



## Water/Wastewater Industry Division

### Calendar of WWID Events

June 8-10, 2013	<b>Spring Leaders Meeting</b> Raleigh, North Carolina, USA
Aug 6-8, 2013	<b>2013 ISA Water/Wastewater and Automatic Controls Symposium</b> Crowne-Plaza Orlando-Universal Hotel – Orlando, Florida, USA
Nov 2-4, 2013	<b>Fall Leaders Meeting</b> Nashville, Tennessee, USA

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*plus 2013 WWAC Symposium Registration Form & Preview Brochure*

# Winter 2013 Newsletter

## Director's Welcome



Welcome to the Winter 2013 issue of our quarterly ISA Water/Wastewater Division newsletter. In this issue you will meet our incoming 2013 board of directors, learn more about our upcoming symposium this summer, and find several technical articles.

As your incoming 2013 WWID Director, it is my pleasure to take over the reins from our outgoing director Jon DiPietro. During his two year tenure, Jon helped build our division into what it is today. He recruited many of our key board members, spearheaded the launch of our new symposium website, and carefully guided our expansion into social media. On behalf of the entire division I would like to thank Jon for his hard work and dedication over the past two years, and I look forward to continuing to work with Jon in his new role as our WWID honors and awards chair.

The year 2013 will be an exciting year for us. It marks the second year of our re-invigorated WWAC symposium, and the first year of our newly designed WWID student scholarship program. We are also hard at work strengthening our ties with other water-oriented organizations such as the Water Environment Federation (WEF), American Water Works Association (AWWA) and the National Rural Water Association (NRWA).

Our 2013 ISA Water/Wastewater and Automatic Controls Symposium is quickly coming together. This year's symposium is being held at the Crowne Plaza Orlando-Universal Hotel in Orlando, Florida this coming summer on August 6-8, 2013. More info at [www.isawwsymposium.com](http://www.isawwsymposium.com).

The program will feature two full days of technical speakers, a general reception, catered breakfast and lunches, and an optional plant tour. We also round out the program with two optional ISA training courses: one being a 2-day in-depth course on cyber security, and the other a full-day course on flow meter selection & sizing. We are also pleased to announce three invited speakers, who will be giving talks about cyber security, high performance HMI design, and how to conduct successful SCADA retrofit projects. You can read more about the symposium in this newsletter.

As I embark on my two year term as WWID Director, I look forward to continuing to forge new partnerships in our industry and encouraging ongoing collaborations in our sector.

Warmest Regards,

Graham Nasby, P.Eng., PMP  
2013-2014 Director  
& Newsletter Editor

## Message from your Director-Elect



For the past 2 years I have had the privilege of serving you as the division's membership chair. My goal was to understand what the members wanted from the division and welcome everyone with open arms. I have now passed that torch on to Pavol Segedy and will begin my service as WWID Director-Elect and the Assistant General Symposium Chair. Thank you for this opportunity.

It seems like it was just yesterday that the 2012 ISA WWAC Symposium was taking place, but in reality it was nearly 5 months ago and we are deep in the preparations of the 2013 ISA WWAC Symposium. I would encourage all WWID members to stay up-to-date on symposium happenings on the website at [www.isawwsymposium.com](http://www.isawwsymposium.com).

I encourage you to read in this newsletter about our upcoming 2013 WWAC Symposium that is scheduled for Aug 6-8, 2013 in Orlando, Florida, which I truly feel has been getting better each and every year. I also encourage you to submit an abstract for our call for abstracts which will be closing at the end of January. The symposium is a great time to meet new professionals in our industry and share knowledge that will help you become better throughout your career. I hope to see you there!

Additionally, the student scholarship application deadline is quickly approaching. In an effort to make students aware of the water/wastewater automation profession, the student scholarship is a great benefit for our members and their relatives. I began my career as a co-op student for a water/wastewater engineering firm. I still look to that co-op term moment as the valuable knowledge I gained that helped me understand the industry and shape my career. Students' are most impressionable during these years and helping them become aware of the work that has shaped all of our careers can only help our ever growing industry.

In closing, I look forward to learning from the current and past directors in an effort of continuous improvement of WWID and the WWAC Symposium.

Thank you for your support and I look forward to this new opportunity. Please do not hesitate to contact me with any of your ideas and suggestions for the division to help it continue to be beneficial for our members.

Respectfully,

Kevin Patel, PE, MBA  
WWID Director-Elect

## WWID 2013 Date Pad

Our 2013 ISA Water/Wastewater and Automatic Controls Symposium will be taking place Aug 6-8, 2013 at the Crowne Plaza Orlando-Universal Hotel in Orlando, Florida. Read more about our 2013 symposium in the following pages.

There is still time to submit an abstract! Abstracts are due January 31, 2013 and can be submitted via email. View the official Call for Abstracts at [www.isawwsymposium.com](http://www.isawwsymposium.com).

Our symposium is held in August so we don't conflict with the major AWWA and WEF conferences. Keep in mind the ISA WWAC Symposium is the only conference that is focused solely on instrumentation, automation, and SCADA in the water/wastewater sector. Here are the dates for reference:

- ACE13: American Water Works Association (AWWA)  
June 9-13, 2013 – Denver, Colorado, USA
- **2013 ISA Water/Wastewater and Automatic Controls Symposium** - Crowne Plaza Orlando-Universal Hotel  
**August 6-8, 2013 - Orlando, Florida, USA**
- WEFTEC 2013: Water Environment Federation (WEF)  
Oct 5-9, 2013 – Chicago, Illinois, USA

### WWAC 2014 Dates Announced

Our incoming general symposium chair for 2014, Kevin Patel is pleased to announce the dates of WWAC 2014:

- **2014 ISA WWAC Symposium**  
Crowne Plaza Orlando-Universal Hotel  
August 5-7, 2014- Orlando, Florida, USA

We look forward to seeing you at both our 2013 and 2014 ISA WWAC symposia!



### 2013 ISA Water/Wastewater and Automatic Controls Symposium

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

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

## SAVE THE DATE

### AUGUST 6 to 8, 2013

Full 2.5 Day Symposium Registration: \$325. Hotel Rate: \$92/night  
Discounts for ISA, WEF, AWWA, FWEA, and FSAWWA Members

2 full days of speakers \* Printed Proceedings \* Breakfasts & Lunches  
Tour of Local Facility \* Guest speakers from AWWA and WEF  
Affordable Professional Development and Continuing Education credits

Two optional short courses: 2-day In-Depth Cyber Security, 1-day Flowmeters

More Information:  
**[www.isawwsymposium.com](http://www.isawwsymposium.com)**

  
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## Introducing the 2013 WWID Board

By Graham Nasby, WWID Director

As the incoming 2013-2014 Director of the ISA Water/Wastewater Industries Division, it is my pleasure to introduce our 2013 board of directors and committee chairs



Graham Nasby, PEng, PMP  
Eramosa Engineering Inc.

- Director
- Newsletter Editor
- 2013 General Symposium Chair



Kevin Patel, PE, MBA  
Signature Automation

- Director-elect
- Asst. Newsletter Editor
- 2013 Asst. Symposium Chair
- 2014 General Symposium Chair



Jon DiPietro  
Bridgesoft LLC  
& Domesticating IT

- Past Director
- Honors & Awards Chari



Pavol Segedy  
Brown & Caldwell  
• Membership Chair



Juliana Oyeniyi  
CDM Smith  
• Asst. Membership Chair



Joe Provenzano, MSc  
KPRO Engineering Sesrvcies  
• Program Chair  
• Symposium Program Committee Chair



Joshua Gelman, PE  
CDM Smith  
• Program Committee



Tom DeLaura, PE  
Eramosa Engineering International  
• WEF Liaison



Dave Hobart, PEng.  
Hobart Automation Engineering  
• Program Committee



Michael Fedenyszen  
Vanderweil Engineers LLP  
• Scholarship Committee Chair



Steve Valdez  
GE – General Electric  
• Scholarship Committee



Sean McMillan  
CDM Smith  
• Scholarship Committee



Rodney Jones  
• ISA Staff Contact

We are also seeking additional volunteers to fill the following roles:



### WebMaster for the WWID website

at [www.isa.org/wwid](http://www.isa.org/wwid)

- Make quarterly updates to website using an online content management system (the interface is very similar to using MS Word)



### Newsletter Writers

- Write content for the WWID newsletters, can range from one article per year to more than that depending on the volunteer's interests.



### Secretary-Treasurer

- Take minutes at WWID board meetings (twice per year). ISA staff look after day to day finances. The treasurer prepares a short report once year.



### WWID Marketing Committee Members

- Writing marketing pieces about the WWID, soliciting advertisements for the newsletter, reaching to industry, etc.



### Social Media Gurus

- Help monitor our LinkedIn group, email mailing lists, and create a twitter feed for the WWID



## 2013 ISA Water/Wastewater Division Student Scholarships – Still time to apply!

There is still time to apply for the 2013 ISA WWID Student Scholarships. Eligible students can win up to \$2000 in scholarship money to help them pursue higher education.

Students can apply by filling out the application form, accompanied by:

- 200-word essay on why they should win
- a copy of their academic transcript
- confirmation of enrollment form/letter

The application deadline is **January 31, 2013**.

The division is pleased to continue providing up to \$2000 of scholarship money to encourage WWID members and their sons/daughters to pursue higher education. In addition, winners will receive a complementary 2-year student ISA membership.

Applications are due by postal mail or email by January 31, 2013. Winners will be notified by February 28, 2013 via telephone and email, and will be required to provide a photo and short biography that can be used for publicity reasons. Scholarship money will be distributed by check and mailed after the winner is contacted and has supplied the required photo/bio.

Scholarships will be awarded at the sole discretion of the WWID scholarship committee, with preference being given to students enrolled in technical programs that lead to careers in the water/wastewater sector.

Download and view the student scholarship application form at [www.isa.org/wwid](http://www.isa.org/wwid).

Mail completed applications to:

Michael Fedenyszen  
WWID Scholarship Chairman  
60 Whittier Street  
Haverhill, Massachusetts  
01830  
USA

OR

Email completed application as scanned PDFs to:

[scholarship@isawwsymposium.com](mailto:scholarship@isawwsymposium.com)  
AND  
[mfedenyszen@vanderweil.com](mailto:mfedenyszen@vanderweil.com)

We encourage students to **send in their applications by email** (PDF scans of documents) as this is preferred over postal mail.

## WWID Student Scholarship Last Year's 2012 Recipients

To give you an idea of who has won the scholarships in the past, here are last year's WWID student scholarship winners. Open to college and university students, the water/wastewater division's scholarships are given out to promote higher learning.

The 2012 recipients were Robert G. Burmeister and Sharon Miller. Each received a \$1000 USD scholarship to help defray the costs of their education.



### Robert G. Burmeister

Indiana University at South Bend  
South Bend, Indiana, USA

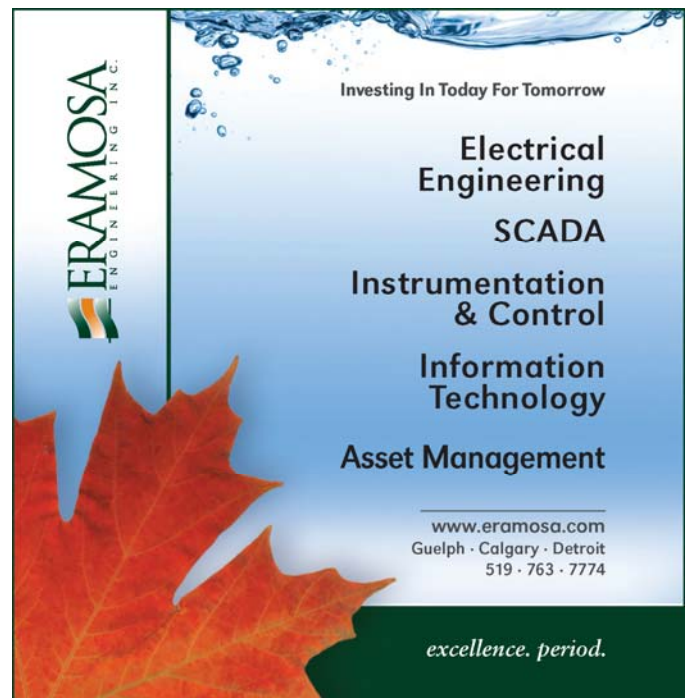
*"Thank you so much for the scholarship. I'll be able to pay off some of my college debt with this generous gift."*



### 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."*



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# Water & Wastewater Division

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## 2013 WWID Student Scholarship

### APPLICATION FORM

The ISA water/wastewater division (WWID) is pleased to award up to \$2000 of scholarship money to encourage WWID members and their sons/daughters to pursue higher education. In addition, winners will receive a complementary 2 year student ISA membership. Applications are due by postal mail or email by January 31, 2013. Winners will be notified by February 28, 2013 via telephone and email, and will be required to provide a photo and short biography that can be used for publicity reasons. Scholarship money will be distributed by check and mailed after the winner is contacted and has supplied the required photo/bio. Scholarships will be awarded at the sole discretion of the WWID scholarship committee, with preference being given to students enrolled in technical programs that lead to careers in the water/wastewater sector.

#### Eligibility (check one)

- ☐ ISA WWID member, ISA Member # \_\_\_\_\_
- ☐ ISA WWID student member, ISA Member # \_\_\_\_\_
- ☐ Parent/Guardian ISA WWID member, Their Name: \_\_\_\_\_ & ISA Member # \_\_\_\_\_

#### Other criteria (check off each one)

- ☐ Currently attending 2-4 year university/college
- ☐ Confirmation of enrollment letter (or scan of student card) attached
- ☐ 200 word essay about "why I should win the scholarship" attached
- ☐ Copy of previous year's academic transcript attached

Applicant's Name: \_\_\_\_\_  
Program of Study: \_\_\_\_\_  
Institute Name: \_\_\_\_\_  
Institute Address: \_\_\_\_\_  
Dean of Admissions Name: \_\_\_\_\_  
Institute Phone: \_\_\_\_\_

Address while at School  
Street: \_\_\_\_\_ Apt. \_\_\_\_\_  
City: \_\_\_\_\_  
State: \_\_\_\_\_  
ZIP: \_\_\_\_\_ Country: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Email: \_\_\_\_\_

Home Address  
Street: \_\_\_\_\_ Apt. \_\_\_\_\_  
City: \_\_\_\_\_  
State: \_\_\_\_\_  
ZIP: \_\_\_\_\_ Country: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Email: \_\_\_\_\_

Applications can be either sent by mail or emailed. Submission of applications by email (as scanned PDFs) is preferred.

#### Mail completed application to:

Michael Fedenyszen  
WWID Scholarship Chairman  
60 Whittier Street  
Haverhill, Massachusetts, 01830, USA

OR

#### Email completed application as scanned PDFs to:

[scholarship@isawwsymposium.com](mailto:scholarship@isawwsymposium.com)  
AND  
[mfedenyszen@vanderweil.com](mailto:mfedenyszen@vanderweil.com)

**APPLICATIONS MUST BE RECEIVED BY JANUARY 31, 2013**

[www.isa.org/wwid](http://www.isa.org/wwid)





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## WWID Member Survey

By Kevin Patel, WWID Director-elect

This year we have decided to take a quick poll from our WWID members to get your feedback on past and upcoming events to make sure we are serving your needs.

Every WWID member should have received an email invitation to participate in the survey. If you did not receive the survey, please feel free to contact me directly with your feedback.

The survey should take about 5 minutes and will help the committee gain valuable insight as to how we can continue to provide the best benefits to our members in the future.

The survey can be found at <http://isawwsymposium.com/fall-2012-members-survey/>. Please submit only one entry per member and we encourage completion by January 31, 2013 if you have not already completed one.

I want to thank you for participating in the survey. Your input is very important to us and will be kept strictly confidential.

If you have any questions or experience any technical difficulties accessing or submitting the survey, please call me at 469-267-0316 or Email me at [knpatel@sig-auto.com](mailto:knpatel@sig-auto.com).

Thanks,

Kevin Patel  
2012 ISA WWID Committee  
2013 & 2014 ISA WWID Director-Elect

## The Survey Questions

- 1a. How many years have you been an ISA member?
- 1b. How many years have you been an ISA water/wastewater division member?
2. Why did you first join the WWID?
3. Did you attend our 2012 WWAC Symposium this past August?
- 3a. What additional topics would interest you for our upcoming 2013 symposium?
- 3a. Did you know about the 2012 WWAC Symposium?
- 3b. What can we add to the symposium program that will interest you to attend in 2013?
- 3b. What would be the best method to let you know about the 2013 symposium or any other upcoming event?
- FYI – Our 2013 WWAC symposium is taking place Aug 6-8, 2013 – see [www.isawwsymposium.com](http://www.isawwsymposium.com)*
4. Are you aware we have a quarterly 36-page WWID Newsletter with technical articles?

4a. Do you receive the email notifications when the newsletter is published?

4b. Is your email address up-to-date on ISA website?

*FYI: We use this email address to send out announcements about our newsletter and symposium.*

4c. Did you know you can download the newsletter from [www.isa.org/wwid/](http://www.isa.org/wwid/) and [www.isawwsymposium.com](http://www.isawwsymposium.com)?

4d. Please provide any suggestions for additional content you would find beneficial in the newsletter?

5. Are you aware that the WWID has an annual student scholarship worth up to \$2,000?

5a. Have you considered encouraging a student to apply for the scholarship?

5a. Would you be willing to recommend a student you know to apply for the scholarship?

*FYI – Read about the scholarship at [www.isa.org/wwid/](http://www.isa.org/wwid/) under “Student Scholarship”. Applications are due Jan 31, 2013.*

6. Are you a current member of the WWID LinkedIn discussion group?

6a. What LinkedIn discussion topics interest you the most?

6a. Would you be interested in joining the LinkedIn discussion group?

6b. Is there something the committee can do to help you become a LinkedIn WWID member? (Please provide contact info for additional information)

7. Do you currently receive Email updates from WWID several times a year?

7a. What other information would you like the division to provide you?

7b. If you don't receive email updates from the WWID, are you sure your email address up-to-date on ISA website?

8. An additional member benefit that WWID would like to provide is occasional webinars on industry related topics. Would you be interested in viewing an event such as this?

8a. What topics would you be interested in learning about?

8a. What other member activities would you be interested in attending, if available?

9. Have you found your membership in the WWID to be beneficial?

9a. What WWID benefits do you enjoy the most?

9a. What other benefits would you like WWID to offer?

9a. Are there any activities or benefits that if WWID offered would interest you in becoming more involved?

10. Would you like us to contact you for more feedback?

If so, please supply your name, phone number and email address.

11. Are there any other comments/suggestions you would like to share?



## Details about 2013 WWAC Symposium Announced – Invited Speakers

We are pleased to announce the dates and conference details of the 2013 ISA Water/Wastewater and Automatic Controls Symposium, which will take place 6-8 August 2013 at the Crowne Plaza Orlando-Universal Hotel in Orlando, Florida, USA. Now in its eighth year, the annual symposium offers a unique opportunity for automation, instrumentation and SCADA (supervisory control and data acquisition) professionals in the water and wastewater sectors to share ideas, network, and earn continuing education credits.

The 2013 ISA WWAC Symposium is a three-day event that focuses on the challenges associated with providing reliable, secure and cost-efficient automation for the world's municipal water/wastewater infrastructure. The gathering features two full days of technical speakers/presentations, networking events, a poster session, and a supplier showcase. This year's program also includes an optional tour of a local water treatment facility, and two optional short courses on SCADA cyber security and flow meter section/sizing. More information is available at [www.isawwsymposium.com](http://www.isawwsymposium.com).

### Invited Speakers

This year's symposium will feature three prominent speakers who will present on pertinent industry topics, including cyber security, the benefits of high-performance HMI design, and effective SCADA project management techniques.

John Cusimano, CFSE, CISSP of exida, who also is the instructor for the symposium's two-day in-depth cyber security course, will deliver a talk about the current state of cyber security at municipal water plants. Bill Hollifield of PAS, who spoke at last year's symposium, will return to provide an overview of a recent EPRI (Electric Power Research Institute) study about the benefits of high-performance HMIs and how these HMI techniques can be applied to water/wastewater SCADA systems. P. Hunter Vegas of Avid Solutions, who recently co-authored the book *101 Tips for a Successful Automation Career*, will present a talk on how to successfully plan and manage SCADA retrofit projects.

### Call for Abstracts

The complete technical program for the symposium will feature over 30 speakers presenting on a variety of automation, instrumentation and SCADA topics unique to the water/wastewater sector. There are still a few speaking slots left in the technical program. The symposium program committee extends an open invitation for potential speakers to submit 250-word abstracts for a 30-minute talk, and a 6-12 page paper and/or poster. More information, along with the official call for abstracts, can be found at [www.isawwsymposium.com/call-for-abstracts/](http://www.isawwsymposium.com/call-for-abstracts/). Abstracts are due by 31 January 2013.

## Partnerships with WEF, the Florida AWWA and NRWA

The WWAC Symposium is experiencing a new-found growth in popularity thanks to newly formed alliances with the Water Environment Federation (WEF), the Florida Section of the American Water Works Association (FSAWWA) and the National Rural Water Association (NRWA). By forming strong partnerships with other associations, the symposium has been able to reach a broader cross-section of water and wastewater professionals across the industry. For members of these associations, the symposium provides targeted professional development and training opportunities otherwise inaccessible.

"This collaboration aligns with WEF's Strategic Direction, connecting water professionals to leverage knowledge and promote innovation," says WEF Automation and Info Tech Committee Chair Tom DeLaura. "I am very much looking forward to continuing WEF's technical co-sponsorship of the 2013 WWAC Symposium. It has been a pleasure to be part of the team that brought ISA and WEF together for this symposium, as well as on several other initiatives. The power of such collaboration is uplifting."

### Cost-Effective Continuing Education Credits

The 2013 ISA WWAC Symposium offers a cost-effective way for operators and engineers who work in the municipal water and wastewater sectors to gain valuable continuing education credits. Thanks to partnerships with local organizations, and the ISA's own role as an education provider, attendees are able to receive both PDHs (professional development hours) and CEUs (continuing education units) for the time they spend at the symposium, and during the symposium's two optional training courses on cyber security and flow meter section/sizing. Registration for the 2.5 day symposium costs only \$425, and discounts are available for AWWA, WEF and ISA members. A special discounted hotel rate of \$92/night has been arranged for symposium attendees.

### Symposium Preview Brochure

Registration for the symposium is now open. Interested parties can find out more about the 2013 ISA WWAC Symposium via the symposium website at [www.isawwsymposium.com](http://www.isawwsymposium.com) or by viewing the four-page full color "conference preview" brochure, which is also available on the website. Both paper-based and online sign-up methods are outlined on the symposium website, as is information about the two optional training courses on cyber security and flow meter selection/sizing that are being offered in conjunction with the symposium.

*A copy of the 2013 WWAC Symposium preview brochure can be found attached to this newsletter*

# SAVE THE DATE

**August 6-8, 2013**  
Tuesday – Thursday

## 2013 ISA Water / Wastewater and Automatic Controls Symposium

**Crowne Plaza Orlando-Universal Hotel**  
Orlando, Florida, USA  
(with Disney World just around the corner)

[www.isawwsymposium.com](http://www.isawwsymposium.com)

### **2 full days of speakers/presentations**

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

**1-day ISA Training Course on Flowmeters**

**2-day ISA Training Course on Cyber Security**

**Plant Tour of a local Water/Wastewater Facility**

**Trade Show, Reception & Networking Event**

**Affordable Professional Development for**  
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Plant Designers, Engineers, System Integrators, PLC/HMI/SCADA Programmers

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PDHs – Professional Development Hours

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 **American Water Works Association  
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Technical co-sponsor

 **Florida Water  
Environment  
Association**  
Technical co-sponsor

 **ORANGE COUNTY  
GOVERNMENT  
FLORIDA**  
Technical tour co-sponsor



## Symposium Planning Update

By Graham Nasby, General Symposium Chair

The symposium committee has been hard at work since I last wrote to you in our Fall 2012 newsletter. Our program committee is taking shape, and I look forward to introducing them to you in our next newsletter. We also have a strong organizing committee this year with both familiar faces and several new members.

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

**Bill Hollifield, of PAS**, will be giving a follow-up presentation to the "high performance HMIs" talk that he gave this past year. For 2013, he will be presenting results of a recent EPRI study about high performance HMIs and how the findings can be applied to our sector.

**Joe Cusimano, of exida**, will give a "state of the union" address about the current state of cyber security in municipal water plants in the world. John is also the instructor of the optional 2-day in-depth cyber security course that is being offered in conjunction with the symposium.

**P. Hunter Vegas, of Avid Solutions**, will present an invited talk about how to plan and manage successful SCADA retrofit projects. Mr. Vegas also recently co-authored a book entitled "100 Tips for a Successful Automation Career" (available at [www.isa.org/books](http://www.isa.org/books))

I'm also pleased to share the details about the two optional ISA training courses that are being offered in conjunction with the symposium. Read on in this newsletter for more details.

## Call for Abstracts – Last Call

By Joe Provenzano, Program Committee Chair

Interested in presenting? There is still time to submit your 250 word abstract. Abstracts must be submitted electronically via email to the program committee.

See the Call for Abstracts on page 16  
Or visit [www.isawwsymposium.com](http://www.isawwsymposium.com)

I personally invite anyone who is involved with the automation, instrumentation, system integration, operation, maintenance, management and/or construction of facilities the water/wastewater sector to submit an abstract this year.

There are three ways you can present your work:

- 30 minute PowerPoint presentation (no paper)
- 6-12 page paper and a 30 minute PowerPoint presentation
- Large format 3'x4' poster

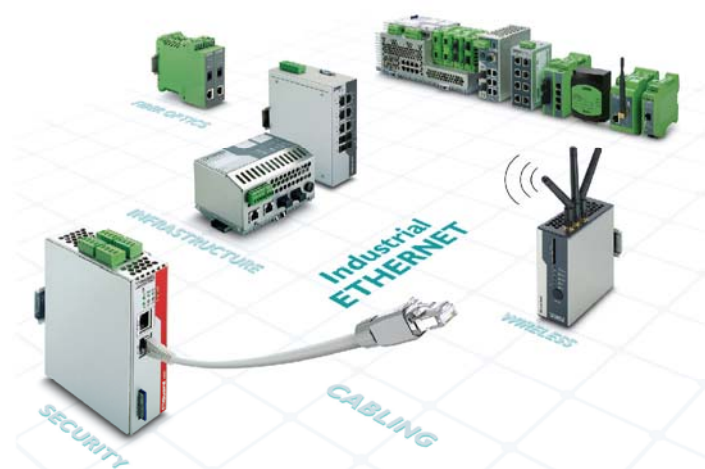
This year's symposium also has two speaking tracks:

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

In both speaking tracks, we welcome both technical and "case-study" submissions. Case studies can showcase new plants, plant upgrades, plant optimizations and/or the implementation of new technologies. Lessons-learned talks are also welcome.

Looking for some ideas on what to present? Visit the symposium website at [www.isawwsymposium.com](http://www.isawwsymposium.com) for a list of over 200 topic ideas under the "Call for Abstracts" link.

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## 2013 WWAC Symposium Program Schedule Preview

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

### Monday – Tuesday, August 5-6, 2013

- Optional 2-day course: in-depth SCADA cyber security
- Optional 1-day course: flow meter selection/sizing (Tues)
- Symposium Registration
- Local Water Treatment Plant Tour (Tues afternoon)

### Wednesday, August 7, 2013

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

### Thursday, August 8, 2013

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

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



Provider  
#1001262

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

## Earning CEUs and PDHs Continuing Education Credits at the Symposium

At the 2013 WWAC Symposium, attendees can earn Continuing Education Units (CEUs) and Professional Development Hours (PDHs) for attending the sessions and ISA training courses. Engaging in continuing education and professional development is an ongoing requirement for many professional designations, certifications and licenses. By attending the WWAC Symposium, you can help satisfy your personal professional development and continuing education requirements.

The number of PDHs and CEUs for this year are:

- Symposium attendees will receive 20 PDHs / 2.0 CEUs
- In-Depth Cyber Security Course attendees: 1.4 CEUs
- Flow meter Selection & Sizing attendees: 0.7 CEUs

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

Additionally, the ISA has also partnered with the Florida Section of the AWWA and the Water Environment Federation (WEF) to certify training credits for use for state-licensed water and wastewater operators, and for state-registered professional engineers. For the 2013 symposium, this certification process is currently in progress. An announcement will be made once this process is complete. As part of the 2012 symposium, all attendees had the benefit of receiving approved CEUs/PDHs for the hours spent in the training course and symposium towards their water/wastewater operator and PE license continuing education requirements.



**Water/Wastewater  
Industry Division**

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

**Water Environment  
Federation**  
the water quality people™



## About the Symposium Hotel

The 2013 ISA Water/Wastewater Symposium will be held at [Crowne Plaza Orlando-Universal Hotel](#) in Orlando, FL. This boutique hotel offers luxury accommodations and is only steps from International Drive's world-famous shopping, dining and entertainment. It is also situated close to both Walt Disney World Resort and the Universal Studio's theme parks.

We have negotiated a special \$92/night hotel rate for attendees. This rate is good from August 5 to 9, and is available for symposium attendees, speakers, exhibitors, and training course participants.

### Crowne Plaza Orlando-Universal Hotel

7800 International Blvd., Orlando Florida 32819

[www.cporlando.com](http://www.cporlando.com)

[sales1@cporlando.com](mailto:sales1@cporlando.com)

Reservations: 1 888-233-9527 (toll free)

Local: 1 407-355-0550

Fax: 1 407-355-0504

### Symposium Hotel Rate: \$92 per night

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

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

Shuttle bus and taxi service from the airport is available via Mears Transportation by visiting online at [www.mearstransportation.com](http://www.mearstransportation.com) or by calling 1-800-223-3868. A one-way taxi trip from the airport to the hotel typically costs around \$35 USD.



2013 WWAC Symposium Hotel – The Crowne Plaza

## Symposium Registration

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

[www.isawwsymposium.com/register](http://www.isawwsymposium.com/register)

### Symposium Registration (Aug 6-8, 2013) includes:

- 2 full days of papers and presentations
- poster session
- networking events
- tour of a local water/wastewater facility late-afternoon of Tues, Aug 6
- admission to supplier showcase
- light breakfasts on Aug 7 and Aug 8
- full buffet lunches on Aug 7 and Aug 8
- evening reception on Aug 7 with cash bar and 2 free drink tickets
- name badge
- list of attendees with contact information
- printed onsite program booklet
- printed copy of symposium proceedings
- There are also two optional training courses (additional course fees applies)

### Full Symposium registration

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

### Optional Training Courses (Aug 5-6):

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



Photo from WWAC 2012 in Orlando, Florida

## Optional Symposium Training Course **In-Depth Cyber Security (2 days)**

August 5-6, 2013 (2 day course)

**Using the ANSI/ISA99 Standard to Secure Your Control System / In-Depth SCADA Cyber Security (IC32)**

**Instructor: John Cusimano, CFSE, CISSP**

Credits: 1.4 CEUs / 14 PDHs

Course Fee: \$1395 List Price; \$1115 ISA Members

### **Course Description**

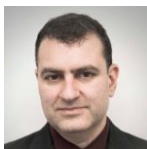
The move to using open standards such as Ethernet, TCP/IP, and web technologies in supervisory control and data acquisition (SCADA) and process control networks has begun to expose these systems to the same cyber-attacks that have wrecked so much havoc on corporate information systems. This course provides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

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

*View the Full Course Description at  
[www.isawwsymposium.com](http://www.isawwsymposium.com)*

### **About the Instructor**

**John Cusimano, CFSE, CISSP** is director of exida's security services division. A process automation safety, security and reliability expert with more than twenty years of experience, John leads a team devoted to improving the security of control systems for companies worldwide. He has conducted or supervised numerous cyber security assessments of industrial control and SCADA systems in a variety of industries including chemical, water/wastewater, oil & gas, and electric power. John is chairman of ISA 99 WG4 TG2 Zones & Conduits committee and co-chair of ISA 99 WG4 TG6 Product Development committee. He is a voting member on the ISA-99 standards committee on control system security and the ISA Security Compliance Institute's Technical Steering Committee. John is also active in a variety of other ISA99, ISA84, and ICSJWG working groups. Prior to joining exida, John led market development for Siemens' process automation and safety products and held various product management positions at Moore Products Co. John started his career at Eastman Kodak Company, where he implemented and managed automation projects. John has a B.S. degree in Electrical & Computer Engineering from Clarkson University and holds Certified Functional Safety Engineer (CFSE) and CISSP Certifications.



## Optional Symposium Training Course **Flow Meter Section & Sizing (1 day)**

August 6, 2013 (1 day course)

**Selection and Sizing of Flow Meters / Industrial Flow Measurement Overview (EI10C)**

**Instructor: Jerry Gerlich, Senior ISA Member**

Credits: 0.7 CEUs / 7 PDHs

Course Fee: \$630 List Price; \$495 ISA Members

### **Course Description:**

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

Course content includes:

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

### **About the Instructor:**

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





## Visit the 2013 WWAC Symposium website

Visit our newly updated 2013 WWAC symposium website at:

[www.isawwsymposium.com](http://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

## Welcome to our Title Sponsors:



Symposium Platinum Sponsor



Symposium Platinum Sponsor

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

## How do I sponsor or exhibit for 2013?

For more information on how to become a sponsor or exhibitor at this coming year's 2013 ISA Water/Wastewater and Automatic Controls Symposium, please refer to our 4-page full-color sponsorship and exhibitor opportunities brochure: [www.isawwsymposium.com/exhibit-sponsor/](http://www.isawwsymposium.com/exhibit-sponsor/)

Now is the time to consider sponsoring or exhibiting for WWAC 2013. Exhibitor booths are priced at \$875 and include 2 full vendor passes with full access to the symposium. For additional onsite, pre-event, and post event exposure, sponsorship are available at the \$500, \$1500 and \$300 levels.

Contact our general symposium chair via email at [graham.nasby@eramosa.com](mailto:graham.nasby@eramosa.com) for more information.

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.

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**CH2M HILL Services:**

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- HMI Programming
- Historian Configuration
- DCS Design/ Programming
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- 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**

<p><b>Bernie Jacobsen</b> Orlando, FL 407-650-2142</p>	<p><b>Yehuda Morag</b> Austin, TX 512-249-3336</p>	<p><b>Joe Foley</b> Corvallis, OR 541-768-3459</p>
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## Exhibit Booth Information

We are currently soliciting exhibitor booths for WWAC 2013.

Exhibitor tables at the 2013 ISA Water/Wastewater and Automatic Controls Symposium will be priced at \$875 each which includes:

- one six foot table with skirting, or 10 ft x 10ft space, 2 chairs, duplex electrical outlet
- two vendor passes, which include ID badges and full conference access (an \$850 value)
- additional vendor passes can be purchased for \$200/each
- breakfasts, coffee breaks, and lunches on Aug. 7 & 8
- admission to the general reception with cash bar on the evening of Aug 7
- exhibits room hours: Aug 7 & 8 (8:00am-5:00pm), and during Aug. 7th evening reception
- exhibit setup: Aug 6 (6:00pm-9:00pm);
- exhibit take down Aug. 8 (4:00pm-7:00pm)

## How to Sign up as an Exhibitor

For more information on how to exhibit at the symposium please refer to our 4-page full-color sponsorship and exhibitor opportunities brochure: [www.isawwsymposium.com/exhibit-sponsor/](http://www.isawwsymposium.com/exhibit-sponsor/). Now is also a good time to start thinking about our upcoming 2013 symposium. Reserve your spot today!

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## Exhibitors from last year's symposium:

Some of the exhibitors at last year's 2012 WWAC Symposium included:

- Schneider Electric
- Gray Matter Systems LLC
- Phoenix Contact
- Trihedral Engineering
- ISA Tampa Bay Section
- Scott Safety
- Water Environment Federation
- Beijer Electronics
- Florida Section of the AWWA
- Florida Water Resources Journal
- Beckhoff
- Florida Water Resources Journal
- Primary Flow Signal
- Florida Water Environment Association
- DCR Engineering Services
- Industrial Control Links

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# 2013 ISA Water/Wastewater and Automatic Controls Symposium

Crowne Plaza Orlando-Universal Hotel.....Orlando, Florida, USA.....August 6 to 8, 2013

Presented by the ISA Water/Wastewater Industries Division – [www.isawwsymposium.com](http://www.isawwsymposium.com)

Technical co-sponsors: WEF Automation and Info Tech Committee and the Florida AWWA Section



## Call for Abstracts

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

This 3-day symposium is focused on the challenges associated with automation and instrumentation in the water and wastewater sector. It features: 2 full days of presentations, a tour of a local water/wastewater facility, a general reception, networking events, a poster session, and a supplier showcase. The first day begins with registration, an optional full-day short course on a current SCADA/automation related topic, and an evening plant tour. The second day kicks off with a keynote speaker, followed by presentations on general topics such as instrumentation; system integration, automation, plant case studies, new technologies and process optimization/automation. The third day starts with an invited speaker on effective plant automation techniques, and is focused on leveraging “Smart Water” technology with topics geared towards SCADA, HMI, Expert Systems, Data Modelling, and Alarm Management. The Tuesday-Thursday timeslot has been selected so that families can easily take their kids to Disney World, both during and before/after the symposium. Proceedings will be published and made available to water/wastewater division members, and papers will be considered for publication in the ISA’s technical journal, *ISA Transactions* ([www.isa.org/isatrans/](http://www.isa.org/isatrans/)).

### Guidelines for Submission

- All authors/speakers must pay the speaker registration fee (\$125)
  - The speaker registration fee is a discounted conference rate (regular \$425)
- 250 word (max 300 words) abstract in US English shall be submitted electronically
- Authors must indicate what format they wish to present in:
  - 30 minute presentation (no paper)
  - 6-12 page paper and 30-minute presentation
  - Large format 3 foot wide x 4 foot high poster
- Final presentations must be on the supplied symposium PowerPoint template
- Final papers must be submitted in MS Word using supplied symposium template
- Papers/presentations/posters accepted for presentation and/or publication will require completion of ISA Rights and Responsibilities form
- Student papers and posters are welcome
- The lead author is the main contact

### Submissions

Submit your abstract via email in MS Word format to:

[abstracts@isawwsymposium.com](mailto:abstracts@isawwsymposium.com) AND [provenzano2@comcast.net](mailto:provenzano2@comcast.net)

### Deadlines

Abstracts Due ..... January 31, 2013  
Notification of Acceptance ..... February 20, 2013  
First Draft Due ..... March 22, 2013  
Final Draft Due..... May 15, 2013

A full author information package, along with sample abstracts, templates and a list of topic ideas can be found at [www.isawwsymposium.com](http://www.isawwsymposium.com)

For additional information, contact:

**Graham Nasby, P.Eng., PMP**  
General Symposium Chair  
Eramosa Engineering Inc.  
+ 1 519-763-7774  
[graham.nasby@eramosa.com](mailto:graham.nasby@eramosa.com)

**Joe Provenzano, M.Sc.**  
Symposium Program Chair  
KPRO Engineering Services  
+1 203-560-1816  
[provenzano2@comcast.net](mailto:provenzano2@comcast.net)

**Rodney Jones**  
Staff Contact  
ISA Symposia  
+1 919-990-9418  
[rjones@isa.org](mailto:rjones@isa.org)

### Topics include but are not limited to:

#### Speaking Track 1 – General Topics

**Instrumentation: New Technologies and Applications**  
**SCADA Security, ISA99, CSET, and Mitigating Risks**  
**Control System Redundancy and Robust Design**  
**Wireless Technologies**  
**System Integration**  
**Automation Techniques for Existing Plants**  
**New Control System Technologies**  
**Project Management for Integration Projects**  
**Plant Case Studies**

- Plant Upgrades & New Facilities
- Control System Upgrades & Replacements
- Lessons Learned

**Process Optimization**  
**Automated Control Techniques**  
**Project Management Lessons for Integration Projects**  
**Specific Water and Wastewater Challenges**

#### Speaking Track 2 – Smart Water

**SCADA – Supervisory Control and Data Acquisition**  
**Modelling Non-revenue water & collection networks**  
**Energy use modelling and Optimization with SCADA**  
**Capturing and Evaluating Stakeholder Needs**  
**HMI Design for Operator Effectiveness**  
**Effective Use of Multiple HMI Screens**  
**Human Factors and Control Room Design**  
**Intelligent & Expert Systems**  
**Alarm Management & Alarm Rationalization**  
**Implementing of ISA, EEMUA, WEF & AWWA Standards**  
**Techniques to Reduce Nuisance Alarms**  
**Call-Out Alarm Rationalization and Techniques**  
**Data Reporting & Presentation Techniques / Strategies**  
**Data Management, Historians, and Data Retrieval**  
**SCADA and the Current Regulatory Environment**  
**Mobile HMIs, Tablets, Remote Access, and Dashboards**



## ISA Water/Wastewater Division Hosts Special Technical Session at WEFTEC

Thanks to our partnership with WEF, this year's WEFTEC 2012 show in New Orleans featured a special session entitled "FS16: Highlights from the 2012 ISA Water/Wastewater and Automatic Controls Symposium".

The session featured three speakers from our symposium and was co-moderated by Tom DeLaura and Graham Nasby. Tom is the chair of the WEF Automation and Info Tech Committee, and Graham was the general symposium chair of the 2012 WWAC symposium.

The three papers presented on October 3, 2012 at WEFTEC were:

### Securing Critical Control Systems in the Water Sector – Where do I begin?

*Don Dickinson, Phoenix Contact*

### Should we Keep DO for Nitrification Control? The Proof is the Ammonium Electrodes

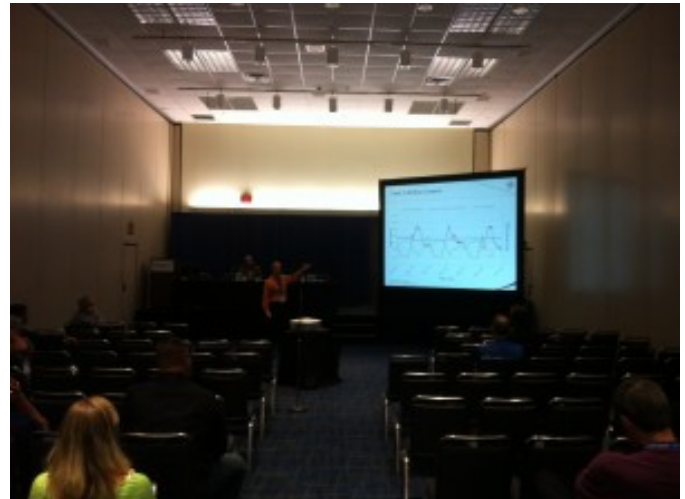
*Robert Lagrange, Lagrange Consulting;  
Sue Baert, Wheaton Sanitary District;  
Chris Sosnowski, Baxter & Woodman Inc.;  
Amanda Poole Baxter & Woodman Inc.;  
Dave Green, Baxter & Woodman Inc.;  
Nick Camin, Endress+Hauser*

*(Just in case you are wondering, it was Robert and Chris who travelled to New Orleans to give the talk.)*

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

*Graham Nasby, Eramosa Engineering*

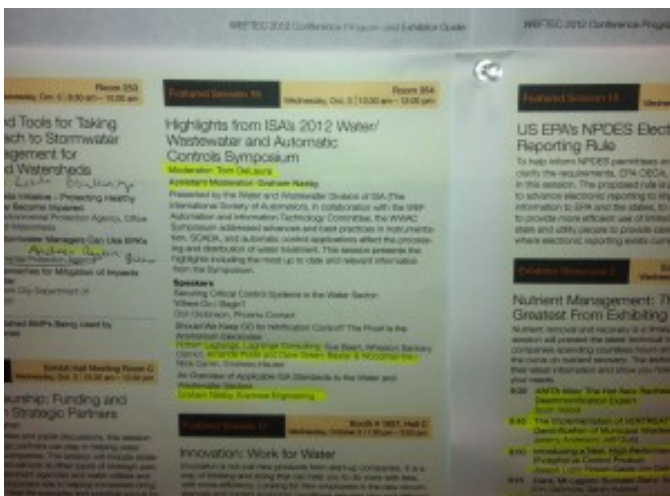
Here are some photos from the WWAC Symposium feature session at WEFTEC 2012



Chris Sosnowiec speaking about using ammonium probes for aeration tank blower control.



Photo from the WEFTEC 2012 exhibitor hall at the Ernest N. Morial Convention Centre, which is located on the banks of the Mississippi River.



Our slot in WEFTEC technical program: Feature Session 16.



One of New Orleans many fine seafood restaurants

## Where the Acronym “PLC” Originate?

By Jeremy Pollard, Guest Columnist

I saw our favorite acronym—PLC—in a retail magazine describing PLC-controlled vacuums at local gas stations. “The potential uses for PLCs are seemingly endless,” the editor writes. Oh my, where has she been?

Dick Morley (widely recognized as the father of the PLC) along with many others who predicted in the '70s that the PLC would revolutionize our industry, would be proud.

We call it Automation now, and the PLC still is at the very heart of this continuing revolution.

Morley's account says the concept of the PLC was born on New Year's Day, 1968. In the '70s, folklore had it that it was conceived on the back of a napkin at some greasy spoon in Michigan.

According to other accounts, a few guys at [General Motors](#) were trying to replace all those relay panels in the factory with something a little more flexible, so a model change might no longer take a year or more. This thought process reached Morley, as well as some at [Allen-Bradley](#). Some will say it might have been the other way around.

Regardless of who did what when, Digital Equipment brought a mini-computer into GM as their “PLC.” It ultimately was rejected for many reasons, static memory being one of its serious limitations.

Before the PLC, control system problems were many, the least of which was the inordinate amount of time needed to adjust the process when changes were needed.

Does anyone remember the walls of relays, the tangled mass of wires and terminal blocks with outdated prints, and the funky nomenclature to define all those devices? I do. And who can forget all that frustratingly cryptic documentation (via pencil and a T-square) that came from the drafting table?

Troubleshooting, which covered everything from dirty contacts to loose wires to logic racing, was horrendous. The adage, “Five hours to find it and five minutes to fix it,” was born. Every day as a technician or controls engineer was an adventure.

Over the past 30 years, any and all alternatives to an entirely electromechanical implementation to address increasingly complex processes started with the PLC.

In my humble recreation of history, Morley didn't develop this on his own. Another fellow who contributed to this phenomena was Odo Struger. Steven Brier, formerly of the [New York Times](#), states in Struger's obituary that Odo invented the PLC.

I had the honor of knowing Odo personally. I participated in a few conference technical sessions with him. He was an avid

skier (many times with Morley), an exquisite stock picker, but his passion was technology.

As vice president of technology for Allen-Bradley, he was responsible for the architecture of the company's PLCs as we know them today. This architecture, as Morley puts it, was “the second man in,” and it won. Today, [Rockwell Automation](#) (the company that acquired Allen-Bradley in 1985) has more than 50% of the domestic market.

Morley's company, Modicon, already had a working design. Struger took an existing technology called a Programmable Matrix Controller, and worked that into a PLC framework, which Allen-Bradley then built its automation fortunes on. A fierce battle ensued between Modicon and A-B, and the customers all won.

The PLC as we know it today provided benefits in 1974 as it does now. Flexible programs that create logic “states” for processes stored in memory allow those processes to be more quickly designed and implemented.

A transfer line that took more than nine months to implement now takes less than a month. Car model changes that took more than two years now are reduced to less than six months. Startups are measured in days not months, and downtime due to the control system has virtually disappeared. Where the PLC added the most benefit is the ability to expand the process.

Today, we have programming software and tools, HMI, vertical applications and more.

Our thanks to Odo, Dick and the many other pioneers whose innovations allow us to be who we now are.

### About the Author



[Jeremy Pollard](#), CET, has been writing about technology and software issues for many years. Publisher of [The Software User Online](#), he has been involved in control system programming and training for more than 25 years.

*Note: This article originally appeared as a column on [www.ControlDesign.com](http://www.ControlDesign.com) on 06/14/2012. Reprinted with permission of the author. The original article can be found at: [www.controldesign.com/articles/2012/pollard-plc-genesis.html](http://www.controldesign.com/articles/2012/pollard-plc-genesis.html)*



## Some of the Benefits of WWID Membership

- **Quarterly Newsletter** - the division publishes a quarterly electronic newsletter. Members also have the opportunity to write articles for the newsletter.
- **Annual Symposium** - Attend and participate in the annual WWAC symposium which spans all automation aspects of water and wastewater
- **Networking Opportunities** - A chance to meet, and form relationships with, peers involved with automation in your industry
- **Online Resources** - get access to papers and presentations from prior division symposia via the division and ISA websites
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## TECHNICAL ARTICLE

## Energy Savings with VFDs and Pumps

Edited by Steve Batson, Rockwell Automation

Pumps are generally grouped into two broad categories, positive displacement pumps and dynamic (centrifugal) pumps. Positive displacement pumps use a mechanical means to vary the size (or move) of the fluid chamber to cause the fluid to flow. Positive displacement pumps have a constant torque characteristic, where centrifugal pumps are variable torque in nature. Centrifugal pumps impart a momentum in the fluid by rotating impellers immersed in the fluid. The momentum produces an increase in pressure or flow at the pump outlet. This paper will discuss only the centrifugal pump.

### Centrifugal Pumps

A centrifugal pump is a device, which converts driver energy to kinetic energy in a liquid by accelerating it to the outer rim of a revolving device known as an impeller. The key idea here is that the energy created is kinetic energy. The amount of energy given to the liquid corresponds to the velocity at the edge or vane tip of the impeller. The faster the impeller revolves or the bigger the impeller, then the higher the velocity of the liquid at the vane tip and the greater the energy imparted to the liquid.

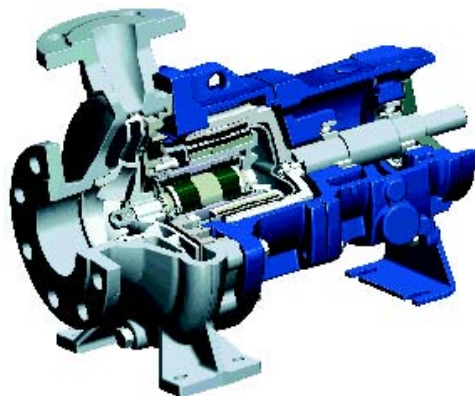


Figure 1- Centrifugal pump cut-away diagram

Creating a resistance to the flow controls the kinetic energy of a liquid coming out of an impeller. The first resistance is created by the pump volute (casing), which catches the liquid and slows it down. When the liquid slows down in the pump casing some of the kinetic energy is converted to pressure energy. It is the resistance to the pump's flow that is read on a pressure gauge attached to the discharge line. A pump does not create pressure it only creates flow. Pressure is a measurement of the resistance to flow.

### HEAD – Resistance to Flow

In Newtonian fluids, aka “true fluids”, (non-viscous liquids like water or gasoline) we use the term head to measure the kinetic energy which a pump creates. Head is a measurement of the height of a liquid column, which the pump could create

resulting from the kinetic energy the pump gives to the liquid. The main reason for using head instead of pressure to measure a centrifugal pump's energy is that the pressure from a pump will change if the specific gravity (weight) of the liquid changes, but the head will not change. So we can always describe a pump's performance on any Newtonian fluid, whether it's heavy (sulfuric acid) or light (gasoline) by using the term head. Remember that head is related to the velocity that the liquid gains when going through the pump.

*“Imagine a pipe shooting a jet of water straight up into the air, the height the water goes up would be the head.”*

All of the forms of energy involved in a liquid flow system can be expressed in terms of feet of liquid. The total of these various heads determines the total system head or the work, which a pump must perform in the system. The various forms of head are defined as follows.

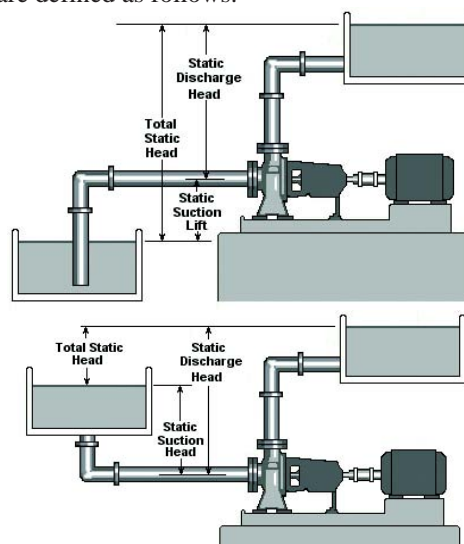


Figure 3 – Pump Lift and Head

**SUCTION LIFT** exists when the source of supply is below the centerline of the pump. Thus the **STATIC SUCTION LIFT** is the vertical distance in feet from the centerline of the pump to the free level of the liquid to be pumped.

**SUCTION HEAD** exists when the source of supply is above the centerline of the pump. Thus the **STATIC SUCTION HEAD** is the vertical distance in feet from the centerline of the pump to the free level of the liquid to be pumped.

**STATIC DISCHARGE HEAD** is the vertical distance in feet between the pump centerline and the point of free discharge or the surface of the liquid in the discharge tank.

**TOTAL STATIC HEAD** is the vertical distance in feet between the free level of the source of supply and the point of free discharge or the free surface of the discharge liquid.

Box 1 – Pump Lift and Head Terminology

### FRICTION HEAD ( $h_f$ )

is the head required to overcome the resistance to flow in the pipe and fittings. It is dependent upon the size, condition, and type of pipe, number and type of pipe fittings, flow rate, and nature of the liquid. Frictional tables are included in Water Data handbooks.

### VELOCITY HEAD ( $h_v$ )

is the energy of a liquid as a result of its motion at some velocity  $V$ . It is the equivalent head in feet through which the water would have to fall to acquire the same velocity, or in other words, the head necessary to accelerate the water. Velocity head can be calculated from the following formula:

$$h_v = \frac{V^2}{2g}$$

Where:

$g = 32.2 \text{ ft/sec}^2$

$V = \text{liquid velocity in ft/sec}$

The velocity head is usually insignificant and can be ignored in most high head systems. However, it can be a large factor and must be considered in low head systems.

### PRESSURE HEAD

must be considered when a pumping system either begins or terminates in a tank which is under some pressure other than atmospheric. The pressure in such a tank must first be converted to feet of liquid. A vacuum in the suction tank or a positive pressure in the discharge tank must be added to the system head, whereas a positive pressure in the suction tank or vacuum in the discharge tank would be subtracted. The following is a handy formula for converting inches of mercury vacuum into feet of liquid.

$$\text{Vacuum, feet of liquid} = \frac{\text{Vacuum, in of hg} \times 1.13}{\text{Specific Gravity}}$$

The above forms of head, namely static, friction, velocity, and pressure, are combined to make up the total system head at any particular flow rate. Following are definitions of these combined or "Dynamic" head terms as they apply to the pump.

### TOTAL DYNAMIC SUCTION LIFT ( $h_s$ )

is the static suction lift minus the velocity head at the pump suction flange plus the total friction head in the suction line. The total dynamic suction lift, as determined on pump test, is the reading of a gauge on the suction flange, converted to feet of liquid and corrected to the pump centerline, less the velocity head at the point of gauge attachment.

### TOTAL DYNAMIC SUCTION HEAD ( $h_s$ )

is the static suction head plus the velocity head at the pump suction flange minus the total friction head in the suction line. The total dynamic suction head, as determined on pump test, is the reading of the gauge on the suction flange, converted to feet of liquid and corrected to the pump centerline, plus the velocity head at the point of gauge attachment.

### TOTAL DYNAMIC DISCHARGE HEAD ( $h_d$ )

is the static discharge head plus the velocity head at the pump discharge flange plus the total friction head in the discharge line. The total dynamic discharge head, as determined on pump test, is the reading of a gauge at the discharge flange, converted to feet of liquid and corrected to the pump centerline, plus the velocity head at the point of gauge attachment.

### TOTAL HEAD (H) or TOTAL DYNAMIC HEAD (TDH)

is the total dynamic discharge head minus the total dynamic suction head or

$$\text{TDH} = h_d + h_s \text{ (with suction lift)}$$

$$\text{TDH} = h_d - h_s \text{ (with suction head)}$$

### POWER

The work performed by a pump is a function of the total head and the weight of the liquid pumped in a given time period. The pump capacity in GPM (gallons per minute) and the liquid specific gravity are normally used in the formulas rather than the actual weight of the liquid pumped.

Pump input or brake horsepower (BHP) is the actual horsepower delivered to the pump shaft. Pump output or hydraulic horsepower (WHP) is the liquid horsepower delivered by the pump. These two terms are defined by the following formulas.

$$\text{Water HP} = \frac{\text{GPM} \times \text{Head} \times \text{Specific Gravity}}{3960}$$

$$\text{Brake HP} = \frac{\text{GPM} \times \text{Head} \times \text{Specific Gravity}}{3960 \times \text{Pump Efficiency}} \text{ OR } \frac{\text{Water HP}}{\text{Pump Efficiency}}$$

### Reading a Pump Performance Curve

The pump characteristics such as flow, pressure, efficiency, and brake horsepower are shown graphically on a pump curve. The first item to look at is the size of the pump.

In Figure 3, the size of the pump: "2x3-8" is shown in the upper section of the graph. The numbers 2x3-8 indicate the outlet (discharge port) is 2 inches, the inlet (suction port) is 3 inches, and the impeller has an 8-inch diameter. Some companies may have the number shown as 3x2-8. The larger of the first two numbers is the inlet.

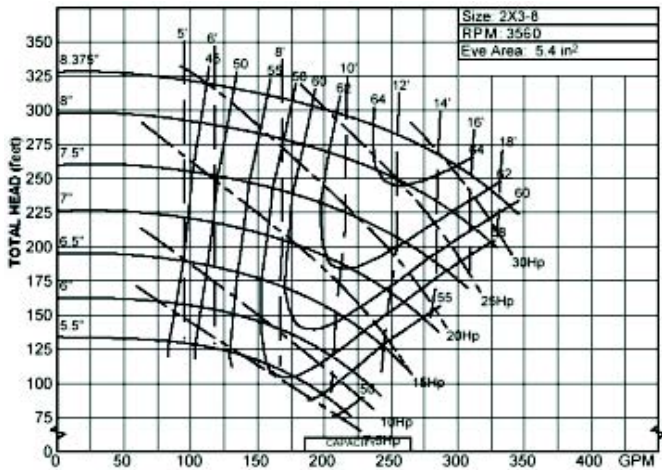


Figure 3 – A Pump Curve – Total Head (ft.) vs. Flow (GPM)

Pump Speed (RPM) is also shown in the upper section of the graph and indicates performance at a speed of 3560 RPM. All of the information is representative of this operational speed.

Capacity or Flow is shown along the bottom of the curve. The various flow levels are all shown for the operating speed of 3560 RPM, but indicate the effect of head as the outlet is throttled.

The left side of the performance curves shows head (ft) generated at the various flow rates.

Multiple flow versus head curves are present on the graph, each one represents a different (trimmed) impeller size. For this pump the range of impellers is 5.5 inches to 8.375 inches.

Efficiency curves are overlaid on the graph (vertical lines) and indicate from 64-45% efficiency for this pump. As head is increased flow and efficiency decrease.

Brake horsepower is shown with the dashed lines drawn diagonally from upper left to lower right. BHP curves are shown for 7.5 to 30 horsepower. Using the 8-inch impeller with a flow of 250 GPM, the BHP is approximately 25 horsepower.

## Pump and System Curves

The pump curve is solely a function of the physical characteristics of the pump. The system curve is completely dependent on the size of pipe, the length of pipe, the number and location of elbows, and other factors. Where these two curves intersect is the natural operating point. That is where the pump pressure matches the system losses and everything is balanced.

If the system is part of a process that changes often or continuously, then some method of altering the pump characteristics or the system parameters is necessary.

There are two methods used to accomplish the continuously varying flow objective. One method is throttling which

changes the system curve by use of a control or throttling valve on the pump discharge. The other method is to vary the speed of the pump, which modifies the pump curve.

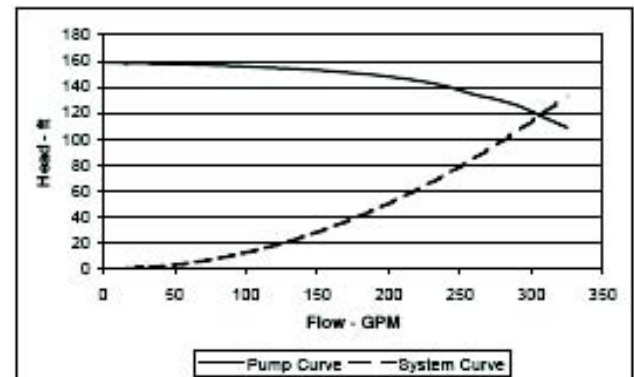


Figure 4 – Pump Curve vs. System Curve

## Throttling System

With this method, obstructing discharge flow, by way of a throttling valve, increases the head pressure. A system with two different valve settings is shown below.

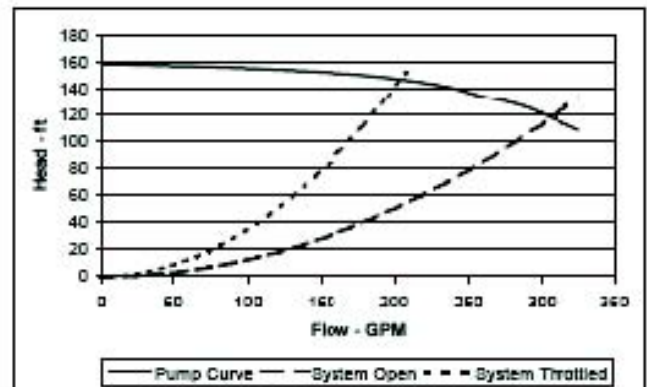


Figure 5 – Pump & System Curves with Throttling Valve

For comparison, let's use an example to determine power requirements for the throttling system, then the variable speed system. A pump (with an 8" impeller) operating at a base speed of 3560 RPM is used. This pump is to operate a system requiring a 250-ft head at 250 GPM. See pump curve below.

From the information shown on the graph, we can obtain the various horsepower requirements at the flow rates shown in the table below for a throttling system.

Table 1 – Horsepower requirements for Throttled System				
GPM	250	200	150	100
%Flow	100	80	60	40
Brake HP	25	22.5	19	18



The Brake horsepower (Break HP) required by the pump's motor in the previous table is calculated as follows:

$$\text{Water HP} = \frac{\text{Flow} \times \text{Head} \times \text{Specific Gravity}}{3960}$$

$$= \frac{250 \times 250 \times 1.0}{3960} = 15.78$$

$$\text{Brake HP} = \frac{\text{Water HP}}{\text{Pump Efficiency}}$$

$$= \frac{15.78}{0.64} = 24.67 \text{ BHP}$$

### Variable Speed System

In comparison, the variable speed method takes advantage of the change in pump characteristics that occur when the impeller speed is changed.

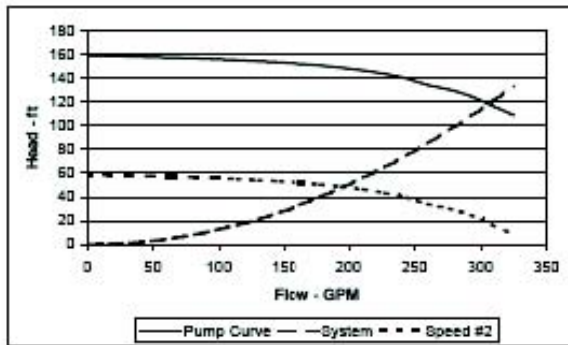


Figure 6 – Pump & System Curves with Pump VFD

The lower pump speed changes the pump curve based on the head generated by the velocity of the fluid being pumped. Remember that the head is equal to:  $v^2/2g$ .

### Affinity Laws

A set of formulas that are used to predict the operation of a centrifugal pump at any operating point based on the original pump characteristics is known as the affinity laws.

$$\frac{Q_2}{Q_1} = \frac{N_2}{N_1} \quad \frac{P_1}{P_2} = \left(\frac{N_2}{N_1}\right)^2 \quad \frac{HP_2}{HP_1} = \left(\frac{N_1}{N_2}\right)^3$$

Where:

N = Pump speed

Q = Flow (GPM)

P = Pressure (Feet)

HP = Horsepower

Using the same pump example as the throttling system, we can calculate the power requirements for a variable speed system when the pump speed is

Table 2 – Horsepower requirements for VFD System

GPM	250	200	150	100
%Flow	100	80	60	40
RPM	1750	1400	1050	700
Brake HP	25	12.5	5.4	1.6

You will notice the first column is the same as in Table 1. However in a variable speed system, operating the pump to achieve 80%, 60% and 40% flow rates is accomplished by way of varying the speed of the pump rather than using a throttling valve to “pinch” the discharge flow from the pump.

The RPM and Brake HP values for 80%, 60% and 40% are calculated using the pump affinity laws and using full speed operating values for HP<sub>1</sub>, N<sub>1</sub> and Q<sub>1</sub> variables. Namely, HP<sub>1</sub> = 25 brake horsepower, N<sub>1</sub> = 1750 rpm, Q<sub>1</sub> = 250 gallons per minute.

For example:

$$\text{RPM at 200 GPM: } \frac{Q_1}{Q_2} = \frac{N_1}{N_2}$$

$$\frac{200}{250} = \frac{1750}{N_2} \quad \text{therefore } N_2 = 1400 \text{ RPM}$$

$$\text{BHP at 200 GPM} = \frac{BHP_1}{BHP_2} = \left(\frac{N_1}{N_2}\right)^3$$

$$\frac{25}{BHP_2} = \left(\frac{1750}{1400}\right)^3$$

$$12.8 = BHP_2$$

### Comparisons: Throttling vs. Adjustable Speed

From looking at Table 1 vs. Table 2, it is obvious that varying the speed requires much less power to run the system at flow rates other than 100% compared to a throttled system.

To determine the actual power required, the efficiency of the drive should be factored in. The energy savings will depend on the amount of time the pump is operated at each reduced speed point.

To calculate the actual savings, the brake horsepower must be converted to watts and then multiplied by the hours of operation. The result is then multiplied by the cost per kWh to show the cost to operate the pump at each flow point. Subtract the variable speed value from the throttling value to show the difference in energy cost.

In our example, a flow of 200 GPM when throttled takes 22.5 horsepower. Conversely, with variable speed only 12.8 horsepower is required for the same flow. If the flow is required for 2000 hours a year at 7 cents per kWh, the cost comparison is as follows:

#### Throttling system:

$22.5 \text{ HP} \times 0.746 \text{ kW/HP} = 16.785 \text{ kW}$   
 $16.785 \text{ kW} \times 2000 \text{ hours} = 33,570 \text{ kWh}$   
 $33,570 \text{ kWh} \times 0.07 \text{ cents/kWh} = \$2,350$

#### Variable speed system:

$12.8 \text{ HP} \times 0.746 \text{ kW/HP} = 9.5488 \text{ kW}$   
 $9.5488 \text{ kW} \times 2000 \text{ hours} = 19,097 \text{ kWh}$   
 $19,097 \text{ kWh} \times 0.07 \text{ cents/kWh} = \$1,337$

Savings for 2000 operating hours:  $\$2,350 - \$1,337 = \$1,013$

Note: This example did not have a static head associated with it. A system with non-negligible static head (meaning it has to pump water up to an unchanging elevation) will affect the system curve and the horsepower requirements. A system with high static head will have a flatter system curve as more of the pump's energy is used to overcome the elevation change. In a high static head system, the energy savings may be lower.

#### Summary

In pumping applications where varying flow requirements are present or pumps need to be run in less than full-flow-output conditions, the energy savings from adjustable speed drives can be considerable.

#### ABOUT THE AUTHOR

**Steve D. Batson** is the Senior Account Manager – Water/Wastewater, Ontario District for Rockwell Automation.  
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## Updated ISA Standard on Loop Checks Approved by ANSI

From the ISA Standards "News" blog

The following updated ISA standard has been approved by the American National Standards Institute (ANSI) and is now available:

### ANSI/ISA-62382-2012 (IEC 62382 Modified), Automation Systems in the Process Industry – Electrical and Instrumentation Loop Check

This standard defines procedures and specifications for loop checks, which comprise the activities between the completion of the loop construction (including installation and point-to-point checks) and the start-up of cold commissioning. The standard is applicable to the construction of new plants and to expansion/retrofits (i.e. revamping) of E&I (electrical & instrument) installations in existing plants (including PLC, BAS, DCS, panel-mounted, and field instrumentation).

The standard is a US-modified adoption by the ISA105 standards committee of IEC 62382 Edition 1. (This IEC standard originated from the previous version of the ISA standard.) While the content is largely the same as IEC 62382, this adoption includes such changes as:

- Added both the increasing and decreasing directions to tests in order to identify any hysteresis issues.
- Added a category of "standard loops" for completeness.
- Replaced various input/output check forms with a single loop check form that can be used for all loops, including indicating and control. This significantly reduces the number of check forms needed and at the same time reinforces the "loop" concept in the loop check activity.
- Expanded examples of loop checks. Specific loop checks must be established by the user depending on the specific hardware/software to be verified on the project.

This adoption follows the adoption by ISA105 and publication in late 2011 of the following ANSI/ISA-62381-2011 (IEC 62381 Modified), Automation Systems in the Process Industry Factory Acceptance Test (FAT), Site Acceptance Test (SAT), and Site Integration Test (SIT)

For information about obtaining these standards, visit [www.isa.org/findstandards](http://www.isa.org/findstandards), select "62381" or "62382" from the first drop-down list, and scroll down.

For more information on ISA Standards, contact Charley Robinson of ISA staff, [crobinson@isa.org](mailto:crobinson@isa.org).

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## Incoming ISA President Terry Ives kicks off 2013 FIRST Robotics Competition

By Terrance G. Ives, 2013 ISA President



This past Saturday, I was in Manchester, New Hampshire, USA, for the kickoff of the 2013 [FIRST® Robotics Competition \(FRC®\)](#), an annual competition that helps high school students across the world discover the excitement of science, technology, engineering, and math (STEM).

Many of the more than 50,000 students participating in this year's competition will pursue course work and degrees in engineering, and become tomorrow's automation and control professionals.

A wildly enthusiastic crowd of about 600 people attended the weekend kickoff event at Southern New Hampshire University, with thousands of high school students from 81 cities and 16 countries around the world tuned in through a live NASA-TV broadcast and webcast.

Each year, [FIRST](#) (For Inspiration and Recognition of Science and Technology), which is based in Manchester, New Hampshire, USA, launches a new robotics challenge for competing students. The 2013 game, [ULTIMATE ASCENT](#), calls for more than 2,500 teams participating in 77 regional and district competitions to design, build, program, and test their robots. The top teams will attend the championship event, which will be held 24-27 April 2013 in St. Louis, Missouri, USA.

Events like the FIRST Robotics Competition drive home to me just how exhilarating and exciting STEM and automation-related learning can be for young people. These kids were really pumped up. ISA and the Automation Federation have immense potential to capitalize on this fervor, and attract many more young people to our profession.

These events also serve as powerful confirmation that our work as automation and control professionals and the contributions we make through ISA are highly meaningful and relevant.

At its core, the FIRST robotics competition is about teams working together, harnessing their inspiration, and applying the right tools to create and innovate. All ISA members can learn something from these highly engaged young people. We can reconnect to the enthusiasm and exuberance that ignited our own drive to learn and career passions.

The unbridled excitement I witnessed this past weekend was incredibly motivating to me. It is a source of inspiration that I expect to channel during my year as ISA President.

I encourage all of you to tap into your own sources of inspiration. Rekindle those fires of curiosity and inventiveness in your field. Celebrate innovation. Collaborate and share your ideas and your successes.

Take a greater role in ISA division and section activities and leadership functions. Introduce ISA to schools and young people in your community. Mentor an engineering student. Establish a scholarship.

And, yes, participate in *FIRST*. Each year, nearly 120,000 volunteers contribute their time and expertise to *FIRST* programs and activities throughout the globe. There are so many [ways to get involved](#).

As 2013 ISA President, I want to emphasize how blessed I am to serve as your president, and I sincerely thank the Society and its members for this remarkable opportunity. I look forward to working with all of you in the months ahead, and sharing with you new evidence of our association's success and progress.

### About FIRST

Based in Manchester, N.H., *FIRST* (For Inspiration and Recognition of Science and Technology) designs accessible, innovative programs to build self-confidence, knowledge, and life skills while motivating young people to pursue opportunities in science, technology and engineering. With support from three out of every five Fortune 500 companies and nearly \$15 million in college scholarships, the not-for-profit organization hosts robotics competitions for young people. To learn more about *FIRST*, go to [www.usfirst.org](http://www.usfirst.org).

*Note: This column previously was published in the 2013 January issue of the ISA Insights, the ISA's online member magazine. It has been edited for length.*



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## New WWID Members

### Recently joined November and December 2012

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

#### November 2012

Mr. Henry R. Hegner - Moneta, VA, USA  
Mr. Imran Abulhassan - Aurangabad, MAHARASHTRA, India  
Mr. Shahzad Ahmed - Fort Saint John, BC, Canada  
Mr. Rodolfo Aramaki Bianco - Londrina, PR, Brazil  
Ben Brainard - Bellingham, WA, USA  
Mr. Denizart Caproni - Londrina, PR, Brazil  
Mr. William P. Charles - Worthington, OH, USA  
Mr. Thomas E. Clark - Saint Cloud, FL, USA  
Mr. Alex Augusto Cordeiro - Pinhais, PR, Brazil  
Ms. Suzanne Cross - Vancouver, WA, USA  
Mr. Timothy M. Curtis - Pfafftown, NC, USA  
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#### December 2012

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Luis Amaral - Hollywood, FL, USA  
Mr. Mark Anderson - Mesa, AZ, USA  
Mr. Gord Bandy - Calgary, AB, Canada  
Michael F. Beadle - Alberta Beach, Alberta, Canada  
Mr. Derek J. Benningfield, CCST - Kennewick, WA, USA  
Mr. Jack C. Binford - Winston Salem, NC, USA  
Mr. Colin G. Bradish - Great Yarmouth, 0, Great Britain

Mr. Gregory K. Brown, CCST - Fremont, CA, USA  
Mr. Mauricio Camacho Flores - Bogota, 0, Colombia  
Mr. I. A. Capuano - Orange, CT, USA  
Mr. Rick P. Carrasco - Burnaby, BC, Canada  
Mr. Todd Chamney - Edmonton, AB, Canada  
Mr. Duncan T. Cook - Edmonton, AB, Canada  
E. M. Corson, Jr. - Statesboro, GA,  
James L. Cotter, Jr. - Verona, PA, USA  
Mr. Claudio Cuffolo - Mississauga, ON, Canada  
Mr. John R. Davis - Oldsmar, FL, USA  
Mr. John S. Diedrich - Atlanta, GA, USA  
Mr. Ray A. Dietz - Cincinnati, OH, USA  
Mr. John C. Eisele - Lancaster, PA, USA  
Mr. Ole Friis - Virum, 0, Denmark  
Mr. J. Kelly Garrod - Lakewood, CO, USA  
Mr. Henry G. Gervais - Camarillo, CA, USA  
Mr. Paul J. Giorsetto - Oakland, CA, USA  
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Mr. C. Douglas Hetrick - New Kensington, PA, USA  
Mr. Kenneth J. Hulst, CCST - Woodbridge, VA, USA  
Mr. Mathew John Jarvi, P.E. - Lansing, MI, USA  
Mr. Andre Karting - Voorburg, 0, Netherlands  
Mr. Haitham Khudr - Al Khobar, 0, Saudi Arabia  
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Ms. Christel A. Simonis - Wausau, WI, USA  
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Ms. Christel A. Simonis - Wausau, WI, USA



**Water/Wastewater  
Industry Division**

## WWID is on LinkedIn

LinkedIn is a social media site that is geared towards professionals and business people. Located at [www.Linkedin.com](http://www.Linkedin.com), the site features online profiles, discussion groups and tools for identifying and keeping track of contacts. As of January 2013, LinkedIn has over 200 million members in more than 200 countries and territories.

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

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



## About LinkedIn

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

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

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

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

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## Call for Newsletter Articles

The WWID newsletter is published four times a year (winter, spring, summer, fall) and reaches the WWID's over 2,000 members. Each issue is approximately 32-44 pages long, and is electronically in color PDF format. A notification email goes out to all WWID members and it is available for public download at [www.isa.org/wwid/](http://www.isa.org/wwid/)

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

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

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

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

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

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

Article submissions can be sent to the WWID newsletter editor Graham Nasby at [graham.nasby@eramosa.com](mailto:graham.nasby@eramosa.com).

## WWID Newsletter Advertising

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

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

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

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

The current advertising rates are as follows:

Per Issue:

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

Per year (4 issues):

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

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

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

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

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



## WWID Board Member Contacts

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### Other WWID Division Volunteers:

Joe Bingham, PE – AES Global Inc.  
Wally Ingham, P.Eng. – Stantec  
Tom McAviney – Instrumentation and Control Engineering LLC  
Hank Hegner - Magyar & Associates Inc.

## 2013 WWAC Symposium Contacts

### General Symposium Chair

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[graham.nasby@eramosa.com](mailto:graham.nasby@eramosa.com)

### Symposium Details

Date: August 6-8, 2013  
Location: Orlando, Florida, USA  
Venue: Crowne Plaza Orlando-Universal Hotel  
Website: [www.isawwsymposium.com](http://www.isawwsymposium.com)

## About the ISA Water/Wastewater Division

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





# 2013 Water / Wastewater and Automatic Controls Symposium

August 6-8, 2013.....Crowne Plaza Orlando-Universal Hotel.....Orlando, Florida, USA

Presented by the ISA Water / Wastewater Industries Division - [www.isawwsymposium.com](http://www.isawwsymposium.com)

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



## Conference Preview



*Setting the Standard for Automation™*



## About the Symposium

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

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



- 2 full days of speakers/presentations
- Track 1 – Instrumentation, System Integration, Automation, Plant Case Studies, New Technologies, Process Optimization
- Track 2 – Smart Water, SCADA, HMI, Human Factors, Alarm Management
- 1 full-day ISA Training Course on Flowmeter Selection and Sizing
- 2 day ISA Training Course on SCADA Cyber Security & Using ANSI/ISA-99
- Plant Tour of a local Water/Wastewater Facility
- Trade Show, Reception & Networking Event
- Affordable Professional Development for Plant Operations/Maintenance Staff, Plant Managers, Plant Designers, Engineers, System Integrators
- CEUs – Continuing Education Units
- PDHs – Professional Development Hours

## Attendee Profile

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

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

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

## Schedule of Events

### Monday - Tuesday, August 5 - 6, 2013

- Optional training courses
- Symposium Registration
- Local Water/Wastewater Plant Tour (late afternoon Tuesday)

### Wednesday, August 7, 2013

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

### Thursday, August 8, 2013

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



## Technical Program

This year's symposium has a special focus on "smart water" and how SCADA can be used as an effective tool to optimize operations, maintenance and asset planning. The two day technical program will include a keynote address, a special welcome from the incoming director of the ISA water/wastewater division, and two invited speakers on cyber security and effective automation project management techniques. Guest speakers from the AWWA and WEF will also speak about the current advances in using instrumentation and SCADA in their sectors.

Interested in speaking at this year's symposium? Authors can present a 30-minute talk, 6-12 page paper, or a large format poster. The Call for Abstracts is now available at [www.isawwsymposium.com/call-for-abstracts/](http://www.isawwsymposium.com/call-for-abstracts/). Abstracts are due January 31, 2013.

## Local Plant Tour

Attendees will have the option of attending a tour of a local water treatment facility on the late afternoon of Tuesday August 6, 2013. The tour is free to all registered symposium attendees. Complimentary bus transportation from the hotel to/from the tour site is included.

## Optional Short Courses

### Using the ANSI/ISA-99 Standard to Secure Your Control System / In-Depth SCADA Cyber Security (IC32)

Date: Mon. - Tues. August 5 - 6, 2012  
Instructor: Jon Cusimano, CFSE, CISSP  
Length: 2 days  
CEU Credits: 1.4  
Cost: \$1395 (\$1115 for ISA members)

This two day intensive course provides an overview of the ANSI/ISA-99 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/ISA-99 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 sectors.

### Selection and Sizing of Flowmeters / Industrial Flow Measurement Overview (EI10C)

Date: Tues. August 6, 2012  
Instructor: Jerry Gerlich, Senior ISA Member  
Length: 1 day  
CEU Credits: 0.7  
Cost: \$630 (\$495 for ISA members)

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

## Why you should attend

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

*Cost effective professional development and continuing education.*

*Keep your skills current.*

*Get to compare experiences and lessons learned*

*Learn about new technologies, products and services*

*Be actively involved in your professional development*

*Establish contacts in the industry*

*Share ideas and experiences with others in the sector*

*Learn Something*

*Have Fun*

## Benefits for Water Utilities

*Inexpensive professional development*

*2.5 days of training for \$425*

*Group discounts available*

*Opportunity for staff to learn about new ideas and industry innovations*

## Benefits for Engineering Firms

*Exposure to new ideas*

*Learn from plant case studies*

*Talk to operations and maintenance professionals in an informal environment*

*Learn about new products and techniques*

## Registration & Fees

### Full Symposium

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

### Optional Cyber Security Course

List Price -	\$1395
ISA Members -	\$1115

### Optional Flowmeter Course

List Price -	\$630
ISA Members -	\$495

The symposium hotel rate is \$92/night

# 2013 Water / Wastewater and Automatic Controls Symposium

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



## Contacts

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## 2013 ISA Water / Wastewater and Automatic Controls (WWAC) Symposium

6-8 August 2013 • Crowne Plaza Orlando-Universal Hotel • 7800 International Drive • Orlando, FL, USA

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

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

**Email:** info@isa.org

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**Online Registration:** Instead of filling out this form, please consider registering online at [www.isawwsymposium.com](http://www.isawwsymposium.com)

### 1. Customer Information

Name (first): \_\_\_\_\_ (initial): \_\_\_\_\_ (last): \_\_\_\_\_

Company: \_\_\_\_\_ Title: \_\_\_\_\_

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Country: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ Postal Code: \_\_\_\_\_

ISA Member # (if applicable): \_\_\_\_\_ Email: \_\_\_\_\_

### 2. ALL PARTICIPANTS ARE REQUIRED TO PAY REGISTRATION FEES

#### Early-Bird Registration

- ☐ Regular Attendee .....\$425
- ☐ ISA Member .....\$325
- ☐ AWWA Member .....\$375
- ☐ WEF Member .....\$375

- ☐ Student Registration .....\$125
- ☐ Author/Speaker Registration .....\$125

#### Optional 2-day Training Course:

Using ANSI/ISA99 to Secure Your Control System (IC32)  
 5-6 August, 8:00am - 3:30pm - Attendees receive 1.4 CEUs

- ☐ Regular Price .....\$1,395
- ☐ ISA Member Price .....\$1,115

#### Regular Price (after 15 June 2013)

- ☐ Regular Attendee .....\$450
- ☐ ISA Member .....\$350
- ☐ AWWA Member .....\$400
- ☐ WEF Member .....\$400

Symposium Attendees will receive 20 PDHs  
 (CEUs pending approval) for attending.

#### Optional 1-day Training Course

Industrial Flow Measurement Overview (EI10C)  
 6 Aug, 8:00am-3:30pm, Attendees get 0.7 CEUs

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

Your Full Symposium registration includes:

- \* 2 full days of papers and presentations
- \* poster session
- \* networking events
- \* local water treatment facility tour on Aug 6
- \* admission to supplier showcase
- \* light breakfasts on Aug 7 and Aug 8
- \* full buffet lunches on Aug 7 and Aug 8
- \* evening reception on Aug 7 with cash bar
- \* name badge
- \* list of attendees with contact info
- \* printed onsite program booklet
- \* printed copy of symposium proceedings

**Registration and Training Course Total: \$ \_\_\_\_\_ US Dollars**

### 3. Payment Summary

Charge: ☐ Visa ☐ Mastercard ☐ Amex ☐ Discover

Charge Account Number: \_\_\_\_\_

Exp. Date: \_\_\_\_\_

Name on Card: \_\_\_\_\_

Signature: \_\_\_\_\_

#### Make Checks Payable to:

ISA WWAC

Note: Company purchase orders or military vouchers not accepted.

#### Hotel Registration:

Crowne Plaza Orlando-Universal Hotel  
 7800 International Drive  
 Orlando, Florida, USA, 32819  
 Reservations: 1 888-233-9527 (toll free)  
 Local: 1 407-355-0550  
 Fax: 1 407-355-0504  
[www.cporlando.com](http://www.cporlando.com)

Attendees are responsible for booking their own hotel rooms.  
 A hotel rate of \$92/night is available if booked before **1 July 2013**

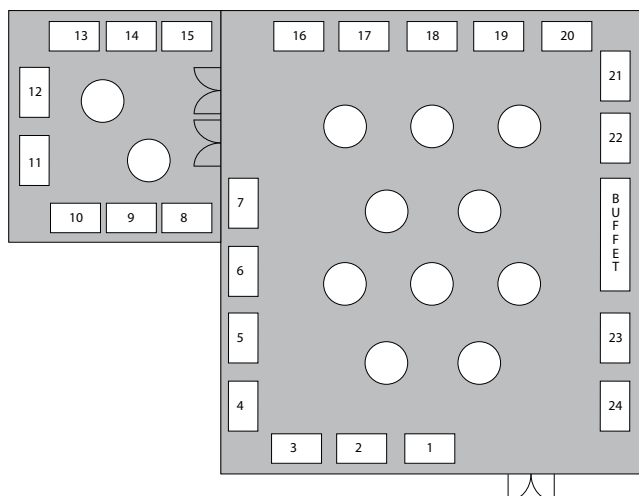
## Sponsorship Opportunities

Sponsorship Level	Platinum \$3000	Gold \$1500	Silver \$500
<b>General Information</b>			
Number of Sponsorship Opportunities	3	6	12
Number of Full Conference Passes	2	1	--
Cost of Exhibitor Booth - comes with 2 additional vendor passes (Note: Regular cost of an exhibitor booth with 2 passes is \$875)	Included	Add \$500	Add \$700
<b>On-site Visibility</b>			
Logo on signage near registration desk, speakers room and hallways	Top Tier	Middle Tier	Lower Tier
Company logo in the 16 page Symposium Program Booklet	Large	Medium	Small
Advertisement in the 16 page Symposium Program Booklet	1/2 page	1/4 page	1/8 page
<b>Symposium Website</b>			
Logo with web link on Symposium website	Top Tier	Middle Tier	Lower Tier
Logo in online Symposium program	Large	Medium	Small
<b>Pre-Event Visibility</b>			
Logo in pre-event emails to 2000+ prospective customers Emails to announce: Early-bird registration, Keynote, Invited Speakers, Sponsor Announcements, Seminar Schedule, Advance Program, Early-bird registration reminder, Tour Information, Onsite program, etc.	8 emails	4 emails	2 emails
Logo in 16 page Symposium Advance Program	Large	Medium	Small
Advertisement in Symposium Advance Program	1/2 page	1/4 page	1/8 page
<b>Post Event Visibility</b>			
Company and logo listed in post-event email to attendees	Yes	Yes	Yes
Logo in post-event email announcing proceedings	Large	Medium	--
Company logo and link retained on WWAC 2013 website	Yes	Yes	Yes
<b>ISA Water / Wastewater Newsletter - published quarterly</b>			
Company name and logo in 2 newsletters prior to event	Yes	Yes	Yes
Advertisements in 2 newsletters before and 1 newsletter after	Full Page	1/2 page	1/4 page

## Exhibitor Opportunities

Exhibitor tables are priced at \$875 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
- additional vendor passes can be purchased for \$200/each
- breakfasts, coffee breaks, and lunches on Aug. 7 & 8
- admission to the general reception with cash bar on the evening of Aug. 7th
- exhibit room hours: Aug. 7 & 8 (8:00am-5:00pm), and during Aug. 7th evening reception
- exhibit setup: Aug. 6 (6:00pm-9:00pm); exhibit take down Aug. 8 (5:00pm-8:00pm)



## Why sponsor the WWAC

*Build and maintain brand recognition by being a sponsor for this year's 2013 ISA Water/Wastewater and Automatic Controls (WWAC) Symposium. This focused event allows you to reach out to both the water and wastewater sectors with one integrated message.*

*Advantages of sponsorship include:*

- **Pre and post event visibility**
- **Exposure in the quarterly ISA water/wastewater newsletter**
- **Advertising in symposium programs**
- **Sponsor profiles on symposium website**
- **Visibility in symposium-related emails to attendees and ISA membership**

## Why exhibit at WWAC

*Exhibiting at the 2013 ISA Water/Wastewater and Automatic Controls Symposium (WWAC) puts you face-to-face with a variety of industry professionals searching for your products, services, and insights. Use this focused event to build key business alliances and meet new prospects.*

*Network with the operators, maintenance managers and facility owners who are responsible for the smooth operation of water/wastewater facilities, as well as the engineers, technicians and programmers who build and develop automated plants.*