Setting the Standard for Automation™

Water/Wastewater Industry Division

Calendar of WWID Events

Aug 6-8, 2013 — **2013 ISA Water/Wastewater and Automatic Controls Symposium**
Crowne Plaza Orlando-Universal Hotel – Orlando, Florida, USA

Nov 2-4, 2013 — **ISA Fall Leaders Meeting & 51st ISA Honors & Awards Gala**
Nashville, Tennessee, USA

Save the Date:
WWAC2014 – Aug 5-7, 2014
Crowne Plaza Orlando-Universal Hotel - Orlando, Florida USA

In this Issue

Spring/Summer 2013 Newsletter

Director's Welcome

It continues to be a pleasure to lead what is quickly becoming one of the ISA's most active technical divisions. Thanks to the hard work of our many volunteers and partner organizations, we are now witnessing a renaissance of our ISA Water/Wastewater Division. We now have one of the ISA's best attended symposia, a prolific quarterly newsletter, and numerous member events through the year. This has not gone unnoticed in our industry.

I was recently on a conference call with the WEF Automation and Info Tech committee where the activities of our division are forming a major part of the programming they offer their automation-minded members. Joint projects such as WEF's technical co-sponsorship of our symposium, the "highlights of the ISA symposium" at WEFTEC this fall, and the new-this-year ISA "Automation Island" pavilion at WEFTEC have been a major benefit to both organizations.

Earlier this spring, I also had the pleasure of getting to know Tony Palmer, the executive director of the Instrumentation Testing Association (ITA). In the coming years the ITA and ISA will be collaborating in terms of the symposium and other member projects. The ITA is an end-user organization that provides unbiased testing reports of instrumentation. In the low-bid environment many of us work in, the ITA's third-party instrument performance reports can be a godsend when providing justification to the accounting folks on why we need to invest in good instrumentation.

I have also enjoyed working the local Florida chapters of the AWWA and WEF. The Florida Section of the AWWA (FSAWWA) has helped us certify our symposium hours and ISA training courses so they are recognized by the state-regulator as CEUs that can be used for water and waste operator license renewals. We also worked with the Florida Water Environment Association (FWEA) in a similar capacity to help spread the word about the symposium. These Florida collaborations are a major win, as they help promote our symposium and they give Florida AWWA/WEF members access to continuing ed. that they otherwise couldn't get.

With all that said, we have a great newsletter for you. Find enclosed information about our upcoming symposium on Aug 6-8 and various other interesting developments!

Oh, I should also mention – our efforts have not gone unnoticed in the ISA. On November 4, I will have the honor of receiving the society-level award for "Best ISA Technical Division in 2012" on behalf of our division at the upcoming 51st annual ISA awards gala. Keep up the good work!

Graham Nasby
WWID Director
& 2012-2013 ISA WWAC Symposium Chair

Message from your Director-Elect

The last few months have included a whirlwind of activities in an effort to get the 2013 ISA WWAC Symposium finalized and providing our members with free benefits that allow you to remain involved and connected with the division. The continued efforts of our volunteer committee and rejuvenation of the WWAC Symposium is what has led to the Water and Wastewater Division receiving the Division Excellence award from ISA.

As we are wrapping up the final preparations for the 2013 ISA WWAC Symposium, we are beginning to think and plan for the 2014 ISA WWAC Symposium. The 2013 symposium looks to be the most successful and content-filled symposium yet. I would encourage all WWID members to stay up-to-date on symposium happenings on the website at www.isawwsymposium.com.

I also encourage you to read in this newsletter about our upcoming 2013 WWAC Symposium that is scheduled for Aug 6-8, 2013 in Orlando, Florida, which I truly feel has been getting better each and every year. If you missed out on the chance to submit an abstract in 2013, do not worry as the 2014 ISA WWAC Symposium call for papers is now also available.

For our 2014 symposium, which will be taking place Aug 5-7, 2014 in Orlando, Florida, I encourage everyone to submit an abstract to have the opportunity to join in on the increasingly popular symposium. 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!

In closing, I want to thank Graham Nasby, ISA WWID Director, for assisting me throughout my new term as Director-Elect and Assistant Symposium Chair. It's good to know that the one teaching you the ropes has just won several ISA honors and awards, including the ISA Division Leader of the Year and the ISA Volunteer Leader of the Year.

I am honored to be serving on the division with the support of Graham and the entire committee that gives so passionately their time and energy. Thank you for your support and I look forward to this new opportunity. Please do not hesitate to contact me with any of your ideas and suggestions for the division to help it continue to be beneficial for our members.

Respectfully,

Kevin Patel, PE, MBA
WWID Director-Elect
& 2014 ISA WWAC Symposium Chair
knpatel@sig-auto.com

WWAC Symposium Registration Now Open

Registration is now open for our 2013 WWAC Symposium! ISA members can register for only $350 for the 3-day event.

Register online at:

www.isawwsymposium.com/register/

Taking place 6-8August in Orlando, Florida, USA, the 2013 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," 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.*

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.

2013 ISA Water/Wastewater Symposium, to be held August 6-8, gathering steam with more than 200 pre-registrations

As of early-July, the symposium committee is pleased to announce that pre-registration activity for the 2013 ISA Water/Wastewater and Automatic Controls Symposium (WWAC Symposium) has been brisk. Pre-registration for the symposium, which will take place 6-8 August in Orlando, Florida, USA, is now in excess of 200. In addition, more than 30 individuals have registered for the symposium's two optional short courses on in-depth cybersecurity and flow meter selection/sizing.

Taking place at the Crowne Plaza Orlando-Universal Hotel in Orlando, the 2013 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 40 technical speakers, two full days of technical presentations, a tour of a local water 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 40 speakers. Carey E. Hidaka from IBM's Smarter Water Group will present a keynote address on how "big data" analytics can realize significant opportunities when applied to the myriad of data sources available to municipal water and wastewater utilities. These data sources include supervisory control and data acquisition (SCADA) systems, computerized maintenance management systems (CMMS), customer billing systems, and enterprise asset management systems (EAMS) as well as geographic information systems (GIS) and web-based data, such as those used for the US Geological Survey.

"Fresh water, a fundamental requirement for life on the planet, is becoming a scarce resource as the world's population grows and competition increases for available water," says IBM's Hidaka, a seasoned professional with more than 35 years of experience in the water and information technology sectors. "Against this backdrop, the world's cities will require new and innovative approaches to address these significant challenges. Business-as-usual and traditional engineering solutions won't be enough."

Other notable speakers in the 2013 WWAC symposium technical program include:

- John Cusimano, of exida security services, who will provide an update on the current state of cybersecurity in municipal water plants, and what types of risk management programs owners can put in place to protect themselves.
- P. Hunter Vegas, co-author of the book 101 Tips for a Successful Automation Career, who will talk about how to successfully manage SCADA retrofit projects, and how to manage schedule/risk and context amid the differing perspectives of team members, including system integrators, operators, maintenance technicians, middle managers and utility owners.
- 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 and upcoming technology 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 the automation technology trends in the wastewater sector.

Other topics addressed in the technical program include: real-time control of combined sewer overflow gates, case studies on plant upgrades, cybersecurity risk reduction, developing in-house automation standards, instrumentation best practices, ensuring power reliability at plants, remote communications, on-line web-based reporting, advanced process control, alarm management, improving process visualization, and system integration best practices.

"This year's 2013 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 Graham Nasby, a senior instrumentation and control engineer with Eramosa Engineering. For the full program schedule, including full presentation abstracts and speaker bios, visit www.isawwsymposium.com/program-schedule/

Registration is still open

Registration is still 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 $450, 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.

Refreshingly simple solutions

Learn more at the 2013 ISA Water/Wastewater and Automatic Controls Symposium August 6-8, Orlando, FL.

Water is an essential natural resource that needs to be actively protected and preserved. To help accomplish this, Phoenix Contact has developed effective and sustainable solutions to manage water resources and ensure the availability of safe water for a growing global population.

Phoenix Contact offers 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.

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INSPIRING INNOVATIONS

2013 Symposium Program Finalized

By Joe Provenzano, Symposium Program Chair

I am pleased to announce that the technical program for our 2013 symposium is now finalized. We have included the full finalized speakers program and schedule in this newsletter. I invite you to review it, and I hope to see you in Orlando.

In this newsletter you will find a complete speaking order of all 42 of our speakers, which are organized into two parallel speaking tracks over the course of two days.

The first day of speakers brings with a welcome from ISA President Bob Lindeman, and then proceeds directly into the technical content. Keynote speaker Carey E. Hidaka from IBM kicks off the technical program with a talk about how we can better utilize data from multiple sources to make better operational, maintenance and investment decisions.

This is then followed by invited speakers P. Hunter Vegas on SCADA retrofit project management techniques, and Bill Hollifield on the benefits of high performance HMI design.

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

The first day is then rounded out with a poster session from 2:30 to 4:00pm, and a General Reception that evening.

Our second day will then start with a sneak preview of our upcoming 2014 symposium. John Cusimano, who is director of security services for exida, will then deliver a talk about the current state of cybersecurity in municipal water plants. John is also the instructor for the 2-day cyberseucrity course that is being offered in conjunction with the symposium.

Following Mr. Cusimano, 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 automation 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 technology trends the drinking water sector.

Our second day then proceeds with more technical speakers, plus a technical presentation about a new ISA standards working group for alarm management.

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

Joe Provenzano
Program Committee Chair, 2013 WWAC Symposium

What there is to do in Orlando, Florida

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**

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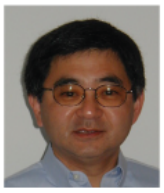
2013 ISA Water/Wastewater and Automatic Controls Symposium

6-8 Aug 2013....Crowne Plaza Orlando-Universal Hotel....Orlando, Florida - www.isawwsymposium.com

Presented by the Water and Wastewater Division of ISA, in collaboration with the Florida AWWA and the WEF Automation and Information Technology Committee, the WWAC Symposium helps professionals in the water and wastewater industries understand how instrumentation, SCADA (supervisory control and data acquisition), and automatic control applications are vital to the treatment and distribution of water, the collection and treatment of wastewater, and the management of storm water. 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

Using Data from Municipal Water/Wastewater SCADA Systems (and Other Sources) to Make Smarter Operational, Maintenance, and Infrastructure Investment Decisions

Carey E. Hidaka, Worldwide Smarter Water Solutions IBM Software Group

INVITED SPEAKER

The Current State of Cyber Security in Municipal Water Plants

John Cusimano, Director, Security Services Division, exida & Voting Member, ISA99 Control Systems Security Committee

INVITED SPEAKER

Managing Successful SCADA Retrofit Projects

P. Hunter Vegas, Lead Project Engineer, Avid Solutions & co-author of "101 Tips for a Successful Automation Career"

INVITED SPEAKER

The High Performance HMI - Proof Testing in Real-World Trials: Results from an EPRI Study

Bill Hollifield, Principal HMI Consultant, PAS & Voting Member, ISA101 HMI Standards Committee

GUEST SPEAKER

Automation Technology Trends in the Wastewater Sector

Tom DeLaura, Chair, WEF Automation and Info Tech Committee & VP, Eramosa Engineering International

GUEST SPEAKER

Technology Trends and Outlook for the Municipal Water Sector

Michael Sweeney, Florida Section of the AWWA & Deputy Executive Director, Toho Water Authority

GENERAL SYMPOSIUM CHAIR

Introduction to Alarm Management for Packaged Systems & ISA18 Working Group 7

Graham Nasby, Director, ISA Water/Wastewater Division & Senior I&C Engineer, Eramosa Engineering Inc.

Technical Program Announced

Over 40 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

Three major themes this year are the making better use of the data collected by SCADA systems (smart water), creating high-performance human machine interfaces (HMIs) to improve operational effectiveness, and developing supervisory control and data acquisition (SCADA) cybersecurity best practices. The symposium also continues with its traditional strength of sharing new ideas and lessons learned from recent plant upgrades and new-builds.

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

Registration for the ISA WWAC Symposium is $450 - comes with 2.0 CEUS

Discounts available for FSAWWA, FWEA, AWWA, WEF and ISA members. Includes breakfasts, lunches and evening reception.

Earn CEUs at the Symposium (2.0 CEUs)

The Florida AWWA, Florida WEA, and WEF Automation and Info Tech Committee have joined the symposium as technical co-sponsors. Symposium attendees will receive 2.0 CEUs (FSAWWA course #05134006, and Florida Dept. of Environmental Protection (FDEP) approved) that can be used for continuing education requirements for Florida state water operator and wastewater operator licenses. 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: In-Depth SCADA Cyber Security (1.4 CEUs)

The symposium offers an optional 2-day short course on In Depth SCADA & Automation Security. Entitled "Using the ANSI/ISA99 Standard to Secure Your Control System", it gives an overview of why automation security is needed and how to identify and manage risks. Attendees receive 1.4 FDEP-approved CEUs (FSAWWA course#05134004) or 1.4 IACET-approved CEUs.

Course: Flow Meter Selection & Sizing (0.7 CEUs)

The symposium offers an optional full-day short course on how to effectively select/size flow meters for municipal applications. Attendees get 0.7 FDEP-approved CEUs (FSAWWA course#05134005) or 0.7 IACET CEUs.

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

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FLORIDA WATER RESOURCES JOURNAL — Media Partner

Orange County Government Florida — Technical tour co-sponsor

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

Symposium Program at a Glance

The Symposium program committee is pleased to announce the full technical program for the 2013 WWAC Symposium

Monday, August 5, 2013

8:00am-4:00pm	Cybersecurity Short Course (day 1 of 2)**

Tuesday, August 6, 2013

8:00am-4:00pm	Cybersecurity Short Course (day 2 of 2)**
8:00am-4:00pm	Flowmeter Selection/Sizing Course (1 day)**
12:00pm-12:30pm	**Early Symposium Registration & Badge Pick-Up**
12:30pm-3:30pm	Tour of OCU South Water Reclamation Plant (transportation provided)***

*** Short courses are optional. Separate course registration required.*
**** Limited capacity on tour. Tour leaves hotel lobby at 12:30pm. Invitations will be sent out 3 weeks prior to tour to registered symposium attendees. RSVP required. Contact Kevin Patel, Tour Coordinator, with registration questions.* knpatel@sig-auto.com*.*

Wednesday, August 7, 2013

7:00am	**Registration, Badge Pick-up, & Breakfast**	
7:45am	**Opening Remarks**	
8:00am	Keynote Speaker **Using Data from Municipal Water/Wastewater SCADA Systems (and Other Sources) to Make Smarter Operational, Maintenance, and Infrastructure Investment Decisions** Carey E. Hidaka, Worldwide Smarter Water Solutions, IBM Software Group	
8:45am	Invited Speaker **Managing Successful SCADA Retrofit Projects** P. Hunter Vegas, Lead Project Engineer, Avid Solutions & co-author the book “101 Tips for a Successful Automation Career”	
9:15am	Invited Speaker **High Performance HMI Proof Testing in Real-World Trials** Bill Hollifield, Principal HMI Consultant, PAS & author of several books including “The High Performance Handbook”	
9:45am	**Coffee Break & Exhibits**	
	Track 1	**Track 2**
10:30am	**Seamless Replacement of a DCS in a Large Wastewater Treatment Plant: Lessons Learned from the City of Fort Worth Village Creek Water Reclamation Plant** Nathan Mogaru, John Robinson and Luke Matus, CDM Smith	**A Strategic Approach to SCADA Cyber Security Water and Wastewater Network Architecture and Segmentation** Norman Anderson and Bill Phillips, CH2M HILL
11:00am	**WWTP Operator The poor cousin? Opportunities for Better Wastewater Plant Control Room Design** David Lee, User Centered Design Services	**The Lights are on but no one is home: Automation Techniques for un-manned stations** Jeffery S. Blue, Southern Nevada Water System (Nevada, USA)
11:30am	**SCADA System Serviceable Life and Replacement Prioritization with Water and Wastewater Plants in Seminole County, Florida** Jonathan Mitchell, CDM Smith and Tom Owens, Environmental Services Dept, Seminole County (Florida, USA)	**Security Issues and Best Practices for Water/Wastewater Facilities** Jeff Hayes, Beijer Electronics
12:00pm	**Lunch & Exhibits**	

1:00pm	**Owner Specific SCADA Standards What They Are and Why Should You Have Them** Emile Richard, Portland Water District (Portland, Maine, USA)	**Trends, Issues, and New Standards for ICS Security** David Mattes, Asguard Networks
1:30pm	**Developing In-House Sewage Pumping Station Design Standards: Streamlining Integration of Pump Stations in Niagara Region** Mark Presti, Provectus, and Ed Van Vliet, Niagara Region Public Works Dept (Niagara Falls, Ontario, Canada)	**Assuring Wastewater System Reliability Industrial-Grade UPS Power Protection Mitigates Costly Throughput Issues** Michael Stout, Falcon Electric
2:00pm	**Use of Custom Code Generation Tool Allows Municipality to Rigidly Enforce Water/Wastewater SCADA Standards** Bosco Bob Loncar, Regional Municipality of Halton (Ontario, Canada)	**ISA99Security Standards in water treatment plants** Marcelo Teixeira de Azevedo, Alaide Barbosa Martins, and Sergio Takeo Kofuji, Polytechnic School of the University of Sao Paulo, (Sao Paulo, Brazil)
2:30pm	**Poster Session, Coffee & Exhibits**	
4:00pm	**Video: A New Type of Process Data The Benefits of Visualizing Remote Assets** Gregory Santos, Industrial Video and Control	**So many wireless technologies! Which is the right one for my application?** Don Dickinson, Phoenix Contact
4:30pm	**Reinventing the Role of the SCADA Historian: Distributed Redundancy, Centralized Access** Blair Sooley, Trihedral Engineering	**SCADA Upgrades at the Jacksonville Beach WWTP: Lessons Learned from automating a 40 year old plant for unattended operations** Chuck Saunders and Gary Szilagyi, Archimedes Systems
5:00pm	**Migrating Guelph Wastewater's Data Monitoring Program To A Web-Based Reporting System Turning Data into Meaningful Information** Dennis Mutti, Tom DeLaura, Jason Low, Eramosa Engineering, and Tim Robertson, Gerald Atkinson, Jim Lilley, Wastewater Services City of Guelph (Guelph, Ontario, Canada)	**Is There an Oversight in UV Reliability: Examining the Critical Role of Reliable Power in UV Disinfection** Grant Van Hemert, Schneider Electric
5:30pm	**General Reception and Cash Bar**	

Thursday, August 8, 2013

7:00am	**Breakfast**
7:45am	**Opening Remarks**
7:55am	Preview of next year's 2014 ISA Water/Wastewater and Automatic Controls Symposium
8:00am	Invited Speaker **The Current State of Cyber Security in Municipal Water Plants** John Cusimano, Director, Security Services Division, exida & voting member of ISA99 Cyber Security Committee
8:45am	Guest Speaker **Automation Technology Trends in the Wastewater Sector** Tom DeLaura, Chair, WEF Automation and Information Technology Committee & vice-president, Eramosa Engineering International
9:15am	Guest Speaker **Technology Trends and Outlook for the Municipal Water Sector** - Michael Sweeney, Florida Section of the American Water Works Association (AWWA) & deputy executive-director, Toho Water Authority
9:45am	**Coffee Break & Exhibits**

	Track 1	Track 2
10:30am	**Implementation of SRT Control in Wastewater Treatment** Robert C. Smith, Sarah O. Elger, and Scott Mleziva, Sanitaire	**Too Many Alarms: Where Do I Begin?** Kevin Patel, Signature Automation
11:00am	**Gaining control of Effluent Residual** Narciso Santiago, EMA	**Save Time and Money by Designing Effective Interface with Vendor-provided control systems** Amar Hegde and Larry Reynolds, CDM Smith
11:30am	**Know Your Options: Selecting the Right Wireless Communications Technology for Your Collection & Distribution Systems** Dustin Sayre, EMA	**Introducing Alarm Management for Packaged SystemsISA18 Standards Committee Working Group 7** Graham Nasby, Eramosa Engineering
12:00pm	**Lunch & Exhibits**	
1:00pm	**Optimize your Ultrasonic Flow Meter for water & Wastewater applications** Brent Baird, Instruments Direct	**Simulate Your Way out of a Difficult Real Time Control Problem: Automatically Controlling Gates to Reduce Combined Sewer Overflows (CSOs)** Maxym Lachance, Tetra Tech and Sid Lodewyk, City of Edmonton (Alberta, Canada)
1:30pm	**Taking DeNitrification to the Next Level: An Upgrade of Proven Technology with 21st Century I&C** Jaime A. Alba, CDM Smith	**SCADA Control and Monitoring Of Groundwater Remediation Facilities: Past, Present And Planning For The Future** Obadiah Kilonzo and Kevin Fleming, Carolina Automation Systems
2:00pm	**Model analysis and controller design for aeration of textile industry effluent** Jayakumar Sumathi, Pogalur Ramasamy Theerthagiri and Srinivasan Sundaram, Department of ECE & EIE, PRIST University (Thanjavur, India)	**Specifying Adjustable Speed Drives for Improved Control and Integration** Tom Schaefer, Rockwell Automation
2:30pm	**The Industrial Internet Enabling the New Water Operator** Jill Burdette, Lee Jeelum, GE Intelligent Platforms	Featured Poster (part of poster session): **Designing NFPA 820 Compliant Monitoring Systems for Wastewater Pumping Stations** Tom Ridgik and Greg Yarberry, CH2M HILL
3:00pm	**Poster Session, Coffee & Exhibits**	
4:00pm	**Risks of Smart Water Applications Rigorous Risk Assessment of the Adoption of Smart Water Applications** Andreas Hauser, Thomas Stoertkuhl, Klaus Estenfeld, and E. Earl Eiland, TÜV SÜD AG	**Wireless Technology Opportunities in the Water and Wastewater Sectors** Riz Amanullah, Cooper Bussmann Wireless, Eaton
4:30pm	**Smart Water Networks for Operational Efficiency Gains** Brian Heimbigner and Mark Bitto, ABB	**ISA100 Wireless Development and Certification Process** Penny Chen, Yokogawa
5:00pm	**Using Procedural Automation to Improve Operational Efficiency** Marcus Tennant and Leila Myers, Yokogawa	**Wireless Mesh Infrastructure Networks for Supporting Water Districts Data, SCADA and Video Requirements** Matt Selby, Firetide
5:30pm -5:45pm	**Closing remarks**	

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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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/.**

Now is the time to consider sponsoring WWAC 2014!

Welcome to Our Symposium Exhibitors

Note: The WWAC2013 exhibit hall is now sold out!

How to Sign up as an Exhibitor

For more information on how to exhibit at the symposium please refer to our 4-page full-color sponsorship and exhibitor opportunities brochure: **www.isawwsymposium.com/exhibit-sponsor/.** Now is also a good time to start thinking about WWAC 2014. Reserve your spot today!

Exhibit Booth Information for WWAC2014

Exhibitor tables are now 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 will be 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

SAVE THE DATE

2014 ISA Water/Wastewater Symposium

Aug 5-7, 2014 – Orlando, Florida

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*Source: #1 Supplier of Industrial Wireless Solutions for Water & Wastewater, ARC Advisory Group 2012 Wireless Devices for Process Manufacturing Worldwide Outlook.

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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, FSAWWA course #05134006
- 20 PDHs – issued by the Florida AWWA, FSAWWA course #05134006
- 20 PDHs – issued by the ISA

Attendees of the optional 2-day In Depth Cyber Security short course will receive their choice of:

- 1.4 CEUs – issued by the Florida AWWA, FSAWWA course #05134004
- 1.4 CEUs – issued by the ISA, IACET provider #1001262
- 14 PDHs – issued by the Florida AWWA, FSAWWA course #05134004
- 14 PDHs – issued by the ISA

Attendees of the optional 1-day Flow Meter Selection & Sizing short course will receive their choice of:

- 0.7 CEUs – issued by the Florida AWWA, FSAWWA course #05134005
- 0.7 CEUs – issued by the ISA, IACET provider #1001262
- 7 PDHs – issued by the Florida AWWA, FSAWWA course #05134005
- 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. Same 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 education 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.

Symposium Tour: Orange Count Utilities South Water Reclamation Plant

By Kevin Patel, Symposium Tour Coordinator

As part of the symposium, attendees will have the option of attending a **Tour of the Orange County Utilities South Water Reclamation Plant.**

The tour takes place in the early-afternoon of Tues, Aug 6, 2013 (12:30pm to 3:00pm) and **requires prior-sign-up**. Transportation to/from the hotel is provided. The bus leaves the hotel lobby at 12:30.

Invitations will be sent to registered symposium attendees 3 weeks prior to the tour. Space on the tour is limited, and attendees must sign-up beforehand. Inquiries about the tour can be sent to our volunteer symposium tour coordinator Kevin Patel.

Symposium attendees are invited to tour the Orange County Utility's South Water Reclamation Facility. This facility is permitted as a 43.0 MGD design capacity activated sludge treatment facility, with flow equalization, chemical feed facilities, tertiary filtration, and high-level disinfection. The facility consists of three process trains: a 15 MGD north train with Modified Ludzank-Ettinger (MLE) process, a 7.5 MGD southeast train with Carrousel oxidation ditch treatment process and a 20.5 MGD southwest train with modified step-feed treatment biological nutrient removal (BNR) process.

Tour attendees will have the opportunity to learn about the plant's treatment process and its fully automated control system. Major pieces of equipment will be explained, and insight will be offered as to how the plant's automated control system works. The tour will comprise of a walking tour where attendees will have the chance to "walk through the process."

In addition to walking through the plant, attendees will also have the opportunity to see the plant's central control room and see how the operators use the plant's SCADA system to remotely control the various parts of the plant.

Hosted by the OCU's EWRF Plant Manager Tim Madhanagopal, the tour will give symposium attendees a glimpse into the facility's extensive instrumentation and SCADA control system which provides continuous monitoring of the plant processes and data collection to maintain compliance with regulatory agencies.

ABOUT THE TOUR GUIDE:

Tim Madhanagopal is the Plant Manager for Orange County Utilities' (Florida, USA) Eastern Water Reclamation Facility. The Eastern Water Reclamation Facility he helped design, is considered a model facility and is included in the United Nations technical source book as a reference for the benefit of developing nations. Mr. Madhanagopal holds a BE in civil engineering from NIT, MSCE in environmental engineering

from Wayne State University, Michigan and an MBA from University of Central Florida. He is a member of professional and technical societies, including the ASCE, WEF, AWWA, and APWA. Mr. Madhanagopal has received awards for his achievements including a Distinguished Service Award by NSPE in 2007, Engineer of the Year honor from the Florida section of ASCE in 2005, the WEF 'Quarter Century Operator' in 2003, and one of the Top 10 Public Works Leaders of the Year from AWPA in 2003. Note: Please do not contact Mr. Madhanagopal directly for any tour inquiries. Instead, please direct all questions about the tour to our symposium tour coordinator Kevin Patel at knpatel@sig-auto.com.

ABOUT THE TOUR HOST

Orange County Utilities Department provides water, wastewater and solid waste services to the unincorporated areas of Orange County, Florida. Orange County operates the South Water Reclamation Facility (SWRF), which has a treatment capacity of 43 million gallons per day (MGD); the Eastern Water Reclamation Facility (EWRF), which has a treatment capacity of 19 MGD and the Northwest Water Reclamation Facility (NWRF), which has a treatment capacity of 10.5 MGD. Orange County also maintains 1716 miles of wastewater pipes and 687 wastewater pump stations.
Bus transportation for the tour is kindly being provided by Schneider Electric.

ORANGE COUNTY GOVERNMENT FLORIDA

Tour sponsor & Tour host

Schneider Electric

Tour transportation sponsor

Optional Symposium Training Course

In-Depth Cyber Security (2 days)

August 5-6, 2013 (2 day course)
Using the ANSI/ISA99 Standard to Secure Your Control System / In-Depth SCADA Cyber Security (IC32)
Instructor: John Cusimano, CFSE, CISSP
Credits: 1.4 CEUs / 14 PDHs
Course Fee: $1395 List Price; $1115 ISA Members

Course Description

The move to using open standards such as Ethernet, TCP/IP, and web technologies in supervisory control and data acquisition (SCADA) and process control networks has begun to expose these systems to the same cyber-attacks that have wrecked so much havoc on corporate information systems. This course provides a detailed look at how the ANSI/ISA99 standards can be used to protect your critical control systems. It also explores the procedural and technical differences between the security for traditional IT environments and those solutions appropriate for SCADA or plant floor environments.

The course will include an in-depth overview of the ANSI/ISA99 family of security standards and a methodology for setting up a comprehensive cyber security risk management program.

View the Full Course Description at
www.isawwsymposium.com

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 devoted 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 including chemical, water/wastewater, oil & gas, and electric power. John is chairman of ISA 99 WG4 TG2 Zones & Conduits committee and co-chair of ISA 99 WG4 TG6 Product Development committee. He is a voting member on the ISA-99 standards committee on control system security and the ISA Security Compliance Institute's Technical Steering Committee. John is also active in a variety of other ISA99, ISA84, and ICSJWG working groups. Prior to joining exida, John led market development for Siemens' process automation and safety products and held various product management positions at Moore Products Co. John started his career at Eastman Kodak Company, where he implemented and managed automation projects. John has a B.S. degree in Electrical & Computer Engineering from Clarkson University and holds Certified Functional Safety Engineer (CFSE) and CISSP Certifications.

Optional Symposium Training Course

Flow Meter Section & Sizing (1 day)

August 6, 2013 (1 day course)
Selection and Sizing of Flow Meters / Industrial Flow Measurement Overview (EI10C)
Instructor: Jerry Gerlich, Senior ISA Member
Credits: 0.7 CEUs / 7 PDHs
Course Fee: $630 List Price; $495 ISA Members

Course Description:

Applications of modern flow measurement systems are presented. Flow meter accuracy, performance, sizing, specification, selection, and installation considerations are covered. Focus is on productivity improvement, cost efficiencies of measurement and control, and whether, when, and how to use the technologies looking at measuring flow, the effect of fluid properties and engineering practices required to optimize flow meter performance. The course includes practical examples of flow meter selection and problem solutions, with emphasis on basic principles or alternative technologies based on class preference.

Course content includes:

- Describe principles of operation on specific flow meter technologies
- Apply flow meters in process applications
- Understand the effect of changing process conditions
- Understand installation requirements and recommended practices
- Evaluate flow instrument performance
- Specify and select the appropriate flow meter for your applications
- Solve typical flow meter problems
- Understand calibration methods and the effect of errors on meter performance
- Size flow elements for specific applications

About the Instructor:

Jerry Gerlich has more than 32 years of experience in process control and petrochemical instrumentation. His background includes troubleshooting, maintenance, the repair and calibration of control systems and custody transfer equipment, as well as engineering plant change and project packages. He holds a B.S. from Southwest Texas State University, and is currently the Staff Instrument Specialist for the HOVENSA Refinery in St. Croix (U.S. Virgin Islands). He also has to his credit many years as an educator, teaching since 1983. He is a Senior Member of the ISA.

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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 6-8, 2013) includes:

- 2 full days of papers and presentations
- poster session
- networking events
- tour of a local water/wastewater facility early-afternoon of Tues, Aug 6
- admission to supplier showcase
- light breakfasts on Aug 7 and Aug 8
- full buffet lunches on Aug 7 and Aug 8
- evening reception on Aug 7 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 5-6):

2-day In Depth SCADA Cyber Security	$1115
1-day Flow meter Selection & Sizing (Aug 6)	$495

Photo from WWAC 2012 in Orlando, Florida

About the Symposium Hotel

The 2013 ISA Water/Wastewater Symposium will be held at Crowne Plaza Orlando-Universal Hotel in Orlando, FL. 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 5 to 9, 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.

2013 WWAC Symposium Hotel – The Crowne Plaza

Meet the Symposium Organizing Committee

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

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

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

Pavol Segedy
Brown & Caldwell
ISA Members Liaison
& Membership Chair, WWID

Tom DeLaura, PE
Eramosa Engineering International
WEF Liaison

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

Derrick Stableford, MIET, LCGI
Associated Engineering
Committee Member

Bob Loncar
Region of Halton (Ontario, Canada)
Committee Member

Dr. Gerald Cockrell, PhD
Indiana State University (Prof. Emeritus)
Higher Education Liaison

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Honors & Awards Chair
& Student Scholarship Chair, WWID

Rob Penfold
Sylvite Industrial Chemicals
Program Booklet Designer

Rodney Jones
ISA Staff
Senior Administrator,
ISA Technical Divisions

Meet the Symposium Program Committee

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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
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Manchester, Connecticut, USA

Joshua Gelman, PE
CDM Smith
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North East Ohio Regional Sewer District
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Guelph, Ontario, Canada

Kevin Patel, PE, MBA
Signature Automation
Dallas/Fort-Worth, Texas, USA

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

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

ISA Water/Wastewater Industry Division

WWID NEWS

Introducing David Wilcoxson, MWH WWID Secretary/Treasurer

The Water/Wastewater Division is pleased to welcome David Wilcoxson to our 2013 board of directors. David has kindly taken on the role of Secretary Treasurer. Below is a brief biography so you can get to know David better.

David Robert Wilcoxson, PE is a Vice President and Regional Technical Leader with MWH Global in Walnut Creek, California. David has over 34 years of experience in various instrumentation and control environments. He has worked in the pharmaceutical industry with Boots PLC, in Nottingham, England, where he started as an apprentice Instrument Technician. Whilst in England, David received his BSc. in Industrial Measurement and Control. David came to the United States in 1987 and worked in the biotech industry as a Plant Engineer at a Fermentation Plant for Bayer Corporation in Berkeley, California.

For the last 19 years David has worked in the water and wastewater industries with MWH Global. David has worked with all types of instrumentation and PLC and computer controls. David has extensive experience with both DCS and PLC based systems, including the specification, installation, troubleshooting, programming and start-up of computer based SCADA systems. In his current job, David has worked in all types of water related facilities including a high purity water treatment plant, potable and reclaimed water and wastewater pumping, treatment and aquaculture facilities.

David has been an active member of ISA since 1994 and has been a senior member since 2000. David is a licensed Control Systems Engineer in California, Oregon, Washington, Nevada and Colorado and is a LEED Accredited Professional (LEED AP). David presented at last year's WWID Water and Wastewater Symposium with a presentation and paper called "Optimization of Wastewater Lift Stations for Reduction of Energy Usage and Greenhouse Gas Emissions".

WWID NEWS

ITA and ISA collaborate on the 2013 ISA Water/Wastewater and Automatic Controls Symposium and instrument testing

By Graham Nasby, WWID Director

The Instrumentation Testing Association (ITA) and the ISA are teaming up to co-promote the 2013 ISA Water/Wastewater and Automatic Controls (WWAC) Symposium. Now in its eighth year, the symposium provides automation professionals from the water and wastewater sector the unique opportunity to come together to network, share ideas and learn about the latest technology.

As a technical co-sponsor of the 2013 WWAC Symposium, ITA is helping ensure that the symposium continues to meet the needs of professionals who use instrumentation in the wastewater sector; reinforcing the mutual benefit of this collaboration for both associations.

Since its beginnings in 1984 when it was founded at a US Environmental Protection Agency (EPA) meeting in Chicago, Illinois, the Instrumentation Testing Association continues to be an end-user-focused technical organization that provides impartial third-party assessment of wastewater instrumentation technologies. Using a cooperative and impartial approach, the association seeks to address common instrument performance and reliability issues that often arise from the low-bid procurement environment that is typically associated with the municipal and industrial wastewater sectors.

With its technology-focused WWAC symposium, the ISA provides a forum for automation professionals to learn from their peers about the newest advances in instrumentation technology, instrumentation best practices and up-and-coming trends. By partnering with the ITA, the ISA will be able to continue to ensure that its technical program is both forward looking and well-grounded when it addresses leading-edge instrumentation technologies.

Tony Palmer, executive director of the ITA, says, "The partnering of the ITA and the ISA with respect to the ISA's 2013 Water/Wastewater and Automatic Controls Symposium is a natural fit. Our members are always on the lookout for new ideas with respect to the instrumentation, and the collegial atmosphere of the symposium is a perfect way to do that. Coupled with the ITA's popular instrumentation performance reports, the symposium provides a very broad and comprehensive view of the current and future direction of wastewater instrumentation."

Instrumentation Testing Association
Promoting Reliability & Performance of Environmental Instrumentation and Automation Technologies

WWID NEWS

Fall 2012 Member Survey Results

By Kevin Patel, WWID Director-elect

During the Fall/Winter of 2012, the division decided to take a quick poll from our WWID members to get your feedback on past and upcoming events to make sure we are serving your needs. The survey helped the committee gain valuable insight as to how we could continue to provide the best benefits to our members in the future. I want to thank all of the members that participated in the survey.

So what kind of information were we able to get out of the survey. We were happy to hear that most of all of the respondents were receiving Email updates and the division newsletter which is published quarterly. This newsletter is one of the best sources to get information on the current division and symposium happenings as well as some excellent technical content and case studies.

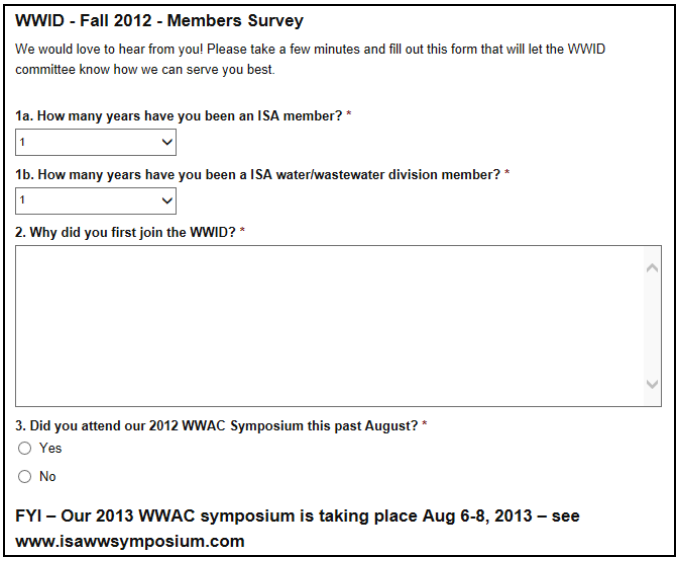
Feedback was also received on the annual symposium. Although many of our respondents did not attend the symposium, it wasn't due to a lack of interest. In many cases the reason was simply due to schedule conflict or budget cuts. As we move forward with future symposiums we hope to put together a packet to provide employers which provide the benefits of attending such a focused symposium.

Finally, one of the survey questions that resulted in extremely positive feedback was the division webinars. In March 2013, the WWID hosted its first webinar on Cyber Security. The webinar received excellent feedback and there were 119 members that joined. The survey included additional webinar topics from our respondents which we look forward to coordinating in the future.

The member survey helped our committee understand what is working and what we may be able to adjust. However, the benefits that are provided by the division are only truly realized if you stay involved and join in on discussions with fellow members.

Make sure you stay in touch through the division website at: www.isa.org/wwid, or our symposium website online at www.isawwsymposium.com, or via our LinkedIn: group http://www.linkedin.com/groups/ISA-Water-Wastewater-Industries-Division-2031271.

Feel free to contact our new membership chair, Pavol Segedy at psegedy@brwncald.com, our new assistant membership chair, Juliana Oyeniyi at oyeniyijo@cdmsmith.com, or myself, Kevin Patel at knpatel@sig-auto.com, if you have any other member benefit suggestions or questions.



WWID - Fall 2012 - Members Survey

We would love to hear from you! Please take a few minutes and fill out this form that will let the WWID committee know how we can serve you best.

1a. How many years have you been an ISA member? *

1

1b. How many years have you been a ISA water/wastewater division member? *

1

2. Why did you first join the WWID? *

3. Did you attend our 2012 WWAC Symposium this past August? *

Yes

No

FYI – Our 2013 WWAC symposium is taking place Aug 6-8, 2013 – see www.isawwsymposium.com

Figure 1 – What the online survey questions looked like.

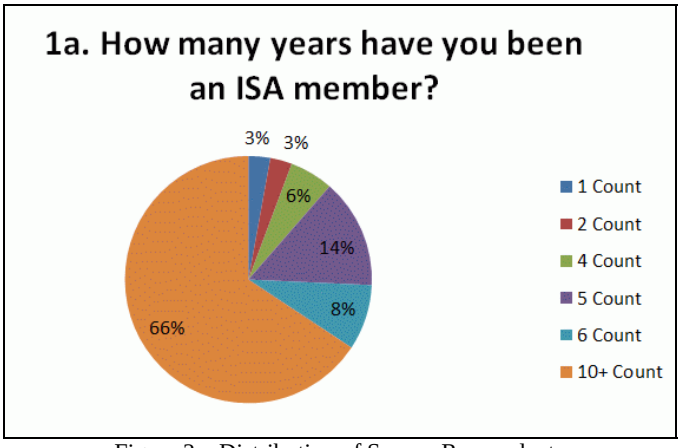
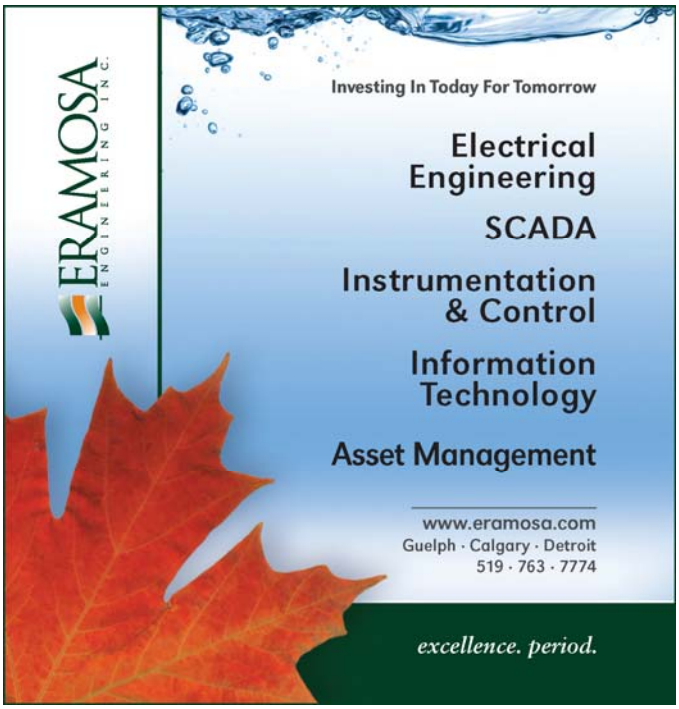


Figure 2 – Distribution of Survey Respondants



WWID NEWS

2013 WWID Student Scholarship Winners Announced

The ISA Water & Wastewater Industries Division (WWID) is pleased to announce the winners of the 2013 WWID Student Scholarships. Open to college and university students, the 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 Jennifer Holmes-Smith and Ben Lueders. Each will receive a $1000 USD scholarship prize to help with their school costs. Please join us in congratulating this year's winners.

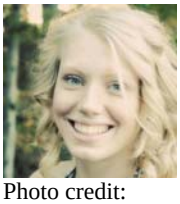


Photo credit: Jennifer Hartman.

2013 ISA Water/Wastewater Industries Division Student Scholarship winner

Jennifer Holmes-Smith
University of Arkansas
Fayetteville, Arkansas, USA

"Many thanks to the ISA Water and Water & Wastewater Division for selecting me to be a scholarship winner. I plan to use the award funds to help finance my senior year at the University of Arkansas and will look forward to your publication InTech. Thank you very much."

Biography: Jennifer Holmes-Smith, age 17, is a senior at the University of Arkansas and is a dual Civil Engineering/Water Resources and French language major. Jennifer resides in Pea Ridge, Arkansas with her mother and 4 siblings. She was homeschooled, graduated after 8th grade and was admitted to NorthWest Arkansas Community College at age 14. Jennifer has overcome a congenital hip disease to succeed in her studies. Currently she is studying French at the IAU College, Aix-en-Provence, France for the Spring 2013 semester and will be returning to complete her senior year in Environmental-Water Resources Engineering in Fayetteville, Arkansas.

2013 ISA Water/Wastewater Industries Division Student Scholarship winner

Ben Lueders
Villanova University
Villanova, Pennsylvania, USA

"I would like to thank you for the generous scholarship you have awarded me. As a college student and prospective engineer, the field of water and wastewater management is one that interests me greatly. This award will go towards my education and I hope to one day be able to provide support in this field."

Biography: Ben Lueders is enrolled as a Civil and Engineering Student at Villanova University in Villanova, PA, USA. He is currently completing his first year of studies and has keen interest in how instrumentation automates the process and treatment of water/wastewater. "It seems that there are more and more parameters that must be measured to satisfy federal requirement, and water resources are becoming more valuable over time. Keeping our supplies safe and clean is also becoming more and more important as the population continues to expand," says Lueders, "I see the water/wastewater sector as a growing field, and would like to contribute to the profession." Lueders, originally from Needham, Massachusetts is looking forward to pursing his education.

2014 Scholarship Applications Now Available

Visit **www.isaorg/wwid** and click on the link for "Student Scholarship"

Applications for 2014 scholarship are due January 31, 2014

ISA Water/Wastewater Industry Division

TECHNICAL ARTICLE

Defining Security in the World of Water
By Grant Van Hemert, Schneider Electric

What is security? That is a term that is defined in many ways. Searching the web offers little guidance as the definitions are vague. Two from Dictionary.com seem close, but don't really fit water and wastewater applications. The first says that security is "precautions taken to guard against crime, attack, sabotage, espionage, etc." The second is "freedom from danger, risk, etc." As we can see, these are vague or may not be broad enough.

Another approach can be used, and works well for water and wastewater. This approach starts by asking what you need to make secure, or what do I need to protect. In water and wastewater, this comes to a five part answer. These parts are:

- *Community Health*
- *Health and Safety of Utility Personnel and guests*
- *Utility equipment and processes*
- *Environmental protection*
- *Protection of local economy and local physical assets*

When considered together, a list of items quickly come together. Four of these will be discussed in this paper. These are Intruder Security, Cyber Security, Electrical Security, and Weather prediction.

INTRUDER SECURITY:

Intruder security is what many people think about when you mention the word "security". Immediately, the thought of padlocks, fences, and locked doors probably comes to mind. But this is much more involved than that. Some people think that a person with malicious intent is the main risk, but in reality, people with non-malicious intent, or animals, can also present a risk. Being surprised by a bear, alligator, or deer can lead to an unpleasant experience.

A full understanding of intruder security is necessary to protect a facility. However, it is beyond the scope of this article. Additionally, this is a dynamic environment. But some things are clear. First, that critical infrastructure must be protected, and new government regulations are driving security standards. This in turn is driving the development of new technology. This new technology, in turn is driving new regulations and standards.

Let's take a brief look at the evolution of the Intruder Security in water wastewater facilities. As you might suspect, September 11, 2001 changed the game. Before September 11, many facilities had a fence that was closed and locked when the plant was not manned. Some did not even have a gate. The author remembers a wastewater plant in early 2001 that was used by joggers as part of their daily routine. After September 11, this all changed. Very quickly, utilities started to close the gates, install cameras, badge readers, and some even installed guards. The governments were also active in creating new standards. This took time, and basically starting in 2005, a new wave of intruder security started being implemented. This phase saw the introduction of smart devices and active deterrence devices.

All this leads to the next question. What is the current thinking on Intruder security, and whether it is from malicious or non-malicious events? The thinking is looking at a defense in depth, or layered approach. The key words of this type of approach are detect, delay, and deter. Implementing these terms leads usually to a three approach between an outside entity (person or animal) and any given risk.

The first layer is some form of boundary protection. While fences and walls are common, it may not be the only way to protect a boundary. Let's say that a water facility exists next to a historic and scenic lake. It may not be aesthetically appropriate to put a fence or wall on the edge of the shore. For this, you could use object recognition cameras, or even radar detectors to detect an entity trying to enter from the water. You can then also use speakers and/or a LRAD for deterrence. A LRAD, or long range acoustic device, emits an incredibly intense high decibel focused beam of sound that will literally drive a person or animal away.

The second barrier is defined by buildings within a facility, and the third is the rooms, or control panel where a threat exists. For this, site lighting, door alarms, and presence detectors can be a big asset. Also, badge readers and object recognition cameras can be of assistance.

The challenge is that water and wastewater facilities often times have basins, tanks, or other structures that are not enclosed by buildings. By their nature these structures cannot be secured by a level two or three approach.

Thus, a water and wastewater facility should endeavor to strengthen its level one barrier. They cannot rely on waiting for an entity to penetrate the first level before responding. Waiting for penetration could put personnel at risk, or allow the entity to be exposed to hazards. A better approach is to detect and respond to a potential intruder while the entity is approaching the facility. The response might be different from people then it would be for a gazing deer. But the facility should be aware of both events. Once again, radar and cameras coupled with LRAD's or speakers can assist in this. Also, signs placed beyond the fence can help prevent people from getting too close to begin with.

We talked about camera, radar, and LRADs already. Enough has been said about LRAD. However Radar and cameras should be smart enough to detect movement and track objects. This allows an automatic video log. Facial recognition is also key benefit. For instance, in a pump station environment, a fence alarm may detect an entry. The camera could then be used to verify the identity. If it is a plant person, the camera can automatically ignore the alarm and not alert the facility. If the camera does not know the people, then it can take appropriate action. The key to intruder security is active

monitoring and response. Another area that involves active monitoring for assured protection of people, property and processes is weather monitoring.

WEATHER MONITORING:

Weather can have a huge impact to reliable operation in facilities. Big events such as hurricane Katrina and Sandy grab plenty of media attention and can devastate operations. But smaller events such as lighting strikes, wind storm damage, or even routine thunder storms can have an impact. Weather can cause power outages, interrupt repair operations, lead to service outages, or initiate combined sewer overflow (CSO) operations. Being able to proactively manage these are desirable and critical activities.

Many utilities rely on weather data from public services such as the US National Weather Service (NWS) radio, television, radio, or public web sites. The problem is that most of these services are based around the needs of the general public. Many web sites generate data based on zip-code/postal-code or county level, and also deliver general forecasts. For instance, a TV weatherman might say, "There is a 70% chance of rain for the viewing area tonight." We must ask, what is he saying? Is he saying that 70% of the area will see rain, and 30% won't, or is he saying that there is a 70% chance that any portion of the viewing area will see any rain? Also, NWS issue warnings and watches are typically county wide. Thus, you might be seeing sun in one portion of the county, while another part might be having quite a different experience.

General forecasts can impact an operation. Let's say the forecast calls for thunderstorms in the afternoon, and it takes several minutes to get ballasted flocculation systems ready for a CSO event. You might operate cautiously and start the machines at noon, just in case. But, if you could start the equipment as close to the time the storm starts as possible, then you could save operating expenses. Another example is a utility that has a history of storm related problems in part of it system. As the storm approaches, they may deploy resources only to find that the storm did not go through that portion of the utility.

A Customized Weather Service (CWS) can change this. It can give you accurate storm prediction down to the minute of arrival; can deliver street level storm tracking, and other advantages. One of the more progressive systems has a "Future Weather" feature. This is different from a forecast. A forecast is designed for general prediction hours to days in advance. These tend to break down in accuracy the farther out they are from the present. This is due to the nature of the mathematical algorithms, and the impact of chaos theory to prediction. However, if these models are used for short term prediction, say 120 minutes or less, then the accuracy is extremely high. This is the concept behind "Future Weather."

Future weather can let you know exactly where a storm will go, and when. Thus, Future Weather can tell you if the storms will, or will not, go through the storm sensitive areas of your utility. Another example is in regards to field deployed resources. They say a picture is worth a thousand words, so let's look at Figure 1:

In this example, we have a hypothetical crew working on a tower. We can see that a storm lies to the North and to the South of the workers on the tower, and we have been using future weather to show the track of the storm. Since the area is clear, and will remain clear, work can continue even if thunder is heard. Dark rectangles are traffic cameras and

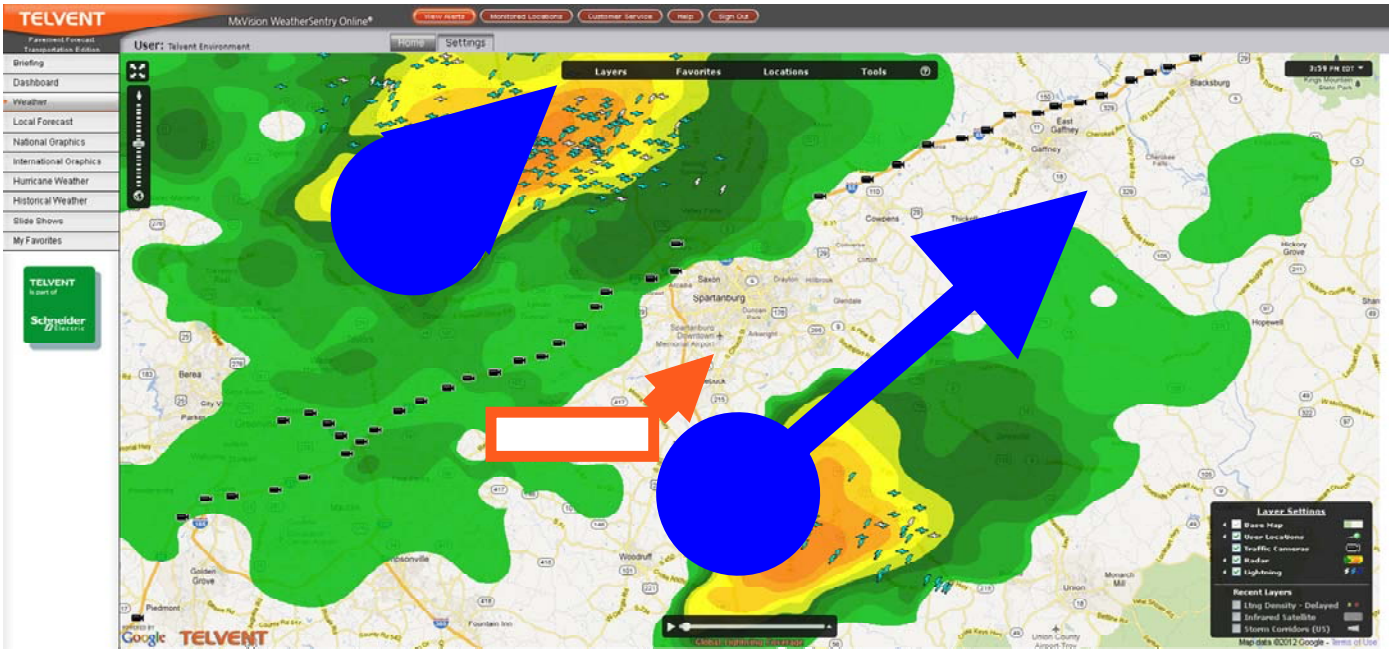


Figure 1: April 5, 2012 Greenville Spartanburg South Carolina

lightning strikes are show in blue and white icons on the screen. The cameras can be used to verify real time conditions. Additionally, a lightning alert could also be set for the tower, and it will alert if lightening is detected in the area.

Another thought in regards to lightning is its relationship to arc flash. As we know, there has been a lot of discussion in regards to arc flash. The challenge is that arc flash damage appears to be similar to lighting damage. Lightening damage is covered by most insurance policies, but arc flash damage may not be covered, or might lead to higher premiums. This is because a lighting strike is an "Act of God"; whereas an arc flash can be an indication of inadequate procedures, and thus possible negligence on the part of the insured. With lighting mapping, you can show when, where, and how strong the strike is. This information, couple with data in a SCADA can help to prove a cause and effect relationship between the strike and outage.

Speaking of strikes and damage, cyber attacks can strike without warning and leave a facility vulnerable.

CYBER SECURITY:

Of the four different types of security, Cyber security is perhaps the newest form. We are still trying to define it and understand how mitigation will occur. The media is filled with doomsday prophecies about how the next cyber attack can be devastating. Part of this is justified, and part is hype. But it creates the perception that we are vulnerable and helpless. We are somewhat vulnerable, but we are hardly helpless.

Let's take a step back and look at the technology involved. We all know that Ethernet and the Internet are rapidly being adopted in the world of automation and control (A&C). But, its roots lay in the world of Information Technology (IT). IT has a much wider adoption rate then A&C. In fact, for IT Ethernet is practically the only network used, where in A&C you see a variety of networks and protocols used. Because of this prevalence in IT, cyber security as a concept evolved from this field. Accordingly, most of the cyber security experts are from the IT field. But there are some basic differences between IT and A&C. This has a huge ramification.

In the IT world, the key is "access everywhere". Any user needs to access web pages, email, company databases, servers, project files etc. It is very hard for an IT department to restrict access to a given user. Thus, since restriction is tough, they must rely on password and software integrity as the main line of defense. Think of IT cyber security as analogous to a Zoo. The main point of a Zoo is to see exotic animals (or data). Likewise, you have to provide access by the general population (users and Internet) to the animals. Thus, you rely on enclosure integrity as the main means of keeping the animals separated from the general population.

In the A&C world, the key is "manage access." For any device, the question is immediately asked as to what information needs to go where. Drive speed data may need to be fed to a PLC, but may not to a SCADA. Likewise, dissolved oxygen may not need to be given to a PLC handling headworks task. Thus, in the A&C world, data restriction and control is not just possible, but very desirable. Restricting how and where data is routed can have huge impact not just on security, but on network throughput. To continue our analogy, you can think of an A&C system as a prison. The point of a prison is to keep the prisoners (or data) away from the general population (users and Internet). In a prison, access is a highly controlled activity. Outer walls, geological barriers, small windows, cell blocks, guard towers, and routine can be used to keep the prisoners isolated and protected.

Thus, in an IT system, software and firmware is the main point of mitigation. In an A&C system this is important, but just one of a variety of tools to protect a system. In fact, it is possible that a well-managed system may not be vulnerable to certain types of cyber attacks even if the devices in that system have susceptibility. For instance, let's assume the next cyber attack works with a weakness in web pages. If the Ethernet switches in the control system are blocking web access to the connected devices, then the threat is blocked, even if one or more device is susceptible to the web page based attack.

So, how is this accomplished? Like intruder security, this involves a defense in depth approach. However, whereas intruder security involved three steps, cyber security involves six steps. Also, where intruder security involved a more active role in mitigation of an occurring event, cyber security is more focused on active prevention of a future event. So what are the six steps?

1. **Security Plan:** This is a plan needed by every utility that details how it will maintain the control system, and also how it will respond to cyber attacks.
2. **Network Separation:** This is done to isolate the A&C network from the utilities business network. There is only one place where these need to overlap. That is at the SCADA system database. By using properly configured firewalls, only data that needs to be entered to, or pulled from, the SCADA database can pass. Everything else is blocked.
3. **Perimeter Protection:** This is not just putting padlocks on control panel, but it can be. It is also assuring that any connection to the network is managed through firewalls, and that any open Ethernet switch is protected from random connections.
4. **Network Segmentation:** This is done either by having physically separated local area networks, or virtual local area networks. For instance, let's say a person access the network in the disinfection system for PLC programming. There is no reason why that person should be able to access the sedimentation PLC's. These can be segmented out.
5. **Device Hardening:** This is where the suppliers come in. They have an obligation to continually update

and patch any anomalies found within their hardware. However, utilities can also change default passwords, close backdoor access that some integrators leave in, and also place the SCADA computers in locked rooms to prevent access to the disc drives, or USB ports.

6. **Monitor and Update:** This involves a continuing activity of monitoring for vulnerabilities and patching the system. New threats will always be identified, and patches will always be needed to assure the system is running reliably.

Cyber Security, Intruder Security, and Weather have predominantly dealt with either protection of the processes, or keeping harmful elements out of the facility. Very little has been about the protection of utility personnel. However, this next topic mostly relates to that.

ELECTRICAL SECURITY:

We all know that there is an inherent risk when working with electricity. This is especially true when dealing with power. Perhaps the most known risk is shock. This occurs when electricity, of sufficient power to cause pain or harm, passes through the body. But another risk is present, one that may have greater chance of harm. This is arc flash.

Arc flash occurs when electricity passes through the air in an uncontrolled fashion. Unlike shock, arc flash can occur without direct contact. All you need is for a live conductor to be close enough to ground, neutral, or another phase to cause an arc. It can even occur when no one is around. The cause of arc flash could be varied and include a misaligned breaker, an improperly tightened phase wire that falls out of its terminal, or whiskers.

Whiskers is a phenomenon where metal grows metal needles in an almost crystalline way. If whiskers cross insulation barriers then an arc can occur. Whisker growth can be a factor of material and the atmosphere. In water wastewater, the presence of hydrogen sulfide can promote whisker growth. Figure 2 shows whiskers growth in a power device.

In regards to arc flash what is the danger and risk. Arc flash occurs about 5-10 times per day. The explosion can send molten metal fragments flying at velocities greater than that of a 0.38 special handgun. It can also lead to blindness, hearing loss, nerve damage, severe burns, and death. The average cost for an arc flash event is $1.5 Million for treatment and $8-10 Million after litigation. On top of that, there is the negative media coverage, equipment damage, unanticipated budget impact, and fines.

So what can be done about Arc Flash? Management of Arc Flash is actually relatively simple, and is well documented. NFPA 70E details this quite well. To assure compliance, with the laws and regulation, anyone working on electrical equipment must be trained on a yearly basis. The training will give you a complete overview on how to mitigate the hazards. Basically, like Intruder Security, this involves three steps. These are Eliminate, Reduce, and Protect.

Eliminate is the most obvious one, but sometimes overlooked. It is simply, eliminating the possibility. This involves shutting off the power, locking and tagging out equipment and assuring by measurement that the power is off. NFPA 70 does allow work on powered equipment, but only under critical circumstances. Unfortunately, NFPA does not clearly outline what those circumstances are.

It is relatively easy to come up with a convincing argument for almost any circumstance. If you are faced with this, consider this possibility. If an event occurs, there is a good chance you could be defending your actions against a professionally trained hostile lawyer. Thus, ask yourself, can you refute this person's argument no matter what? Realistically, most for most water and wastewater applications, the answer to this is no.

Reduce is another concept, but not quite so obvious. This step reduces the total energy released in an arc flash situation. This is done in two different ways. The first is to change the settings of circuit breakers so that they will trip faster. This can be done manually, and some companies have automatic methods to do this for when a person walks by the equipment. The second way is bizarre, but effective.

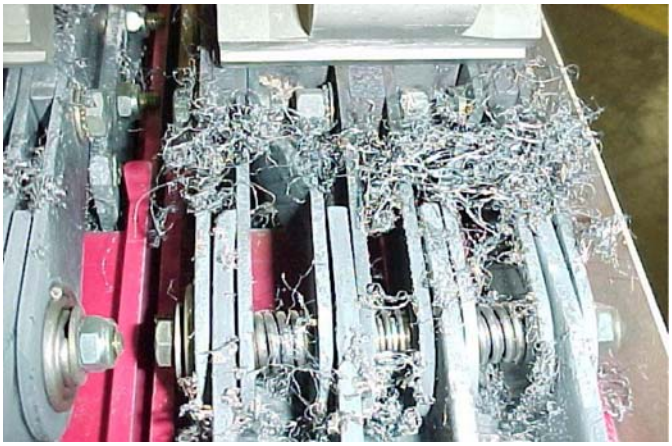


Figure 2: Whisker growth in power equipment

This second method involves extinguishing the arc. This is done by placing arc flash detectors in the electrical equipment. This looks at the UV signature and current increase to determine if an arc is forming. If one is forming, then a circuit is engaged that will close a contactor. The load side of this contactor has all three phases bolted together.

A bolted electrical fault draws more current than any other type of electrical fault, including an arc flash. Thus, when the contactor engages, all then energy goes into the bolted electrical fault. This extinguishes the arc. Also, the higher amperage actually opens the upstream breaker faster and eliminates the event.

Protect is the final way to protect against Arc Flash. There is a reason why it is listed last. It should be as a last resort. If the first two parts do not work, then it is up to the Protect phase to, well, protect you. Protect has two aspects. The first is to distance yourself or others from the arc event. Details for what the recommended distances are for various people is found in NFPA 70E. The second aspect is clothing.

What to wear is directly a function of the available power that can be handled by the equipment during an electrical fault. A 120VAC single phase residential lighting panel will be different then a three phase 12.5 KV section of switchgear. Clothing styles are also covered in NFPA 70E.

We have looked at four different aspects of security. While more exist, looking after these four should go a long way to making the facility more reliable and safer.

About the Author

Grant Van Hemert PE is a Product Manager for Schneider Electric's Remote Terminal Units. Before that he was an application engineer with Schneider Electric's Water Wastewater Competency Center. Mr. Van Hemert has been active in the Water Wastewater community since 1995, and is past chairperson of the AWWA I&C committee. Contact: Grant.VanHemert@schneider-electric.com

THE INTERVIEW

Interview with Celine Hyer, Last year's WWAC2012 keynote speaker

CELINE HYER, PRINCIPAL CONSULTANT MALCOM PIRNIE/ ARCADIS

Celine Hyer was the keynote speaker at our 2012 ISA Water/Wastewater and Automatic Controls Symposium. In her keynote address, Hyer talked about importance of asset management and the role SCADA has to play. Hyer is the National Conveyance Practice Technical Leader for Malcolm Pirnie/ARCADIS and is located in their Tampa, Florida, USA office where she acts as the technical lead for risk assessment, asset management, master planning and renewal and replacement programs across the country. She has kindly agreed to be interviewed about how she got her start in the field and to offer insight into what lies ahead in our industry.

WWID: Tell us a little about yourself?

Hyer: I've lived in Florida for the last 28 years and now somewhat consider myself a native. I originally came to Florida after growing up outside of Chicago to attend Florida Institute of Technology where I received my BS in Chemical Engineering and my MS in Engineering Management. I liked it so much here that I just ended up staying. Part of what I like so much is always having nice weather since I have a very active lifestyle including weight lifting, cross training, hiking, and gardening. I have experimented with cold weather sports including mountain climbing and even recently took snowboarding lessons.

WWID: When did you first get involved in the water/wastewater sector?

Hyer: I became involved in this sector in the very beginning of my career at my first job for the Department of Environmental Protection (DEP) in Orlando, where I was an Engineer I reviewing groundwater data from wastewater treatment plant effluent disposal spray fields and ponds. I've been involved for the last 23 years in different capacities ranging from evaluating water loss and metering efficiencies, evaluating regulatory compliance, running an engineering department for a municipal water and wastewater utility, and now as a consultant.

WWID: Did you originally plan to work in water/wastewater, or was it serendipitous like many of us?

Hyer: No I didn't plan on it. My bachelor's degree was in Chemical Engineering and I thought I would be working, like my father, in some type of chemical or petroleum processing facility. However, after going on several job interviews to those types of facilities I realized it was not for me and that I would be happier in the environmental side of the business and that's how I ended up at Florida Department of Environmental Protection (DEP).

WWID: What do you like most about working in water/wastewater?

Hyer: The industry is constantly evolving with new treatment and equipment technologies, and in my current area of work, new condition assessment tools and technologies. This keeps me busy learning new things and interacting with new people, which I really enjoy. It's never becomes boring since we are always coming up with the next best approach to solve a problem.

WWID: What sorts of things have you been involved with over the course of your career?

Hyer: I have had a very diverse career working in many of the different sectors from my beginnings as a regulator to then working as a corporate environmental compliance engineer, followed by running and engineering department for a municipal utility to finally becoming a consultant with Malcolm Pirnie/ARCADIS for the last 7 years.

WWID: Are there any particular projects you are most proud of?

Hyer: I am very proud of the risk and replacement program that I worked on for New York City Department of Environmental Protection. We helped the city prioritize all of its above ground infrastructure and underground infrastructure for replacement and helped them build their 10 year Capital Improvement Program as well as understand their 50-year funding needs. It was a very large and comprehensive effort since they have an enormous amount of infrastructure to manage.

WWID: I understand you have been an active member of AWWA for many years, including taking a leadership role on several AWWA committees. Can you tell us a little more about your involvement with the AWWA?

Hyer: I am now participating on the AWWA Asset Management Committee and I have been involved as a speaker for the last 10 years at many of the local AWWA annual conference across the South. I would love to have more involvement now but it's a little difficult for me with my new national position and the amount of travel that is sometimes required.

WWID: What do you like most about working?

Hyer: I'm a very goal oriented person and I really enjoy completing a project and helping a client solve a specific problem. I also love technology, so being able to evaluate and apply the latest and greatest tools and techniques nationally also keeps me excited and motivated.

WWID: How did you first get involved with the ISA?

Hyer: My first interaction was actually participating as the key note speaker last year. They reached out to me since the

conference was in Florida where I had presented at many other local conferences on similar topics.

WWID: What were your impressions of the ISA based on your experience of being the keynote speaker at our 2012 ISA water/wastewater symposium?

Hyer: I was extremely impressed with the work ethic and professionalism of the conference committee members especially related to their organizational skills and the attention to details. The content of the conference was also excellent and I was amazed by the amount of review time that was put in to review the abstracts as well as the presentations themselves. I've participated in many national conferences that were less organized and paid less attention to content.

WWID: Do you have any advice for a young engineer or technician considering getting involved with the water/wastewater sector?

Hyer: It's definitely an exciting time to start in the industry with all of the new technologies emerging and the demand to optimize and save money. I would encourage them to be involved in as many different types of projects as possible to get a feel for what they would like to concentrate on in the future and be open to adapting to change.

WWID: Thank you very much for taking the time to speak with us for this interview.

Hyer: My pleasure!

(This interview has been edited for length.)

ISA PUBLISHING

ISA publishes new book to help automation, robotics and process industry professionals understand relevant legal concepts and manage risk

Our friends at ISA headquarters have published a new reference book intended to help automation, robotics and process industry professionals better understand relevant legal concepts and manage risk.

The Automation Legal Reference: A Guide to Legal Risk in the Automation, Robotics and Process industries by Mark Voigtmann, an attorney with expertise in legal matters and proceedings involving automation companies, manufacturers and end users, explains in simple language—not legalese—the essentials of legal risk management, ranging from contract development and negotiation to professional licensing and dispute resolution.

"This is not a law book," says Voigtmann, a partner in Faegre Baker Daniels, an international law firm with offices in the US, China and Great Britain. "Instead, it's a concise guide to the law for persons in these industries, written in plain English. It's also the first wide-ranging exploration of legal risk that has been published by ISA."

Chapter topics include:

- Automation Projects and Legal Risk
- Project Delivery Methods
- Proposals and Purchase Orders
- Scope of Work
- Contract Clauses
- Negotiating Automation Contracts
- Specifications
- Intellectual Property
- Automation Standards
- Professional Licensing
- "Green" Considerations
- Changes and Other Mid-Project Communications
- Dispute Resolution
- Negligence
- Insurance
- Liens, Bonds and Other Remedies
- Maintenance and Service Agreements
- Legalities for Tough Economic Times
- Auditing Legal Health
- Working with Attorneys

Voigtmann hopes that the book will improve awareness within the automation and control community of important legal concepts.

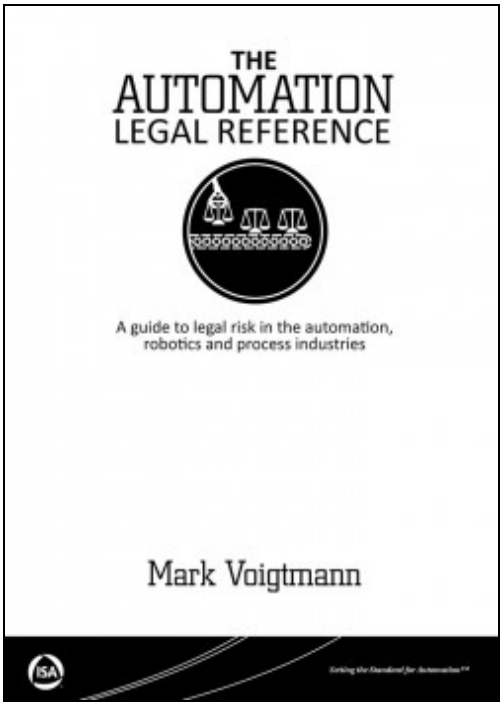
"All too often," he recalls, "I have seen too many engineers and automation company executives attempt to navigate their way through legal hazards in what can only be described as a 'penny-wise but pound-foolish' manner—saving a few thousand dollars on legal fees on the front end only to see a company-killing problem arise as a result."

At the same time, Voigtmann says the book can alert lawyers to the specific ways the automation community creates risk.

"The lack of communication and understanding is a two-way problem. Most lawyers have little or no understanding of what automation companies do and how they function. For lawyers with clients in the automation industry, I am hopeful this book can serve as a sort of checklist and provide a window into the field of automation.

"At a minimum," Voigtmann concludes, "the book should make automation company executives and engineers smarter when communicating with their lawyers—and it will make lawyers smarter when communicating with their clients in these industries."

For more information or to purchase a copy of this valuable resource, visit www.isa.org/books



JOB POSTING

Orange County, Florida, USA

Job Opportunity--Senior Engineer #12971--Supervisor position responsible for the Utilities Engineering SCADA (Supervisory Control and Data Acquisition) team. This team performs troubleshooting, configuration, installation, and maintenance of SCADA systems and associated radio, computer, PLCs, and network equipment for the wastewater, reclaimed water, and solid waste systems of Utilities. This position is responsible for management of the Utilities Engineering SCADA system. This work has an electrical, instrumentation, and controls (I&C) focus. The work includes planning, design, procurement, evaluation, implementation, and maintenance of SCADA projects and components. Familiarity with industrial power systems, service entrance, feeder and branch circuits, lighting, emergency power, and power distribution equipment. Req. bachelor degree from an accredited college or university in Electrical Engineering, six years of engineering and supervisory experience in project management; budgeting; electrical design; SCADA systems and communications; working in an industrial environment, and be licensed in a state of the United States as a professional engineer. Must possess a valid Florida State driver's license and be licensed in the state of Florida as a professional engineer within one (1) year of hire. Prefer experience with wastewater operations and processes; instrumentation and controls; electrical system design; power surge protection; and familiarity with Microsoft Office, AutoCAD, and HMI SCADA software. Other preferred experience includes radio communications systems, PLC programming, visual basic programming, telephone systems, networking, fiber optics communications, and electrical ladder diagrams. All applicants selected for hire in the position must successfully complete a Criminal History and Background Check. Salary $31.63/hr. Apply online http://www.orangecountyfl.net/EmploymentVolunteerism/JobOpenings.aspx Job ID 12971

The Many Benefits of ISA Membership

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- Free Mentoring Program to enhance workforce development and careers

ISA STANDARDS

New Committee on Intelligent Device Management Seeks Members

From the ISA Standards "News" blog

A new ISA standards committee, ISA108, Intelligent Device Management, is currently seeking members. The committee will define standard templates of best practices and work processes for design, development, installation and use of diagnostic and other information provided by intelligent field devices in the process industries.

Intelligent field devices, pervasive in modern process manufacturing, bring the promise of transforming the way information is utilized related to these devices and to the processes they control. Devices with impending maintenance problems, for example, can be identified earlier, and information can be provided directly to process automation systems, plant asset management systems, or any other systems or software in a plant as required.

In many cases, however, the promise remains unrealized, often because users are employing old maintenance work processes with new technology. The new devices and applications are installed, but operators and technicians stick to their traditional approaches to preventive or routine maintenance and do not take advantage of the huge amount of information available to them.

"With more than 80% of smart instrument data not being used or even connected to an online data collection system, the lost revenues to the process industries are tremendous," said ISA108 Managing Director Ian Verhappen of Yokogawa Canada. "Thus, the need is clear for a series of standards on how to integrate this data into control systems and work practices to achieve the benefits of proactive maintenance."

The scope of the committee work products will include recommended work processes and implementation practices for systems that utilize information from intelligent field devices and the people who use them. Work process templates by worker roles (such as maintenance or operations) will be one area of research. Best practices for implementation will be developed. Models will be developed for the flow of information from devices through the various systems that use the information.

ISA108 held an initial meeting on 24 September 2012 in Orlando, Florida in conjunction with ISA Automation Week. The bulk of the committee's work will be conducted electronically.

If you are interested in participating in ISA108, please contact Ellen Fussell Policastro of ISA Standards, efussell@isa.org.

Setting the Standard for Automation™

New WWID Members
Recently joined January 2013 to July 2013

January 2013
Mr. Jim Beabout - Littleton, CO, USA
Mr. James Thomas Bridges, Jr., CCST - Louisville, KY, USA
Daniel J. Chinault - Charlotte Hall, MD, Malaysia
Dwayne T. Davis - Bowie, MD, USA
Christopher A. Ewoldt - Hull, IA, USA
Mr. Paul D. Henry, CCST - Upper Marlboro, MD,
Mr. Paul C. Kirlew - Pompano Beach, FL, India
Narciso D. Orozco - Upper Marlboro, MD, USA
Mr. David F. Penner - Omaha, NE, India
Mr. Donald C. Samuel, CCST - Pittsburg, CA, USA
Vilavanh Souvannavong - Newmarket, Auckland, , USA
Mr. Michael C. Brizee - Grand Junction, CO, USA
Mr. Kevin Anton DeWitt - Appleton, WI, USA
Yanyu Duan - Newark, DE, USA
Mr. Matthew Ernst - Guelph, ON, Canada
Mr. David Lord - Midland, TX, USA
Rainer Michelis - Princeton Junction, NJ, USA
Steve Richards - Perth Amboy, NJ, USA
Mr. Stephen Rischar, PE - Wickliffe, OH, USA
Mr. Masanori Suzuki - Ibaraki_hitachi_naka, , USA

February 2013
Mr. Derek E. Romer - San Luis Obispo, CA, USA
Mr. Gene C. Berezowski - Moose Jaw, SK, USA
Jose Alexander Cortes - Medellin, Antioquia, USA
Maynard Lee Inman - Virginia Beach, VA, USA
Mr. Thomas Kapushinski - Walnut Creek, CA, USA
Paul D. Kellner - Arlington, TX, USA
Mr. Paul J. Lacon - Frazer, PA, USA
Mr. Eoghan O' Neill - Carritohill, Cork, USA
Edith Ramirez - Tampa, FL, Spain
Mr. Jeff Roberts - Henderson, KY, Israel
Mr. William Schill - Tampa, FL, USA
Mr. Mike David Bohn - Santa Clara, CA, USA
Mr. Chad E. Elliott - Appleotn, WI, USA
Ishak M. Vahora - Plainfield, IL, USA
Mr. Thomas J. Diercksmeier - Scottsdale, AZ, USA
Mr. Lieven K. Dubois - Destelbergen, , USA
Mr. Thomas Kapushinski - Walnut Creek, CA, USA
Mr. Louis T. Verduzco, CAP - Brentwood, CA, USA

March 2013
Daniel L. Griffee - Asheville, NC, USA
Kenneth E.T. Holliday - Brockville, ON, USA
Mr. David C. Jackson - Duarte, CA,
Mr. Richard Michael Landon - Lompoc, CA, USA
Andrew Merritt - Sparks, NV, USA
Safiyyah Quraishi - Secunderabad Hyderabad, ANDHRA PRADESH, India
Randy B. Rainwater - Highlands Ranch, CO, USA
Mr. Gary Szilagyi - Jacksonville, FL, USA
Marco A. Talavera - Tustin, CA, USA
John A. Valdes - Calgary, AB,
Sefan L. Capitaneanu - Limours, , USA
Jan K. Michalek - Canal Winchester, OH, USA
Raymond C. Rogers - Downers Grove, IL, USA

April 2013
Mr. Jaime A. Alba - Fairfax, VA, USA
Mr. Juan R. Anderson - San Luis Obispo, CA, USA
Mr. Myron K. Bachman, CCST - Syracuse, UT, USA
Mr. Lee Raymond Badertscher - Covina, CA, USA
Tom Beeker - Hopkinsville, KY, USA
Mr. Robert A. Birdsey - Wallingford, CT, USA
Carlos Luis Calvo Corchero - Madrid, MADRID, Spain
Ms. Nicole Caron - Saint Hubert, QC, USA
Meera Chinnaraj - Erode, TAMILNADU,
Robert J. Clark - Rockdale, IL, USA
Mr. Stanley Morris Clayton - Barneget, NJ, USA
Mr. James J. Crosier - Syracuse, NY, USA
Mr. Timothy Culberson - Saint John, NB, USA
Jared John Daniels - Pocatello, ID, USA
Mr. Gary Don Dean, CCST - Birmingham, AL, USA
Mr. William R. Doxsee - Calgary, AB, Singapore
Carter R. Farley - Round Hill, VA, USA
Mr. Richard Malcolm Freeman - Glen Ellyn, IL, USA
Mr. Jonathon H. Grant - Dedham, MA, USA
Mr. Carlos A. Hernandez - Little Ferry, NJ, USA
Mr. James A. Howard, CCST - Olympia, WA, USA
Mr. Edward G. Kowalski - White Plains, NY, USA
Shenbagapriya Krishnasamy - Erode, TAMIL NADU, USA
Mr. Alan H. C. Lai - Cincinnati, OH, Spain
Mr. Jesus Leanos - Placerville, CA, USA
Mr. Francis W. Limbacher - Pittsburgh, PA, USA
Ms. Shawna J. Lowndes - Hamilton, OH, USA
Mr. Robert C. Manross - Sherrills Ford, NC, USA
Mr. Gary J. Mierzwa - Cantonment, FL, USA
Mr. Brian K. Miller, CCST - Stuart, FL, USA
Mr. Thomas A. Miller, CCST - Winston Salem, NC, USA
Mr. Jonathan Mitchell PE - Longwood, FL, USA
Abel Muniz Mouro - Outes, A Coruna, USA
Mr. David G. O'Brien, CCST - Rochester, NY, USA
Anjali Paithankar - Houston, TX, Canada
Mega Perumal - Erode, TAMILNADU, USA
Mr. Magudeswaran Rajamani - Erode, TAMILNADU, USA
Cristina Recouso Campano - Caldas de Reis, Pontevedra, USA
Mr. Gary L. Richter, CCST - Boise, ID, USA
Mr. Steve Robben, CCST - Greeley, CO, Colombia
Mr. Dana Bruce Snoke - Santee, CA, USA
Mr. David Soper - Gastonia, NC, USA
Beau Stander - Salt Lake City, UT, USA
Mr. Richard E. Tucker - Harrison, OH, USA
Mr. Thomas W. Dugan - La Jolla, CA, USA
Mr. Erik Ekwall - Norwood, MA, USA
Mr. Carlos A. Hernandez - Little Ferry, NJ, USA
Mr. David Soper - Gastonia, NC, USA

May 2013
Mr. Marvin T. Anderl - Richmond, VA, USA
Mr. Thomas J. Baker, CCST - Bremerton, WA, USA
Mr. Manuel Barcelo Fidalgo - Madrid, , India
Mr. Narayan Khanderao Bedarkar - Pune, MAHARASHTRA, India
Mr. Walter H. Boyes, Jr. - St Louis, MO, USA
Mr. Jose Angel Campa - Madrid, MADRID, Spain
Mr. Jesus Camunez Palomo - Barcelona, , USA
Mr. Larry S. Clonch - Milford, OH, USA
Mr. Frank Cosentino - Mississauga, ON, USA
Mr. Ron Curr - Cape Coral, FL, USA
Ryan Daniel - Kuna, ID, USA
Mr. Rob D. Dickson - Sarnia, ON, Canada
Mr. Muthukumaran Elumalai - Singapore, ,
Mr. Joshua Gelman - Fairfax, VA, USA
Mr. Anthony Gideon Goordeen - Sunrise, FL, USA
Mr. Robert L. Gorder - Aurora, IL, USA
Mr. Paul A. Hargrove - University Place, WA, USA
Mr. Jay Henderson - Evanston, IL, USA
Mr. David H. Kemp - Bonita Springs, FL, USA
Mr. Scott D. Kennedy - Boulder, CO, USA
Mr. Roger Labrecque - Bristol, CT, USA
Ms. Beatriz Latorre - Madrid, MADRID, USA
Mr. John Lavoie - Middletown, PA, Brazil
Mr. Rafael Francis Leite - Curitiba, PR, USA
Terry Lufsey - Petersburg, VA, USA
Mr. Philip N. Morris - Albuquerque, NM, USA
William J. Murphy - Lincoln Park, NJ, USA
Mr. Steven F. Naoum - Bakersfield, CA, USA
Mr. Jim Nguyen - Berthoud, CO, USA
Charles Oden - Petersburg, VA, USA
Mr. Julian David Piedrahita Agudelo - Medellin, Antioquia, USA
Mr. Ken A. Pollock, CCST - West Jordan, UT, USA
Mr. Gerald J. Ratasky, PE - Raleigh, NC, USA

Mr. Salomon Rojas Canas - Barrancabermeja, Santander, USA
Mr. Shaul Rom - Zur Yigal, , USA
Mr. Narciso Santiago, CAP - Longwood, FL, USA
Mr. Paul Schwartz - Los Angeles, CA, USA
Mr. Henry Elias Sierra Rangel - Barrancabermeja, Santander, USA
Michael Skrzypek - Largo, FL, USA
Mr. William F. Smith - San Diego, CA, USA
Mr. James W. Spitzer - Cambridge, MA, USA
Mr. Edward C. Stillwell - Wakefield, MA, USA
Mr. Scott M. Tsukuda - Shepherdstown, WV, USA
Ken Tu - Castro Valley, CA, USA
Mr. Carl E. Wadsworth, CAP - Bountiful, UT, USA
Mr. Mark A. Waronker - Lansdale, PA, USA
Mr. Scott Whitmore - Maitland, FL, USA
Mr. Mark C. Wirfs - Beaverton, OR, USA
Howard Woodward - Puyallup, WA, Japan
Mr. John T. Yadon - Idaho Falls, ID, USA
Mr. Srinivas Yeddula - Pittsford, NY, USA
Ms. Lisa Feng - Calgary, AB, USA
Mr. Raymond Kelly - New Brunswick, NJ, USA
Mr. James D. O Keefe - Hilo, HI, USA
Mr. Jeff Parke - Wheeling, IL, USA
Mr. Thomas J. Baker, CCST - Bremerton, WA, USA
Mr. Christopher M. Gele, CAP - Little Rock, AR, USA
Mr. James Douglas Hall, Jr. - Petaluma, CA, USA
Mr. Paul A. Hargrove - University Place, WA, USA
Mr. Amit Sahdev - Littleton, CO, USA
Mr. Scott M. Tsukuda - Shepherdstown, WV, USA

June 2013

Mr. Jose Maria Balseiro Perez de Villar - El Viso Del Alcor, Sevilla, USA
Mr. Wei Luen Chu - Shah Alam, Selangor, USA
Mr. Brendan J. Coffey, PE - Newburyport, MA, USA
Mr. Nathan Derry - Raleigh, NC, USA
Mr. Timothy Samuel Dickman - Winter Park, FL,USA
Michael Dicks - Middletown, PA, USA
Mr. David R. Eifert, Jr. - Bay Village, OH, USA
Mr. Dusan Fil - Brampton, ON, USA
Mr. Dennis G. Flosi, CCST - Vacaville, CA, USA
David Foster, P.E. - Norcross, GA, USA
Mr. Ernest T. Gallo - North Plainfield, NJ, USA
Mr. Raymond J. Grosch - Pewaukee, WI, USA
Mr. Derek R. Gross - Chandler, AZ, USA
Mr. Joseph Guagno, Sr. - Perkasie, PA, USA
Mr. James Alan Hall - Portland, OR, USA
Darin L. Heitman - Indianapolis, IN, USA
Mr. Andrew B. Higginbotham - Woodbridge, VA, USA
Mr. Ramani R. Iyer - Pune, MAHARASHTRA, USA
Mr. Joseph P. Jennings - Laurel, MD, USA
Mr. Waymon Jones - Atlanta, GA, USA
Mr. Dennis J. Link, CCST - Bethel, OH, USA
Mr. Edward F. Linzer - Peapack, NJ, USA
Mr. Paul C. Mamzic - West Point, PA, USA
Trevor Marks - Mississauga, ON, USA
Mr. Paul McGuire, PE - Cleveland, OH, USA
Mr. Son Truong Nguyen, PE - Ashburn, VA, USA
Mr. Joe Pereira - Cambridge, ON, Colombia
Mr. Michael J. Potter - Chesterfield, MO, USA
Ms. Soumya N. Prasad - Bangalore, , USA
Mr. Andreas R. Schmidt - Salt Lake City, UT, USA
Mr. Thomas N. Sopp, CCST - Moorhead, MN, USA
Mr. Makoto Taira - Mito-shi Ibaraki-ken, , USA
Mr. Robert Temple - Katy, TX, USA
Mr. Joseph Conway Todhunter, CCST - Alabaster, AL, USA
Mr. Craig Truax - Phoenix, AZ, USA
Mr. Frank Truglia, CCST - Stoney Creek, ON, Canada
Mr. Ryan Wilson - Muscatine, IA, USA
Mr. David R. Eifert, Jr. - Bay Village, OH, Morocco
Mr. Raymond J. Grosch - Pewaukee, WI, Colombia
Mr. Joseph P. Jennings - Laurel, MD, USA
Mr. Makoto Taira - Mito-shi Ibaraki-ken, , Australia

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

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

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

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

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

- Explanatory/teaching articles that are meant to introduce or explain a technical aspect of automation and/or instrumentation in the water/wastewater sector.
- Biographical stories about personalities and/or leaders in the water/wastewater sector.
- Case Studies about plant upgrades and/or the application of new technologies and techniques. This type of article must include at least two photos along with the article text.
- Pictorial Case Studies about a plant upgrade consisting of 4-6 photos plus a brief 200-500 word description of the project undertaken. The article should ideally include one to two paragraphs about lessons learned and/or advice for other automation professionals.
- Historical reflections on changes in technology pertaining to specific aspects of instrumentation or automation, and how these changes point to the future.
- Discussions about changes in the water/wastewater sector and how these affect the automation professionals.

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

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

WWID Newsletter Advertising

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

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

- Winter Issue – published in January/February
- Spring Issue – published in May/June
- Summer Issue – published in August/September
- Fall Issue – published in October/November

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

The current advertising rates are as follows:

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

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

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

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

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

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

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2013 Symposium Details
Date: August 6-8, 2013
Location: Orlando, Florida, USA
Venue: Crowne Plaza Orlando-Universal Hotel
General Symposium Chair: Graham Nasby, P.Eng, PMP
Website: www.isawwsymposium.com

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

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**