immediately preceding steps are deactivated, and then the immediate subsequent steps are activated.

The simplest form of a step sequence is the unbranched sequence. Each step is followed by exactly one transition and the transition in turn by exactly one subsequent step. This implements a purely sequential run. Figure 1 shows the graphic basic elements, step (S) and transition (t).
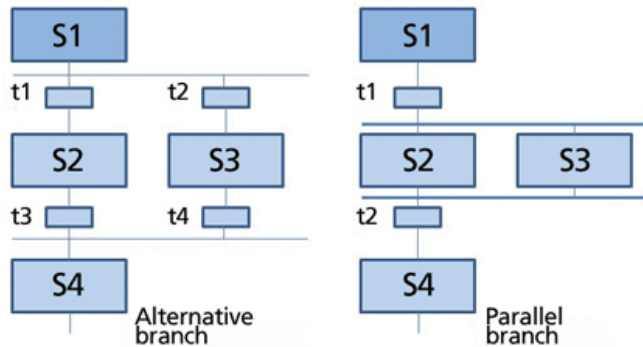

Figure 1. Basic Elements

Loops within the step sequence occur when by sequencing several steps, a cyclical run within a sequence is possible. The sequence loop represents a special case of a loop where all steps are run cyclically.

Another option for structuring step sequences is jumps. When a jump mark is reached, processing continues with the step where the jump mark points. Jumps within the step sequence can also result in loops. Because such a structure is difficult to follow, jumps should be carefully used and avoided altogether if possible.

Alternative and parallel branching

In many cases, it is necessary to respond differently to different events when the program is executed. This structure is referred to as *alternative branching*. The step is linked with each possible subsequent step by means of its own transition. To ensure that only one transition is enabled at a time, and that alternative branches are selected based on specific requirements, the transitions should be mutually locked or prioritized to select which path is necessary. Otherwise, in most control systems, the transitions are evaluated from left to right, and the first transition whose step-enabling condition is met is enabled.

Figure 2 shows the structure of alternative branching with two branches. It is represented by bordering horizontal single lines with protruding ends. As can be seen, the alternative branches always start and end with transitions. After a step, several subsequent steps often must be processed simultaneously. In this case, the initial step has one transition that activates several subsequent steps at the same time. We call this structure parallel branching. The subsequent steps of the

individual branches are processed independently of each other and are merged again. All branches end in a joint transition. Only after all branches are processed completely and the step-enabling condition for the subsequent transition is met is it possible to activate the joint subsequent step.
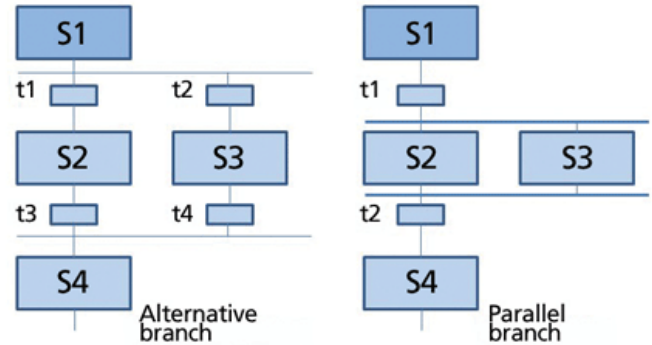

Figure 2. Alternative and parallel branches

Figure 2 also shows the sequence of a parallel branch with two branches. They are represented with bordering horizontal double lines and protruding ends. As can be seen, the parallel branches always start and end with actions.

Building faulty step sequences by generating incorrect jumps and branches is a typical control engineering problem.
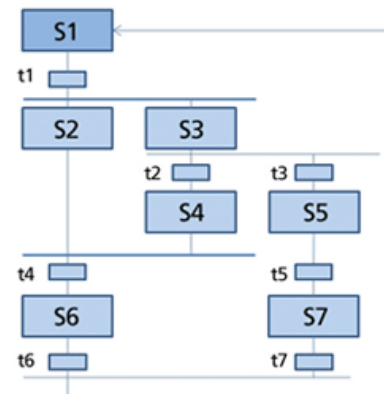

Figure 3. Uncertain structure

Some of the most common faulty step cases are:

- *Uncertain sequence*: a step sequence that contains a structure whose availability is not ensured through the defined sequential performance

- *Partially stuck*: a step sequence with an internal loop that does not have the ability to become active. Although other steps within this loop are executed, the steps outside the loop are not. This makes parts of the step sequence unavailable.

- *Totally stuck*: a step sequence contains a structure for which no permissible step-enabling condition exists. In this case, the step sequence remains permanently in one state, and all other subsequent states are unavailable.
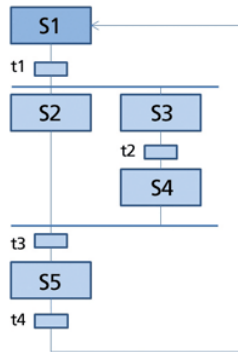

Figure 4. Illegal structure

Such structures are not permitted in step sequences and have to be eliminated with proper procedural design methods. Figures 3 and 4 show examples of two step sequences with impermissible structures. In figure 3, we cannot ensure that step S6 is available. In figure 3, we cannot ensure that step S6 is available since the alternative branch after step S3 goes active when transition t3 is enabled and execution passes to S5, and the parallel branch is merged again bypassing S6. This is an example of an uncertain structure. Figure 4 shows an example of an illegal structure, which will only execute once and then stops at step S4. Because step S2 is not active in this state, the parallel branch can no longer be merged in transition t3, which makes it totally stuck—making step S5 unavailable.

Reaction to faults in sequence controls

Particular operating modes have to be implemented to maintain adequate protection and conversion to manual if there is a fault.

- *Automatic mode:* The action of the step sequence is executed if the preceding transition is enabled.

- *Manual mode:* The operator triggers the action of the next step sequence, even if the preceding transition is not enabled.

- *Mixed mode:* The action of the step sequence is executed if the preceding transition is enabled, or if the operator triggered it. As an alternative, operator activation as well as enabling the preceding transition may be required.

The manual mode prevents the sequence control from being permanently blocked because of a fault. The mixed mode allows manual interruption of the sequence for testing or commissioning. The step-enabling conditions of all transitions of the sequence control have to be expanded accordingly.

Step sequences have to be able to react to faults in the controlled devices. Therefore, continuous fault monitoring is required. It recognizes and signals faults in the controlled devices. It makes automated safety of the plant possible by stopping the step sequence automatically if there is a fault. In addition, it has to be possible for the operator to stop and cancel the step sequence if there is a fault.

In both cases, corresponding protection functions have to be activated to take the plant to a safe state. If a sequence is stopped, it has to be ensured that it can be continued safely and in a way that is permissible regarding process engineering, even for a long interruption. In the sequence controls, process-specific protection functions are implemented, such as sequential locking of several devices if there is a fault in the process.

Sequence controls in a process control system

Many process control systems today implement controls with SFCs. They contain the step sequences and define their sequence topology, the conditions for the transitions, and the actions of the steps. It is possible to define priorities for the start conditions and the sequence characteristics separately for each step sequence. In addition, pre- and post-processing steps that are executed once before or after processing the step sequence can be defined.

Operating modes and switching modes

The performance of a sequence control in the process control system will depend on the following:

- The selected operating mode

- The specified switching mode

- The current operating mode

- The sequence options

Two different operating modes could be selected for sequence control:

- Auto: the program controls the sequence

- Manual: the operator controls the sequence through commands or by changing the sequence options

In manual mode, the following commands should be available to the operator to operate the sequence control:

Start, stop, halt, cancel, continue, restart, reset, and error

Depending on the selected operating mode, behavior of a step sequence can be controlled through different switching modes when further switching active steps to the subsequent steps.

- *Switching mode T:* The sequence control is running process control automatically. If a transition is enabled,

the preceding steps are deactivated, and the subsequent steps are activated (T = transactions).

- *Switching mode O:* The sequence control is running operator control manually. The transition is enabled by an operator command. To this end, each subsequent transition of an active step automatically sets an operator prompt (O = operator).

- *Switching mode T or O:* The sequence control is running process controlled or operator controlled. The transition is enabled either through an operator command or a step-enabling condition that was met.

- *Switching mode T and O:* The sequence control is running process and operator controlled. The transition is enabled only based on an operator command and if the step enabling condition was met.

- *Switching mode T/T and O:* In this switching mode, we can specify whether the sequence is controlled by the process or the operator for each step individually. In the test mode, this allows us to define stop points in the sequence control (T/T = test transactions).

In the operating mode *Auto*, only the switching modes T, T/T, and O can be selected. The operating mode of the sequence control indicates the current state in the sequence and the resulting performance. Corresponding operating mode logic defines the possible modes, the permissible transitions between modes, and the transitional conditions for a mode change. Most process control systems define separate operating mode logic for sequence controls and for step sequences, respectively. It is possible to run step sequences depending on the mode of the sequence control.

Sequence options

By using sequence options, it is possible to control the execution time performance of sequence controls. For example, we can specify whether a sequence control is processed once or cyclically, or whether the actions of the active step are actually performed. In addition, time monitoring for the individual steps of a step sequence can be activated, which signals a step error if there is a timeout.

This article original appeared in the July/Aug 2014 issue of ISA InTech. Reprinted with permission.

ABOUT THE AUTHOR:

Charles M. Fialkowski, CFSE , is director of product marketing for Siemens Process Automation in Spring House, Pa. He has more than 20 years of process automation experience in the chemical, petrochemical, and oil and gas industries, and has been involved in a number of process safety standards, including ISA-84 and burner management with NFPA 85, 86, and 87. He is a graduate of Oklahoma State University with degrees in both electrical engineering and journalism. Contact: charles.fialkowski@siemens.com

The Many Benefits of ISA Membership

Are you taking advantage of your ISA Membership?

- Information exchange and networking - 154 local sections for professional Members and 115 for student Members

- Free online viewing of ISA's automation standards - ISA has published more than 150 standards, recommended practices, and technical reports through the dedicated efforts of a network of industry experts

- Free technical library - unlimited downloads of over 2,500 technical papers published at ISA conferences and symposia

- Free access to over 40 online, pre-recorded web seminars

- Free *InTech* magazine and *Automation Weekly* e-newsletter

- Technical Division membership, connecting Members within 19 industries, sciences, and technologies—around the world

- Free online access to *ISA Transactions* - covering the latest advances in the science and engineering of measurement and automation

- Email list serves for open-forum discussions

- ISA Jobs website for free career and job postings

- Professional development opportunities, including free Leadership Development Certificate Program and volunteer opportunities that bring professional recognition

- Free Mentoring Program to enhance workforce development and careers

ASSOCIATION NEWS

President's Message for 2015: Building on a Great Foundation

By Rick Roop, 2015 ISA President

Allow me to take this moment to state that I am blessed to be serving as 2015 President of ISA, an organization in which I strongly believe and one that I have been associated with for over 30 years.

My involvement with ISA began with my introduction to the Society in 1983, when I worked as an electrical engineer for an industrial coal-fired power plant in Evansville, Indiana. Through the years, I served in many capacities within ISA— from establishing local sections in the early 80s to working on the operations side, to writing standards while serving on a divisional board, to eventually becoming an ISA board member—all of which have prepared me for the upcoming presidency.

My understanding of the changing importance of ISA and the contribution the Society makes to the world drove me to learn as much as I could from previous leaders with whom I served.

The knowledge gained and the personal relationships formed from those experiences were instrumental in my success on a professional and personal level. In fact, many of those people have become dear friends to me. Although I am no longer a practicing engineer, my passion for ISA remains, and I am extremely excited about the coming year and the opportunities it presents.

As we move into 2015, ISA will continue to work toward achieving its five strategic goals in: *Big Data, Content, Coolest Delivery, IACS Cybersecurity and Career Advocacy.*

Big Data

The world generates in excess of 2.5 billion gigabytes of data every day, 80% of which is considered "unstructured," meaning everything from images, video and audio to social media is available in cyberspace, but who manages it?

ISA is committed to operate as a market-driven organization, using internal and external data to better understand trends, improve decision-making, and better align products and services with market dynamics and demands.

Content

ISA will consistently deliver relevant content to target audiences at the right time, across all marketing channels, and in a manner in which it was intended.

Automation professionals and the industries and communities they serve can rely on ISA for essential information tailored to their needs and interests.

Coolest Delivery

ISA will develop communication channels that deliver our content easily, in an engaging, informative, and forward-thinking way that appeals to multiple generations of automation professionals.

A great example is our recently introduced *InTech Plus* mobile device, an interactive and easy-to-use tool that enables automation professionals to rapidly access, scan, and digest a diverse range of technical and educational content.

IACS Cybersecurity

ISA will enhance its worldwide reputation as a leader in the development of industrial cybersecurity standards, training, certificate programs and educational resources.

The ISA99/IEC 62443 series of IACS standards are integral components of the federal government's plans to combat cyberattack because they're designed to prevent and offset potentially devastating cyber damage. The National Institute of Technology (NIST) and the Department of Homeland Security (DHS) support ISA as a global authority on industrial cybersecurity.

Career Advocacy

ISA will develop programs, products, and services that enhance the awareness and proficiency of automation professionals. We will use a cradle-to-grave approach, promoting automation careers to children and students; providing early career education for young professionals; offering leadership and management skills for mid-career individuals; and providing programs to mentor others and give back to the profession for our retirees and late-career professionals.

Moving Forward

Throughout this year, we will fully explore each initiative as a means to bring added value to ISA, to strengthen our global brand recognition, and to provide additional revenue streams.

Adding to our momentum in 2015 and beyond is our new, wholly owned-subsidiary, Automation.com. Automation.com is a leading online publisher of automation-related content that attracts nearly 100,000 users per month. Its website features 45 topic-specific portals, providing an efficient way to deliver relevant articles, news, products, white papers and other resources.

Combining its subscribers with ISA's members and customers, and *InTech* subscribers, Automation.com will deliver the co-branded Automation Weekly and other electronic newsletters to approximately 140,000 people around the world. This is very exciting indeed.

As we have learned throughout our history, the key to success is getting the "big things" right, innovating accordingly, and

sharpening our organizational and operational focus. Every generation of ISA membership has the opportunity and, I believe, the responsibility to improve ISA—to move us forward in the world of automation. This is our time.

The progress we are making on our strategic initiatives is highly encouraging. I am confident in our vision and mission, and am excited about the many new opportunities before ISA. Let's work together this year to reach our goals, to increase our brand recognition on a global scale, and to add to our membership ranks.

Please join me in the commitment to furthering the causes of this wonderful Society. Once again, I am looking forward to serving you in 2015.

Warm regards,

Rick Roop
2015 ISA President

Note: This article previously appeared in ISA Insights in January 2015.. Reprinted with permission.

WWID is on LinkedIn

LinkedIn is a social media site that is geared towards professionals and business people. Located at **www.LinkedIn.com**, the site features online profiles, discussion groups and tools for identifying and keeping track of contacts. As of January 2014, LinkedIn has over 300 million members in more than 200 countries and territories.

In an effort to provide the latest news and information relating to instrumentation and control systems in water and wastewater management, the Water and Wastewater Industry Division has created a LinkedIn group. We invite anyone affiliated with or interested in the water and/or wastewater industries to join the group and participate in the dialog.

You may use the following link to join the group **http://www.linkedin.com/groupRegistration?gid=2031271**

Linked in

About LinkedIn

LinkedIn is an interconnected network of over 300 million experienced professionals from around the world, representing 250+ industries and 200 countries. You can find, be introduced to, and collaborate with qualified professionals that you need to work with to accomplish your goals.

When you join, you create a profile that summarizes your background and professional accomplishments. Your profile helps you find and be found by former colleagues, clients, and partners. You can add more connections by inviting trusted contacts to join LinkedIn and connect to you.

Your network consists of your connections, your connections' connections, and the people they know, linking you to thousands of qualified professionals.

There are already many ISA members and automation professionals on LinkedIn, as well as several other ISA-related groups. If you'd like to learn more about LinkedIn, the article "100+ Ways to Use LinkedIn" at the website www.*linkedintelligence.com/smart-ways-to-use-linkedin/* provides many different perspectives on how the site can be leveraged. We hope you'll join us there and network with other ISA, water, and wastewater professionals.

Call for Newsletter Articles

The WWID newsletter is published four times a year (winter, spring, summer, fall) and reaches the WWID's over 1,600 members. Each issue is approximately 32-44 pages long, and is electronically printed in color PDF format. A notification email goes out to all WWID members and it is available for public download at www.isa.org/wwid/.

We are always on the lookout for good articles, and we welcome both solicited and unsolicited submissions.

Article submissions should be 500-2000 words in length and be written for a general audience. While it is understood that the articles are technical in nature, the use of technical jargon and/or unexplained acronyms should be avoided. We actively encourage authors to include several photos and/or figures to go along with their article.

We actively welcome articles from all of our members. However, we do ask that articles be non-commercial in nature wherever possible. One or two mentions of company and/or product names for the purposes of identification is acceptable, but the focus of the article should be technical content and not just sales literature. If you are unsure of whether your article idea is workable, please contact our newsletter editor for more information – we are here to help.

Some examples of the types of articles we are looking for include:

- Explanatory/teaching articles that are meant to introduce or explain a technical aspect of automation and/or instrumentation in the water/wastewater sector.

- Biographical stories about personalities and/or leaders in the water/wastewater sector.

- Case Studies about plant upgrades and/or the application of new technologies and techniques. This type of article must include at least two photos along with the article text.

- Pictorial Case Studies about a plant upgrade consisting of 4-6 photos plus a brief 200-500 word description of the project undertaken. The article should ideally include one to two paragraphs about lessons learned and/or advice for other automation professionals.

- Historical reflections on changes in technology pertaining to specific aspects of instrumentation or automation, and how these changes point to the future.

- Discussions about changes in the water/wastewater sector and how these affect the automation professionals.

Once we receive a submission, we will work with you to edit it so it is suitable for publication in the newsletter.

Article submissions can be sent to the WWID newsletter editor Graham Nasby at graham.nasby@eramosa.com.

WWID Newsletter Advertising

The WWID newsletter is an excellent way to announce new products and services to the water/wastewater automation community. With a distribution of 2,000+ professionals in the automation, instrumentation and SCADA fields, the WWID newsletter is an effective targeted advertising tool.

The WWID newsletter is published quarterly, on the following approximate publication schedule:

- Winter Issue – published in January/February

- Spring Issue – published in May/June

- Summer Issue – published in August/September

- Fall Issue – published in October/November

Advertising in the newsletter is offered in full page and quarter page formats. Advertisements can be purchased on a per issue basis or for four issues at a time. The newsletter itself is distributed as a full-color PDF, so both color and black/white artwork is acceptable.

The current advertising rates are as follows:

Per Issue:
- Full page, full color (7" x 9"): $400
- Half page, full color (7"x4.5" or 3.5"x9"): $200
- Quarter page, full color (3.5" W x 4.5" H): $100

Per year (4 issues):
- Full page, full color, 4 issues (40% discount): $1200
- Half page, full color, 4 issues (25% discount): $600
- Quarter page, full color, 4 issues (25% discount): $300

Other sizes of advertisements are available, but are priced on an individual basis. Contact us for more information.

Please book advertising space as early as possible before the intended publication date. Artwork for advertisements should be submitted a minimum of two weeks prior to the publication date; earlier is always better than later. Artwork for advertisements can be submitted in EPS, PDF, PNG, JPG or GIF formats. EPS, PDF and PNG formats are preferred. Images should be at least 300dpi resolution if possible.

The ISA Water/Wastewater Industry Division is run on a non-profit basis for the benefit of its members. Monies raised from the sale of advertising in the newsletter are used to help offset the cost of division programming and events. Like its parent organization, the ISA, the WWID is a non-profit member-driven organization.

For more information, or to discuss other advertisement sizes not outlined above, please contact the WWID newsletter editor Graham Nasby at graham.nasby@eramosa.com.

Optimizing the Water Lifecycle with Real-Time Data

Cities may be diverse, but they all have one thing in common: they're looking to be more efficient and sustainable. For water utilities, this involves better management of their water and wastewater operations.

MAKING SMARTER DECISIONS

Real-time operations data management systems (ODMS) can help by providing an accurate picture of activities involved in water management that generate an environmental footprint. By acquiring and using more accurate data, municipal leaders can make smarter decisions and avoid making utility management a guessing game.

Appropriate use of software can help reduce the amount of water being consumed, optimize the water lifecycle and

improve overall sustainability. Already, many municipalities are using ODMS to better manage their water and wastewater operations.

SYSTEM INTEGRATION

An operations data management system is like a highway that gets you from Point A to Point B; the vehicle you drive (the applications or reports built on the infrastructure) is up to you. This system integrates and manages in real time the vast amounts of data generated from water and wastewater processes, and can help detect issues such as water leakage, water quality, overflows, energy costs, and upsets in the process.

An ODMS that is vendor-agnostic— which means it has interfaces that can talk to different software and hardware systems from different vendors — can integrate all of this data, so a utilities manager doesn't have to log into a multitude of systems to get piecemeal data. An ODMS provides one version of the truth and the data can be stored indefinitely. Real-time, accurate data is critical to operational visibility and informed decision making. Getting visibility across business processes — across the entire water and wastewater lifecycle — can save money, help the environment, and even prevent damage from flooding.

MANAGING WATER LOSS AND LEAKS IN HALIFAX

Halifax Water, for example, is using an ODMS to manage its water and wastewater business. Previously, one of its biggest problems was water loss and leakage. The municipality, which serves a population of about 325,000, has saved $600,000 a year by reducing water loss and leakage.

DETERMINING THE BUSINESS CASE FOR ODMS

An ODMS costs money, but municipalities should consider the total cost of ownership and the return on investment.

If simply relying on custom-built or one-off software solutions that don't talk to each other or are cumbersome to retrieve information, it becomes difficult, if not impossible, to see what's happening across operations and to make informed decisions. An ODMS should provide easy, instantaneous access to data without any need for programming. By tying together all of its operations systems from different vendors across facilities and even lines of business, a municipality can use one toolset to address multiple issues.

BENEFITS

Halifax Water user of PI System has realized significant savings and efficiency gains through its use of the PI System and improved the quality and scope of its services to customers. Its efforts have garnered several regional and national awards for sustainability excellence. "The PI System has changed the way we do business here," MacDonald says.

ABOUT OSISOFT, LLC

OSIsoft delivers the PI System, the industry standard in enterprise infrastructure for management of real-time data and events. With over 10,000 customer installations in more than 110 countries spanning the globe, the OSIsoft PI System is used in mawnufacturing, energy, utilities, life sciences, data centers, facilities, and the process industries. This global installed base relies upon the OSIsoft PI System to safeguard data and deliver enterprise-wide visibility into operational, manufacturing, and business data. The PI System enables users to manage assets, mitigate risks, comply with regulations, improve processes, drive innovation, make business decisions in real time, and identify competitive business and market opportunities.

OSIsoft.
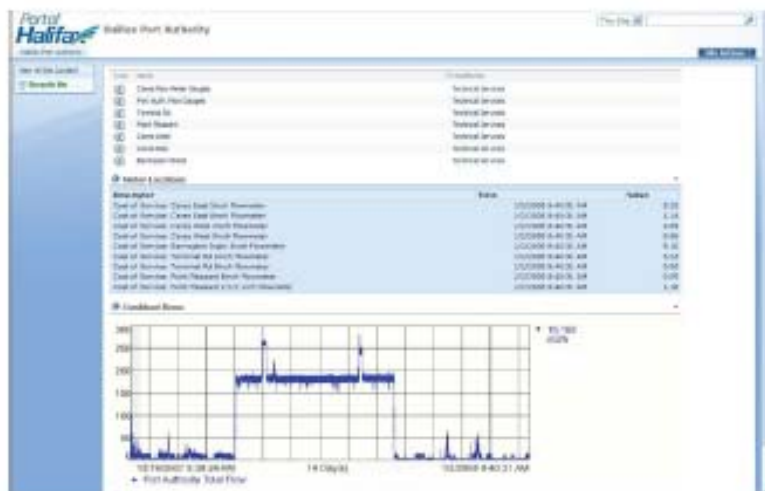
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2015 Symposium Details
Date: August 4-6, 2015
Location: Orlando, Florida, USA
Venue: Wyndham Lake Buena Vista Resort
General Symposium Chair: Kevin Patel, PE, MBA
Website: www.isawwsymposium.com

2016 Symposium Date – Save the Date
Date: August 2-4, 2016
Location: Orlando, Florida, USA
Venue: Wyndham Lake Buena Vista Resort

About the ISA Water/Wastewater Division

The ISA Water and Wastewater Industry Division (WWID) is concerned with all aspects of instrumentation and automated-control related to commercial and public systems associated with water and wastewater management. Membership in the WWID provides the latest news and information relating to instrumentation and control systems in water and wastewater management, including water processing and distribution, as well as wastewater collection and treatment. The division holds the annual ISA Water/Wastewater and Automatic Controls Symposium each summer, which features presentations by industry practitioners and published proceedings. For more information see **www.isa.org/wwid/**

About the ISA

Founded in 1945, the International Society of Automation is a leading, global, nonprofit organization that is setting the standard for automation by helping over 30,000 worldwide members and other professionals solve difficult technical problems, while enhancing their leadership and personal career capabilities. Based in Research Triangle Park, North Carolina, ISA develops standards; certifies industry professionals; provides education and training; publishes books and technical articles; and hosts conferences and exhibitions for automation professionals. For more information see **www.isa.org**

2015 Water / Wastewater and Automatic Controls Symposium

August 4-6, 2015 • Wyndham Lake Buena Vista Resort • Orlando, Florida, USA

Presented by the ISA Water / Wastewater Industries Division - *www.isawwsymposium.com*

Technical Co-Sponsors: WEF Automation and Info Tech Committee, Florida AWWA Section, Florida Water Environment Association, ISA Tampa Bay Section, and Instrumentation Testing Association

Conference Preview

ISA™

Water Environment Federation
the water quality people®

AWWA FLORIDA
Florida's Water Professionals

Florida Water Environment Association

Setting the Standard for Automation™

About the Symposium

Presented by the ISA Water and Wastewater Industries Division, in collaboration with the Florida AWWA Section, the WEF Automation and Info Tech Committee, the Florida Water Environment Association, and the Instrumentation Testing Association, the WWAC Symposium helps professionals in the water and wastewater industries understand how instrumentation, SCADA (supervisory control and data acquisition), and automatic control applications are vital to the treatment and distribution of water; the collection and treatment of wastewater; and the management of stormwater. The symposium also provides an excellent opportunity to gain valuable technical information, network with other professionals, professional development, and continuing education credits (CEUs and PDHs).

This 3-day symposium features 2 full days of presentations, a tour of a local water/wastewater facility, a general reception, networking events, a poster session, and a supplier showcase.

- 2 full days of speakers/presentations
- Track 1 – Instrumentation, System Integration, Automation, Plant Case Studies, New Technologies, Process Optimization
- Track 2 – Future of Automation, SCADA, HMI, Human Factors, Alarm Management
- 1 full-day ISA Training Course on Alarm Management
- 2 day ISA Training Course on Asset Managaement and Enterprise Integration Using ANSI/ISA-95
- Plant Tour of a local Water/Wastewater Facility
- Trade Show, Reception & Networking Event
- Affordable Professional Development for Plant Operations/Maintenance Staff, Plant Managers, Plant Designers, Engineers, System Integrators
- CEUs, PDHs – Continuing Education Units, Professional Development Hours

Attendee Profile

The symposium is targeted at anyone involved with automation, instrumentation, and/or control systems in the water/wastewater sectors. Attendees typically range from plant operators, maintenance, and technical personnel to engineers, programmers and system integrators.

Meet and network with professionals who are responsible for the automation, instrumentation and operating aspects of water and wastewater facilities across North America. According to a recent US EPA study there are over 16,000 publicly-owned water plants across the USA, and another 21,000+ wastewater treatment plants throughout the country.

This knowledge-driven event focuses on bringing together individuals who are looking for technical solutions to their water and wastewater challenges. They are looking for products, services, and partners they can trust to make their jobs easier.

Schedule of Events

Monday - Tuesday, August 3 - 4, 2015
- Optional training courses
- Symposium Registration
- Local Water/Wastewater Plant Tour (late afternoon Tuesday)

Wednesday, August 5, 2015
- Keynote Speaker
- Invited Speaker
- Presentations and Papers
- Light Breakfast, Coffee Breaks and Buffet Lunch Provided
- Supplier Showcase
- Evening Reception

Thursday, August 6, 2015
- Invited Speakers
- Panel Session
- Presentations and Papers
- Light Breakfast, Coffee Breaks and Buffet Lunch Provided
- Supplier Showcase

Technical Program

This year's symposium has a special focus on "the future of automation" and how SCADA can be used as an effective tool to optimize operations, maintenance and asset planning. The two day technical program will include a keynote address, a special welcome from the director of the ISA water/wastewater division, and two invited speakers on the need for better situational awareness in today's HMI and the need for increased security in our plant SCADA and DCS systems. Guest speakers from the AWWA and WEF will also speak about the current advances in using instrumentation and SCADA in their sectors along with a panel session on what consumers want from manufacturers.

Local Plant Tour

Attendees will have the option of attending a tour of a local water treatment facility on the late afternoon of Tuesday August 4, 2015. The tour is free to all registered symposium attendees. Complimentary bus transportation from the hotel to/from the tour site is included. Invitations to RSVP for the bus tour will be sent to all registered attendees approximately 3 weeks prior to the symposium.

Optional Short Courses

Asset Management and Enterprise Integration Using the ANSI / ISA 95 Standard (IC55)

Date: Mon. - Tues., August 3 - 4, 2015
Length: 2 days
CEU Credits: 1.4
Cost: $1585 ($1265 for ISA members)

Modern asset management, maintenance, and process monitoring systems offer a wide range of capabilities for municipal water / wastewater utilities. However, connecting SCADA systems to these advanced tools tends to be overlooked and remains a challenge. The ANSI / ISA 95 standard provides a standardized method for communicating process data between SCADA and these enterprise tools. Using examples from the manufacturing industry, this course outlines how these same techniques can be used to enable the integration of DCS and SCADA systems with these value added systems in the municipal water / wastewater sector. This course also teaches the terminology used in Information Technology (IT) departments so that manufacturing and IT personnel can effectively work together on integration projects.

Instructor: Paul Nowicki has over 25 years of experience in designing and deploying MES / ERP systems and is an active member of the ISA 88 and ISA 95 committees.

Introduction to the Management of Alarm Systems (IC39C)

Date: Tues., August 4, 2015
Length: 1 day
CEU Credits: 0.7
Cost: $720 ($575 for ISA members)

This course focuses on the key activities of the alarm management lifecycle provided in the ANSI / ISA 18.2 standard, Management of Alarm Systems for the Process Industries. The activities include the alarm philosophy development, alarm rationalization, basic alarm design, advanced alarm techniques, Human Machine Interface (HMI) design for alarms, monitoring, assessment, management of change, and audit. The course also discusses how alarm management techniques can be used to signifcantly reduce the number of nuisance alarms that operators have to address. Instructor: John Bogdan was one of the original co-authors of the ISA 18.2 standard and has worked in the area of alarm management for over 15 years.

2015 Water / Wastewater and Automatic Controls Symposium

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