



Water/Wastewater Industry Division

Setting the Standard for Automation™

Calendar of WWID Events

- Jun 9-12, 2012 **Spring Leaders Meeting**
San Diego, California, USA
- Aug 7-9, 2012 **2012 ISA Water/Wastewater and Automatic Controls Symposium**
Orlando, Florida, USA
- Sept 22-23, 2012 **Fall Leaders Meeting**
Orlando, Florida
- Sept 24-27, 2012 **ISA Automation Week**
Orlando, Florida

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Spring 2012 Newsletter

"The Symposium Issue"

Director's Welcome



These are exciting times for our Division. Our annual symposium is coming up (Aug 7-9 in Orlando, Florida) and we are proud to announce some new strategic alliances with partner organizations.

We'll have more information in this newsletter from our Symposium Chair but I'm happy to announce that our keynote, guest and invited speakers are set, as is the technical program and training sessions. Celine Hyer, principal consultant with Red Oak Division of Malcolm Pirnie/ARCADIS in Tampa, Florida will present "Facing Utility Challenges: Managing Risk and Addressing Aging Infrastructure Needs." Guest speakers from WEF and the Florida AWWA round out the program. In all, there are over 25 speakers at this year's symposium. Visit the symposium website for more info at: www.isawwsymposium.com

We have also announced two new partnerships with WEF and the Florida AWWA. Both organizations have joined the symposium as technical co-sponsors and will be offering FDEP approved CEUs for Florida-state licensed water and wastewater operators. We anticipate that these will be the first of many collaborations into the future.

Jon DiPietro
WWID Division Director

Newsletter Editor's Welcome



It is my pleasure to publish this "symposium issue" about the many aspects of our upcoming 2012 ISA Water/ Wastewater and Automatic Controls Symposium.

We begin with the symposium program announcement from our esteemed symposium program chair Joe Provenzano. Joe and the program committee have been hard at work putting together our symposium's technical program. The newsletter then provides short abstracts and bios for our keynote speaker, two invited speakers and two guest speakers. This is followed by "symposium program at a glance" sections along with information about how attendees can gain valuable CEUs and PDHs by participating.

This newsletter also contains exciting announcements about newly formed partnerships your WWID division has formed with the Water Environment Federation (WEF) and the Florida Section of the AWWA (FSAWWA). We also announce the winners for our 2012 WWID student scholarship, and include two in-depth technical articles.

I invite you to get involved with this year's WWAC symposium!

Graham Nasby
WWID Newsletter Editor

Message from your Director-Elect



It has been a very busy past several months for the WWID. The board and I are pleased to announce that our annual WWAC symposium is now full swing, our 2012 student scholarships have been awarded, and we have begun several important collaborations with other associations in our sector.

Back in March 2012, I had the pleasure of travelling to ISA headquarters in Raleigh, NC to facilitate meetings between the ISA and the Water Environment Federation (WEF). The purpose of the meetings was twofold – to discuss technical opportunities for the two organizations to collaborate and to explore ideas for additional cross-promotion activities. I'm pleased to report that the meetings were a success and led to the signing of a memorandum of understanding between the ISA and WEF. As a result the WEF Automation and Info Tech committee has joined our symposium as a technical co-sponsor, and three of our top symposium speakers will be invited to present their papers at WEFTC this fall. I wish to thank my friends at WEF, including Barry Liner, Jack Bensen and Tom DeLaura for their help in forging this newfound collaboration. You can read more about it later in these pages.

At the same time I was speaking with WEF, I also had the good fortune of meeting Rick Ratcliffe who is the Chair of the Florida Section of the AWWA (FSAWWA). I first spoke to Rick back in January, when I cold called him to ask if the FSAWWA would be interested in supporting our automation, SCADA and instrumentation themed symposium in his home state. The answer was a resounding yes, and I'm proud to report that we have collaborated with the FSAWWA on many fronts since then. The FSAWWA was instrumental in having our symposium hours approved by the Florida Department of Environmental Protection as continuing education credits (CEUs) for Florida state-licensed water and wastewater operators. They also helped us certify our Automation & SCADA cyber-security short-course as FDEP CEUs as well. In return, the FSAWWA is now pleased to now be able to offer focused training opportunities for their members involved with SCADA, automation and instrumentation.

One of the secrets of planning this year's symposium has been forming partnerships like the two I have just outlined. There are too many to mention to here, but I will say that each has been mutually beneficial for all involved. The end result of these collaborations, along with some very hard work by our dedicated symposium committee, is the fantastic symposium that you will read about in this newsletter.

I look forward to seeing all of you in Orlando this summer. Put the date of August 7-9 on your calendar, and don't forget about the early-bird registration discount!

Graham Nasby, P.Eng., PMP
WWID Director-elect &
General Symposium Chair for the 2012 WWAC Symposium

WWAC Symposium Registration Now Open

Registration is now open for our 2012 WWAC Symposium! ISA members can register for only \$300 for the 3-day event.

Register online at:

www.isawwsymposium.com/register/

Taking place 7–9 August in Orlando, Florida, USA, the 2012 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 sectors. It features two full days of technical speakers/presentations, a tour of a local water 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.

“The 2012 ISA WWAC symposium offers a full program of over 25 technical papers and presentations that will be of interest to the water/wastewater automation professional,” says ISA Executive Director and CEO Pat Gouhin. “The symposium offers a focused event that caters to the needs of individuals who are involved with SCADA, automation and instrumentation technologies as part of their daily jobs in this important sector of our municipal infrastructure.”

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.



2012 ISA Water/Wastewater and Automatic Controls Symposium

7-9 August 2012....Holiday Inn Castle Resort Hotel....Orlando, Florida

Presented by the ISA Water/Wastewater Industries Division, in collaboration with the Florida AWWA and the WEF Automation and Information Technology Committee, the WWAC Symposium offers affordable professional development opportunities for SCADA, automation, and instrumentation professionals in the water and wastewater sectors.

2 full days of Technical Speakers and Presentations

Track 1 – Instrumentation, System Integration, Automation, Plant Case Studies, New Technologies, Optimization, Project Management

Track 2 – SCADA, HMI, Human Factors, Alarm Management, Process Data Reporting

1 full-day ISA Training Course on SCADA & Automation Cybersecurity

Tour of Orange County's new Southern Regional Water Supply Facility

Trade Show, Reception & Networking Event

Affordable Professional Development for

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

CEUs – Continuing Education Units & PDHs – Professional Development Hours

For more information visit: www.isawwsymposium.com

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

Symposium Program Announced

By Joe Provenzano, Symposium Program Chair

I am pleased to announce the keynote speaker and technical program for the 2012 ISA Water/Wastewater and Automatic Controls (WWAC) Symposium. Now in its seventh year, our annual symposium offers a unique opportunity for automation professionals from the water and wastewater sectors to come together to share ideas, network and earn continuing education credits.

This year's technical program features more than 25 technical presentations and papers on a wide variety of automation, cyber-security, instrumentation, plant optimization and system-integration topics. Two major themes this year, supported by invited speakers, are creating high-performance human machine interfaces (HMIs) to improve operational effectiveness, and developing SCADA and automation cyber-security best practices. We are also fortunate to have four international speakers join us this year. The symposium also continues with its traditional strength of sharing new ideas and lessons learned from recent plant upgrades and new-builds.

Our keynote speaker will be Celine Hyer, a long-time American Water Works Association (AWWA) member, who will present a keynote address entitled "Facing Utility Challenges: Managing Risk and Addressing Aging Infrastructure Needs." Hyer is a principal consultant with Red Oak Division of Malcolm Pirnie/ARCADIS in Tampa, Florida, where she leads the asset management practice for the South.

Tom DeLaura, Water Environment Federation (WEF) Automation and Info Tech Committee chair, will give a guest presentation on automation technology trends in the wastewater sector. DeLaura, vice-president of Eramosa Engineering International, is a long-time member of both ISA and WEF and has a career in the wastewater sector that spans over 38 years. Kim Kunihiro, a trustee of the Florida Section of the AWWA and the Water Quality and Production Supervisor for Orange County Utilities will also be giving talk on automation trends in the Florida drinking water sector.

Our symposium is focused towards the needs of operators, facility owners, engineers and technicians who work the water/wastewater sector. Furthermore it directly addresses the needs of individuals who are involved with SCADA, automation and instrumentation technologies as part of their daily jobs in these important sectors of our municipal infrastructure.

This year's WWAC symposium program is a fascinating mix of instrumentation, SCADA, cyber-security and human factor topics. The program offers great insight to anyone who works in either the water or wastewater sector. I invited you to read more about the program in this newsletter, browse our brochure, and register to participate in this year's WWAC Symposium.

Symposium Keynote: Celine Hyer

The symposium committee is pleased to announce that **Celine Hyer** from Malcolm Pirnie/ARCADIS will be our **keynote speaker** for the 2012 WWAC symposium. She will be presenting a keynote address on Tuesday, August 8 about the many challenges that water and wastewater utilities now face in terms of managing risk and aging infrastructure.



Facing Utility Challenges: Managing Risk and Addressing Aging Infrastructure Needs

Celine Hyer
Principal
Malcolm Pirnie/ARCADIS

Aging infrastructure and managing risk are major concerns in our industry. A recent US EPA study estimated that \$334.8 billion needs to be spent over the next 20 years on drinking water infrastructure needs. A similar study from the American Society of Civil Engineers pegged an even higher cost for wastewater infrastructure renewal in the United States. Automation, instrumentation and SCADA systems play an important role in solving the infrastructure challenges related to mitigating and managing risk.

About our Keynote

Celine Hyer is a Principal Consultant with Red Oak Division of Malcolm Pirnie/ARCADIS in their Tampa Florida office where she leads their asset management practice for the South. She has a B.S. in Chemical Engineering and an M.S. in Engineering Management from Florida Institute of Technology.

Celine has 23 years of experience in Engineering with 13 years that are directly related to Water and Wastewater Utility Management, including asset management, master planning, capital planning and strategic planning projects. She is currently leading asset management projects throughout the United States for medium and large utilities including New York City Department of Environmental Protection, Dallas Water Utility, Lee County Utilities, and Toho Water Authority.



The Water Division of ARCADIS
Symposium Silver Sponsor



2012 ISA Water/Wastewater and Automatic Controls Symposium

7-9 Aug 2012.....Holiday In Castle Resort 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 affect the processing and distribution of water treatment. It also provides an excellent opportunity to gain valuable technical information 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), a tour of a local water/wastewater facility, a general reception, networking events, a poster session, and a supplier showcase.



KEYNOTE SPEAKER

Facing Utility Challenges: Managing Risk and Addressing Aging Infrastructure Needs

Celine Hyer, Principal, Malcolm Pirnie/ARCADIS



INVITED SPEAKER

The High Performance HMI - Better Graphics for Operations Effectiveness

Bill Hollifield, Principal HMI Consultant, PAS



INVITED SPEAKER

An Overview of ISA99 for the Water or Wastewater SCADA Specialist

Bryan Singer, Principal Consultant, Kenexis Security



GUEST SPEAKER

Florida Drinking Water Trends and Automation Trends

Kim Kunihiro, Trustee, Florida Section of the AWWA & Water Quality & Production manager, Orange County Utilities



GUEST SPEAKER

Automation Technology Trends in the Wastewater Sector

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



GENERAL SYMPOSIUM CHAIR

An Overview of Applicable ISA Standards to the Water and Wastewater sectors

Graham Nasby, Director-elect, ISA Water/Wastewater Division

Technical Program Announced

Over 25 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

Two major themes this year are creating high-performance human machine interfaces (HMIs) to improve operational effectiveness, and developing supervisory control and data acquisition (SCADA) systems and automation 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.

The Symposium Program Also Includes:

Tour of new Orange County Utilities Southern Regional Water Supply Facility
Trade Show, Reception & Networking Opportunities

Continuing Education for

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

Earn CEUs & PDUs

The Florida AWWA, Florida WEA, and WEF Automation and Info Tech Committee have joined the symposium as technical co-sponsors. Attendees will receive 2.0 Florida DEP-approved CEUs (issued by the FSAWWA) that can be used to for continuing education requirements for Florida state water operator and wastewater operator licenses. The FSAWWA "course number" for the FDEP-approved CEUs is 05134001.

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

CEUs – Continuing Education Units (FDEP & IACET approved)

PDHs – Professional Development Hours (FDEP & ISA approved)

Affordable Professional Development

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

Course on SCADA & Automation Cybersecurity

The symposium offers an optional full-day short course on SCADA & Automation Security. Entitled "Introduction to Industrial Automation Security and the ANSI/ISA99 Standards", it gives an overview of why automation security is needed and how to identify and manage risks. Attendees receive 0.7 FDEP-approved CEUs (FSAWWA course#05134002) or 0.7 IACET CEUs.

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



Technical co-sponsor



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Technical tour co-sponsor



Technical co-sponsor

Symposium Invited Speaker: Bill Hollifield**The High Performance HMI –
Better Graphics for
Operations Effectiveness**

*Bill Hollifield,
Principal HMI Consultant
PAS*

Human Machine Interface (HMI) improvement has become a hot topic. Traditional HMI designs often suffer from “low performance” issues such as clutter, poor situational awareness, and being difficult to use during process upsets. The knowledge, technology, and control capabilities now exist for creating High Performance HMIs. This talk provides an introduction to HMI design techniques for improved situational awareness, improved surveillance and control, easier training, and verifiable cost savings. A high performance HMI is both practical and achievable.

Topics covered Bill’s talk include: HMIs Past and Present, Common but Poor HMI Practices, Justification for HMI Improvement – What Can You Gain?, High Performance HMI Principles and Examples, Depicting Information Rather Than Raw Data, The Power of Analog, Proper and Improper Use of Color, Depicting Alarm Conditions, Trend Deficiencies and Improvements, Display Hierarchy and the Big Picture, The High Performance HMI Development Work Process, Obstacles and Resistance to Improvement, and Cost-effective Ways to Make a Major Difference

Bill Hollifield is the Principal Consultant at PAS responsible for the work processes and products, intellectual property, and software product directions for both Alarm Management and High Performance HMI. He is a member of the ISA-18 Alarm Management committee, the ISA-101 HMI committee, the API-1167 Alarm Management committee, and is a co-author of the Electric Power Research Institute’s Alarm Management Guidelines. Bill is also co-author of The High Performance HMI Handbook. Bill has international, multi-company experience in all aspects of Alarm Management. Besides that, Bill has many (many!) years of chemical industry experience with focus in project management, chemical production, and control systems. Bill holds a Bachelor’s Degree in Mechanical Engineering from Louisiana Tech University and an MBA from the University of Houston. He’s a pilot, and builds furniture (and the occasional log home in the Ozarks) as a hobby.



Symposium Silver Sponsor

Symposium Invited Speaker: Bryan Singer**An Overview of ISA99 for the
Water or Wastewater
SCADA Specialist**

*Bryan Singer
Principal Consultant
Kenexis Security Corp*

The move to using open standards such as Ethernet, TCP/IP, and web technologies in SCADA (supervisory control and data acquisition) systems can expose these systems to the same types of cyber-attacks that have plagued the IT world. This talk will provide a brief overview how the ISA99 “Industrial Automation and Control Systems Security” standards represent a key tool in addressing these challenges, and how they can be used by SCADA/DCS professionals in the municipal water and wastewater sectors.

Included in the talk will be an overview of the typical stakeholders in SCADA systems and how their interests and needs for SCADA system security can vary. These usually include facility owners, onsite technical staff, hardware/software providers, and system integrators, as well as operations and maintenance personnel. The way that the needs of stakeholders can be addressed by applying the various individual ISA99 standards documents, and associated technical reports, will be covered.

Bryan Singer, CISM, CISSP is the principal security consultant with Kenexis Consulting Corporation and vice-president of Kenexis Security Corporation. He has over 20 years of experience in information technology security including 11 years specializing in industrial automation and control systems security, critical infrastructure protection, computer and ICS forensics, and counter-terrorism. Mr. Singer’s background focuses on software development, network design, information security, and industrial security. He is the founding chairman and now co-chairman of ISA99, Industrial Automation and Control Systems Security Standards Committee, a standards body focusing on the security issues of the control systems environments. Mr. Singer has a Bachelors’ Degree in Computer Information Systems from Phoenix University, and holds the CISSP, CAP, CISM certifications.



Symposium Silver Sponsor

Symposium Guest Speaker: Tom DeLaura**Automation Technology Trends in the Wastewater Sector**

Tom DeLaura
Chair
WEF Automation and Info Tech Committee
&
Vice-President
Eramosa Engineering International

Tom DeLaura, PE is an active member of AWWA and WEF, currently Vice-Chair of the WEF Automation & Information Technology Committee, serves on several other national and section level committees, and is a trustee for the Michigan Section of the AWWA.

He has extensive experience with water utilities across the U.S., and has worked in all facets of automation associated with water/wastewater systems, from out in the plant all the way up to the boardroom. He has written and presented on numerous topics of interest to the water and wastewater industry, been involved in research projects for WRF and WERF, and has received several awards from the industry for his dedication and service.

Tom brings to our team more than 38 years of experience with innovative management practices, focused on how business and technical issues combine for success. His experience is related to the management, engineering, implementation, operation, and maintenance of utility businesses as integrated enterprises.

Tom's background includes creating strategic plans, conducting research, and developing programs of interrelated projects. In addition to his consulting engineering experience, he served a decade as an end user and manager of information and process control computer systems with a major municipality.



Symposium Technical co-sponsor

Symposium Guest Speaker: Kim Kunihiro**Florida Drinking Water Trends and Automation Trends**

Kim Kunihiro,
Trustee
Florida Section of the AWWA
&
Water Quality & Water Production Manager,
Orange County Utilities

Kim Kunihiro holds a B.S. degree in Chemistry from the University of Hawaii at Manoa and an M.S. degree in Environmental Engineering Sciences from University of Florida and has worked in the water sector for more than 30 years. She is the Water Quality & Water Production Manager for Orange County Utilities, a large Water and Wastewater Utility that serves over 300,000 customers in Orlando, Florida.

Her current responsibilities include management and supervisions of the water production section which operates and maintains 20 water supply and pumping facilities for Orange County Utilities and project management of a variety of analytical and research projects.

In addition, she coordinates the activities of the water quality staff including backflow and cross connection, field sampling and water quality research. She prepares reports and monitors regulatory compliance for the Water Division. Her experience includes 24 years of laboratory management, data management and quality control in the public and private sector. She has specialized expertise in sampling plan development, data evaluation and laboratory design.

Kim is a trustee on the board of Florida Section American Water Works association and is the past Chair of the Technical and Education Council. At the national level she is a member and past chair of the Water Quality Laboratory Committee of AWWA as well as a member of the Emerging Issues committee and Distribution Water quality committee. She serves as a member of the project advisory committee for several drinking water and water reclamation projects at both the Water Research Foundation and Water Environment Federation.



Symposium Technical co-sponsor



Symposium Program at a Glance

The Symposium program committee is pleased to announce the full technical program for the 2012 WWAC Symposium:

Day 1 - Tuesday, August 7

- 8:00am-3:00pm **Automation & SCADA Security Short Course**
- 3:00pm-3:45pm Badge Pick-up for Tour Attendees
- 3:45pm-6:30pm **Tour of Orange County Utilities Southern Regional Water Supply Facility**
hosted by Orange County Utilities
- 6:30 pm Free Evening

Day 2 - Wednesday, August 8

- 7:15am Registration & Breakfast
- 7:45am Opening Remarks
- 8:00am Welcome from ISA President Bob Lindeman
- 8:15am *Keynote Speaker*
Facing Utility Challenges: Managing Risk and Addressing Aging Infrastructure Needs
Celine Hyer, Principal, Malcom Pimie/ARCADIS
- 8:45am *Invited Speaker*
An Overview of ISA99 for the Water or Wastewater SCADA Specialist
Bryan Singer, Principal Consultant, Kenexis Security Corporation
- 9:15am **Securing Critical Control Systems in the Water Sector – Where Do I Begin?**
Don Dickinson, Phoenix Contact
- 9:45am **Using Cyber Security Evaluation Tool (CSET) for a Wastewater Treatment Plant**
Bob Dusza, Manchester Water & Sewer Dept. - Manchester, CT
- 10:15am Coffee Break & Exhibits
- 10:30am **Wastewater Plant Process Protection: Process Hazard Analysis**
Thomas McGovern, Broward County Water and Wastewater Services - Broward County, FL
- 11:00am **Improving Water and Wastewater SCADA Cyber Security: Based on Work Performed for Large and Small Utilities**
Bill Phillips and Norman Anderson, CH2M HILL
- 11:30am **Mobile Devices for SCADA Integration and Beyond: Considerations, Security and Applications**
Pavol Segedy and Brandon Erndt, Brown & Caldwell
- 12:00pm Lunch & Exhibits

- 1:15pm **Solar Powered Wireless Sensors & Instrumentation**
Michael Macchiarelli, Imagine Instruments
- 1:45pm **HMI Testing of Multiple PLCs using Simulations on Virtual Machines**
Marcelo Avendano and Kevin Patel, CDM Smith
- 2:15pm **High Fidelity Extended Period Dynamic Simulation in Development and Testing of Control Systems for Water Treatment and Distribution Facilities**
Creig Wilson and Jared Thorpe, CH2M HILL
- 2:45pm Poster Session, Coffee, and Exhibits
- 4:00pm **Successful SCADA specifying and Implementation for Water and Wastewater Projects**
Robert Reinhart, ControlsLink
- 4:30pm **FOUNDATION Fieldbus Provides a Unified Solution for Remote Operations Management**
Larry O'Brien, Fieldbus Foundation
- 5:00pm **Developing an Integrated Business Solution with Telemetry and GIS**
Michael Waddell, CDM Smith and Isabel Szendrey, Puerto Rico Water Authority
- 5:30pm General Reception with Cash Bar

Day 3 - Thursday, August 9

- 7:15am Breakfast
- 7:45am Opening Remarks
- 7:50am **Welcome from ISA Tampa Bay Section**
Bob Reinhart, President, ISA Tampa Section
- 8:00am *Invited Speaker*
The High Performance HMI – Better Graphics for Operations Effectiveness
Bill Hollifield, PAS
- 8:45am *Guest Speaker*
Automation Technology Trends in the Wastewater Sector
Tom DeLaura, Chair, WEF Automation and Info Tech Committee
- 9:00am *Guest Speaker*
Florida Drinking Water Trends and Automation Trends
Kim Kunihiro, Orange County Utilities, on behalf of the Florida Section of the AWWA
- 9:15am **Common Pitfalls that Affect Water and Wastewater Instrumentation, Control and Automation Systems**
Francisco Alcalá and Tim Wiley, CDM Smith
- 9:45am **Integrated Process Control & Management Systems: Creating More Effective Working Environments**
Mark Presti, Gray Matter Systems
- 10:15am Coffee Break & Exhibits

- 10:30am **Hybrid RO & Softening Water Treatment Plant Process Design**
Ali Farahmand, Nassir Gifani, and Mohsen Farivar, ToosAb Consulting Engineers Co., Iran
- 11:00am **Flowmeter Challenges in a Multi-Pass Reverse Osmosis System**
Chris Caglioti and Andrew Fenske, City of Cape Coral, and David Ramsey, AMJ Equipment Corp.
- 11:30am **Should we Keep DO for Nitrification Control? The Proof is the Ammonium Electrodes**
Robert Lagrange, Lagrange Consulting; Sue Baert, Wheaton Sanitary District; Amanda Poole and Dave Green, Baxter & Woodman Inc.; Nick Camin, Endress+Hauser
- 12:00pm Lunch & Exhibits
- 1:15pm **Modernization and Improved Operations: Process Automation Upgrade of the Gilder Creek WWTP**
Scott Whitmore, CDM Smith and Blake Visin, Renewable Water Resources (ReWa) – Greenville, SC
- 1:45pm **Efficient Control of Potable Water Distribution**
Raed Al Nuaimi, Rajendra Kumar Ramakrishnan and Mohammed Barghothi, AECOM (United Arab Emirates)
- 2:15pm **Optimization of Wastewater Lift Stations for Reduction of Energy Usage and Greenhouse Gas Emissions**
David Wilcoxson, MWH Americas and Travis Crane, JEA
- 2:45pm Poster Session, Coffee Break & Exhibits
- 3:30pm **The Role of Rugged HMIs in Water and Wastewater Plants**
Jeff Hayes, Beijer Electronics
- 4:00pm **SCADA Upgrades to Otay Water Treatment Plant**
Noune Garounts, MWH Global
- 4:30pm **So you have SCADA, what's next?**
Grant Van Hemert, Schneider Electric
- 5:00pm **Asset Tracking and Revision Control for Automated Water/Wastewater Control Systems**
Blair Sooley, Trihedral Engineering
- 5:30pm **An Overview of Applicable ISA Standards to the Water and Wastewater sectors**
Graham Nasby, Eramosa Engineering
- 6:00pm 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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Gold Sponsors



Silver Sponsors



Media Partners



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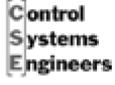


How to Become a Sponsor

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/

Don't delay! There are still a few sponsorship slots available

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:

 <p>2.0 CEUs or 20 PDHs water operators wastewater operators engineers</p> <p>American Water Works Association AWWA FLORIDA Florida's Water Professionals</p>	<p>Florida state licensed water operators and wastewater operators can earn up to 2.0 Florida Department of Environmental Protection approved CEUs by attending in the symposium.</p> <p>Florida state licensed engineers can also earn up to 20 Florida DEP-approved PDHs by attending the symposium.</p> <p>As part of the partnership between the ISA and the Florida Section of the AWWA, official certificates for these CEUs and PDHs will be issued by the FSAWWA.</p> <p>These CEU credits can be used by both water operators and wastewater operators.</p> <p>Florida Statutes require anyone who operates a drinking water treatment plant or a domestic wastewater treatment plant to be licensed by FDEP. Beginning May 1, 2011, licensure for Water Distribution System Operators became mandatory. CEUs and PDHs that attendees receive at the symposium can be used to satisfy the continuing education requirements for their licenses.</p>	
	<p>Symposium 20 PDHs</p>	<p>Attendees also have the option of receiving a certificate for 20 Professional Development Hours (PDHs) from the ISA.</p>    <p>These PDHs can be used towards your ISA CAP or CCST certification, or towards continuing education requirements in other jurisdictions as applicable.</p>
 <p>0.7 CEUs</p>	 <p>0.7 CEUs</p>	<p>For the optional full-day training course on SCADA & Automation Security, attendees can receive either:</p> <ul style="list-style-type: none"> • 0.7 CEUs certified by the Florida DEP (issued by the FSAWWA) • 0.7 CEUs certified by IACET (issued by the ISA)

One of the most experienced water and wastewater engineering firms in the world, CH2M HILL has been providing SCADA services for more than 30 years with more than 100 successful SCADA designs in the last decade. Even with all this hands-on experience, we still make it a point to **listen and learn from you**. Our team of SCADA engineers, process engineers, plant operators, and construction professionals take time to understand your environment and work at your side to apply their expertise to what makes sense in your facility—from process design and integration, to practical application and staff capabilities.

ENR Ranks
CH2MHILL #1

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- Water Treatment and Desal Plants
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CH2M HILL Services:


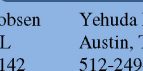
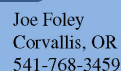
- Automation Master Planning
- Information and Control Design
- Establishing Standards
- PLC Programming
- HMI Programming
- Historian Configuration
- DCS Design/ Programming
- Local and Wide Area Network Design
- Telemetry Design
- Automated Reporting
- Operational Process Optimization

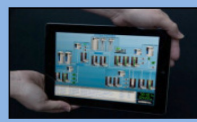
We cover all operational processes of a facility...
CH2M HILL has resources beyond conventional integration and can evaluate all areas of the process along with business needs to provide scalable and innovative solutions.

We offer turnkey, customized solutions...
CH2M HILL has in-depth engineering, design, operations, and system commissioning experience to ensure efficient and successful project delivery.

We build quality into every phase and system...
CH2M HILL has a high standard of quality seen in our project documentation, work, and testing. We never walk away without completely testing our systems to ensure every aspect is completely functional.

CH2M HILL Technology Contacts

- | | | |
|---|---|---|
|  |  |  |
| Bernie Jacobsen
Orlando, FL
407-650-2142 | Yehuda Morag
Austin, TX
512-249-3336 | Joe Foley
Corvallis, OR
541-768-3459 |



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Symposium Tour: Orange County Utilities Southern Regional Water Supply Facility

Attendees will have the option of attending of the Orange County Utilities Southern Regional Water Supply Facility on (Aug 7) in the late-afternoon as part of the symposium.

“Located approximately 20 minutes from the Orlando, Florida symposium hotel, the tour promises to be a unique look at a state-of-art ozone-based water treatment facility,” says the OCU’s SCADA Administrator Robert Doyon. Doyon looks after the plant’s automated SCADA (supervisory control and data acquisition) system, as well as managing the automation systems at several other OCU facilities. Doyon, a long-time ISA member, is a certified ISA Level III CCST (Certified Control Systems Technician).

The plant, which was brought on line in 2012, uses a highly optimized process for removing the naturally-occurring sulfide that is present in much of Florida’s groundwater. Its fully automated and redundant control system ensures that the plant is able to continuously provide a reliable source of water for both drinking and fire-protection needs in Orange County. The tour will give symposium attendees a glimpse at how leading edge automation is being used in the municipal water sector to minimize costs, increase efficiency and offer enhanced reliability.

Registered attendees will be contacted a few weeks before the symposium so that they can sign up and confirm their participation in the tour.



The tour is being organized courtesy of the Orange County Utilities Water Division. Special thanks to Robert Doyon, Kim Kunihiro and the staff of Orange County Utilities for hosting this year’s symposium facility tour.



2012 WWAC Symposium Online Registration is now Open!

Attendee registration is now available online!

Visit www.isawwsymposium.com
and click on “Register”

Registration for the symposium (Aug 7-9, 2012) includes:

- 2 full days of papers and presentations
- poster session
- networking events
- tour of a local water/wastewater facility on Aug 7
- admission to supplier showcase
- light breakfasts on Aug 8 and Aug 9
- full buffet lunches on Aug 8 and Aug 9
- evening reception on Aug 8, with cash bar and 2 free drink tickets
- name badge
- list of symposium attendees with contact information
- printed onsite program booklet
- printed copy of symposium proceedings

Registration Fees

- Regular Rate: \$400
- ISA Member: \$300
- WEF or FWEA Member: \$350
- AWWA or FSAWWA Member: \$350
- Student Registration: \$110

Note: If registering after June 15, 2012: add \$25.

The regular rate includes a complementary 1-year full ISA membership. Not yet an ISA member? Join at www.isa.org

When registering, you will also have the option of signing up for the optional full-day short-course on Automation & SCADA Security on Aug 7 for \$630 (\$495 for ISA members).

Hotel Accommodation

The symposium is being held at the Holiday Inn Castle Resort in Orlando, Florida. **We have arranged a special discounted hotel rate of \$79/night** for symposium attendees for the Mon, Tues, Wed, and Thurs nights. Please mention “ISA WWAC Symposium” when booking.

Holiday Inn Castle Resort

8629 International Dr. Orlando Florida 32819
www.thecastleorlando.com
info@thecastleorlando.com
1.877.317.5753 (toll free)
407.248.8181 (fax)

The symposium website has an online hotel reservation link.

Top Ten Reasons to Attend the 2012 WWAC Symposium

1. Opportunity to learn from others and “talk shop” with people who understand the challenges of your sector
2. Get to compare experiences and lessons learned
3. Learn about new technologies, products and services
4. Earn PDH (professional development hours)
5. Earn CEUs (continuing education units)
6. Be actively involved in your professional development
7. Establish contacts in the industry
8. Share Ideas/Experiences with others in the sector
9. Learn Something
10. Have Fun

Registration Now Open!

**2012 ISA Water & Wastewater
and Automatic Controls Symposium**

August 7-9, 2012

Tuesday - Thursday

Holiday Castle Inn Resort Hotel

Orlando, Florida, USA

(with Disney World just around the corner)

www.isawwsymposium.com

2 full days of speakers/presentations

- Track 1 – Instrumentation, System Integration, Automation, Plant Case Studies, New Technologies, Optimization
- Track 2 – SCADA, HMI, Human Factors, Alarm Management

1 full day ISA Training Course

Plant Tour of a local Water/Wastewater Facility

Trade Show, Reception & Networking Event

Affordable Professional Development for

Plant Operations/Maintenance Staff, Plant Managers,
Plant Designers, Engineers, System Integrators

CEUs – Continuing Education Units

PDHs – Professional Development Hours

Symposium Full-Day Short Course – Aug 7 SCADA & Autoimatin Security

Security for Automation, SCADA and DCS systems is a hot topic in our sector. Seeing this as an important issue we have selected a course on control systems security as the optional full-day short course for this year’s symposium:

Full Course Title: Introduction to Industrial Automation Security and the ANSI/ISA99 Standards (IC32C)

Date:..... Tues, August 7, 2012

Instructor:..... Bryan Singer

Length:..... 1 day

Course Hours: .. 8:00 a.m. – 3:30p.m.

CEU Credits: 0.7

Register at:..... www.isawwsymposium.com/register/

Cost: \$630 (\$495 for ISA members)

The course covers

- **Understanding the Current Automation, DCS and SCADA Security Environment:** What is Electronic Security for Industrial Automation and Control Systems? | Trends in Security Incidents
- **How IT and the Plant Floor are Different and How They are the Same**
- **Current Security Standards and Practices**
- **Creating A Security Program:** Critical Factors for Success | Understanding ISA99 Part 2: Establishing an Industrial Automation and Control Systems Security Program
- **Using ISA99.00.02—Risk Analysis:** Business Rationale | Risk Identification, Classification, and Assessment
- **Using ISA99.00.02—Addressing Risk with Security Policy, Organization, and Awareness:** CSMS Scope | Organizational Security | Staff Training and Security Awareness | Business Continuity Plan | Security Policies and Procedures
- **Using ISA99.00.02—Addressing Risk with Selected Security Counter Measures:** Personnel Security | Physical and Environmental Security | Network Segmentation | Access Control: Account Administration, Authentication, and Authorization
- **Using ISA99.00.02—Addressing Risk with Implementation Measures:** Risk Management and Implementation | System Development and Maintenance | Information and Document Management | Incident Planning and Response
- **Using ISA99.00.02—Monitoring and Improving the CSMS:** Compliance and Review | Improve and Maintain the CSMS



IACET Provider
#1001262

0.7 CEUs

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

About the Course Instructor



Bryan Singer, CISM, CISSP is a principal consultant with Kenexis Consulting Corporation and vice-president of Kenexis Security Corporation. He has over 15 years of experience in information technology security including 7 years specializing in industrial automation and control systems security, critical infrastructure protection, and counter-terrorism. Mr. Singer’s background focuses on software development, network design, information security, and industrial security. Industry experience includes healthcare, telecommunications, water/wastewater, automotive, food and beverage, pharmaceuticals, fossil and hydro power generation, oil and gas, and several others. Mr. Singer has specialized in process intelligence and manufacturing disciplines such as historians, industrial networking Power and Energy Management (PEMS), Manufacturing Enterprise Systems (MES), Laboratory Information Management Systems (LIMS), Enterprise Resource Planning (ERP), Condition Based Monitoring (CBM) and others.

Mr. Singer is the founding chairman and now co-chairman of ISA99, Industrial Automation and Control Systems Security Standards Committee, a standards body focusing on the security issues of the control systems environment. He is also a US Technical Expert to multiple IEC standards bodies, a representative to the Idaho National Labs Recommended Practices Commission, a previous board member to the US Department of Homeland Defense’s Process Control Systems Forum (PCSF), and is active globally as an industry advocate in industrial security and critical infrastructure protection. Mr. Singer has experience working in industrial automation and critical infrastructure sectors – such as Power & Energy, Oil & Gas, Transportation and Water. Mr. Singer has a Bachelors’ Degree in Computer Information Systems from Phoenix University, and holds the CISSP and CISM certifications. He is chairman of the ISA99, Manufacturing and Control Systems Security Standards Committee.



FSAWWA Course
#05134002

0.7 CEUs



Through our partnership with the Florida Section of the AWWA (FSAWWA), we are can offer course attendees 0.7 CEUs that are approved by the Florida Department of Environmental Protection. The CEUs will be issued by the FSAWWA to attendees.

Florida State Licensed water operators and wastewater operators can earn 0.7 FDEP-approved CEUs by attending the training course. Florida State licensed Engineers, can also earn 7.0 FDEP-approved PDHs by participating.



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WEF and ISA Collaborate on 2012 ISA Water/Wastewater and Automatic Controls Symposium and WEFTEC 2012

The Water Environment Federation (WEF) and the International Society of Automation (ISA) are teaming up to co-promote the 2012 ISA Water/Wastewater and Automatic Controls (WWAC) Symposium. Now in its seventh year, the symposium offers a unique opportunity for automation professionals from the water and wastewater sector to come together to share ideas. As a technical cosponsor of the 2012 WWAC Symposium, WEF is helping ensure that the symposium continues to meet the needs of automation professionals who work in the wastewater sector. For the first time, discounted pricing is available to both WEF and ISA members; underscoring the mutual benefit for both associations.



Barry Liner, director of the WEF Water Science & Engineering Center based out of the Washington, DC area, adds “The collaboration between WEF’s Automation and Info Tech Committee and ISA’s Water and Wastewater Industries Division (WWID) will strengthen an already well-established ISA WWAC Symposium and bring specialized content to the WEF’s Annual Technical Exhibition and Conference (WEFTEC) to enhance knowledge transfer across the entire water sector.”

Taking place 7-9 August in Orlando, Florida, USA, the 2012 ISA WWAC Symposium is a three-day event that focuses on the challenges associated with automation and instrumentation in the water and wastewater sectors. It features two full days of technical speakers/presentations, a tour of a local water 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.

“Automation plays an important role in the effective control of wastewater collection, treatment and reclamation systems,” says ISA Executive Director & CEO Pat Gouhin. “ISA has a wealth of expertise and resources in all areas of automation and we are pleased to share this with members of WEF. Through the new-found partnership between WEF and ISA, we are able to bring together professionals from both associations to focus on effectively leveraging wastewater and automation technologies.”



www.wef.org



“This type of collaboration aligns with WEF’s new Strategic Direction, connecting water professionals to leverage knowledge and promote innovation,” adds WEF Automation and Info Tech Committee Chair Tom DeLaura. “I am very much looking forward to leading WEF’s technical co-sponsorship of the 2012 WWAC Symposium. It has been a pleasure to be part of the team that brought ISA and WEF together for this symposium, as well as on several other initiatives.”

One of these initiatives is to promote greater involvement of ISA’s automation and instrumentation expertise within WEF’s annual wastewater show WEFTEC. Later this fall, after the WWAC Symposium, the WEFTEC 2012 conference in New Orleans, Louisiana, USA, will be hosting a special session entitled “The Best of the 2012 ISA Water/Wastewater and Automatic Controls Symposium” where select speakers from the 2012 WWAC Symposium will be invited to present their talks.

At this year’s WWAC Symposium, invited guest speaker and WEF Automation and Info Tech Chair, Tom DeLaura, will give a presentation about automation technology trends in the wastewater sector. DeLaura, vice president of Eramosa Engineering International Inc., is a long-time member of both ISA and WEF and has a career in the wastewater sector that spans over 38 years. He has written and presented on numerous topics of interest to the water and wastewater industry; he has received several awards from the industry for his dedication and service.

The 2012 ISA WWAC Symposium will feature over 25 technical presentations on a wide variety of automation, cybersecurity, instrumentation, plant optimization and system integration topics. Two major themes this year are creating high performance human machine interfaces (HMIs) to improve operational effectiveness and developing effective SCADA/automation cybersecurity best practices. The symposium continues with its traditional strength of sharing new ideas and lessons learned from recent plant upgrades and new-builds.

“ISA’s WWAC Symposium is targeted at professionals involved with automation, instrumentation and automated control systems in the water and wastewater sectors. Attendees typically range from plant operators, facility owners, maintenance and technical personnel to engineers, programmers and system integrators,” says General Symposium Chair Graham Nasby of Eramosa Engineering Inc., who was the driving force behind the newly signed agreement between WEF and ISA. “We are delighted to welcome the WEF onboard as a technical co-sponsor for the 2012 WWAC Symposium.”

More information about the 2012 ISA Water/Wastewater and Automatic Controls Symposium can be found at

www.isawwsymposium.com. Online registration via the symposium website is now open.

About WEF

Founded in 1928, the Water Environment Federation (WEF) is a not-for-profit technical and educational organization of 36,000 individual members and 75 affiliated Member Associations representing water quality professionals around the world. WEF members, Member Associations, and staff proudly work to achieve our mission to provide bold leadership, champion innovation, connect water professionals, and leverage knowledge to support clean and safe water worldwide. For more information see www.wef.org.



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Florida Section AWWA and ISA Sign Memorandum of Understanding Regarding 2012 ISA Water/Wastewater Symposium

The Florida Section of the American Water Works Association (FSAWWA) has entered into a memorandum of understanding with the International Society of Automation (ISA) to co-promote ISA's 2012 Water/Wastewater and Automatic Controls (WWAC) Symposium. Traditionally held in the Orlando, Florida, USA area, the WWAC Symposium offers a unique opportunity for automation professionals from the municipal water sector to come together and share ideas. As a technical cosponsor of the 2012 WWAC Symposium, the FSAWWA is helping ensure that the symposium continues to meet the needs of water specialists in the Florida area and abroad.



"The FSAWWA is dedicated to ensuring Florida's present and future generations a sufficient supply of high-quality drinking water by providing critical information and opportunities to more than 2,500 members," says Richard Ratcliffe, chair of the FSAWWA. "Automation is an important part of the infrastructure for providing clean and safe drinking water. We are pleased to

have partnered with the ISA so we can jointly co-promote the 2012 WWAC Symposium as an excellent continuing-education opportunity for our members," he continues.

Slated for 7-9 August, the 2012 ISA WWAC Symposium is a three-day event that focuses on the challenges associated with automation and instrumentation in the water and wastewater sectors. It features two full days of technical speakers and presentations, a tour of a local water treatment plant, a general reception, networking events, a poster session and a supplier showcase.

"Automation has a growing and important role in the municipal drinking water sector," says ISA Executive Director and CEO Pat Gouhin. "ISA has a wealth of expertise and resources in all areas of automation, and we are pleased to share this with members of the Florida Section of the AWWA. Through the partnership between the FSAWWA and ISA, we are able to bring together professionals from both associations focusing on the convergence of automation technologies and applications in the water sector."

American Water Works Association
AWWA  **FLORIDA**
Florida's Water Professionals

www.fsawwa.org

As a result of the memorandum of understanding, this year's symposium is able to offer discounted pricing to both AWWA and ISA members. This is a first for the symposium, and underlines the mutual benefit the symposium brings to both associations.

ISA and the FSAWWA have successfully certified the hours that attendees spend at the symposium to be approved continuing education credits for the state-licensed water operators and engineers in the state of Florida. As a result of the joint efforts of the ISA and the FSAWWA, attendees can now receive 2.0 CEUs (approved by the Florida Department of Environmental Protection) or 2.0 PDHs (approved by either the ISA or the Florida Department of Environmental Protection.) Being able to offer CEUs enables the symposium to fill an important need for Florida automation professionals in the water sector.



With the help of the FSAWWA, this year's WWAC Symposium keynote speaker will be Celine Hyer, a long-time AWWA member, who will present a keynote address entitled "Facility Utility Challenges: Managing Risk and Addressing Aging Infrastructure Needs." Celine is a principal consultant with Red Oak Division of Malcolm Pirnie/ARCADIS in Tampa, Florida, where she leads the asset management practice for the South. Currently, she leads asset management projects throughout the United States for medium and large utilities including New York City Department of Environmental Protection, Dallas Water Utility, Lee County Utilities and Toho Water Authority.

"The symposium is targeted at anyone involved with automation, instrumentation, and/or control systems in water and wastewater sectors. Attendees typically range from plant operators, maintenance and technical personnel to engineers, programmers and system integrators," says General Symposium Chair, Graham Nasby of Eramosa Engineering Inc., who was the driving force that facilitated the newly signed agreement between the two organizations. "We are delighted to welcome the FSAWWA aboard as a technical cosponsor for the 2012 WWAC Symposium."

About the Florida Section of the AWWA

The Florida Section of the American Water Works Association is dedicated to ensuring Florida's present and future generations a sufficient supply of high quality drinking water by providing critical information and opportunities to over 2,500 members. We offer comprehensive technical training and continuing education programs, effective legislative and regulatory policy development, high quality member services and networking opportunities related to the water industry. Our mission is to provide training and educational opportunities that meet the needs of our membership. For more information see www.fsawwa.org

Visit the 2012 WWAC Symposium website

Visit our new WWAC symposium website at:

www.isawwsymposium.com



On the website you will find:

- Overview of the symposium
- Welcome Messages
- Call for Abstracts
- Author Information Kit/Guidelines
- Attendee Information
- Online Registration for the Symposium and Hotel
- Online Registration for the full-day training course
- Preliminary Symposium Program
- Local Plant Tour Information
- Exhibitor Information
- Sponsorship Opportunities
- Exhibitor Prospectus & Sponsorship Program Details
- Program Committee Member Bios
- Press Kit / Media Information
- Hotel Information
- Directions/Transportation Links to Hotel
- Key Symposium Contacts & Contact Information



This year's WWAC Symposium is being held at the Holiday Inn Castle Resort in Orlando, Florida, USA

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Welcome to Our Symposium Exhibitors

The symposium organizing committee would like to extend a welcome to the exhibitors who have already signed up to participate in this year's symposium:



Exhibit Booth Information

Exhibitor tables at the 2012 ISA Water/Wastewater and Automatic Controls Symposium are priced at \$850 each which includes:

- one six foot table with skirting, 2 chairs, duplex electrical outlet
- two vendor passes, which include ID badges and full conference access (an \$800 value)
- additional vendor passes can be purchased for \$200/each
- breakfasts, coffee breaks, and lunches on Aug. 8 & 9
- admission to the general reception with cash bar on the evening of Aug. 8th
- exhibits room hours: Aug. 8 & 9 (8:00am-5:00pm), and during Aug. 8th evening reception
- exhibit setup: Aug. 7 (1:00pm-4:00pm); exhibit take down Aug. 9 (5:00pm-8:00pm)

How to Sign up as an Exhibitor

For more information on how to exhibit at the 2012 ISA WWAC Symposium, please refer to our 4-page full-color sponsorship and exhibitor opportunities brochure: www.isawwsymposium.com/exhibit-sponsor/

Don't delay! There are still a few exhibitor booths available. Contact our general symposium chair Graham Nasby at graham.nasby@eramosa.com to reserve your booth today.

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Meet the Symposium Organizing Committee

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



Jon DiPietro
Bridge-Soft LLC & Domesticating IT
Marketing Chair
& Director of the ISA Water/Wastewater
Division



Kevin Patel, PE
CDM Smith
ISA Member Liaison



Pavol Segedy
Brown & Caldwell
ISA Section Liaison



Tom DeLaura, PE
Eramosa Engineering International
WEF Liaison



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Hobart Automation Engineering
Vendor Relations Chair



Michael Fedenyzen
R.G Vanderweil Engineers LLP
Honors/Awards Chair



Rodney Jones
ISA
Senior-Administrator ISA Technical Divisions

Meet the Symposium Program Committee

Joe Provenzano
KRPO Engineering Services
Program Committee Chair
Naugatuck, Connecticut, USA



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



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



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



Cameron Kamrani, PE
Kamrani Engineering Inc.
Chapel Hill, North Carolina, USA



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



Kevin Patel, PE, MBA
CDM Smith
Dallas/Fort Worth, Texas, USA



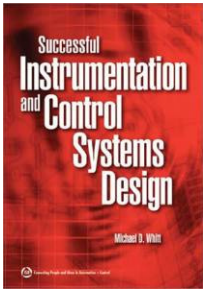
Matthew Phillips, P.Eng.
City of Guelph Water Services Department
Guelph, Ontario, Canada



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

ISA publishes new edition of: **Successful Instrumentation and Control Systems Design, Second Edition**

Our friends at ISA headquarters have published a new edition of the popular technical book, *Successful Instrumentation and Control Systems Design, Second Edition*, by Michael D. Whitt.



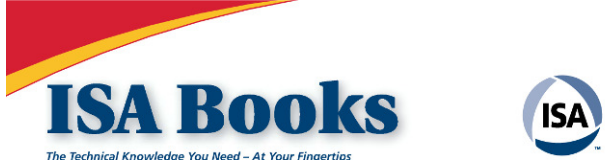
As automation systems, worth nearly \$65 billion, near the end of their traditional life cycle, the necessity to understand the design process has never been more critical to engineers, technicians and managers. The latest edition of *Successful Instrumentation and Control Systems Design* will help to achieve that understanding.

This edition delves into the business of design engineering and describes the ideal design package. It provides a roadmap to understanding the design process, which includes elements of a successful project, what specific issues to address and the engineering products that enable a successful practical design and maintenance plan.

The second edition presents a major revision to the first by introducing the concept of Integrated Control Systems (ICS). It includes chapters on Control Systems Integrator (CSI) and Control Panel Fabricator (CPF); and describes the interplay between them and the electrical and instrumentation and controls (I&C) engineer. Several sections have been added to

give the reader more tools for managing projects or for anticipating the needs of the project manager. Some of the techniques for leading and participating in project meetings are presented from the viewpoint of turning potential time-wasters into time-savers. A bonus CD-ROM is included with new updates and figures.

Michael D. Whitt's experience includes 15 years with Raytheon Engineers and Constructors in the I&C department, first as an I&C supervisor and later as a lead systems integrator. He spent six years with Mesa Associates, Inc., as I&C department manager where he was responsible for instrumentation engineering and design, systems integration and panel fabrication groups and, an additional five years at Mesa, as a program manager for integrated control systems. Whitt is a native of Asheville, NC.

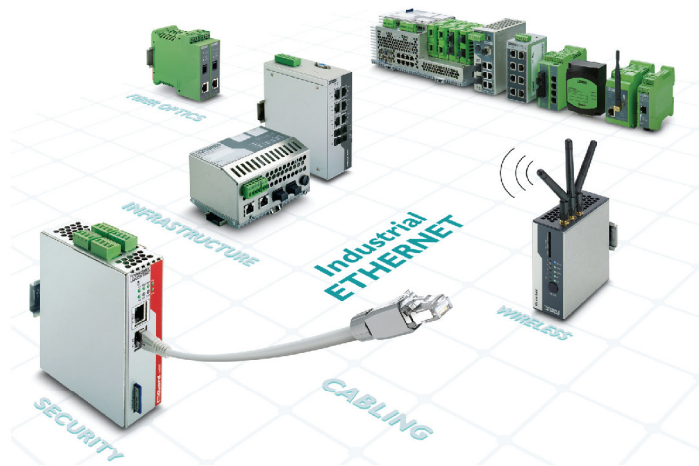


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Introducing Michael Fedenyszen Our WWID Honors & Awards Chairman



Michael B. Fedenyszen

Instrumentation & Controls Engineer
R.G. Vanderweil Engineers LLP
274 Summer Street
Boston, Massachusetts, USA

Phone: 617.965.4573
Email: mfedenyszen@vanderweil.com

Michael is current the Honors and Awards Chairman for the ISA Water/Wastewater Industries Division (WWID).

Michael has been an ISA member since 1977, active with the Boston Section Executive Board since 1990 elected and appointed to positions of: President, Secretary, Society Delegate, and is currently Nomination Committee chairman. In District 1 Michael held positions of District Vice President where he was Vice-chair of the Council of DVP's. In addition, he served as District 1 Nominator, Workshop General Chairman, and Sessions Developer / Presenter for workshops.

In the national arena Michael is past Director of the WWID where he is the current Facilitator, H&A Chairman and Symposium Awards Chairman. He has maintained his activity in the Publications Department currently serving on the *InTech*, Editorial Advisory Board, and is Director of Books. Michael is also a member of the Standards & Practices committee S&P105: Loop Checks/SAT/FAT.

While WWID Division Director in 2010 he promoted the division scholarship program and advanced the first WWID Scholarship, and on behalf of the WWID received the societies Industry & Science Department Most Improved Division Award.

He is a recipient of the ISA Distinguished Society Service Award and has the distinction of authoring a featured article in ISA's Motion Control journal, *Those Wet And Wild Rides*

ISA Philosophy: Michael believes that the local section is responsible for reaching out to its members as a means to enhance their professional status. He is established as a mentor to members seeking to advance within the society. Michael believes that the ISA is the foremost way by which its versatile membership can stay "tuned" to the latest changes in the technology of Measurement and Controls.

Michael is employed with Vanderweil Engineers, an MEP (mechanical, electrical, and plumbing) design and build consulting firm, in their corporate headquarters located in Boston, Massachusetts. He is an Instrumentation & Control (I&C) Engineer.

2012 WWID Student Scholarship Recipients

The ISA Water/Wastewater Industries Division is pleased to announce the winners of the 2012 WWID Student Scholarships. Open to college and university students, the water/wastewater division's scholarships are given out to promote higher learning. This year's recipients are Robert G. Burmeister and Sharon Miller. Each will receive a \$1000 USD scholarship to help defray the costs of their education.



Robert G. Burmeister

Indiana University at South Bend
South Bend, Indiana, USA

"Thank you so much for the scholarship. I'll be able to pay off some of my college debt with this generous gift."



Sharon Miller

College of Mount Saint Vincent
Riverdale, New York State, USA

"I would like to take this opportunity to thank the ISA and the WWID for this scholarship. Scholarships, such as the one offered by the WWID, go a long way towards offsetting high cost college programs such as mine."

Information about the 2013 ISA WWID Student Scholarship program will be announced this fall.

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Q&A Spotlight Interview with Steve Valdez



Steve Valdez has been a member of ISA since 1976 and was a member of the executive board from 1999 to 2001. He joined the ISA Water/Wastewater Industry Division (WWID) in 2002, and was soon named director of the division for 2006-2007. Since then he has served in various positions on the WWID board with this year serving on the program committee for 2012 WWAC Symposium. Steve has kindly agreed to share his insights into the water/wastewater sector and ISA membership in this month's WWID newsletter's Q&A Spot Light.

WWID: Can you tell us a little about yourself?

Valdez: First off, I am an avid fan of the Super Bowl champs, the NY Giants having been born and raised in New York. And now presently, I live in Northern NJ (New Jersey) with my family. In 1987, I graduated from New Jersey Institute of Technology-Newark College of Engineering.

WWID: You mentioned you have been an ISA member of over 30 years. What convinced you to join the ISA back in the early days of your career?

Valdez: The New Jersey section at the time held meetings every two weeks with one session always focused on process applications. The meetings were well organized, informative, well attended and this is how I learned the basic fundamentals of Instrumentation.

WWID: Through the years how was your involvement, both as a member and as a volunteer, in the WWID helped with your career?

Valdez: It certainly has been exciting meeting other members in the WWID from around the world, who share a common goal to process/clean water for the general public. It seems we all share the same best practices, goals and headaches.

WWID: What do you like the most about working in the water and wastewater sectors?

Valdez: It's the constant evolution of change in the processes across the world. I also find it an interesting challenge how the sector is constantly involved with (and influenced by) by an ever growing number of governing authorities.

WWID: I noticed from looking in the archives that you were on the organizing committee that organized the 2nd ISA WWID symposium back in 2007. This was the start of the annual format of symposium that we have today. What were your motivations for creating the annual symposium back then? What was the ISA able to provide for automation professionals in our field that WEF and AWWA conferences could not?

Valdez: Back in 2006 when I became Director of the WWID, our membership was down somewhat, some Divisions such as WWID were struggling to find new members and an identity within the society and our respective industries.

So, why not return an annual conference where membership and industry specific vendors could come together, share best practices and be introduced to new technologies. It was difficult, as we only had three board members but as time went, we attracted others who contributed to our success. Am pleased to see it has continued and with each year it grows to new a new level.

WWID: This year will be marking the seventh year of the ISA water / wastewater symposium. Do you see the symposium being just relevant now as it was back in 2007?

Valdez: Oh yes, these industries grow each year as our population increases, older plants are retired or upgraded, members must keep up with automation, new technologies and environmental concerns.

WWID: If I was your manager who was considering sending myself, or one of my employees, to this year's symposium what are the major benefits of attending? What keeps people coming back to the symposium year after year?

Valdez: *Learning one new best practice*, expanding your knowledge, keeping up with technology changes, the ability to share with others who in turn will share with you, solutions to common problematic areas. This is why members continue to support this event each year.

WWID: What are you looking forward to most in this year's WWAC symposium?

Valdez: Listening to the new speakers, and networking and exchanging ideas with membership.

WWID: Do you have any advice for younger members who are just starting their career in water / wastewater?

Valdez: Listen, listen, listen and leave with one NEW solution that you can take back with you and share with your manager and peers. And by the way, don't forget to visit Disney World as part of your symposium trip – there is a lot of automation technology in those rides.

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

Valdez: My pleasure!

(Note: This interview has been edited for length and clarity.)

TECHNICAL ARTICLE

Challenges When Designing an Effective Harmonic Mitigation System for your Variable Frequency Drive

By Al Archambault, Mirus International

To address power system harmonics in many water/wastewater Variable Frequency Drive (VFD) applications, transformer phase shifting strategies are often used. To be effective, transformer phase shifting requires the load on multiple rectifiers be shared relatively equally. However, even when the load on multiple rectifiers is perfectly matched, the transformer phase shifting approach can often fall short of expectations.

Most VFDs incorporate a 3-phase, 6-pulse diode bridge rectifier which generates current harmonics in the 5th, 7th, 11th, 13th, etc. When dual bridge rectifiers are used, and the second bridge rectifier is phase shifted by 30° by applying a phase shifting transformer, a 12-pulse scheme is created. A properly designed 12-pulse scheme will only have residual amounts of 5th and 7th harmonics while harmonics will remain in the 11th, 13th, 23rd and 25th.

Theoretically phase shifting systems are an effective means of harmonic treatment; however, they can perform rather poorly under real world conditions. Tolerances in the manufacturing of the transformer windings, applied voltage imbalances, pre-existing voltage distortion and light loading levels will all have a detrimental effect on the 12-pulse scheme's ability to cancel harmonic currents, particularly at higher frequencies.

Case Study: Harmonic Challenges Causing Equipment Failures with a Large Mine Tunnel Boring Machine

The Scenario

Figure 1 displays the mine tunnel boring machine's electrical system with two very large 600V/3-phase VFDs that control the speed and torque of two 600 horsepower (HP) AC Motors, one for each side of the machine's drive system. The machine was powered from a trailing 13.8kV feeder cable.

The machine designers elected to create a Quasi 12-pulse phase shifting harmonic mitigation system by using two 13.8kV/600V step-down phase shifting isolation transformers, with each feeding one of the machine's large VFDs. On the surface this was a logical harmonic mitigation method to implement since the transformers were already needed to step the machine's 13.8kV feeder voltage down to 600V for the VFDs.

The Challenge

The problem experienced was that Phase Lose/Phase Imbalance relays on the two 600V buses (located in the machine's critical control panel) were burning out at least

once a week. As part of the machine's safety interlocks, these relays were interlocked with the machine's drive control circuits; when one of the protective relays failed the entire machine shut down. These shutdowns were leading to unacceptable production delays.

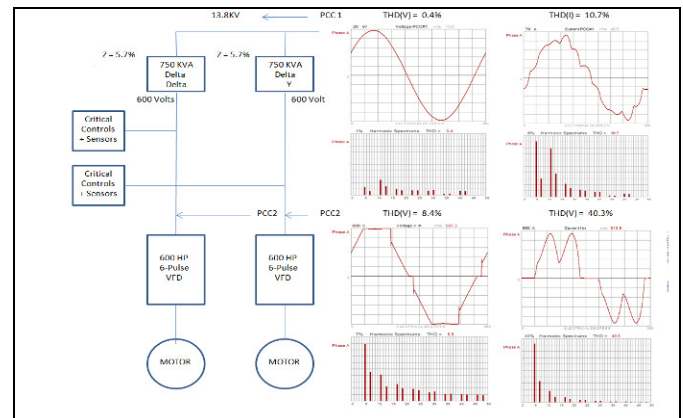


Figure 1: Existing Harmonic Mitigation Single Line Diagram

Soon after the protective relays had burnt out several times, the secondary winding of one of the machine's isolation transformers burnt out as well. Once the transformer was replaced, management decided that the root cause of the failures had to be investigated. The Electrical Maintenance Engineer was then asked to use a harmonic meter to scope the transformer's primary and secondary voltage and current waveforms while the machine was running at full load.

Findings are shown in Figure 1 and the key measurements are as follows: Primary 13.8kV supply THD (V) = 0.4%; Primary supply THD (I) = 10.7%; and 600V secondary side THD (V) = 8.5% and THD (I) = 40.3%

Although the phase shifting approach (using the two transformers) provided the Utility 13.8kV feeder with harmonic levels that met the IEEE 519 guidelines, the total harmonic distortion with respect to voltage, THD (V), on the 600V secondary was quite high (8.5%) which caused the machine's Phase Lose/Phase Imbalance protection relays to fail.

In addition, the high secondary total harmonic distortion with respect to current, THD (I), of 40.3% on the phase shifting transformer secondary had the effect of increasing the losses in the transformers leading to their running hotter and exceeding design temperatures. This was what caused the premature transformer winding failure, and would continue to cause failures in both the transformers and protective relays until it was resolved. The heating also had the unfortunate side effect of increased operating costs, as the additional losses represented lost energy.

The Solution

The solution required several changes to the electrical design of the motor boring skid. First, the two 750 kVA step-down

phase shifting isolation transformers were replaced with a single 1500 kVA standard step-down transformer to feed the two 600V VFDs from a common 600V secondary bus. Second, one properly sized 1200 HP passive harmonic filter was installed on the transformer's secondary feed to the machine's two 600 HP VFDs (see Figure 2).

The two changes resulted in an effective, higher performing system. The THD (V) and THD (I) achieved on the primary and secondary side of the step-down transformer were well within the IEEE 519 guidelines.

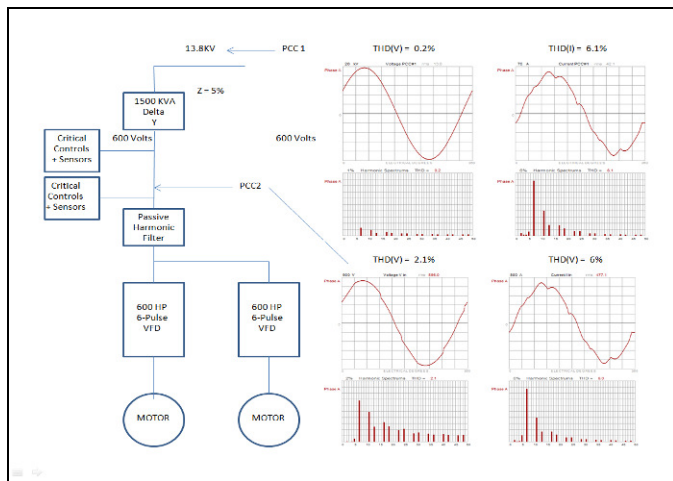


Figure 2: Single Line Diagram of the Solution

When sizing passive harmonic filters, it is important to select an appropriately sized filter that is suited to the particular application. An improperly sized harmonic filter can often be just as bad as not having one at all, or even worse. In this particular application, the passive harmonic filter that was selected significantly outperformed the existing phase shifting system by providing lower current distortion, especially under real-world conditions (such as voltage imbalance or pre-existing voltage distortion on the feeder) and much lower losses.

The properly sized passive harmonic filter system resolved the harmonic distortion problem so the tunnel boring machine no longer encountered transformer or protective relay failures (see Figure 2). The 13.8kV Utility feeder had THD (V) of 0.2% and THD (I) of only 6.1%. On the machine's 600V bus, the THD (V) was only 2.1% and the THD (I) was only 6%.

Results of Improvements		Before	After
13.8 kV Feeder	THD(V)	0.4 %	0.2 %
	THD(I)	10.7 %	6.1 %
600V Bus (secondary bus)	THD(V)	8.5 %	2.1 %
	THD(I)	40.3 %	6.0 %

THD = total harmonic distortion, V = voltage, I = current

When designing a harmonic mitigation system, it is important to look at the medium voltage (MV) feeder bus and the low voltage (LV) bus, as well as the effects of high levels of THD (V) and THD (I) on transformers, generators and control equipment.

ABOUT THE AUTHOR

Al Archambault is the Director of Sales at Mirus International Inc. Mirus is an US EPA Energy Star Partner and a member of the US Green Building Council.

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TECHNICAL ARTICLE

Tips on Integrating Packaged Equipment into Plant SCADA Systems

By Todd Nydam, JWC Environmental LLC & Graham Nasby, Eramosa Engineering Inc.

Integrating controls from an equipment supplier successfully within a Plant SCADA or DCS system requires communication on multiple levels. These levels include process of design, mechanical fit up and installation, as well as the coordination to get the equipment to work in concert with the plant’s other control systems. Simply looking after mechanical/electrical details are not enough. To be successful, the plant’s System Integrator and the equipment supplier’s PLC programmer must work with each other throughout the entire project’s development.

From the perspective of an equipment supplier, there are several things that can be done to help streamline the process integrating packaged equipment into a plant. The first and foremost is planning. Both parties – the plant designer and the equipment vendor - need to understand and appreciate what the equipment is supposed to be doing – and how it will do it – in the context of the entire plant. This includes both the process design and the controls design.

From an automation perspective, this means that the communications interfaces, and more importantly what functionality the communication interfaces are supposed to accomplish, need to be well defined and understood by both the system integrator and the equipment supplier. Putting down details on paper is highly recommended to ensure that everyone is on the same page. Also, any terminology which is used in the details should be clearly defined as words can often be interpreted differently by different people.

On a well-run project, integration issues will be sorted out well before equipment arrives on site for installation. Having to sort out integration issues after equipment has arrived on site is an expensive undertaking for everyone involved so it should be avoided whenever possible.



Figure 1 – Typical packaged system control panel

Here are some tips that should be kept in mind when working with an equipment supplier to provide packaged equipment for installation into a plant SCADA or DCS system:

- Make sure both parties understand how the particular type of equipment typically works, and specifically how this individual piece of equipment has been designed to work by the equipment supplier. It is this understanding that will provide a reasonable basis to work from for any project-specific customization.
- Confirm what type of PLC is going to be used on the equipment, and how that PLC is expected to communicate with the plant-wide SCADA system. This includes clearly specifying what type of communications protocol will be used, whether it will be Ethernet, an industrial network, hard-wired I/O points, or a combination thereof.
- Determine what general SCADA control requirements the Owner has. Is the SCADA system expected to only monitor the equipment? If so, what is it monitoring? Or, is there a need for the SCADA system to be able to send remote commands to the equipment? If the equipment is expected to receive commands from SCADA, does the equipment need a switch to select whether it is under local or remote control? What sort of equipment status information needs to be sent to SCADA?
- Determine what the alarm and fault display requirements from the Owner are, as well as any equipment and control instrument status requirements. Put careful thought into how this status information is to be displayed, whether it will be on the equipment, on the SCADA system, or on both. Thought should also be put into how alarms are acknowledged or reset, as this also can be done on the equipment, via the SCADA system and/or a combination of both – these need to be carefully planned so that operators will know what to expect.
- The Owner must obtain a written description of the equipment control philosophy from equipment supplier, and the equipment supplier needs to make sure they have a good understanding of how the Owner intends on using the equipment in the context of the entire plant. This will be beneficial when setting up SCADA parameters for active control of the equipment.
- The Owner’s system integrator and the equipment supplier’s PLC programmer need to develop and agree upon a list of data tags that are used for communications to/from the SCADA system. For Ethernet and/or industrial network connected equipment, tags are the only way the two systems can “talk” to each other so this needs to be carefully worked out beforehand, before either side spends time and effort of doing the programming on their end.

- Depending on the type of SCADA system used, the system integrator should work with the equipment supplier's programmer to group 'like' data tags into arrays to reduce network communication overhead if this is an issue. Any possible limitations or special considerations associated with the SCADA system and/or the PLC used on the vendor's equipment should be discussed beforehand by the programmers on the two sides.
- When working with equipment that will be connected to the plant network using Ethernet or an industrial network, identify the device IP or node addresses and provide to the programmer during the development phase. This will reduce the likelihood that an extra site visit by the vendor will be required update the equipment's control program locally.
- If the SCADA system uses watch-dog timers or "heart beat signals" to ensure that communications between vendor panels are working, the Owner's system integrator needs to notify the equipment supplier's programmer of the preferred 'heart beat' protocol. This will help ensure the process won't "run-away" and helps minimize the chance of nuisance alarms on the SCADA system.



Figure 2- A sewage grinder is example of packaged equipment



Figure 3 – Vendor provided HMIs and the Plant's SCADA HMI have to be developed to work together as part of the design and implementation process.

- For equipment that needs a "permissive" signal to be able to operate, clearly define how the permissive is being generated. Is the permissive being sent to the equipment by the SCADA system, does the equipment determine the permissive itself (e.g., checking a level using a level transmitter on the equipment), or are a combination of external SCADA signals and internal conditions needed for the equipment to start.
- Always arrange to have an "equipment online" signal sent from the equipment to the SCADA system. Then the SCADA system can trigger an alarm if the equipment has been turned off by mistake. The online signal also gives the SCADA system the ability to suppress nuisance alarms if the equipment has been taken out of service.
- Develop a mechanism to record and re-instate default setpoints on the equipment. This can be done for associated settings on the SCADA system, settings on the equipment itself, or both. Operators will likely see this as a "delighter," as it will allow them to get back to factory defaults if ad hoc changes to the operating parameters have caused the equipment to not work as well as when it was first installed.
- Clearly plan on how equipment should respond when different types of possible faults occur in the equipment or in associated parts of the SCADA system. For example, in the case of sewage grinders when a fault condition occurs, grinders should typically be left running, unless upstream gates can be closed automatically as this will prevent the grinder from starting in a blinded condition, which can do damage. Usually each different type of equipment will have a preferred, and a non-preferred, type of automated fault response operation.

To be successful in integrating equipment into a plant SCADA system, the secret is planning. Communications and coordination between the equipment supplier and the owner need to start early. As a rule, equipment suppliers want their product to work well, but to accomplish this they need to know as much as they can about the intended application of their equipment. This includes system integration and SCADA integration details.

In the system integration world time is of the essence – the earlier that instrumentation and controls related discussions can take place, the better. A bit of additional communication earlier in the process can pay off handsomely for any packaged equipment install. Remember, sorting out issues in the field is expensive – it’s much better to sort things out in the meeting room and in the factory before the equipment arrives at the job site.

ABOUT THE AUTHORS:

Todd Nydam, P.Eng., is a Senior System Design Engineer for JWC Environmental, LLC. JWCE produces a family of wastewater, storm water, and sewage treatment products, which include the Muffin Monster and Channel Monster sewage grinders, and the Auger Monster, Screenings Washer Monster and Monster Separation Systems. Contact: toddn@jwce.com

Graham Nasby, P.Eng., PMP, is a system integrator with Eramosa Engineering Inc.. Eramosa offers system integration, electrical, I&C, asset management, web-based reporting, and SCADA master planning services. Contact: graham.nasby@eramosa.com

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New WWID Members

Recently joined January to May 2012

The Water/Wastewater Industry Division would like to extend a warm welcome to our recently joined members.

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Mr. Andrew Blumenthal - Wolveterm, 0, Belgium
Mr. Vaibhav Ramesh Chauhan - Mumbai Borivali W, Maharashtra, India
Ms. Mukti Asimendrakumar De Chaudhari - Navi Mumbai, Maharashtra, India
Shawn M. Davis - Seattle, WA, USA
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Mr. James T. Rago - Columbus, OH, USA
Mr. Steve Ramnarine - West Palm Beach, FL, USA
Mr. Gary L. Richter, CCST - Boise, ID, USA
Mr. Steve Robben, CCST - Greeley, CO, USA
Mr. Mark Sears, CCST - Anchorage, AK, USA
Mr. Dana Bruce Snoke - Santee, CA, USA
Nathan Spangler - Pittsfield, MA, USA
Mr. Richard E. Tucker - Harrison, OH, USA

May 2012

Mr. John David Wallace Alexander - Halfway House, 0, South Africa
Mr. Marvin T. Anderl - Richmond, VA, USA
Mr. Dhupal N. Aturaliye - Austin, TX, USA
Mr. Walter H. Boyes, Jr. - Aurora, IL, USA
Mr. Adrian Casey - Lethbridge, AB, Canada
Mr. Frank Cosentino - Mississauga, ON, Canada
Mr. Ron Curr - Cape Coral, FL, USA

- Ryan Daniel - Kuna, ID, USA
- Mr. Rob D. Dickson - Sarnia, ON, Canada
- Mr. Joshua Gelman - Fairfax, VA, USA
- Mr. Paul A. Hargrove - University Place, WA, USA
- Mr. Jay Henderson - Evanston, IL, USA
- Mr. Scott D. Kennedy - Boulder, CO, USA
- Mr. Roger Labrecque - Bristol, CT, USA
- Mr. Alan Laviolette - Marietta, GA, USA
- William J. Murphy - Lincoln Park, NJ, USA
- Mr. Steven F. Naoum - Bakersfield, CA, USA
- Mr. Ken A. Pollock, CCST - West Jordan, UT, USA
- Michael Rojic - Lakewood, CO, USA
- Mr. Christopher Scott Roth - University Place, WA, USA
- Mr. Narciso Santiago, CAP - Longwood, FL, USA
- Mr. Paul Schwartz - Los Angeles, CA, USA
- Mr. William F. Smith - San Diego, CA, USA
- Mr. James W. Spitzer - Cambridge, MA, USA
- Mr. Edward C. Stillwell - Wakefield, MA, USA
- Mr. Carl E. Wadsworth, CAP - Bountiful, UT, USA
- Mr. Mark Wagner - Omaha, NE, USA
- Mr. Mark A. Waronker - Lansdale, PA,
- Mr. Scott Whitmore - Maitland, FL, USA
- Mr. Mark C. Wirfs - Beaverton, OR, USA
- Mr. Srinivas Yeddula - Pittsford, NY, USA

2011 ISA President's Year in Review

The ISA is pleased to announce the release of its annual report, *2011 President's Year in Review*. The report provides ISA members insight into the 67-year-old Society's goals, activities, and accomplishments for the year, while showing non-members how ISA is meeting the needs of automation professionals worldwide.

The *2011 President's Year in Review* highlights the many successes achieved in such areas as expanded training of automation professionals, new technical publications and resources, and developments in ISA standards and standards compliance. The report covers the many contributions ISA Automation Week and division symposia made in bringing technical education, insights into automation issues, and networking opportunities to the automation profession during the year. It features profiles of automation professionals whose careers the Society's activities have impacted.

Readers also will learn about initiatives launched in 2011, such as new membership grades and the new information-and-blog website, *ISA Interchange* (www.automation.isa.org). Successful expansion into social media played an important role in accomplishing the Society's 2011 goals.

The *2011 President's Year in Review* also details how ISA sections implemented numerous programs during the year, from local expositions and training, to a speakers' directory and outreach activities with schools.

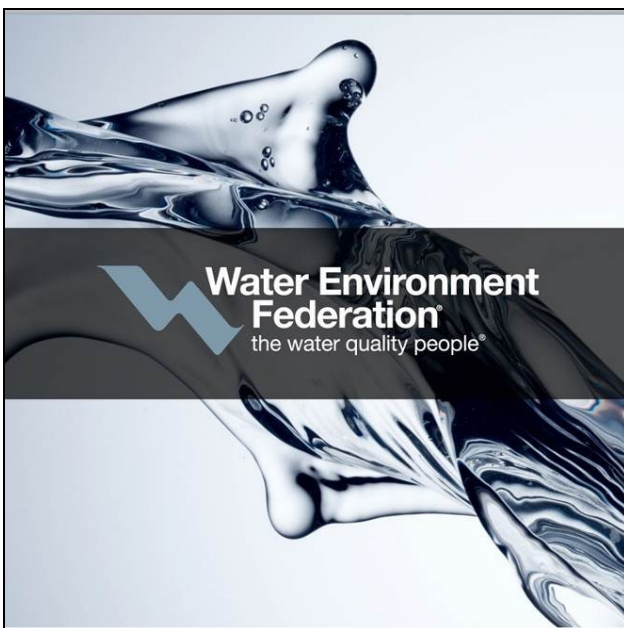
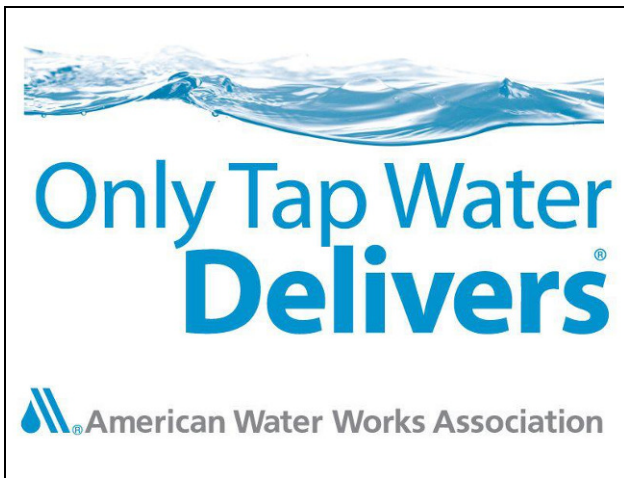
ISA's growth and expanding reach in training and certification are affirmative indications of the Society's continual impact on the automation community. Notable are the new Technician Training Boot Camp and the significant progress made in training programs in international markets. Both made positive contributions to the Society's revenue.

The *2011 President's Year in Review* wraps up with the numbers--a summary of the finances that enabled ISA's members, customers, and subject-matter experts to provide value to the automation community throughout the year.

Leo Staples, ISA's 2011 president, commented, "*2011 President's Year in Review* serves as a valuable resource for automation professionals to use when communicating with colleagues, contacts, and management about the benefits ISA provides to the profession, to technology, and to careers."

About the ISA

Founded in 1945, the International Society of Automation (www.isa.org) 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. ISA is the founding sponsor of the Automation Federation (www.automationfederation.org).



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. LinkedIn currently has over 120 million members and is still growing.

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 120 million experienced professionals from around the world, representing 170 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" 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 PAPERS



ABSTRACTS MUST BE SUBMITTED BY: Monday, June 18, 2012.

Abstract Submittal

Abstracts will be accepted in WORD 2003 ONLY via email to:

Frederick Bloetscher, Ph.D., P.E.,
Technical Program Chair at
h2o_man@bellsouth.net.

Please attach a cover page to the abstract which includes the following information:

- Suggested Session Category
- Paper Title
- Names of Authors
- Name of Presenter(s)
- Main contact including name, title, affiliation, address, phone, fax, and email.

Accepted abstracts will be notified in mid-August. All authors are expected to submit a final paper by September 20th.

Questions? Call 239-250-2423.

Potential Session Categories

- 01 Surface/Groundwater/Reclaimed Wastewater Conjunctive Use
- 02 Membrane Treatment Solutions
- 03 Desalination/Stormwater Augmentation
- 04 Banking Water in Wetlands, Aquifers and Reservoirs
- 05 Regulatory Incentives/Barriers to Expansion of Water Supply Options
- 06 Assessing the Need to Update Infrastructure (piping, plants, wells)
- 07 Financing Infrastructure Upgrades in a Market That Limits Borrowing
- 08 Controlling Rates in the Face of General Fund Demands for Resources
- 09 Utility's Responsibility to Maintain Assets
- 10 Impact of Climate and Economic Uncertainty on Water Supply Strategies
- 11 Water Distribution
- 12 Water Conservation

Best Paper Competition

Each year awards are presented to the best papers during the Conference Business Luncheon.

Thank you for your interest in the FSAWWA.

Nov. 25 – Nov. 29, 2012 • Rosen Shingle Creek Hotel in Orlando

American Water Works Association
AWWA FLORIDA
Florida's Water Professionals

Call for Newsletter Articles

The WWID newsletter is published four times a year (spring, summer, fall, winter) and reaches the WWID's over 1,700 members. Each issue is approximately 20-30 pages long. The newsletter is distributed electronically in color PDF format.

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

Article submissions should be 500-1500 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 is to be avoided. While not specifically required, we encourage authors to submit several photos and/or figures to go along with their article submission.

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. We ask that authors keep this in mind when submitting articles/content. If you are unsure of whether your article idea would be acceptable, please contact our newsletter editor for more information – we are here to help. With this said, we have had many excellent vendor-written articles in the past, and we look forward to many more.

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 well-known personalities 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 circulation of over 1,700 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:

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

Advertising in the newsletter is offered in quarter page and eighth page formats. The eighth page size is approximately the size of a North American business card. 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 advertisements are accepted.

The current advertising rates are as follows:

Per Issue:

- Quarter page ad (3.5" W x 4.5" H): \$100
- Eighth page, business card ad (3.5" W x 2.0" H): \$50

Per year (4 issues):

- Quarter page ad (3.5" W x 4.5" H): \$325
- Eighth page, business card ad (3.5" W x 2.0" H): \$175

Other sizes of advertisements are available, but are priced on an individual basis. Please contact our newsletter editor 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, TIF, PNG, JPG or GIF formats. EPS and PNG formats are preferred. Images should be submitted with 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.



WWID Board Member Contacts

Director

Jon DiPietro
Bridge-Soft LLC & Domesticating IT
Tel: (603) 606-5937
jon.dipietro@gmail.com

Director-Elect

Graham Nasby, P.Eng., PMP
Eramosa Engineering Inc.
Tel: (519) 763-7774
Fax: (519) 763-7757
graham.nasby@eramosa.com

Membership Chair

Kevin Patel, PE, MBA
CDM Smith
Tel (214) 346-2800
patelkn@cdmsmith.com

ISA Division-Section Liaison

Pavol Segedy
Brown and Caldwell
Tel: (919) 424-1443
Fax: (919) 427-5313
psegedy@brwnald.com

WEF Liaison

Tom DeLaura, PE
Eramosa Engineering International
Tel (919) 610-3559
tom.delaura@eramosa.com

Program Chair

Joe Provenzano
KPRO Engineering Services
Tel: (203) 775-0903
Fax: (203) 560-1816
provenzano2@comcast.net

Newsletter Editor

Graham Nasby

Awards/Scholarships Chair

Michael Fedenyszen
Vanderweil Engineers LLP (Power Group)
Tel: (617) 956-4573
Fax: (617) 423-7401
mfedenyszen@vanderweil.com

Historian

Henry "Hank" Hegner
Magyar & Associates Inc.
Tel: (540) 721-2114
Fax: (540) 721-1648
hrhegner@embarqmail.com

Member at Large

David Hobart, P.Eng, CAP
Hobart Automation Engineering
Tel (802) 253-4634
Fax: (802) 253-4690
dgh@sterlingvalley.com

ISA Staff Contact

Rodney Jones
ISA Headquarters, Research Triangle Park, North Carolina
Tel: (919) 549-8411
Fax: (919) 549-8288
rjones@isa.org

Other WWID Division Volunteers:

Joe Bingham, PE – AES Global Inc.
Wally Ingham, P.Eng. – Stantec
Tom McAviney – Instrumentation and Control Engineering LLC
Steve Valdez – General Electric

2012 WWAC Symposium Contacts

General Symposium Chair

Graham Nasby, P.Eng., PMP
Eramosa Engineering Inc.
Tel: (519) 763-7774
Fax: (519) 763-7757
graham.nasby@eramosa.com

Symposium Details

Date: August 7-9, 2012
Location: Orlando, Florida, USA
Venue: Holiday Inn Castle Resort Hotel
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 an annual symposium that features presentations by industry practitioners and published proceedings. 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



2012 Water / Wastewater and Automatic Controls Symposium

Holiday Inn Castle Resort.....Orlando, Florida, USA.....Aug 7-9, 2012

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

Technical Co-Sponsors: WEF Automation and Info Tech Committee and the Florida AWWA Section



Attendee and Registration Information



Setting the Standard for Automation™

About the Symposium

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 affect the processing and distribution of water treatment. It also provides an excellent opportunity to gain valuable technical information 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), a tour of a local water/wastewater facility, a general reception, networking events, a poster session, and a supplier showcase.

Travel Information

Accommodations

The 2012 ISA Water/Wastewater Symposium will be held at The Holiday Inn Resort Orlando – The Castle 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 Universal Studios' theme parks.

Hotel Registration

We have arranged a special discounted hotel rate of \$79/night for symposium attendees for the Mon, Tues, Wed, and Thurs nights. Please mention "ISA WWAC Symposium" when booking. If registering on-line use the group code "ISA". The special symposium rate is available until July 15, 2012.

Holiday Inn Castle Resort Hotel
8629 International Dr. Orlando Florida 32819
www.thecastleorlando.com
info@thecastleorlando.com
1.877.317.5753 (toll free)
407.248.8181 (fax)



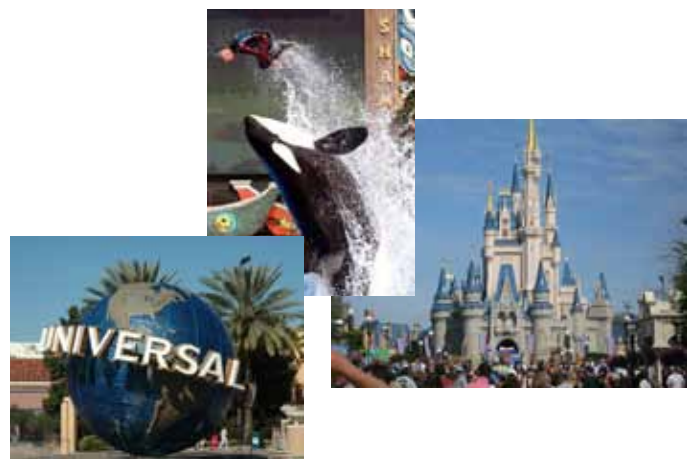
Map & Directions

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

Driving: The hotel is not far from Interstate 4, the Florida 528 Highway, and the Florida Turnpike. Situated on International Drive, the hotel is easy to get to and offers ample parking.

Local Attractions

The Orlando area provides a wealth of visitor experiences. The hotel is centrally located in the heart of the fun. The Walt Disney World Resort, Sea World and Universal Studios are minutes away. Bring your family and take advantage of the many experiences to be had. For more information on local attractions visit www.visitorlando.com.



Invited Speakers

KEYNOTE

Facing Utility Challenges: Managing Risk and Addressing Aging Infrastructure Needs

Celine Hyer, Principal, Malcolm Pirnie/ARCADIS



Aging infrastructure and managing risk are major concerns in our industry. A recent US EPA study estimated that \$334.8 billion needs to be spent over the next 20 years on drinking water infrastructure needs. A similar study from the American Society of Civil Engineers pegged an even higher cost for wastewater infrastructure renewal in the US. Automation, instrumentation and SCADA systems play an important role in solving the infrastructure challenges related to mitigating and managing risk.

INVITED SPEAKER - Day 1

An Overview of ISA99 for the Water or Wastewater SCADA Specialist

Bryan Singer, Principal Consultant, Kenexis Security Corp



The move to using open standards such as Ethernet, TCP/IP, and web technologies in SCADA (supervisory control and data acquisition) systems can expose these systems to the same types of cyberattacks that have plagued the IT world. This talk will provide a brief overview how the ISA99 "Industrial Automation and Control Systems Security" standards represent a key tool in addressing these challenges, and how they can be used by SCADA/DCS professionals in the municipal water and wastewater sectors.

INVITED SPEAKER - Day 2

The High Performance HMI – Better Graphics for Operations Effectiveness

Bill Hollifield, Principal HMI Consultant, PAS



Human Machine Interface (HMI) improvement has become a hot topic. Traditional HMI designs often suffer from "low performance" issues such as clutter, poor situational awareness, and being difficult to use during process upsets. The knowledge, technology, and control capabilities now exist for creating High Performance HMIs. This talk provides an introduction to HMI design techniques for improved situational awareness, improved surveillance and control, easier training, and verifiable cost savings. A High Performance HMI is both practical and achievable.

Why you should attend

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

Earn CEUs (continuing education units) for your operator license

Earn PDHs (professional development hours) for your PE license

Get to compare experiences and lessons learned

Learn about new technologies, products and services

Be actively involved in your professional development

Establish contacts in the industry

Share ideas and experiences with others in the sector

Learn Something

Have Fun

Benefits for Water Utilities

Inexpensive professional development

2.0 CEUs for \$350

Group discounts available

Opportunity for staff to learn about new ideas and industry innovations

Benefits for Engineering Firms

Exposure to new ideas

Learn from plant case studies

Talk to operations and maintenance professionals in an informal environment

Learn about new products and techniques

Schedule of Events

Day 1 - Tuesday, August 7

- 8:00am-3:00pm **Automation & SCADA Security Short Course**
3:00pm-3:45pm Badge Pick-up for Tour Attendees
3:45pm-6:30pm **Tour of Southern Regional Water Supply Facility**
6:30 pm Free Evening

Day 2 - Wednesday, August 8

- 7:15am Registration & Breakfast
7:45am Opening Remarks
8:00am Welcome from ISA President Bob Lindeman
8:15am Keynote Speaker
Facing Utility Challenges: Managing Risk and Addressing Aging Infrastructure Needs
Celine Hyer, Principal, Malcom Pirnie/ARCADIS
8:45am Invited Speaker
An Overview of ISA99 for the Water or Wastewater SCADA Specialist
Bryan Singer, Principal Consultant, Kenexis Security Corporation
9:15am **Securing Critical Control Systems in the Water Sector – Where do I begin?**
Don Dickinson, Phoenix Contact
9:45am **Using Cyber Security Evaluation Tool (CSET) for a Wastewater Treatment Plant**
Bob Dusza, Manchester Water & Sewer Dept. - Manchester, CT
10:15am Coffee Break & Exhibits
10:30am **Wastewater Plant Process Protection: Process Hazard Analysis**
Thomas McGovern, Broward County Water and Wastewater Services - Broward County, FL
11:00am **Improving Water and Wastewater SCADA Cyber Security: Based on Work Performed for Large and Small Utilities**
Bill Phillips and Norman Anderson, CH2M HILL
11:30am **Mobile Devices for SCADA Integration and Beyond: Considerations, Security and Applications**
Pavol Segedy and Brandon Erndt, Brown & Caldwell
12:00pm Lunch & Exhibits
1:15pm **Solar Powered Wireless Sensors & Instrumentation**
Michael Macchiarelli, Imagine Instruments
1:45pm **HMI Testing of Multiple PLCs using Simulations on Virtual Machines**
Marcelo Avendano and Kevin Patel, CDM Smith
2:15pm **High Fidelity Extended Period Dynamic Simulation in Development and Testing of Control Systems for Water Treatment and Distribution Facilities**
Creig Wilson and Jared Thorpe, CH2M HILL
2:45pm Poster Session, Coffee, and Exhibits
4:00pm **Successful SCADA specifying and Implementation for Water and Wastewater Projects**
Robert Reinhart, ControlsLink
4:30pm **FOUNDATION Fieldbus Provides a Unified Solution for Remote Operations Management**
Larry O'Brien, Fieldbus Foundation
5:00pm **Developing an Integrated Business Solution with Telemetry and GIS**
Michael Waddell, CDM Smith and Isabel Szendrey, Puerto Rico Water Authority
5:30pm General Reception with Cash Bar



Day 3 - Thursday, August 9

- 7:15am Breakfast
- 7:45am Opening Remarks
- 7:50am **Welcome from ISA Tampa Bay Section**
Bob Rienhart, President, ISA Tampa Section
- 8:00am *Invited Speaker*
The High Performance HMI – Better Graphics for Operations Effectiveness
Bill Hollifield, PAS
- 8:45am *Guest Speaker*
Automation Technology Trends in the Wastewater Sector
Tom DeLaura, Chair, WEF Automation and Info Tech Committee
- 9:00am *Guest Speaker*
Florida Drinking Water Trends and Automation Trends
Kim Kunihiro, Orange County Utilities, on behalf of the Florida Section of the AWWA
- 9:15am **Common Pitfalls that Affect Water and Wastewater Instrumentation, Control and Automation Systems**
Francisco Alcalá and Tim Wiley, CDM Smith
- 9:45am **Integrated Process Control & Management Systems: Creating More Effective Working Environments**
Mark Presti, Gray Matter Systems
- 10:15am Coffee Break & Exhibits
- 10:30am **Hybrid RO & Softening Water Treatment Plant Process Design**
Ali Farahmand, Nassir Gifani, and Mohsen Farivar, ToosAb Consulting Engineers Co., Iran
- 11:00am **Flowmeter Challenges in a Multi-Pass Reverse Osmosis System**
Chris Caglioti and Andrew Fenske, City of Cape Coral, and David Ramsey, AMJ Equipment Corp.
- 11:30am **Should we Keep DO for Nitrification Control? The Proof is the Ammonium Electrodes**
Robert Lagrange, Lagrange Consulting; Sue Baert, Wheaton Sanitary District; Amanda Poole and Dave Green, Baxter & Woodman Inc.; Nick Camin, Endress+Hauser
- 12:00pm Lunch & Exhibits
- 1:15pm **Modernization and Improved Operations: Process Automation Upgrade of the Gilder Creek WWTP**
Scott Whitmore, CDM Smith and Blake Visin, Renewable Water Resources (ReWa) – Greenville, SC
- 1:45pm **Efficient Control of Potable Water Distribution**
Raed Al Nuaimi, Rajendra Kumar Ramakrishnan and Mohammed Barghothi, AECOM (United Arab Emirates)
- 2:15pm **Optimization of Wastewater Lift Stations for Reduction of Energy Usage and Greenhouse Gas Emissions**
David Wilcoxson, MWH Americas and Travis Crane, JEA
- 2:45pm Poster Session, Coffee Break & Exhibits
- 3:30pm **The Role of Rugged HMIs in Water and Wastewater Plants**
Jeff Hayes, Beijer Electronics
- 4:00pm **SCADA Upgrades to Otay Water Treatment Plant**
Noune Garounts, MWH Global
- 4:30pm **So you have SCADA, what's next?**
Grant Van Hemert, Schneider Electric
- 5:00pm **Asset Tracking and Revision Control for Automated Water/Wastewater Control Systems**
Blair Sooley, Trihedral Engineering
- 5:30pm **An Overview of Applicable ISA Standards to the Water and Wastewater sectors**
Graham Nasby, Eramosa Engineering
- 6:00pm Closing Remarks



Technical Co-Sponsors

We are pleased to announce that this year's WWAC symposium has the following technical co-sponsors.










The Florida Section of the American Water Works Association is dedicated to ensuring Florida's present and future generations a sufficient supply of high quality drinking water by providing critical information and opportunities to over 2,500 members. We offer comprehensive technical training and continuing education programs, effective legislative and regulatory policy development, high quality member services and networking opportunities related to the water industry. For more information see www.fsawwa.org



Founded in 1928, the Water Environment Federation (WEF) is a not-for-profit technical and educational organization of 36,000 individual members and 75 affiliated Member Associations representing water quality professionals around the world. WEF members, Member Associations, and staff proudly work to achieve our mission to provide bold leadership, champion innovation, connect water professionals, and leverage knowledge to support clean and safe water worldwide. For more information see www.wef.org

Continuing Education Credits – CEUs & PDUs

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:

 <p>2.0 CEUs or 20 PDHs water operators wastewater operators engineers</p> 	<p>Florida state licensed water operators and wastewater operators can earn up to 2.0 Florida Department of Environmental Protection approved CEUs by attending in the symposium.</p> <p>Florida state licensed engineers can also earn up to 20 Florida DEP-approved PDHs by attending the symposium.</p> <p>As part of the partnership between the ISA and the Florida Section of the AWWA, official certificates for these CEUs and PDHs will be issued by the FSAWWA.</p> <p>These CEU credits can be used by both water operators and wastewater operators.</p> <p>Florida Statutes require anyone who operates a drinking water treatment plant or a domestic wastewater treatment plant to be licensed by FDEP. Beginning May 1, 2011, licensure for Water Distribution System Operators became mandatory. CEUs and PDHs that attendees receive at the symposium can be used to satisfy the continuing education requirements for their licenses.</p>
	<p>Symposium 20 PDHs</p> <p>Attendees also have the option of receiving a certificate for 20 Professional Development Hours (PDHs) from the ISA.</p>   <p>Control Systems Engineers</p> <p>These PDHs can be used towards your ISA CAP or CCST certification, or towards continuing education requirements in other jurisdictions as applicable.</p>
 <p>0.7 CEUs</p>	 <p>0.7 CEUs</p> <p>For the optional full-day training course on SCADA & Automation Security, attendees can receive either:</p> <ul style="list-style-type: none"> • 0.7 CEUs certified by the Florida DEP (issued by the FSAWWA) • 0.7 CEUs certified by IACET (issued by the ISA)

Symposium Tour

Orange County Utilities Southern Regional Water Supply Facility

Tuesday August 7th, late afternoon

Located approximately 20 minutes from the symposium hotel, the tour offers a unique look at a state-of-art ozone-based water treatment facility. The plant, which was brought on line in 2012, uses a highly optimized process for removing the naturally-occurring sulfide that is present in much of Florida's groundwater. Its fully automated and redundant control system ensures that the plant is able to continuously provide a reliable source of water for both drinking and fire-protection needs in Orange County. The tour will give symposium attendees a glimpse at how leading edge automation is being used in the municipal water sector to minimize costs, increase efficiency, and offer enhanced reliability.



Optional Short Course

Introduction to Industrial Automation Security and the ANSI/ISA99 Standards (IC32C) - SCADA & Automation Security

Date: Tues, August 7, 2012

Instructor: Bryan Singer

Length: 1 day

CEU Credits: 0.7

Course Hours: 8:00 a.m. – 3:30p.m.

Register: www.isawwsymposium.com/register

Cost: \$630 (\$495 for ISA members)



Security for Automation, SCADA and DCS systems is a hot topic in our sector. Recent news reports about hackers infiltrating public utility control systems has brought renewed attention to the importance of security for our all-important water/wastewater infrastructure. As part of the WWAC symposium, we are offering a timely automation security course that gives an overview of why automation security is needed, how to identify potential risks, and how to go about putting a program in place to mitigate risks.

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

Symposium Registration

Early-Bird Rate (up until June 15, 2012)

- Regular Attendee \$400
- ISA Member \$300
- AWWA or FSAWWA Member \$350
- WEF or FWEA Member \$350
- Student Registration \$110
- Author/Speaker Registration \$100

Regular Registration (after June 15, 2012)

- Regular Attendee \$425
- ISA Member \$325
- AWWA or FSAWWA Member \$375
- WEF or FWEA Member \$375

Optional Full-Day Training Course:

Introduction to Industrial Automation Security and the ANSI/ISA99 Standards (I32C-FL)

August 7, 2012, 8:00 am. - 3:30 p.m. - Attendees will receive 0.7 CEUs (continuing education units)

- Regular Price \$630
- ISA Member Price \$495

Your Full Symposium registration includes:

- * 2 full days of papers and presentations
- * poster session
- * networking events
- * tour of a local water treatment facility on Aug 7
- * admission to supplier showcase
- * light breakfasts on Aug 8 and Aug 9
- * full buffet lunches on Aug 8 and Aug 9
- * evening reception on Aug 8, with cash bar
- * name badge
- * list of symposium attendees with contact info
- * printed onsite program booklet
- * printed copy of symposium proceedings

Register at www.isawwsymposium.com/register

2012 Water / Wastewater and Automatic Controls Symposium

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



Contacts

Graham Nasby

General Symposium Chair
graham.nasby@eramosa.com
(519) 763-7774

Joe Provenzano

Symposium Program Chair
provenzano2@comcast.net
(203) 560-1816

Rodney Jones

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



International Society of Automation

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

For more information visit:

www.isawwsymposium.com



Registration Form

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

2012 ISA Water / Wastewater and Automatic Controls (WWAC) Symposium

7-9 August 2012 • Holiday Inn Castle Resort Hotel • 8629 International Drive • Orlando, Florida, USA

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

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

Email: info@isa.org

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

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

1. Customer Information

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

Company: _____ Title: _____

Street Address: _____

City: _____ State: _____ Country: _____

Phone: _____ Fax: _____ Postal Code: _____

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

2. ALL PARTICIPANTS ARE REQUIRED TO PAY REGISTRATION FEES

Regular Registration

- Regular Attendee (after 15 June 2012) . . . \$425
- ISA Member (after 15 June 2012) \$325
- AWWA Member (after 15 June 2012) . . . \$375
- WEF Member (after 15 June 2012) \$375

- Student Registration \$110
- Author/Speaker Registration \$100

Early-Bird Rate (before 15 June 2012)

- Regular Attendee \$400
- ISA Member \$300
- AWWA Member \$350
- WEF Member \$350

Symposium Attendees can receive one of:
20 PDHs (from ISA)
2.0 CEUs (Florida DEP-approved, via FSAWWA)
20 PDHs (Florida DEP-approved, via FSAWWA)

Optional Full-Day Training Course:

Introduction to Industrial Automation Security and the ANSI/ISA99 Standards (I32C-FL)
7 August 2012, 8:00 am. - 3:30 p.m. - Attendees will receive 0.7 CEUs (continuing education units)

- Regular Price \$630
- ISA Member Price \$495

Registration and Training Course Total: \$ _____ US Dollars

Your Full Symposium registration includes:

- * 2 full days of papers and presentations
- * poster session
- * networking events
- * tour of an Orange County water treatment facility
- * admission to supplier showcase
- * light breakfasts on Aug 8 and Aug 9
- * full buffet lunches on Aug 8 and Aug 9
- * evening reception on Aug 8 with cash bar
- * name badge
- * list of symposium attendees with contact info
- * printed onsite program booklet
- * printed copy of symposium proceedings

3. Payment Summary

Charge: Visa Mastercard Amex Discover

Charge Account Number: _____

Exp. Date: _____

Signature: _____

www.isawwsymposium.com

Make Checks Payable to:

ISA WWAC

Note: Company purchase orders or military vouchers not accepted.

Hotel Registration:

Holiday Inn Castle Resort Hotel
8629 International Drive
Orlando, Florida, USA, 32819
Phone: 1 877-317-5753 (toll free)
Fax: 1 407-248-8181
www.thecastleorlando.com

Attendees are responsible for booking their own hotel rooms.
A hotel rate of \$79/night is available if booked before **15 July 2012**

Nonprofit Org.
U.S. Postage
PAID
Raleigh, NC
Permit #1461

This course is being held in conjunction with:

2012 ISA Water/Wastewater and Automatic Controls Symposium

When: 7–9 August 2012

Where: Holiday Inn Castle Resort
8629 International Drive
Orlando, Florida 32819 USA

Presented by the Water and Wastewater Division of ISA, the 2012 ISA Water/Wastewater and Automatic Controls (WWAC) Symposium will help professionals in the water and wastewater industry understand how automatic control applications affect processing and distribution of water treatment while providing an outstanding opportunity to gain valuable technical information and training. The WWAC Symposium is a “niche symposium” that caters specifically to the needs of automation professionals, technicians, and engineers in the water/wastewater sector.

The event will feature:

- Two full days of speakers/presentations
- Track 1 – Instrumentation, System Integration, Automation, Plant Case Studies, New Technologies, Optimization
- Track 2 – SCADA, HMI, Human Factors, Alarm Management
- One full-day ISA technical training course, which offers Continuing Education Units (CEUs), Professional Development Hours (PDHs), and Florida DEP CEUs
- Plant tour of a local water/wastewater facility
- Tradeshow, reception, and networking event
- Affordable professional development for plant operations/maintenance staff, plant managers, plant designers, engineers, system integrators
- Professional Development Hours (PDHs) for event attendance

Visit www.isa.org/WWAC
for event details and to register.

30-4676-0412



International Society of Automation
67 Alexander Drive
P.O. Box 12277
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ISA Training
at the 2012 ISA
Water/Wastewater
and Automatic
Controls
Symposium



Approved
for 0.7
Florida
DEP
CEUs!

Earn approved CEUs and PDHs
while learning about industrial
security and ISA99!

Introduction to Industrial Automation Security and the ANSI/ISA99 Standards

Setting the Standard for Automation™

Introduction to Industrial Automation Security and the ANSI/ISA99 Standards

Understanding how to secure factory automation, process control, and supervisory control and data acquisition (SCADA) networks is critical if you want to protect them from viruses, hackers, spies, and saboteurs.

This short course teaches the basics of the ANSI/ISA-99.02.01-2009, *Security for Industrial Automation and Control Systems* standards and how they can be applied in the typical factory or plant.

You Will Be Able To:

- Discuss why improving industrial security is necessary to protect people, property, and profits
- Define the terminology, concepts, and models for electronic security in the Industrial Automation and Control Systems (IACS) environment
- Define elements of the ISA99 standard for establishing an IACS security program
- Define the core concepts of risk and vulnerability analysis methodologies
- Define the concepts of defense, “in depth,” and zone/conduit models of security
- Explain the basic principles behind policy development and key risk mitigation techniques

Main Topics Covered:

- Current industrial security environment
- How IT and the plant floor are different and how they are the same
- Current security standards and practices
- Creating a security program
- Using ANSI/ISA-99.00.02

Includes ISA Standards: ANSI/ISA-99.00.01-2007, ANSI/ISA-TR99.00.01-2007, and ANSI/ISA-99.02.01-2009
(A \$380+ Value!)

“ [This course] gave me a general overview of how to set up security measures.”

—Donald Peck, Utility SCADA Supervisor

This course is being held in conjunction with the 2012 ISA Water/Wastewater and Automatic Controls Symposium.

Visit www.isa.org/WWAC to register or learn more.

How can you SAVE on ISA Training? Become an ISA member.

Learn more about the benefits of ISA membership—including ISA member rates on training—at www.isa.org/MemberPrice.

Instructor



Bryan Singer, CISM, CISSP, has a Bachelor Degree in Computer Information Systems from Phoenix University. Singer has a wealth of experience working in industrial automation and critical infrastructure sectors. He began his professional career with the US Military focusing on issues such as physical, systems, network security, and force protection. He is the founding co-chairman of the ISA99 standards committee on Industrial Automation and Control Systems Security. Singer currently works for Kenexis.

Course Details:

Course No.: IC32C
Date: 7 August 2012
Time: 8:00 a.m.–4:00 p.m.
Location: Holiday Inn Castle Resort
8629 International Drive
Orlando, Florida 32819 USA
CEUs (PDHs): 0.7 (7)*
Registration: US \$495 ISA Member; US \$565 Affiliate Member;
US\$630 Community Member/List

To register, call +1 919-549-8411 or visit www.isa.org/2012/IC32C/WWAC.

Space is limited—register early!

*This course has also been approved by the Florida Section of the American Water Works Association (AWWA) for 0.7 Florida DEP CEUs for Florida state licensed water/wastewater operators.