Setting the Standard for Automation™

Water/Wastewater Industry Division

In this Issue

plus 2014 WWAC Conference Preview Brochure and exhibitor/sponsor form

Spring 2014 Newsletter

Director's Welcome

Welcome to our Spring 2014 newsletter. I hope that you are as excited about the arrival as Spring as I am. As a Canadian, I look forward to arrival of spring each year after our long cold winter. It's hard to believe that just a few weeks ago it was almost 40 degrees below zero in my home town.

In this issue you will find a great deal of information about our upcoming 2014 water / wastewater symposium. Our symposium chair Kevin Patel and program chair Joe Provenzano, along with the rest of the symposium committee, have been hard at work putting together this year's technical program. Included in these pages you will find the list of technical speakers for the symposium, a listing of exhibitors, and information about this year's forum session on water / wastewater utility of the future.

A large part of the success of our water/wastewater division and our symposium is due to our relationships with other associations in our sector, such as the Water Environment Federation (WEF) and American Water Works Association (AWWA). I would like to particularly thank our friends in the local Florida chapters of these associations, the FWEA and FSAWWA, for their help with promoting our symposium, and our colleagues in the WEF Automation and Info Tech Committee for their help with organizing this year's forum.

In this issue you will also read about the winners of our 2014 ISA water/wastewater division student scholarship. The WWID offers up to $2000 of scholarship money each year; please join me in congratulating this year's winners. , You will also read about a webinar we recently held in conjunction with the North East Water Environment Association.

Lastly, as per tradition, we include a meaty technical article in this issue. Eric Byres, who won the ISA's 2013 Excellence in Technical Leadership award, has kindly provided us with an article on using DPI (deep packet inspection) as part of our cybersecurity arsenal. I hope you find the article interesting and thought provoking.

As you read this newsletter, I encourage you to check out our symposium website at www.isawwsymposium.com . On the website you will find more information about our event that is being held on August 5-7, 2014 and details about how to register for it and the associated training courses.

Warmest Regards,

Graham Nasby, P.Eng., PMP
Director,
ISA Water/Wastewater Division
graham.nasby@eramosa.com

Message from your Director-Elect

I hope that the New Year has started off great for all of our members. As Graham, has spoken about the harsh Canadian winters, I feel that I have to talk about our unusually warm winters in Texas with the on-going drought conditions that continue to affect how our industry evolves.

As an automation professional, it is an exciting time as our Engineers begin to dream up new and improved methods to help sustain our water for the future, but it is also a great time to think about how all of the utility's new assets and technologies should come together and provide maximum benefit and money savings well into the future. Since this is becoming a bigger part of our industry, we have made the future of automation a key focus for our upcoming symposium.

It seems like it was just yesterday that the 2013 ISA WWAC Symposium was taking place, but in reality it was nearly 9 months ago and we are deep in the preparations of the 2014 ISA WWAC Symposium. With the feedback from last year, we are hoping to pick back up right where we left off. We have some exciting new ideas and presentations that the program committee has helped put together. I would encourage all WWID members to stay up-to-date on symposium happenings on the website at www.isawwsymposium.com.

Keep reading in this newsletter about our upcoming 2014 WWAC Symposium that is scheduled for Aug 5-7, 2014 in Orlando, Florida, which I truly feel has been getting better each and every year. The symposium is a great time to meet new professionals in our industry and share knowledge that will help you become better throughout your career. I hope to see you there!

As a final note, I want to say that what we are seeing is that the water/wastewater market is continuously evolving and automation is playing a bigger and bigger part of this evolution. It is great to be involved in an industry that is continuously in demand. As part of the symposium we plan to take a look at where the water/wastewater sector has been and where our industry experts believe it will be in the future and how automation will essentially be the glue that makes the future a reality.

It's an exciting time of the year with a fresh new beginning with lots to look forward to. Make sure you keep up with all the latest water/wastewater and automation news at our website and by attending the symposium.

Respectfully,

Kevin Patel, PE, MBA
WWID Director-Elect

WWAC Symposium Registration Now Open

Registration is now open for our 2014 WWAC Symposium! ISA members can register for only $325 for the 3-day event.

Register online at:

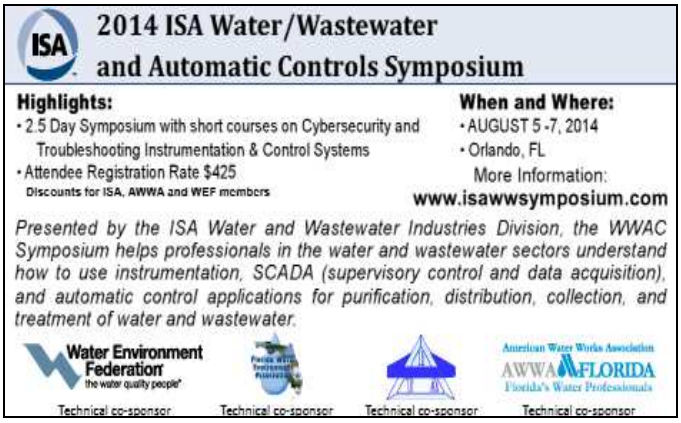
www.isawwsymposium.com/register/

Taking place 5-7 August in Orlando, Florida, USA, the 2014 ISA Water/Wastewater and Automatic Controls Symposium is a three-day event that focuses on the challenges associated with automation and instrumentation in the water and wastewater sector

The symposium features two full days of technical speakers/presentations, a tour of a local wastewater treatment plant, a general reception, networking events, a poster session and a supplier showcase. This highly focused symposium has a long tradition as an event that caters to the needs of automation professionals in the water and wastewater sectors.

> *"Our secret is our focus. Our annual ISA Water / Wastewater Symposium specifically caters to the needs of professionals involved with automation, instrumentation and SCADA in the municipal water and wastewater sectors. It is a unique niche event and we are proud of its increasing popularity. There is no other event like it in North America."*
>
> Patrick Gouhin
> ISA CEO and Executive Director

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.



2014 ISA Water/Wastewater and Automatic Controls Symposium

AUGUST 5 -7, 2014
Crowne Plaza Orlando - Universal Hotel • Orlando, FL

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. The symposium also provides an excellent opportunity to gain valuable technical information, networking, professional development, and training.

This 3-day symposium is focused on the challenges associated with automation and instrumentation in the water and wastewater sectors. It features 2 full days of presentations (two speaking tracks/rooms), a tour of a local water/wastewater facility, a general reception, networking events, a poster session, and a supplier showcase.

Keynote Speaker and Forum Session Member

A Vision for the Water Resources Utility of the Future

Thomas W. Sigmund, P.E.
Chair, NACWA Utility and Resource Management Committee
Executive Director, NEW Water

Forum Moderator

The Role of Automation within the Utility of the Future

Tom DeLaura, P.E.,
Chair, WEF Automation and Info Tech Committee
Vice President, Eramosa Engineering International

Forum Session Member

Kalanithy Vairavamoorthy, Ph.D.
Dean, University of South Florida
Patel College of Global Sustainability

Forum Session Member

Barry Liner, P.E.
Director, Water Science & Engineering Center at Water Environment Federation

Forum Session Member

David Henry., P.E.
Program Manager III, Metropolitan Water District of Southern California

Forum Session Member

Mike Sweeney, Ph.D., P.E.
Deputy Executive Director, Toho Water Authority

Technical Program Announced

Over 30 technical presentations and papers on a wide variety of automation, cybersecurity, instrumentation, plant optimization, and system-integration topics.

2 full days of Technical Speakers and Presentations

Instrumentation, System Integration, Automation, Plant Case Studies, New Technologies, Optimization, Project Management, SCADA, HMI, Human Factors, Alarm Management, Data Reporting

The major theme this year is how automaiton will play a key role in our workplace and what the Utility of the Future will look like. The symposium also continues with its traditional strength of sharing new ideas and lessons learned from recent plant upgrades and new-builds.

The Symposium Program Also Includes:

Tour of a local water treatment facility, including transportation to the tour.
Trade Show, Reception & Networking Opportunities.

Continuing Education for

Plant Operations/Maintenance Staff, Plant Managers, Engineers, Instrumentation Technicians, Plant Designers, System Integrators, Facility Owners, and PLC/HMI/SCADA/DCS Programmers

Affordable Professional Development

Early-bird registration for the 3-day ISA WWAC Symposium is only $400.
Discounts available for FSAWWA, FWEA, AWWA, WEF and ISA members.
Includes breakfasts, lunches and evening reception.

Earn CEUs & PDHs

The Florida AWWA, Florida WEA, the WEF Automation and Info Tech Committee, adn the Instrumentation Testing Association have joined the symposium as technical co-sponsors.

Attendees will receive up to 2.0 CEUs (issued by the FSAWWA, and Florida Dept. of Environmental Protection (FDEP) approved) that can be used to for continuing education requirements for Florida state water operator and wastewater operator licenses. (FSAWWA course#05134009)

Florida Engineers can receive up to 20 PDHs (issued by the FSAWWA), and ISA members and out of state attendees can receive 20 PDHs from the ISA.

Course: Troubleshooting SCADA Systems / Instrumentation & Control Systems (1.4 CEUs)

The symposium offers an optional 2-day short course on Troubleshooting Instrumentation & Control Systems. This course presents a systematic approach to troubleshooting and start-up of single and multi-loop control loops. You'll see how pressure, level, flow, and temperature loops operate to maintain good process control systems. Attendees receive 1.4 FDEP-approved CEUs (FSAWWA course#05134008) or 1.4 IACET-approved CEUs.

Course: Introduction to SCADA Cyber Security (0.7 CEUs)

The symposium offers an optional full-day short course on an Introduction to SCADA Cyber Security. This seminar teaches you the basics of the ANSI/ISA99 Security for Industrial Automation and Control Systems standards and how these can be applied in the typical factory or plant. Attendees get 0.7 FDEP-approved CEUs (FSAWWA course#05134007) or 0.7 IACET CEUs.

View the complete technical program and register at www.isawwsymposium.com

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

Florida Water Environment Association — Technical co-sponsor

Florida Water Resources Journal — Media Partner

Technical co-sponsor

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

2014 ISA Water/Wastewater Symposium, to be held August 5-7

Taking place at the Crowne Plaza Orlando-Universal Hotel in Orlando, the 2014 ISA WWAC Symposium is a three-day event that focuses on the challenges associated with automation and instrumentation in the water and wastewater sectors. The symposium features more than 30 technical speakers, two full days of technical presentations, a tour of a local water/wastewater treatment plant, a general reception and a supplier showcase. This symposium is unique as it focuses entirely on the needs of automation professionals in the municipal water and wastewater sectors.

"Our secret is our focus," says Patrick Gouhin, CEO and Executive Director at ISA. "Our annual ISA Water/Wastewater Symposium specifically caters to the needs of professionals involved with automation, instrumentation and SCADA in the municipal water and wastewater sectors. It is a unique niche event and we are proud of its increasing popularity. There is no other event like it in North America."

A Strong Technical Program

This year's technical program features more than 30 speakers. Thomas W. Sigmund, P.E., Executive Director of NEW Water, the brand of the Green Bay Metropolitan Sewerage District in Green Bay, WI will present a keynote address on A Vision for the Water Resources Utility of the Future. The Water Resources Utility of the Future (UOTF) Task Force was created by NACWA, WEF and WERF in 2012 to bring together industry experts to identify opportunities and challenges faced by clean water agencies and to identify forward looking solutions, some of which are being implemented today.

UOTF will transform both the way traditional wastewater utilities view themselves and how they will manage their operations and relationships with their communities and contributions to local economies. The Blueprint presents a vision for the future of clean water agencies as well as a series of actions to deliver the vision. Mr. Sigmund will present a vision for these new utilities and explore how instrumentation and automation are key to delivering on that vision.

Other notable speakers in the 2014 WWAC symposium technical program include:

- Don Lovell will talk about Troubleshooting Instrument and Control Systems. Troubleshooting skills are one of the essential components of an overall mission ready strategy for plant operations. Troubleshooting skills are not limited to traditional maintenance functions, but are applied to all aspects of plant operations. Typical areas would include; loop checkout, control systems, loop tuning, communication systems, material balances. Purchasing of new equipment is an example of a logical place to test troubleshooting scenarios before purchase.
- Michael Sweeney, deputy executive director of the Toho Water Authority and long-time member of the American Water Works Association, who will talk about current news and trends in the municipal drinking water sector.
- Tom DeLaura, Chair of the Water Environment Federation's Automation and Info Tech Committee, who will present on current news and trends in the wastewater sector.

In addition to our technical program and invited speakers, there will be a forum session that will allow for an open discussion on the automation needs in the utility of the future. Members of the forum session include:

- Moderator: Tom DeLaura, P.E., Chair, WEF Automation and Information Technology Committee & Vice-President, Eramosa Engineering International
- Panel Member: Tom Sigmund, P.E., Chair, NACWA Utility and Resource Management Committee & Executive Director, NEW Water
- Panel Member: Kalanithy Vairavamoorthy, Ph.D., Dean, University of South Florida, Patel College of Global Sustainability (Invited)
- Panel Member: Barry Liner, P.E., Director, Water Science & Engineering Center at Water Environment Federation
- Panel Member: David Henry, P.E., Program Manager III, Metropolitan Water District of Southern California
- Panel Member: Mike Sweeney, Ph.D., P.E., Florida Section of the American Water Works Association (AWWA) & Deputy Executive-Director, Toho Water Authority

Other topics addressed in the technical program include: cellular communications, case studies on plant upgrades, cybersecurity risk reduction, cloud-based SCADA and virtualization, DNP 3.0 protocol, sustainability through automation, human factors, CCST information, advanced process control, alarm management, improving process visualization, and system integration best practices.

"This year's 2014 WWAC symposium program covers a fascinating mix of instrumentation, SCADA, cybersecurity, alarm management, and human-factors topics. The program offers great insight to anyone who works in the operations, maintenance, design or capital planning aspects of the water or wastewater sector," says general symposium chair Kevin Patel, Vice President with Signature Automation. For the full program schedule, including full presentation abstracts and speaker bios, visit www.isawwsymposium.com/program-schedule/.

Registration is now open

Registration is now open at www.isawwsymposium.com. Attendees can register online or register by contacting ISA customer service at 1-919-549-8411. Registration for the three-day symposium is $425, and includes catered breakfasts

and lunches, as well as a printed attendee note set of the symposium proceedings. Discounts are available for ISA, AWWA and WEF members.

Attendees will also receive approved continuing education credits (PDHs and CEUs) from ISA and the Florida Section of the American Water Works Association. These credits can be used toward continuing education requirements for various state-issued water operator, wastewater operator and engineering licenses. See the symposium website for more information.

I have had the pleasure of attending the last three WWAC Symposiums and plan to attend again. I would encourage anyone in the water and waste water industry to attend…it is time well spent!
– Daniel Machado, Technology Support Group Manager, Cobb County, (Georgia, USA)

I found the WWAC Symposium…to be extremely informative and useful. As a water/wastewater instrumentation and controls engineer based in the Northeast, I appreciated the insight of others working in the same field from around the country, as the industry in my area can sometimes feel very insulated. The opportunity to share thoughts and ideas with those individuals, and attend presentations about topics that I tackle on a daily basis was priceless. The different perspectives and methods to solving problems provided me inspiration to approach projects from a different direction and will directly benefit my clients in both the short- and long-term

– Jon Grant, Senior I&C Engineer, Woodard Curran

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 CAP, Control Systems Engineer, Southern Nevada Water System

I would like to encourage anyone who has the chance to attend the next symposium – whether as an attendee or a presenter – and get a fresh perspective on the issues you face every day. Maybe even share your experience with others. You'll be glad you did.

– Matt Phillips, Water Security Coordinator (SCADA), Water Services, City of Guelph, (Ontario, Canada)

List of Technical Speakers Announced for 2014 ISA Water/Wastewater and Automatic Controls Symposium

The symposium committee is pleased to announce the list of technical speakers for the 2014 ISA Water/Wastewater and Automatic Controls Symposium. This year's symposium will have a total of 33 speakers, who will be presenting their talks over the course of 2 days. The symposium will have two speaking rooms, so that attendees can select which presentations to attend based on their interests.

View the full list:
www.isawwsymposium.com

Of the 33 speakers, the symposium includes one keynote address, two invited speakers and two guest speakers. This year's **keynote address will be delivered by Thomas W. Sigmund, P.E.** from NEW Water, the brand of the Green Bay Metropolitan Sewerage District. His talked entitled "**A Vision for the Water Resources Utility of the Future**," introduces the Water Resources Utility of the Future (UOTF) and the role automation will play.

Invited speakers at this year's symposium also include **Don Lovell**, who will discuss troubleshooting skills for instrumentation and control systems. This presentation will develop the critical need for instilling the basic troubleshooting template into the daily plant operations.

This year's symposium will include a **Technical Forum Session** where an open discussion will be held on the topic of **The Role of Automation within the Utility of the Future.** The session will be moderated by **Tom DeLaura, P.E.** and will include panel members **Tom Sigmund, P.E., Kalanithy Vairavamoorthy, Ph.D., Barry Liner, P.E., David Henry, P.E., and Mike Sweeney, Ph.D., P.E.**

The 2014 symposium will also continue the ISA's tradition of including guest speakers from the Water Environment Federation (WEF) and the American Water Works Association (AWWA). **Tom DeLaura, P.E.**, who is chair of the WEF Automation and Info Tech Committee, will deliver a talk about current news and trends in WEF. **Mike Sweeney, Ph.D., P.E.**, will deliver a talk about current news and trends in AWWA.

Topics addressed by the 2014 symposium technical program include: Automation, Instrumentation, Human Factors, Standardization, Security, Process Control, Smart Water, Wireless, Case Studies and several other SCADA-related topics. The symposium is an excellent opportunity to sharpen your technical skills, learn about industry trends, network with professionals on your sector, and earn valuable CEUs/PDHs to support your professional qualifications.

Online registration for the symposium is now available. Register now to get the early-bird discount.

ISA WWAC Symposium2014

Registration Form

International Society of Automation
67 Alexander Drive
P.O. Box 12277
Research Triangle Park, NC 27709
PHONE +1 919-549-8411
FAX +1 919-549-8288
EMAIL info@isa.org
www.isa.org

2014 ISA Water / Wastewater and Automatic Controls (WWAC) Symposium

5-7 August 2014 • Crowne Plaza Orlando-Universal Hotel • 7800 Universal Blvd. • Orlando, FL, USA

Mail Form and Payment to: ISA—WWAC Symposium
PO Box 3561
Durham, NC 27702-3561

Call ISA Customer Service at: +1 919-549-8411

Email: info@isa.org

Fax Form to ISA Customer Service at: +1 919-549-8288

Online Registration: Instead of filling out this form, please consider registering online at www.isawwsymposium.com

1. Customer Information

Name (first): _____ (initial): _____ (last): _____

Company: _____ Title: _____

Street Address: _____

City: _____ State: _____ Country: _____

Phone: _____ Fax: _____ Postal Code: _____

ISA Member # (if applicable): _____ Email: _____

2. All PARTICIPANTS ARE REQUIRED TO PAY REGISTRATION FEES

Early-Bird Registration
- ❑ Regular Attendee $425
- ❑ ISA Member $325
- ❑ AWWA Member $375
- ❑ WEF Member $375

- ❑ Student Registration $125
- ❑ Author/Speaker Registration $125

Regular Price (after 15 June 2014)
- ❑ Regular Attendee $450
- ❑ ISA Member $350
- ❑ AWWA Member $400
- ❑ WEF Member $400

Symposium Attendees will receive 2.0 CEUs (or 20 PDHs) - ISA, FSAWWA and FDEP-approved

Optional 2-day Training Course:
Troubleshooting Instrumentation & Control Systems (TC10)
4-5 August, 8:00am - 3:30pm - Attendees receive 1.4 CEUs
- ❑ Regular Price $1630
- ❑ ISA Member Price $1305

Optional 1-day Training Course
Intro to SCADA Cybersecurity & ANSI ISA 99 (IC32C)
5 Aug, 8:00am-3:30pm, Attendees get 0.7 CEUs
- ❑ Regular Price $685
- ❑ ISA Member Price $535

Your Full Symposium registration includes:

* 2 full days of papers and presentations
* poster session
* networking events
* local water treatment facility tour on Aug 5
* admission to supplier showcas6
* light breakfasts on Aug 6 and Aug 7
* full buffet lunches on Aug 6 and Aug 7
* evening reception on Aug 6 with cash bar
* name badge
* list of attendees with contact info
* printed onsite program booklet
* printed copy of symposium proceedings

Registration and Training Course Total: $_____ US Dollars

3. Payment Summary

Charge: ❑ Visa ❑ Mastercard ❑ Amex ❑ Discover

Charge Account Number: _____

Exp. Date: _____

Name on Card: _____

Signature: _____

Make Checks Payable to:
ISA WWAC

Note: Company purchase orders or military vouchers not accepted.

Hotel Registration:
Crowne Plaza Orlando-Universal Hotel
7800 Universal Blvd.
Orlando, Florida, USA, 32819
Reservations: 1 888-233-9527 (toll free)
Local: 1 407-355-0550
Fax: 1 407-355-0504
www.cporlando.com

Attendees are responsible for booking their own hotel rooms.
A hotel rate of $92/night is available if booked before **1 July 2014**

www.isawwsymposium.com

WWAC2014-REGFORM-2014-06-02

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.

Add to that a distributed control architecture — including a custom-engineered, design software suite — and you're now able to optimize plant efficiency without sacrificing availability.

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

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Bose® noise-cancelling headphones!
Visit www.SEreply.com Key Code e192u

Schneider Electric™

2014 Symposium Program Finalized

By Joe Provenzano, Symposium Program Chair

I am pleased to announce that the technical program for our 2014 symposium is now finalized. We have included the full finalized speakers program and schedule in this newsletter. I invite you to review it. I hope to see you in Orlando.

In this newsletter you will find a complete speaking order of all of our speakers, which are organized into two parallel speaking tracks over the course of two days.

The first day of speakers brings keynote speaker Thomas W. Sigmund, P.E. from NEW Water who kicks off the technical program with a talk about A Vision for the Water Resources Utility of the Future.

This is then followed by invited speaker Don Lovell on Troubleshooting Instrument and Control Systems. Don will also be the instructor for the 2-day Troubleshooting Instrumentation and Control Systems course that is being offered in conjunction with the symposium.

Our technical program then follows a comprehensive program of advanced process control techniques, instrumentation best practices, smart water projects, network design techniques and plant case studies.

The first day is then rounded out with a poster session from 2:30 to 3:45pm, and a General Reception that evening.

Our second day will then start with a sneak preview of our upcoming 2015 symposium. Following our invited speaker, we have two guest speakers from the Water Environment Federation (WEF) and the Florida Section of the American Water Works Association (FSAWWA). Tom DeLaura, who is the chair of the WEF Automation and Info Tech committee, will be giving a short talk on current news and trends in the wastewater industry. Mike Sweeney, a long-time member of the AWWA, and deputy executive director of the Toho Water Authority will then give a talk on current news and trends in the drinking water sector.

Prior to continuing the day with more in-depth technical speakers, a forum session will be held which will be moderated by Tom DeLaura of Eramosa Engineering. The panel members will discuss the automation's role for the utility of the future which will be a continuation from our keynote address. Our panel members will include Thomas Sigmund, Kalanithy Vairavamoorthy, Barry Liner, Dave Henry, and Mike Sweeney.

We have a strong focussed, technical program this year. I look forward to seeing all of you in Orlando!

Joe Provenzano
Program Committee Chair, 2014 WWAC Symposium

What there is to do in Orlando?

from the Visit Orlando tourism bureau

Lots! In addition to Disney World, Universal Studio's and Sea World, there is a lot to do and see in Orlando as part of your trip.

Theme Parks

Explore what's new and exciting at Walt Disney World® Resort, Universal Orlando® Resort, SeaWorld Parks & Entertainment and Orlando's other world-famous theme parks.

Attractions

Fill your days and nights with unique experiences outside of the theme parks. From rockets to acrobats, Orlando's attractions will take your vacation to new heights.

Golf

Tee off in one of the world's largest golf destinations. Orlando's famously beautiful golf courses, top-ranked instructors and luxurious resorts cater to the most discerning golf enthusiasts.

Arts, Culture, & History

Discover what inspires a city built on imagination. Live music, theater, dance, galleries, museums and festivals are just a taste of Orlando's arts and culture scene.

Shopping

Whether you're looking for a splurge or a steal, Orlando's collection of malls, outlets, boutiques and galleries, all within a fifteen-minute drive, will indulge every retail whim.

Spas

Whether it's a quick rubdown or a head-to-toe rejuvenation, find your inner (and outer!) glow at one of Orlando's award-winning spas.

Sports, Recreation & Outdoors

Get moving and experience Orlando's unexpected thrills. Whatever your passion, there's an activity for you.

Dining

Whether you're looking for a neighborhood café or a kid-friendly eatery, Orlando's restaurant scene has grown into an eclectic mix of dining experiences at a variety of price points.

Nightlife & Entertainment

Orlando is just as fun after dark as it is during the day. Visit one of our unique entertainment complexes, take in a show at a dinner theater or crack up at an all-ages comedy club.

For more information see: **www.visitorlando.com**

Details about 2014 WWAC Symposium

By the Symposium Committee

We are pleased to announce the dates and conference details of the 2014 ISA Water/Wastewater and Automatic Controls Symposium, which will take place 5-7 August 2014 at the Crowne Plaza Orlando-Universal Hotel in Orlando, Florida, USA. Now in its ninth 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 2014 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 SCADA cyber security and flow meter section/sizing. More information is available at www.isawwsymposium.com.

Invited Speakers

This year's symposium will feature several prominent speakers who will present on pertinent industry topics. Tom Sigmund, Executive Director of Green Bay Metropolitan Sewerage District, will deliver a talk about the Water Resources Utility of the Future to understand where our utilities currently are and where they need to be for the future.

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. There are still a few speaking slots left in the technical program.

The symposium program committee extends an open invitation for potential speakers to submit 250-word abstracts for a 30-minute talk, and a 6-12 page paper and/or poster. More information, along with the official call for abstracts, can be found at www.isawwsymposium.com/call-for-abstracts/. Abstracts were due by 31 January 2014.

Partnerships with WEF, the Florida AWWA 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 Instrument 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 Tom DeLaura. "I am very much looking forward to continuing WEF's technical co-sponsorship of the 2014 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 2014 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 cyber security and instrumentation and controls hands-on SCADA troubleshooting.

Registration for the 2.5 day symposium costs only $425, and discounts are available for AWWA, WEF and ISA members. A special discounted hotel rate of $92/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 2014 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 cyber security and instrumentation and controls hands-on SCADA troubleshooting that are being offered in conjunction with the symposium.

A copy of the 2014 WWAC Symposium preview brochure can be found attached to this newsletter.

Refreshingly simple solutions

Learn more at the 2014 ISA Water/Wastewater and Automatic Controls Symposium August 5-7, Orlando, Florida.

Water is an essential natural resource that needs to be actively protected and preserved. To help accomplish this, Phoenix Contact is constantly expanding our offering of innovative products that are the foundation of effective and sustainable solutions for managing water resources.

Phoenix Contact has developed a wide range of product and application solutions for secure, scalable industrial networks, remote connectivity, and reliable power to ensure the availability and reliability of control and SCADA systems for water management.

Visit us at the symposium to learn more about our refreshingly simple solutions for water management.

Get more information at www.phoenixcontact.com/water

PHOENIX CONTACT
INSPIRING INNOVATIONS

2014 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 4-5, 2014

- Optional 2-day course: Instrumentation and Control Hands-On SCADA Troubleshooting
- Optional 1-day course: SCADA Cybersecurity (Tuesday)
- Symposium Registration
- Local Treatment Plant Tour (Tues afternoon)

Wednesday, August 6, 2014

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

Thursday, August 7, 2014

- Invited & Guest Speakers
- 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).

Provider #1001262

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.

Earning CEUs and PDHs

Continuing Education Credits at the Symposium

At the 2014 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
- I&C: Hands on SCADA Troubleshooting Course attendees 1.4 CEUs
- Intro to Cyber Security 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 2014 symposium, this certification process is currently in progress. An announcement will be made once this process is complete.

As part of the 2014 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.

ISA Water/Wastewater Industry Division

American Water Works Association AWWA FLORIDA Florida's Water Professionals

Water Environment Federation the water quality people

Symposium CEUs and PDHs

Thanks to our partnerships with the Florida Section of the AWWA, (FSAWWA), the Florida Water Environment Association (FWEA), and the WEF Automation and Info Tech Committee, symposium participants will earn valuable Continuing Education Units (CEUs) and Professional Development Hours (PDHs) by attending the symposium. Participants will receive their choice of CEUs or PDHs from one of the following organizations:

Symposium Attendees will receive their choice of:

- 2.0 CEUs – issued by the Florida AWWA, course #0513009
- 20 PDHs – issued by the Florida AWWA, course #0513009
- 20 PDHs – issued by the ISA

Attendees of the optional 2-day SCADA Troubleshooting Instrumentation and Control Systems short course will receive their choice of:

- 1.4 CEUs – issued by the Florida AWWA, course #05134008
- 1.4 CEUs – issued by the ISA, IACET provider #1001262
- 14 PDHs – issued by the Florida AWWA, course #05134008
- 14 PDHs – issued by the ISA

Attendees of the optional 1-day Intro to SCADA Cyber Security short course will receive their choice of:

- 0.7 CEUs – issued by the Florida AWWA, course #05134007
- 0.7 CEUs – issued by the ISA, IACET provider #1001262
- 7 PDHs – issued by the Florida AWWA, course #05134007
- 7 PDHs – issued by the ISA

The FSAWWA-issued CEUs have been approved by the Florida Dept of Environmental Protection, and **can be used towards the annual continuing education requirements for state-issued water and wastewater operator licenses**.

Florida-licensed engineers can use the PDH's towards their continuing education requirements.

Out of state attendees, can use the ISA and FSAWWA-issued CEUs or PDHs to meet the continuing education requirements for various types of licenses and certifications. For example, in most states and Canadian provinces, AWWA-certified CEUs from another state are usually recognized for water and wastewater operator licenses. The same is true for PDHs for professional engineers.

Furthermore, ISA members who have the CSST, CAP, and CAP-associate certifications can use the symposium and course PDHs towards their continuing ed requirement as well.

Continuing Education as a Package

For water/wastewater utilities, the **symposium offers a cost-effective way to meet the continuing education requirements** for plant engineering, operations and maintenance staff.

American Water Works Association
AWWA FLORIDA
Florida's Water Professionals

ISA Water & Wastewater Industries Division

DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA

American Water Works Association
AWWA FLORIDA
Florida's Water Professionals

April 11, 2014

Graham Nasby
ISA

Dear Graham,

We are pleased to inform you that the Florida Section AWWA has granted your request for approval of the following training programs: ISA WWAC 2013 Symposium. The Continuing Education Unit (CEU/PDH) course number will be:

COURSE #	NAME	Credits
05134007	ISA Intro to SCADA Cyber Security	0.7 CEU's / 7 PDH's
05134008	ISA Troubleshooting Instrumentation & Control Systems	1.4 CEU's / 14 PDH's
0513009	ISA WWAC 2014 Symposium	2.0 CEU's / 20 PDH's

Within 15 days of the event you must send us the signed Roster. The Roster must include all students' names and contact information (including address, license number and license type (DW/WW/DS/PE) so we may process the Credits with the Department of Environmental Protection and the Florida Department of Business Professional Regulation. We will also need the amount of CEU's/PDH's being requested. The Roster must also include Name of Course, Course # and Date.

If you have further questions, please do not hesitate to contact me.

Sincerely,

Donna Metherall

Donna Metherall
Training Coordinator
P: 407-957-8443
F: 407-957-8415
E: fsawwa.donna@gmail.com

Symposium Program at a Glance

The Symposium program committee is pleased to announce the full technical program for the 2014 WWAC Symposium

Monday, August 4, 2014

8:00am-4:00pm	SCADA Instrumentation & Control Troubleshooting Short Course (day 1 of 2)**

Tuesday, August 5, 2014

8:00am-4:00pm	SCADA Instrumentation & Control Troubleshooting Short Course (day 2 of 2)**
8:00am-4:00pm	Intro to Cyber Security Short Course (1 day)**
12:00pm-12:30pm	**Early Symposium Registration & Badge Pick-Up**
12:30pm-3:30pm	Tour of Treatment Plant (transportation provided)***

** *Short courses are optional. Separate course registration required.*
*** *Limited capacity on tour. Tour bus leaves from hotel lobby. Invitations will be sent out 3 weeks prior to tour to registered symposium attendees. RSVP required.*

Wednesday, August 6, 2014

7:00am	**Registration, Badge Pick-up, & Breakfast**	
8:00am	**Opening Remarks**	
8:15am	Keynote Speaker **A Vision for the Water Resources Utility of the Future** Thomas W. Sigmund, P.E., Chair, NACWA Utility and Resource Management Committee & Executive Director, NEW Water – view abstract	
9:00am	Invited Speaker **TBA** Don Lovell	
9:45am	**Coffee Break & Exhibits**	
	Track 1	**Track 2**
10:30am	**Townsend Filter Plant SCADA Replacement –Standardization Matters!** Pavol Segedy, Brown and Caldwell – view abstract	**CyberSecurity: Can Standards Bring Clarity from the Confusion?** David Doggett, Jeff Miller, P.E., ENV SP, and Mark Leinmiller, Schneider Electric – view abstract
11:00am	**Municipality Moves SCADA System from Desktop Computers to Thin Clients** Bosko Bob Loncar, The Regional Municipality of Halton – view abstract	**Which cybersecurity standard is most relevant for a water utility?** Don Dickinson, Phoenix Contact – view abstract
11:30am	**HMI Development – Techniques for Reduction of Development Time** Lucas Jordan, P.E., ARCADIS – view abstract	**Digital Energy – BPT** Paul Coggin, Dynetics, Inc. – view abstract
12:00pm	**Lunch & Exhibits**	
1:00pm	**Sustainability through Automation of Wastewater Treatment: A Case Study on the Energy and water quality Impacts of DO, NH4 and SRT Control Strategies at A Conventional Activated Sludge Plant** Irina Gokhman and Sarah Elger, P.E., Xylem Water Solutions –	**Managing Complexity – Minimizing Risk: Balancing system growth against destabilizing risk** Blair Sooley, MBA, P. Eng., Trihedral Engineering – view abstract

	Sanitaire Products and Robert Smith, Ph.D., P.E., Xylem Water Solutions – YSI Products – view abstract	
1:30pm	**New Transit Time Flowmeter for Biogas applications** Alan Vance, Endress+Hauser – view abstract	**Leveraging Real-time Data for Intelligent, Utility Management** Gary Wong, P.Eng., MBA, CPA , OSIsoft, LLC. – view abstract
2:00pm	**Process Automation Upgrade of the Gilder Creek WWTP** Scott Whitmore, P.E., CDM Smith and Sothorn Khel, P.E., MR Systems – view abstract	**How Ottawa Met its Environmental Regulation Requirements Using Real Time Control (RTC) and Reduced Their Combined Sewer Overflows (CSOs) by 60%** Maxym Lachance, Eng., Tetra Tech – view abstract
2:30pm	**Poster Session, Coffee & Exhibits** Featured Poster (part of poster session): **Migrating from Single Monitor to Dual Monitor SCADA Workstations** Juliana Oyeniyi, CDM Smith – view abstract	
3:45pm	**End-to-End Networking Solutions in the Water and Wastewater Sectors** Riz Amanullah, Eaton – view abstract	**Human Factors For Project Managers** David Lee, CEng, FIChemE, User Centered Design Services Inc. – view abstract
4:15pm	**DNP3 Implementation – The Do's and Don'ts** Mike Drescher, Jeff Miller, P.E., ENV SP, and Mark Leinmiller, Schneider Electric – view abstract	**Putting the Operator First – Case Studies on Rethinking HMIs and Addressing Alarm Management** Ryan Kowalski, P.E., ARCADIS – view abstract
4:45pm	**Using Cellular Machine-to-Machine Data Plans for Collection System SCADA: Is a Small Plan Big Enough?** Daniel Cote, P.E. and Tim Baldwin, P.E., McKim & Creed, Inc. – view abstract	**Advanced Alarm Management Solutions** Thomas Maczuzak, MBA and Brian Heimbigner, BSChE, MBA, ABB Inc. – view abstract
5:15pm	**General Reception and Cash Bar**	

Thursday, August 7, 2014

7:00am	**Breakfast**
8:00am	**Opening Remarks**
8:10am	Preview of next year's 2015 ISA Water/Wastewater and Automatic Controls Symposium
8:15am	Invited Speaker **TBA** TBA
9:00am	Guest Speaker **WEF Current News and Trends** Tom DeLaura, P.E., Chair, WEF Automation and Information Technology Committee & Vice-President, Eramosa Engineering International
9:25am	Guest Speaker **AWWA Current News and Trends** Mike Sweeney, Ph.D., P.E., Florida Section of the American Water Works Association (AWWA) & Deputy Executive-Director, Toho Water Authority
9:45am	**Coffee Break & Exhibits**
10:30am	Forum Session **The Role of Automation within the Utility of the Future** **Moderator:** Tom DeLaura, P.E., Chair, WEF Automation and Information Technology Committee & Vice-President, Eramosa Engineering International

	Panel Members: Tom Sigmund, P.E., Chair, NACWA Utility and Resource Management Committee & Executive Director, NEW Water Kalanithy Vairavamoorthy, Ph.D., Dean, University of South Florida, Patel College of Global Sustainability (Invited) Barry Liner, P.E., Director, Water Science & Engineering Center at Water Environment Federation David Henry, P.E., Program Manager III, Metropolitan Water District of Southern California Mike Sweeney, Ph.D., P.E., Florida Section of the American Water Works Association (AWWA) & Deputy Executive-Director, Toho Water Authority	
12:00pm	**Lunch & Exhibits**	
	Track 1	**Track 2**
1:00pm	**What is your Cloud IQ? Is the Cloud for you? – As technology advances, where do you need to be?** Daniel Sheldon, P.E., Xylem Inc. – view abstract	**Optimizing In-line Booster Pumps with Unique Design Features and Control Strategies** Evan Curtis, P.E., Hazen and Sawyer – view abstract
1:30pm	**Cloud Based SCADA for Small Water Districts – Efficiency improvements with a new control architecture** Mauritz Botha, XiO, Inc. – view abstract	**Optimizing Water Reclamation Systems by Automation using Continuous Water Quality Analysis** Vickie Olson, MBA, Honeywell Process Solutions – view abstract
2:00pm	**Virtualizing SCADA – Improving control system reliability with proven IT technology** Jason Hamlin, City of Lynchburg Regional Wastewater Plant and Carter Farley, P.E., Instrulogic Corporation – view abstract	**Effluent Water Automation System and Operation Effectiveness** Fakhri Musameh and Issa AL-Jadi, Kuwait Oil Co. – Water Handling Team – view abstract
2:30pm	**Poster Session, Coffee & Exhibits**	
3:45pm	**CCST Certification – What, Why, Who, and How** Dan Machado, Cobb County Water System – view abstract	**SCADA Risk Management and Emergency Preparedness** Mark Leinmiller, Jeff Miller, P.E., ENV SP, and Mike Drescher – view abstract
4:15pm	**Specifying Adjustable Speed Drives for Improved Control and Integration** Tom Schaefer, Rockwell Automation	**SCADA Security and Control System Redundancy and Robust Design** Marios Iacovou, Brown and Caldwell – view abstract
4:45pm	**The Benefits of Video Integration for Facility and Asset Management** Gregory Santos, Industrial Video & Control – view abstract	**Vulnerabilities in SCADA Systems: What Are We Protecting Against?** Jim McGlone, Ultra Electronics, 3eTI – view abstract
5:15pm -5:30pm	**Closing Remarks**	

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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
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WEF Liaison

David Wilcoxson, PE
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Derrick Stableford, MIET, LCGI
Associated Engineering
Committee Member

Bryan Sinkler
Trihedral Engineering
Plant Tour Coordinator

Michael Fedenyszen
R.G Vanderweil Engineers LLP
Student Scholarship Chair, WWID

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

Rob Penfold
Sylvite Industrial Chemicals
Program Booklet Designer

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

Meet the Symposium 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

Water/Wastewater Industry Division

Symposium Sponsors

The symposium organizing committee would like to thank the following sponsors who have come on board for this year's WWAC symposium:

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WATER DESALINATION REPORT

How to Become a Sponsor

For more information on how to become a sponsor of the ISA Water/Wastewater and Automatic Controls Symposium, please refer to our 4-page full-color sponsorship opportunities brochure: **www.isawwsymposium.com/exhibit-sponsor/.**

Welcome to Our Symposium Exhibitors

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PHOENIX CONTACT
EATON Powering Business Worldwide
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Honeywell
OSIsoft.
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DEHN
antaira
PFS Primary Flow Signal
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OPTO 22
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SCOTT SAFETY A Tyco Business
ISA Tampa Bay Section
Florida Water Environment Association
American Water Works Association AWWA FLORIDA Florida's Water Professionals
Water Environment Federation the water quality people

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/.** Reserve your spot today!

Exhibit Booth Information for WWAC2014

Exhibitor tables are still available for WWAC2014, which will be taking place August 5-7, 2014 in Orlando, Florida at the same hotel.

Exhibitor tables at the 2014 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. 6th evening reception
- exhibit setup: on Tues August 5, 2014 from 6pm-9pm. exhibit teardown is Thursday, August 7 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/ .** Reserve your spot today!

Optional Symposium Training Course

Troubleshooting Instrumentation and Control Systems (2 days)

August 5-6, 2013 (2 day course)
Troubleshooting Instrumentation and Control Systems (TC10)
Instructor: Don Lovell
Credits: 1.4 CEUs / 14 PDHs
Course Fee: $1630 List Price; $1305 ISA Members

Course Description

This course presents a systematic approach to troubleshooting and start-up of single and multi-loop control loops. You'll see how pressure, level, flow, and temperature loops operate to maintain good process control systems.

You will be able to:

- Identify why a systematic approach to troubleshooting is most effective
- Verify, locate, and identify performance problems and the causes of the problems
- Take or recommend appropriate follow-up procedures to minimize problem recurrence
- Identify the common causes of sensor, transmitter, controller, and final control element problems
- Troubleshoot control systems
- Apply distributed control system (DCS) functions for troubleshooting
- Interpret pneumatic and electronic loops
- Apply safety practices for start-up
- Check and utilize control loop documentation
- State the general operation features of a HART™ control system
- State the general operations features of a FIELDBUS control system
- Compare general troubleshooting procedures for conventional, FIELDBUS, and HART™ control systems

Classroom/Laboratory Exercises:

- Diagnose and solve problems with single-loop control loops
- Diagnose and solve problems with ratio, cascade, and three-element control loop systems
- Diagnose problems using DCS displays for information
- Troubleshoot several single control loop problems

About the Instructor

Don Lovell is currently an automation consultant assisting customers in defining their automation road map to meet their business objectives. Don has been involved in the process automation field for 40 years with experience in batch and continuous applications. Industries included beverage, cement, fine chemical, food, paper and industrial boilers. Employer history includes Honeywell, ITT Education Services, Kellogg, Invensys and Rockwell Automation

Optional Symposium Training Course

Introduction to SCADA Cyber Security and the ANSI/ISA99 Standards (1 day)

August 5, 2014 (1 day course)
Introduction to SCADA Cyber Security and the ANSI/ISA99 Standards (IC32)
Instructor: John Cusimano, CFSE, CISSP
Credits: 0.7 CEUs / 7 PDHs
Course Fee: $685 List Price; $535 ISA Members

Course Description:

Understanding how to secure factory automation, process control, and Supervisory Control and Data Acquisition (SCADA) networks is critical if you want to protect them from viruses, hackers, spies, and saboteurs.

This seminar teaches you the basics of the ANSI/ISA99 Security for Industrial Automation and Control Systems standards and how these can be applied in the typical factory or plant. In this seminar, you will be introduced to the terminology, concepts, and models of ANSI/ISA99 Cyber Security. As well, the elements of creating a Cyber Security management system will be explained along with how these should be applied to industrial automation and control systems.

You will be able to:

- Discuss why improving industrial security is necessary to protect people, property, and profits
- Define the terminology, concepts, and models for electronic security in the industrial automation and control systems environment
- Define the elements of the of ISA99 Part 2: Establishing an Industrial Automation and Control Systems Security Program
- Define the core concepts of risk and vulnerability analysis methodologies
- Define the concepts of defense in depth and the zone/conduit models of security
- Explain the basic principles behind the policy development and key risk mitigation techniques
- Explain why improving industrial security will be necessary to protect people, property, and profits

About the Instructor:

John Cusimano, CFSE, CISSP is director of exida's security services division. A process automation safety, security and reliability expert with more than twenty years of experience, John leads a team to improving the security of control systems for companies worldwide. He has conducted or supervised numerous cyber security assessments of industrial control and SCADA systems in a variety of industries. John has a B.S. degree in Electrical & Computer Engineering from Clarkson University and holds Certified Functional Safety Engineer (CFSE) and CISSP Certifications.

About the Symposium Hotel

The 2014 ISA Water/Wastewater Symposium will be held at Crowne Plaza Orlando-Universal Hotel in Orlando, Florida, USA. This boutique hotel offers luxury accommodations and is only steps from International Drive's world-famous shopping, dining and entertainment. It is also situated close to both Walt Disney World Resort and the Universal Studio's theme parks. We have negotiated a special $92/night hotel rate for attendees. This rate is good from August 4 to 8, and is available for symposium attendees, speakers, exhibitors, and training course participants.

Crowne Plaza Orlando-Universal Hotel

7800 Universal Blvd., Orlando Florida 32819
www.cporlando.com
reservations@cporlando.com
Reservations: 1 888-233-9527 (toll free)
Local: 1 407-355-0550
Fax: 1 407-355-0504

Symposium Hotel Rate: $92 per night

The hotel is approximately 13 miles from Orlando International Airport (airport code: MCO).

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 $35 USD.

2014 WWAC Symposium Hotel – The Crowne Plaza

Symposium Registration Information

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 5-7, 2014) includes:

- 2 full days of papers and presentations
- poster session
- networking events
- tour of a local water/wastewater facility early-afternoon of Tues, Aug 5
- admission to supplier showcase
- light breakfasts on Aug 6 and Aug 7
- full buffet lunches on Aug 6 and Aug 7
- evening reception on Aug 6 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 members: $375
Students: $125
Authors/Speakers:..... $125

Optional Training Courses (Aug 4-5):

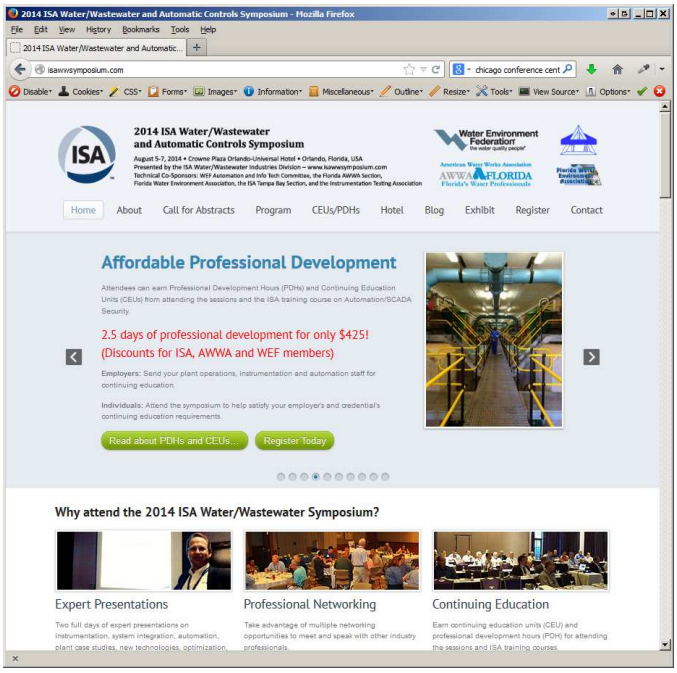
2-day Troubleshooting Control Systems $1305
1-day Intro to Cyber Security (Aug 5)..... $535

Photo from WWAC 2012 in Orlando, Florida

Visit the 2014 WWAC Symposium website

Visit our newly updated 2014 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 course
- 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

You and the other members of the symposium team did a masterful job. I am looking forward to next year when I hope to 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.

– Tom McGovern, Water & Wastewater Services, Broward County (Florida, USA)

The 2011 ISA WWAC symposium was my first and I found it very enjoyable and useful. It covered topics directly related to current water/wastewater issues such as commissioning and SCADA. The get-togethers at lunch and afterwards allowed me to meet people in my industry and discuss common issues with my industry peers. One of the great benefits is that it provides a venue to share experiences and advice that is relevant to our water/wastewater sector. I am looking forward to attending the WWAC symposium again.

– Wally Ingham, Stantec

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ISA Water/Wastewater Division Holds Cellular Telemetry Webinar

By Juliana Oyeniyi, Webinar Coordinator

On March 24, 2014 the ISA's water and wastewater division (ISA WWID) in collaboration with the New England Water Environment Association (NEWEA) hosted a webinar titled "Cellular Telemetry – Yet another Communication Option in Our Toolbox."

The webinar speaker, Paul Birkel, is a Senior Vice President at Wright-Pierce in Portland, Maine. Paul's presentation discussed the VHF radio to cellular upgrade of the 28-remote site telemetry system at Falmouth, Maine. He gave an overview of the issues Falmouth had with the original system, covered some of the alternatives that were considered for the new design, and also discussed some of the economic and technical aspects of the project (view presentation slides).

The webinar got started shortly after 2pm (Eastern Time) once we got everyone online. We had over 75 attendees view the live event some of who attended the event in groups. Thanks to everyone who helped put this together, and to everyone who was able to attend.

View the webinar recording (webex).

Special thanks to John Trofatter and the New England Water Environment Association (NEWEA) for working with the ISA-WWID to make this webinar possible.

ISA WWID is always eager to share knowledge about our industry. If you are interested in presenting during one of our webinars, please email Juliana Oyeniyi at oyeniyijo@cdmsmith.com.

NEWEA
WORKING FOR WATER QUALITY

Water/Wastewater Division

About Juliana Iyeniyi

2014 Assistant Membership Chair; 2014 WWID Webinar Host --- Juliana Oyeniyi, EIT is an Automation Specialist at CDM Smith. CDM Smith is a full-service engineering and construction firm that provides lasting and integrated solutions in water, environment, transportation, energy and facilities to public and private clients worldwide.

Title: **"Cellular Telemetry – Yet Another communication Option in Our Toolbox"**
Speaker: Paul Birkel
Date: March 24, 2014
Time: 2:00pm Eastern (UTC -4:00)
Duration: 45 minutes

Webinar Description: This presentation will outline a case study of the Falmouth (Maine, USA) upgrade to their 28 remote wastewater pump station telemetry system. Originally the wastewater treatment facility utilized an older VHF radio-based telemetry system installed in 1984.

Having served the community well for almost 30 years, the system was near the end of its useful life. Several issues drove the need for upgrading the system including: FCC changes requiring narrow band communications and existing radios not having the digital designators required by the FCC to demonstrate compliance; the original OEM is no longer in business creating issues with spare parts availability and service; and the failure of a critical part, the main communications circuit board (an Aquatrol part and no longer in manufacture or available), would severely limit access to data and impact emergency response. Options considered included VHF, UHF and spread spectrum radios and cellular communications.

A radio path survey was conducted to establish predicted signal strength and reliability of a traditional radio system and define the location for necessary repeaters to obtain information from the most difficult to reach stations. In considering the feasibility and reliability of a cellular-based system, extensive bench and field testing was conducted to quantify signal strength and assess the amount of data to be transmitted and how to best configure polling to limit the cost of data transmitted while providing a reasonable polling frequency. We will present our assessment of the economics and life cycle cost between the two viable systems (Cellular and VHF) and explain the rationale used in the decision making process and how the system is working.

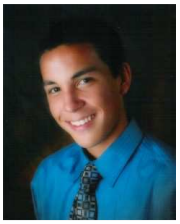
About the Webinar Presenter: Paul Birkel has a B.S. in Civil Engineering from the University of Maine and a M.B.A. from Southern New Hampshire University. He is a senior vice president at Wright-Pierce, a 200 person, water, wastewater and infrastructure consultant in the Northeast. Mr. Birkel runs the wastewater practice group and has a significant interest in the application of instrumentation and controls for wastewater facilities.

WWID NEWS

2014 WWID Student Scholarship Winners Announced

The ISA Water & Wastewater Industries Division (WWID) is pleased to announce the winners of the 2014 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 **Ben Lueders** and **Chris Waechter**. Each will receive a $1000 USD scholarship prize to help with their school costs. Please join us in congratulating this year's winners



2014 ISA Water/Wastewater Industries Division Student Scholarship winner

Ben Lueders
McGill University
Montreal, Quebec, Canada

"I would like to thank the ISA Water & Wastewater Division for this generous scholarship. The funds will go towards financing my education as a civil engineer with which I hope to use to give back to the water and wastewater field."

Biography: Ben Lueders is a second-year civil engineering student currently studying at McGill University in Montreal, Quebec, Canada. He is 20 years old and is originally from Needham, Massachusetts, USA. He graduated from Needham High School in 2012 and studied for one year at Villanova University (Villanova, Pennsylvania) before transferring to McGill University where he is on track to graduate in 2016. Although the field of civil engineering is broad, he is inclined towards the water resources and environmental applications.

2014 ISA Water/Wastewater Industries Division Student Scholarship winner

Chris Waechter
Colorado School of Mines
Dolores, Colorado, USA

"I would like to thank the ISA Water and Wastewater division for their generosity in helping to fund my education. This scholarship will help me fund my degree as I pursue my dream to create wastewater fueled algae production plants. Thank you for your faith and support."

Biography: Chris Waechter is an environmental engineering student at the Colorado School of Mines. He is married to Stephanie Waechter, with an 18 month old little boy, Wolfgang. He has previously worked for Water Solutions, LLC, based out of Dolores, CO as a water and wastewater treatment plant operator. Currently pursuing his second degree, his first degree was in computer programming from Fort Lewis College in Durango, CO. He believes that algae production has the potential to be a huge energy industry, and that wastewater treatment can be the key to making algae production economically feasible.

How to Apply for the next year's 2015 Scholarship

The 2015 Scholarship Application form will be available in September 2015.

2015 ISA WWID Student Scholarship: Applications are due January 31, 2015.

ISA Water/Wastewater Industry Division

TECHNICAL ARTICLE

Protecting Water/Wastewater Systems with Deep Packet Inspection

By Eric Byres, Belden Inc.

Over the past decade, the water/wastewater industry has embraced network technologies, like Ethernet and transmission control protocol (TCP/IP) for SCADA and automation systems. While organizations reap the benefits of these new technologies, many are also discovering the inherent dangers that result from making their systems more accessible to a wider range of users.

Linking systems together to provide access to other departments, as well as to partners, support experts and consultants, significantly increases the exposure of these systems to external forces, such as worms, viruses and hackers.

To make matters worse, the network protocols used by water systems were never designed with security in mind. If they offer any capability to restrict what users can do over the network, it is primitive and easy to subvert.

If an individual is allowed to read data from a programmable logic controller (PLC) or remote terminal unit (RTU), then typically that individual can also remotely shut down or reprogram the device. Even if a remote change to control logic or set points is accidental, it creates major safety risks. If it is malicious, then the risks are even more severe.

These issues are likely to remain with us for at least the next decade. Control systems used in water management facilities are rarely replaced; their useful lives may be 10, 20 or more years. Similarly, the security limitations of the SCADA and ICS protocols cannot be addressed through patches, as their functionality is defined in established standards that take years to change.

It will be years before newer, more secure ICS and SCADA devices are in widespread use. This leaves thousands of legacy control systems managing water systems open to accidents and attacks.

The good news is that there is a solution to this problem. It is easy to use. It does not require the complete replacement of billions of dollars of existing equipment. In addition, it is very effective.

The solution is a technology called Deep Packet Inspection (DPI) and it offers fine-grained control of SCADA network traffic. This article explains what DPI is and how it is being used to secure critical infrastructures throughout the world.

Firewall Basics

To understand how DPI works, it is important to understand how the traditional IT firewall works. A firewall is a device that monitors and controls traffic flowing in or between networks. It starts by intercepting the traffic passing through it and comparing each message to a predefined set of rules, called access control lists (ACLs). Any messages that do not match the ACLs are prevented from passing through the firewall.

The traditional firewall allows ACLs to check three primary fields in a message[1]:

1. Source IP Address: The address of the computer sending the message.
2. Destination IP Address: The address of the computer receiving the message.
3. Destination Port: The application layer protocol contained by the IP message, as indicated in the destination port number field.

The source and destination address checks are easy to understand. These restrict traffic flows to specific computers, based on their IP addresses. As long as the addresses remain the same, the firewall can control which computers can interact.

The destination port number needs a bit more explanation. These ports are not physical ports, like an Ethernet or USB port, but instead are special numbers embedded in every TCP or user datagram protocol message. They are used to identify the application protocol being carried in the message. For example, the Ethernet/IP protocol uses ports 44818 and 2222, while Modbus uses port 502 and the web protocol, HTTP, uses port 80. These numbers are registered under the Internet Assigned Numbers Authority (IANA) and are rarely ever changed.

To put this all together, imagine you only want to allow web traffic (i.e., HTTP traffic) from a client at IP address 192.168.1.10 to a web server with an address of 192.168.1.20. Then you would write an ACL rule similar to:

"Allow Src=192.168.1.10 Dst=192.168.1.20 Port=80"

You would load this ACL in the firewall and as long as all three criteria were met, the message would be allowed through.

If you wanted to block all Modbus traffic from passing through the firewall, you would simply define a rule that blocks all packets containing 502 in the destination port field.

Seems simple, doesn't it?

[1] Technically speaking, there are other fields that the typical IT firewall can check, but these three fields account for 99 percent of all firewall rules.

The Problem: SCADA/ICS Protocols Have No Granularity

The problem with this simple scheme is that it is very black and white. Using a traditional IT firewall, one can either allow a certain protocol or block it. Fine-grained control of the protocol is impossible.

This is an issue because the SCADA/ICS protocols have no granularity. From the perspective of the port number, a data read message looks **exactly** like a firmware update message. If you allow data read messages from a human machine interface to a PLC to pass through a traditional firewall, you are also allowing configuration and programming messages to pass through. This is a serious security issue.

For example, in the spring of 2009, a U.S. Government agency produced a report for major energy companies that stated:

> *"A vulnerability has been identified and verified within the firmware upgrade process used in control systems deployed in Critical Infrastructure and Key Resources (CIKR)… development of a mitigation plan is required to protect the installed customer base and the CIKR of the nation. Firmware Vulnerability Mitigation Steps [includes] blocking network firmware upgrades with appropriate firewall rules."*

Unfortunately, the IT firewalls available on the market could not differentiate between the different SCADA commands. As a result, *"blocking network firmware upgrades with appropriate firewall rules"* results in the blocking of **all** SCADA traffic. Since the reliable flow of SCADA traffic is critical to the average control system, most engineers opted to let everything pass and take their chances with security.

A Solution: Deep Packet Inspection

Clearly, the firewall needs to dig deeper into the protocols to understand exactly what the protocol is being used for. That is exactly what DPI does. After the traditional firewall rules are applied, the DPI firewall inspects the content contained in the TCP/IP messages and applies more detailed rules. It is designed to understand the specific SCADA protocols and then apply filters on the fields and values that matter to control systems. Depending on the protocol, these fields might include commands (e.g., Register Read vs. Register Write), services (e.g., Get/Set Data Valves) and PLC address ranges.

For example, a Modbus DPI firewall might be configured to inspect what commands are contained in network messages and then drop those messages capable of writing values in the PLC.

Good DPI firewalls can also 'sanity check' traffic for strangely formatted messages or unusual behaviours (such as 10,000 reply messages in response to a single request message). This sort of abnormal message can indicate traffic created by a hacker trying to crash an RTU or PLC and needs to be blocked.

Why New Malware Demands DPI Technology

Five years ago, DPI was considered a nice-to-have capability. Now, thanks to the current generation of worms, like Stuxnet and Conficker, if you want a secure ICS or SCADA system then DPI is a must-have technology.

Today's malware designers know that firewalls and intrusion detection systems will spot the use of an unusual protocol instantly. They know that if the protocols on a network are normally HTTP (i.e., web browsing), Modbus and MS-SQL (i.e., database queries) then the sudden appearance of a new protocol will put the smart system administrator on his or her guard.

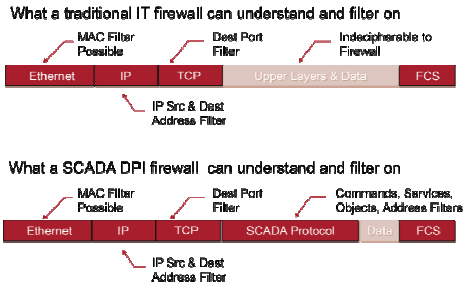


Figure 1: Comparing filtering options in a traditional firewall and a DPI Firewall. A traditional firewall cannot understand the SCADA protocol and thus can only allow or deny all SCADA messages as a group.

Thus, worm designers work to stay under the radar by hiding their network traffic inside protocols that are already common on the network they are attacking. For example, many worms now hide their outbound communications in what appear to be normal HTTP messages.

The infamous Stuxnet worm is a particularly good example of this covert use of otherwise innocent protocols. It made heavy use of a protocol called Remote Procedure Call (RPC) for both infecting new victims and for peer-to-peer communications between infected machines.

RPC is an ideal protocol for SCADA and ICS attacks because it is used for so many legitimate purposes in modern control systems. For example, the dominant industrial integration technology, OPC Classic, is based on the distributed component object model and this in turn requires that RPC traffic be allowed.

Furthermore, control system servers and workstations are routinely configured to share files or printers using the Microsoft SMB protocol, which also runs on top of RPC. For example, most Siemens control systems make extensive use of a proprietary messaging technology that travels over RPC. If you were an administrator watching network traffic on a Stuxnet infected network, all you would see was a little more RPC traffic than usual, hardly a cause for alarm.

Even if you suspected something was wrong, you would be thwarted if all you had was a normal firewall. The simple blocking of all RPC traffic would likely result in a self-induced denial of service for your entire system. Without tools, like DPI technology, to inspect the content of RPC messages and block suspicious traffic, you would be unable to stop the malware.

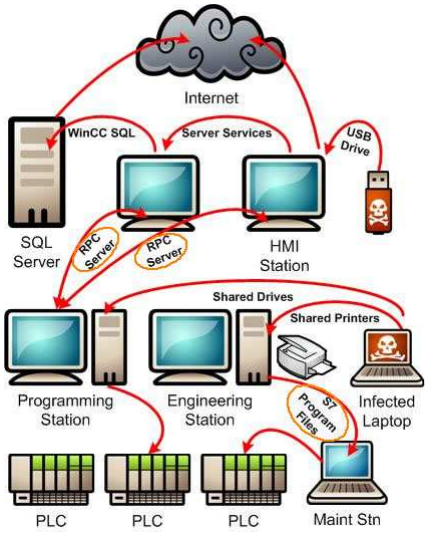


Figure 2: Stuxnet spread many ways, including using the RPC protocol as a vector. DPI could have detected this non-standard use of the protocol and restricted some of the ways the worm spread.

DPI Provides Robust SCADA Security for the Water/ Wastewater Industry

DPI technology is a very powerful tool in any security toolbox. It allows the engineer to block the malicious or inappropriate SCADA/ICS traffic to the water management controllers, yet avoid needless impact on the system as a whole. Without it, the designers of modern worms clearly have the upper hand. In order to stay ahead of today's advanced threats, DPI capability has become a must-have in all industrial firewalls, especially those implemented in mission critical systems by water/wastewater system operators.

Conclusion

The complexity and interconnection of water-industry control systems has increased dramatically in the digital age. While these advances carry many benefits, they have also heightened security risks surrounding life's most essential element – water.

ABOUT THE AUTHOR

Eric Byres is one of the world's leading experts in the field of SCADA security. With a background as a process controls engineer, he brings a unique combination of deep technical knowledge plus practical field experience to his role as CTO and VP Engineering for Tofino Security at Belden Inc. He is also the recipient of the 2013 International Society of Automation (ISA) Excellence in Leadership Award for his contributions to the industry, including advancements in automation.

Are you Qualified?

By Dr. Peggie Koon, 2014 ISA President

This week hundreds of educators and professionals from government and public and private industry sectors converged on Washington, DC to attend the *US News* STEM Solutions National Conference. The sessions covered an array of topics related to STEM (science, technology, engineering and math); I had the honor of participating on a panel entitled "Customized Credentials Come of Age."

After a brief introduction by Dr. Barbara Endel, Program Director for Jobs of the Future, I listened attentively as Dr. Cathy Sandeen, VP of Education, Attainment, and Innovation at ACE (the American Council on Education) presented the numbers, confirming that 30 million people in the US have sub-BA (Bachelor of Arts) credentials. ***30 million!*** That's a large number of folks.

Cathy made the case for the need to bridge the gap in the credentialing process so students know how credentials stack up against a traditional four-year degree program; educators at local universities and technical colleges understand how to merge sub-BA credentials with traditional collegiate course work; and employers can gauge competency/proficiency/skill level using all of the credentials a student might possess. (Note: Later during my trip to DC, Dr. Cora Marrett, Deputy Director of the National Science Foundation described this issue in a discussion of linear versus non-linear paths for STEM degrees.) Credentialing and competency in STEM education and STEM careers were a huge part of the "buzz" at the National Academy of Engineering's Annual Convocation of Professional Engineering Societies (at which ISA was invited to participate).

The presentation on credential gaps flowed nicely into a hearty discussion of badges. Dr. Kyle Bowen, Director of Education Technology at Penn State University, explained how badges allow students to maintain digital portfolios that include work experience, education, certificates, certifications, etc. Badges, in effect, allow a student to own and maintain a complete digital profile of both institutional and experiential learning so employers know immediately if she or he (as an applicant) has the specific competency required for a job. Kyle also discussed the need to define standards so employers have levels of confidence that the applicant has specific competency in the areas for which a badge is received.

When it was my turn to speak, I began with the question: "How many of you have heard of ISA?" The audience was silent. An estimated 50 people sat in the room to discuss credentials and not one of them had heard of ISA. Furthermore, even after I explained ISA's role in providing workforce development/training, professional development, and certificates, as well as certification programs for automation professionals, there were many blank faces in the room. The audience appeared to connect with me more as I related that ISA, in conjunction with the US Department of Labor and industry experts, has developed an ***Automation Competency Model***. The model defines requirements for all levels of the automation profession, helping employers better understand what skills they should look for in an applicant.

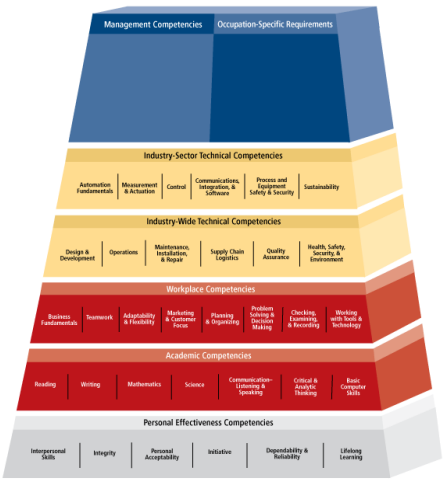


Figure 1 – The Automation Body of Knowledge

And students can refer to the model to determine which courses/certificates/certification programs are required for different automation fields/positions. And, finally, colleges and technical institutes can also use the model to build competency-based curricula.

Someone in the audience asked if there were any K-12 schools with competency model-based curricula? ISA's collaborative effort with Project Lead the Way in the schools in Raleigh and Pennsylvania immediately came to mind. I also mentioned that programs like *FIRST*® (For Inspiration and Recognition of Science and Technology) and Goldie Blox, supported by entrepreneurs, augment the traditional school system curricula while getting students excited and raising awareness of the importance of STEM education and project/competency-based learning.

Finally, I listed five "game changers" that are impacting STEM solutions and the automation profession. The game changers listed were:

Big Data – More than ever before, companies today are relying on big data analytics to make strategic decisions, creating a demand for STEM careers related to the effort.

Coolest Delivery -- The next generation of STEM and automation professionals is techno savvy and technology enabled – a group that will expect STEM projects (content, data, and tools) to be available via the coolest delivery/technology available. Without the "cool factor," the disparity that exists between the demand for STEM careers and the supply of STEM professionals will continue to expand.

Cybersecurity – The cyber threat is real and there is a concomitant requirement for STEM professionals in cybersecurity -- people who understand how to mitigate and respond to the threat both in traditional IT and from the emerging operational technology (OT) perspectives that are affecting our nation's critical infrastructure.

Aging Workforce – The current STEM workforce is aging. Many of the nation's critical STEM jobs are filled by folks who are nearing retirement. There is a skills gap between retirees and those who are entering the STEM career workforce, creating a significant need for workforce development in this area.

MOOC and other new credentialing programs – In addition, I talked about the impact of massively open online courses (MOOC) and other emerging credentials and badges. These innovations will change the way students choose to learn and will trigger changes in college curricula and requirements for STEM and automation degrees. And these new innovative credentialing systems will challenge the way employers define "qualifications" for STEM jobs.

This last game-changing theme about credentialing made me feel that ISA should become more engaged in this conversation – to better understand and to be able to adequately respond to the changes that are occurring in this space.

The conversation that followed the panel discussion confirmed my feelings. You see, I heard over and over again folks talking about how difficult it is to properly convey a person's work experience, his/her collegiate degree/coursework, plus certificates, licenses, certifications, and/or any badges to determine appropriate paths for continuing STEM education and acquiring STEM careers.

What if every STEM career and STEM field had a competency model? Would that help solve the problem? Or would it create a new set of problems? At the American Association of Engineering Societies (AAES) Board Meeting, Jerry Carter, CEO of the National Council for Examiners of Engineering and Surveying (NCEES) shared that he, Cathy Leslie, CEO of Engineers Without Borders (EWB), and Mike Marlowe, Managing Director of the Automation Federation, recently visited with a team at the Employment and Training Agency (ETA) of the Department of Labor to discuss a project to develop an engineering competency model.

It's anticipated that this will be a year-long project, but Jerry told the AAES Board that he thinks "this competency model will be a tool that will be useful to all of our organizations." Jerry credited ISA with having made him aware of the model. Once the engineering competency model is developed, all of the engineering societies will be able to follow ISA's lead and use it as a template for more targeted competency models -- so engineers will know if they are qualified-for their respective areas of engineering.

This effort is not just relegated to engineering societies, but is extended to community colleges and universities as well. ISA and the Automation Federation are working with Cleveland Community College (CCC) and the government to develop Mission Critical Operations training programs that encompass STEM education for those who support mission critical operations of a company, including industrial/operational and information technology. This government funded program will be piloted at CCC, the University of North Carolina at Charlotte, and other colleges to develop a template/competency model for this type of STEM education at technical, community, and four-year colleges across America.

What should be the response from academia? Should the Accreditation Board for Engineering and Technology **(**ABET) look at developing competency based-degrees that encompass both applied/experiential learning and specific course work?

How early in the learning/development process should project/competency-based learning occur?

If badges are adopted, how would badges be verified and standardized?

What else might industry, government, entrepreneurs, and professional organizations partner to address this very important issue?

Advocacy, Innovation, Partnership, Competency Models

The STEM problem in the US is a complex, multi-faceted issue, one that can only be solved by a very concerted and congruent effort from the four pillars of our nation -- ***education, government, industry, and the private sector (entrepreneurs)***. And there are so many questions related to STEM. Those listed above are just a few.

"There is far more opportunity than ability." - Thomas Edison

After listening to the various speakers at the convocation and those at the United Engineering Foundation's (UEF) Engineering Public Policy Symposium, I am very hopeful about the future of STEM education and STEM careers. Significant advances have been made in Shale gas using new micro seismic and geo thermal technologies. Are there specific courses or certification programs to be developed for perhaps a new set of STEM careers that will evolve from innovations in shale gas and unconventional energy resources?

The discussions about the manufacturing renaissance, the "Maker initiative," and cool new innovations in manufacturing, such as 3D printing, provide new avenues for entrepreneurs to engage and to promote innovation. Who will develop standards for the products made by these new STEM entrepreneurs? And if grants are given for these new "manufacturing" hubs, how will applicants "qualify"?

What will competency look like tomorrow, next year, five years from now?

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.

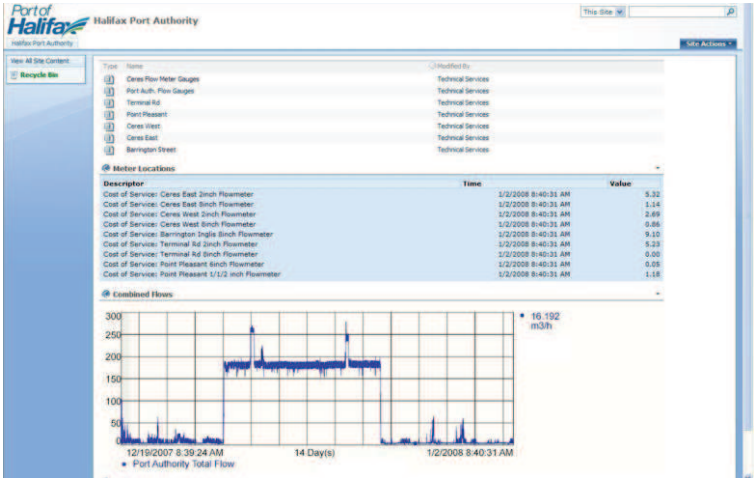
If simply relying on custom-built or one-off software solutions that don't talk to each other or are cumbersome to retrieve information, it becomes difficult, if not impossible, to see what's happening across operations and to make informed decisions. An ODMS should provide easy, instantaneous access 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.



777 Davis Street, San Leandro, CA 94577
sales@osisoft.com

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 2013, LinkedIn has over 200 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**

About LinkedIn

LinkedIn is an interconnected network of over 200 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, and fall) and reaches the WWID's over 2,000 members. Each issue is approximately 32-44 pages long, and is electronically 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, PDFand 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.

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2014 Symposium Details
Date: August 5-7, 2014
Location: Orlando, Florida, USA
Venue: Crowne Plaza Orlando-Universal Hotel
General Symposium Chair: Kevin Patel, PE, MBA
Website: www.isawwsymposium.com

2015 Symposium Date – Save the Date
Date: August 4-6, 2015
Location: Orlando, Florida, USA
Venue: to be announced
General Symposium Chair: Kevin Patel, PE, MBA

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**

ISA WWAC Symposium2014

Registration Form

International Society of Automation
67 Alexander Drive
P.O. Box 12277
Research Triangle Park, NC 27709
PHONE +1 919-549-8411
FAX +1 919-549-8288
EMAIL info@isa.org
www.isa.org

2014 ISA Water / Wastewater and Automatic Controls (WWAC) Symposium

5-7 August 2014 • Crowne Plaza Orlando-Universal Hotel • 7800 Universal Blvd. • Orlando, FL, USA

Mail Form and Payment to: ISA—WWAC Symposium
PO Box 3561
Durham, NC 27702-3561

Call ISA Customer Service at: +1 919-549-8411

Email: info@isa.org

Fax Form to ISA Customer Service at: +1 919-549-8288

Online Registration: Instead of filling out this form, please consider registering online at www.isawwsymposium.com

1. Customer Information

Name (first): _____ (initial): _____ (last): _____

Company: _____ Title: _____

Street Address: _____

City: _____ State: _____ Country: _____

Phone: _____ Fax: _____ Postal Code: _____

ISA Member # (if applicable): _____ Email: _____

2. All PARTICIPANTS ARE REQUIRED TO PAY REGISTRATION FEES

Early-Bird Registration
- ❑ Regular Attendee $425
- ❑ ISA Member $325
- ❑ AWWA Member $375
- ❑ WEF Member $375

- ❑ Student Registration $125
- ❑ Author/Speaker Registration $125

Regular Price (after 15 June 2014)
- ❑ Regular Attendee $450
- ❑ ISA Member $350
- ❑ AWWA Member $400
- ❑ WEF Member $400

Symposium Attendees will receive 2.0 CEUs (or 20 PDHs) - ISA, FSAWWA and FDEP-approved

Optional 2-day Training Course:
Troubleshooting Instrumentation & Control Systems (TC10)
4-5 August, 8:00am - 3:30pm - Attendees receive 1.4 CEUs
- ❑ Regular Price $1630
- ❑ ISA Member Price $1305

Optional 1-day Training Course
Intro to SCADA Cybersecurity & ANSI ISA 99 (IC32C)
5 Aug, 8:00am-3:30pm, Attendees get 0.7 CEUs
- ❑ Regular Price $685
- ❑ ISA Member Price $535

Your Full Symposium registration includes:

* 2 full days of papers and presentations
* poster session
* networking events
* local water treatment facility tour on Aug 5
* admission to supplier showcas6
* light breakfasts on Aug 6 and Aug 7
* full buffet lunches on Aug 6 and Aug 7
* evening reception on Aug 6 with cash bar
* name badge
* list of attendees with contact info
* printed onsite program booklet
* printed copy of symposium proceedings

Registration and Training Course Total: $_____ US Dollars

3. Payment Summary

Charge: ❑ Visa ❑ Mastercard ❑ Amex ❑ Discover

Charge Account Number: _____

Exp. Date: _____

Name on Card: _____

Signature: _____

Make Checks Payable to:
ISA WWAC

Note: Company purchase orders or military vouchers not accepted.

Hotel Registration:
Crowne Plaza Orlando-Universal Hotel
7800 Universal Blvd.
Orlando, Florida, USA, 32819
Reservations: 1 888-233-9527 (toll free)
Local: 1 407-355-0550
Fax: 1 407-355-0504
www.cporlando.com

Attendees are responsible for booking their own hotel rooms.
A hotel rate of $92/night is available if booked before **1 July 2014**

www.isawwsymposium.com

WWAC2014-REGFORM-2014-06-02

2014 Water / Wastewater and Automatic Controls Symposium

August 5-7, 2014.....Crowne Plaza Orlando-Universal Hotel.....Orlando, Florida, USA

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

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

Conference Preview

Setting the Standard for Automation™

ABOUT THE SYMPOSIUM

Presented by the ISA Water and Wastewater Industries Division, in collaboration with the Florida AWWA Section, Florida Water Environment Association, WEF Automation and Info Tech Committee, and Instrumentation Testing Association, the WWAC symposium helps professionals in the water and wastewater sectors 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, networking, professional development, and continuing education credits (CEUs and PDHs).

This 3-day symposium is focused on the challenges associated with automation and instrumentation in the water and wastewater sectors. It features 2 full days of presentations (two speaking tracks), 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 – SCADA in the Workplace, HMI, Human Factors, Alarm Management**
- **Two Optional ISA Training Courses before the symposium**
- **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 – Continuing Education Units**
- **PDHs – 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 symposium 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 4-5, 2014
- Optional full-day training courses
- Symposium Registration
- Local Water/Wastewater Plant Tour (late afternoon Tuesday)

Wednesday, August 6, 2014
- Keynote Speaker
- Presentations and Papers
- Light Breakfast, Coffee Breaks and Buffet Lunch Provided
- Supplier Showcase & Vendor Presentations
- Evening Reception

Thursday, August 7, 2014
- Invited Speaker
- Presentations and Papers
- Light Breakfast, Coffee Breaks and Buffet Lunch Provided
- Poster Session
- Supplier Showcase

Technical Program

This year's symposium has a special focus on "SCADA in the Workplace" 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 an invited plenary speaker. Guest speakers from the AWWA and WEF will also speak about the current advances in using instrumentation and SCADA in their sectors.

Interested in speaking at this year's symposium? Authors can present a 30-minute talk, 6-12 page paper, or a large format poster. The Call for Abstracts is now available at www.isawwsymposium.com/call-for-abstracts/ . Abstracts are due January 31, 2014.

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 5, 2014. The tour is free to all registered symposium attendees. Complimentary bus transportation from the hotel to/from the tour site is included. Invitations will be sent to all registered symposium attendees three weeks before the tour.

Optional Short Course #1

Introduction to SCADA Cyber Security

Introduction to Industrial Automation Security and the ANSI/ISA-99 & IEC 64432 Standards (IC32C)

Date: Tues. August 5, 2014
Length: 1 day
CEU Credits: 0.7
Cost: $685 ($535 for ISA members)

This full day course covers the basics of the ANSI/ISA99 Security for Industrial Automation and Control Systems family of standards and how these can be applied in a typical water or wastewater district. You will be introduced to the terminology, concepts, and models of ANSI/ISA99 CyberSecurity. As well, the elements of creating a CyberSecurity management system will be explained along with how these should be applied to commonly used SCADA, DCS and Automation Systems in the water and wastewater .

Optional Short Course #2

Troubleshooting SCADA Systems

Troubleshooting Instrumentation & Control Systems (TC10)

Date: Mon-Tues. August 4-5, 2014
Length: 2 days
CEU Credits: 1.4
Cost: $1630 ($1305 for ISA members)

This hands-on 2-day course, that uses actual physical instrumentation, presents a systematic approach to troubleshooting and start-up of single-loop and multi-loop control loops. You'll see how pressure, level, flow and temperature loops operate to maintain good process control systems. Topics covered will include various troubleshooting techniques; commons problems with measurements, valves and and controllers; and how to use various computerized tools for diagnosing common loop configuration and tuning problems.

Why you should attend

Opportunity to learn from others and "talk shop" with people who understand the challenges of your sector

Cost effective professional development and continuing education.

Keep your skills current.

Get to compare experiences and lessons learned

Learn about new technologies, products and services

Be actively involved in your professional development

Establish contacts in the industry

Share ideas and experiences with others in the sector

Learn Something

Have Fun

Benefits for Water Utilities

Inexpensive profressional development

2.5 days of training for $425

Group discounts available

Opportunity for staff to learn about new ideas and industry innovations

Benefits for Engineering Firms

Exposure to new ideas

Learn from plant case studies

Talk to operations and maintenance professionals in an informal environment

Learn about new products and techniques

Registration & Fees

Full Symposium

List Price -	$425
ISA Members -	$325
AWWA & FSAWWA Members -	$375
WEF & FWEA Members -	$375
Students -	$125
Authors / Speakers -	$125

Optional Cyber Security Course

List Price -	$685
ISA Members -	$535

Optional I&C Troubelshooting Course

List Price -	$1630
ISA Members -	$1305

The symposium hotel rate is $92 per night.

2014 Water / Wastewater and Automatic Controls Symposium

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.

CONTACTS

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Joe Provenzano, MSc
Symposium Program Chair
KPRO Engineering Services
provenzano2@comcast.net
(203) 560-1816

Rodney Jones
ISA Staff Contact
rjones@isa.org
(919) 990-9418

Note: See symposium website for 2014 exhibitor & sponsorship opportunities

International Society of Automation
67 T.W. Alexander Drive
PO Box 12277
Research Triangle Park, NC 27709
E-Mail: info@isa.org
Telephone: (919) 549-8411
Fax: (919) 549-8288
www.isa.org

WWAC2014-PRE (2013-12-23)

For more information visit:
www.isawwsymposium.com

ISA WWAC Symposium2014
5-7 August 2014
Orlando, FL USA

Sponsorship and Exhibit Space Contract

International Society of Automation
67 Alexander Drive
P.O. Box 12277
Research Triangle Park, NC 27709
PHONE (919) 549-8411
FAX (919) 549-8288
E-MAIL info@isa.org
www.isa.org

2014 ISA Water / Wastewater and Automatic Controls (WWAC) Symposium

5-7 August 2014 • Crowne Plaza Orlando-Universal Hotel • 7800 Universal Blvd • Orlando, FL, USA

Instructions: Review the Sponsorship & Exhibitor Prospectus. Complete this form, Sign it, and Fax it ISA headquarters at +1 (919)-549-8288

1. Applicant Information

Company Name: _____

Street Address: _____

City: _____ State/Province: _____ Country: _____

Phone: _____ Fax: _____ Postal Code: _____

Contact Person: _____ Position: _____

ISA Member # (if applicable): _____ Email: _____

2. Sponsorship Opportunities (check all that apply)

❑ **Platinum Level $3000**
includes 2 full conference passes
includes 1 exhibitor table with two vendor passes

❑ **Gold Level.....$1500**
includes 1 full conference pass

❑ **Silver Level $500**

❑ Breakfast Sponsor $750

Names of Conference Attendees

❑ 1: _____ Add $400 if not Platinum/Gold sponsor

❑ 2: _____ Add $400 if not Platinum sponsor

❑ 3: _____ Add $400

3. Exhibitor Opportunities (Table-Top Exhibits)

Do you wish to exhibit at the symposium? YES ____ NO _____

An Exhibit Table includes a 6' skirted table, two chairs, duplex outlet, and two vendor passes.

❑ Regular Price.....$875
❑ Price for Platinum Sponsors.....N/A, included
❑ Price for Gold Sponsors.....$500
❑ Price for Silver Sponsors.....$700

Preferred Exhibit Table Location: _____
ISA reserves the right to assign comparable space if the preferred location is not available

Names for Vendor Passes

❑ 1: _____ Included with exhibit table

❑ 2: _____ Included with exhibit table

❑ 3: _____ Add $200

4. Acceptance of Terms and Conditions

Contract terms and conditions are on the reverse of this page. These rules and regulations are incorporated by reference into this contract, and by executing this agreement the sponsor/exhibitor agrees to be bound thereby as if same had been set forth fully herein.

Authorized Signature: _____ Print Name: _____ Position: _____

Technologies and/or products to be displayed/promoted: _____

For exhibitors: We request that, if possible, space assignment near the following potential exhibitors be avoided: _____

5. Payment for Sponsorship/Exhibiting

Total Amount: _____ **US Dollars** (from sections 2 and 3)

Payment in US currency only.
Full payment required with application.
Make check or money order payable to ISA.
Call ISA Customer Services for wire transfer information.

www.isawwsymposium.com

To pay by credit card, complete the following:

Charge: ❑ Visa ❑ Mastercard ❑ Amex ❑ Discover

Charge Account Number: _____

Expiry Date: _____

Signature: _____

WWAC2014-EX-FRM-2013-08-02

Exhibit Space Contract Terms and Conditions

1. **APPLICATIONS.** Applications for exhibit space must be made on the form printed on the reverse hereof, completed as requested, and accompanied by the required payment.

   Products and services to be displayed must be specified on the application.

   ISA reserves the absolute right to decline any application for space if, in ISA's judgment, the products or services to be shown or demonstrated are unrelated to the scientific and educational purposes of the Conference. This application becomes a contract only when accepted by ISA by notifying applicant of the assignment of a specified exhibit table.

2. **EXHIBIT SPACE AND FLOOR PLAN.** Exhibit tabletop space includes 6ft table, 2 chairs, one trash can, and duplex outlet. No rent allowance will be made if standard equipment is not desired. The exhibit floor plan for this Exhibition will normally be maintained as initially offered. ISA reserves the right to modify the plan to the extent necessary for the best interests of the Exhibitors and ISA or to correct inaccuracies or errors. ISA also reserves the right to modify the plan to the extent necessary for the best interests of the Exhibition.

3. **SPACE ASSIGNMENT.** Space available will be allocated on a first come basis.

4. **EXHIBIT SPACE PAYMENT SCHEDULE.** 100% of total exhibit fee must be paid with application.

5. **CANCELLATION**. An Applicant may cancel the contract by giving written notice of cancellation received by ISA on or before 2 months ahead of conference start date. Upon receipt of a timely notice of cancellation, ISA will refund the exhibit table fee previously paid by Applicant. Applicant agrees that any cancellation after 2 months ahead of conference start date, withdrawal from the event, or failure to show at the event is a material breach of this agreement and ISA will retain the entire exhibit fee paid by Applicant in such event. Applicant agrees that the amount of the exhibit fee is a reasonable measure of the damages to ISA in the event of such breach. ISA agrees that the retention of the fee is Applicant's sole liability in the event of such breach. All notices of cancellation must be delivered to ISA before 2 months ahead of conference start date. No notice is effective unless submitted to ISA in a manner in which proof of receipt by the deadline can be shown, such as certified mail with a return receipt, courier with signed receipt, or an acknowledged e-mail from ISA.

6. **SUBLETTING EXHIBIT SPACE.** No Applicant shall assign, sublet or apportion the whole or any part of the space allotted. Applicant may not display equipment or materials from other than its own firm or joint Applicants' firms in said space, without the consent of ISA.

7. **INDEMNITY AND LIMITATION ON LIABILITY.** Applicant covenants and agrees to hold and save harmless ISA; the owners, operators, and managers of the Exhibit Facility; and the respective officers, agents and employees of each (collectively referred to as Exhibit Management) from any and all claims of liability, damage, or expense resulting from any injury to or death of any person, including Applicant's employees, agents, and contractors, occurring within Applicant's exhibit table or resulting directly or indirectly from any act or omission of Applicant or any loss of, damage to, or theft of any property. An omission of Applicant includes any failure of Applicant to comply with any of the terms and conditions of this Contract; any of the Conference and Exhibit Rules and Regulations; any Rules and Regulations of the Exhibit Facility; and any laws of the City of the conference location. Applicant agrees to indemnify each and every member of the Exhibit Management group for any and all costs and liabilities incurred in defense of any such claim, including all expenses, attorney's fees, and any judgments awarded or settlement amounts agreed to. It is agreed that ISA Exhibit Management shall not be responsible for any loss, damage, or theft of any property of any persons, including the Exhibitor and its employees, agents, and contractors, while in transit to or from the Exhibit Facility, while in the Exhibit Facility, or otherwise.

   Except for cancellations and withdrawals permitted by Paragraph 5 above, the Applicant is responsible for total rent for exhibit space irrespective of any reason for such cancellation and withdrawal, including cancellation and withdrawal by the Applicant because of failure of product showcase to arrive for any reason or cancellation by the Sponsors as the result of action by the Exhibit Facility Management or the result of strikes, lock-outs, act of God, inability to obtain labor or materials, government action of whatsoever nature, war, civil disturbance, fire, unavoidable casualty or other causes, whether similar or dissimilar, beyond the control of ISA. In the event of cancellation by ISA as a result of the aforesaid causes, the Applicant expressly waives such liability and releases ISA of and from all claims for damages and agrees ISA shall have no obligation to Applicant.

   Applicant is a licensee of exhibit only and not an agent, employee, partner or joint venturer of or with ISA. Applicant agrees that it is solely responsible for its costs of doing business and agrees to hold ISA harmless from any obligations incurred by the Applicant as a result of contracting for any goods or services connected with the Exhibitor or with the Exhibit Facility, service contractors, or other persons or companies and to indemnify ISA for any costs or liabilities incurred in defending any such claims against ISA, including attorneys' fees, expenses, and any judgments awarded or settlement amounts agreed to.

8. **GOVERNING DOCUMENTS AND LAWS.** Applicant expressly understands and agrees to be bound by all terms and conditions and rules and regulations contained in this Exhibit Space Contract, the Exhibit Space Rules and Regulations, including any amendments which may be issued; the master lease between ISA and the Exhibit Facility; and the Exhibit Facility Rules and Regulations, copies or pertinent extracts of which are attached and/or available for inspection at ISA during normal business hours. Applicant also agrees to be bound by any deadlines or policies stated in the Exhibitor information which will be provided by ISA.

   Such documents are made an integral part of this Contract by reference as if set forth in full in the Contract. Applicant is further charged with the knowledge of, and agrees to comply with, all local, state and federal laws, regulations, and codes pertaining to health and safety and promotions, marketing, and advertising, including activities requiring copyright licenses or permission and constituting a lottery, applicable to Applicant's Exhibit.

   Compliance is Applicant's sole responsibility. This Contract will be interpreted and governed by the laws of North Carolina applicable to contracts signed and be wholly performed within North Carolina.

9. **EXHIBITOR EVENT CONFLICTS.** Exhibitor will not schedule any receptions, hospitality suites, social functions, exhibits, product demonstrations, technical seminars, training sessions, or other event or function for attendees (or potential attendees) outside of the exhibit facility during the Conference and Exhibit activity hours.

10. **SURRENDER OF SPACE.** If not cancelled as provided in this contract, Applicant's license for the exhibit space expires at the earlier deadline for move-out or actual vacation of the exhibit space. Applicant will surrender the space occupied by Applicant at the expiration of the license in the same condition as it was at the commencement of occupation. Applicant assumes sole and total responsibility for any damage to the Exhibit Facility due to construction, use, or dismantlement of Applicant's Exhibit and will reimburse ISA for any charges assessed by Exhibit Facility caused by Applicant paid by ISA, including charges for failing to vacate the premises in a timely manner.

11. **VIOLATIONS.** The interpretation and application of these Terms and Conditions and documents incorporated by reference are the sole responsibility of ISA. Violation by Applicant of these Terms and Conditions shall subject the Applicant to cancellation of its contract to occupy exhibit table and to retention by ISA of all moneys paid. Upon due notice to Applicant of such cancellation, ISA will have the right to take possession of the Applicant's space, remove all persons and properties of the Applicant, and hold the Applicant accountable for all risks and expenses incurred as a result of such re-entry and removal.

    ISA reserves the right to restrict exhibits which become objectionable because of noise, operational methods, rules violations, or any other reason and may prohibit or evict any Exhibit, which in ISA's sole opinion, may detract from the general character of the Exhibition as a whole. In the event of such restriction or eviction, ISA will not be liable for any refunds or expenses of Applicant.

    If ISA must engage an attorney to collect any amounts due under this Agreement, Applicant agrees to pay all reasonable attorneys' fees and expenses incurred by ISA.

12. **AMENDMENTS.** If any unforeseen event renders it necessary, ISA may amend these Terms and Conditions and those documents included by reference. All amendments will be published and mailed to each Applicant who shall be bound thereby. Any other changes in the terms and conditions and rules and regulations must be in writing and signed by both parties.