Division Newsletter

Water & Wastewater Industries

In This Issue:

Summer 2010

Director's Message

By Michael B. Fedenyszen

13 May 2010

Dear Associate Water and Wastewater Practitioners:

On the behalf of the Society, it is pleasure to serve you. January 1st began my service as WWID director. Selecting from our vast membership across North America, Division officers have been appointed and are already busy engaging in their directives. They are all committed to a stable, stronger Division to your benefit. It is an exciting season as we put together some new things that can benefit you. Anyone interested may join us in the various discussions and the direction in which the WWID will advance.

Be sure to visit the WWID LinkedIn group site for ongoing commentary and discussions that are taking place. Feel free to jump in and offer a suggestion to someone who may be seeking an answer to a process-related problem, or begin your own thread. Invite an associate to join in the discussion. The link can be found on our website and in the newsletter. Best of all LinkedIn is free, and most worthwhile to our practitioners.

We have received several applicants for the WWID scholarship that was approved at the Fall Leaders Meeting last October in Houston. The $1,000 winner will be selected this June at the Spring Leaders Meeting in Sumerlin, Nevada.

We are always seeking compelling articles to be published in our newsletter. Please consider this and forward your article to Joe Bingham, newsletter editor. Joe can be reached at **jbingham@aesglobal.com**. As with the newsletter, our website is scheduled to be updated quarterly, or more often if practical. Whatever it is you have to offer, whether it be a sound-off, kudos for one of your associates, or a white paper article, please forward it to our webmaster Jon DiPietro who can be reached at **jon.dipietro@gmail**.com. We would love to publish you.

The 2010 WWAC Symposium again will be presented in Orlando this coming 3–5 August 2010. Last year, the symposium was a blockbuster—both an ISA and industry success. We're looking forward this season to another beneficial, "value added" symposium thanks to Joe Provenzano, general chairman, and his team.

I have appointed additional executive members of excellent reputation and commitment who will continue to grow our Division in usefulness and purpose. Rounding out the committees are Messrs:

- Jon DiPietro (Boston Section) now serving alongside me as director-elect
- Wally Ingham (Edmunton Section) secretary
- Steve Valdez (New Jersey Section) Honors and Awards chairman
- Joe Provenzano (Ct. Valley Section) symposium chairman
- Joe Bingham (Los Angeles Section) newsletter editor
- Life Member Hank Hegner (Baltimore Section) scholarship chairman
- Frank White (Boston Section) membership chair
- Paul Lanzillotta (Long Island Section) symposium moderator
- Graham Nasby (Toronto Section) marketing chairman

Adding to our fine team we have Mr. Rodney Jones serving us from staff and Dr. Peggie Koon (CSRA Savannah River Section), Industries and Sciences Department vice president, giving us her insight and inspiration.

If you, too, feel led to participate on the committee, please write and I will find you a welcome position. Lastly, thank you for your support. The entire team looks forward your input and ideas.

Respectfully,
Michael B. Fedenyszen
Division Director

Director-Elect's Message

Dear Division Members:

I'd like to thank our Division Director, Mike Fedenyszen, for asking me to serve as director-elect. I've had the pleasure of working with him in the Boston Section for a number of years and consider myself privileged to be serving with him in the Water/Wastewater Industries Division. I am looking forward to helping him revitalize the Division and provide value to our Members. I know I'm preaching to the choir when I say that the water and wastewater industries are facing some challenges in the next couple of decades. Changing workforce dynamics and aging infrastructure are going to challenge every system to do more with less. Automation is obviously one way this can be accomplished, but I hope to be able to contribute to workforce development issues. The water and wastewater industries will need to learn how to reach out and be more active advocates for their interests in order to attract talent to the profession. One of my missions will be to help our Division be a voice for the industry and a resource for helping water and wastewater systems raise their profile among automation professionals.

We've started down this path by creating a LinkedIn Group (**http://www.linkedin.com/groups?home=&gid=2031271**). I invite all Division members to join and participate. We'll be introducing more web-based initiatives to extend our reach and facilitate communication. If you have any questions or concerns about these sites, please don't hesitate to contact me.

Jon DiPietro
WWID Director-elect
jon.dipietro@bridge-soft.com
Phone: +1 603 606-5937

ISA Unveils New Online *ISA Directory of Automation*

ISA announces the launch of its 2010–2011 *ISA Directory of Automation* in a new, easy-to-use, online format. This valuable resource—the top purchasing guide in the automation field—is available to ISA's 30,000 Members from a link on the ISA homepage (**www.isa.org**) or by going to **isadirectoryofautomation.com**.

The *ISA Directory of Automation* offers both keyword-driven searches and category-specific searches, two methods which produce the most industry-relevant results on the web. The directory also includes Request for Information (RFI) functionality, which allows users to quickly contact participating suppliers to obtain more-detailed information for specific projects.

The directory has a downloadable desktop search application, which enables users to search for items directly from a small search window on their desktops, a convenient and time-efficient feature. ISA partnered with MultiView, Inc. to create the new directory.

2010 Business Plan

April 26, 2009

- The **Leadership Officers** slate will be filled with active members.
- The **Newsletter** will be produced two times this season and distributed to our membership electronically.
- **Meetings** will be held twice yearly in conjunction with the *ISA Spring Leaders Meeting and ISA Fall Leaders Meeting*. The officers will regularly communicate via email, and teleconference accordingly in order to affirm events and that responsibility to the Society and WWID Members is being fulfilled.
- The Division will host a ***Membership Luncheon*** during *ISA Automation Week 2010*. In support of this year's conference, the Division will solicit papers, develop a session, and provide moderators as required.
- The **WWID Website** will be maintained during the year, and its content updated quarterly: 5/31, 8/31, 11/30 and 2/28.
- A **Symposium and Exhibit** will be planned for 2010. The staff and our membership will be advised by the Spring Leaders Meeting. A notification announcing Sections interested in receiving information on hosting the fall event will be posted on both the website and newsletter.
- **Membership** drives will be conducted throughout the year. A booth will be maintained at the WWAC/WWID Symposium, and the Division will make itself available to be present at District Leadership Conferences for said purpose. Scholarship criteria will be developed, where the Division can select a student or college/university for a cash award.
- The **Budget** will be submitted by the WWID in conformance with ISA guidelines and the associated timetable.

Respectfully submitted,
Michael B. Fedenyszen
WWID Division Director

Join Our LinkedIn Group

If you have a LinkedIn profile, please join our Group—ISA Water and Wastewater Industry Division. If you don't have a profile, it's free and easy to join! Feel free to email Jon DiPietro (jon.dipietro@bridge-soft.com) with any questions or concerns you may have about joining the group or creating a LinkedIn profile.

The URL for the group is:
http://www.linkedin.com/groups?home=&gid=2031271

Follow the Leaders

For as long as I can remember I've heard the expression, "the best leaders are followers." ISA must also think that there is some truth to the old adage because this year's Spring Leadership Meeting featured a leadership panel session for future Division and Section leaders. The panel consisted of Paul Gruhn, Jerry Clemmons, Cyrus Taft, and yours truly—all of whom have demonstrated success in past or present Division and/or Section leadership roles. And, as expected, the panelists had plenty of advice for future ISA leaders to follow.

Paul Gruhn began the meeting with a challenge to Division and Section leaders to make sure that the Division (Section) mission and goals are not just clearly understood, but are committed to (in writing) and are communicated to ISA, the Division/Section Board, and the membership.

Speaking of Boards, all of the panelists stressed the importance of making sure that there is a team of leaders working together to accomplish goals. Paul noted that choosing the right people, making sure that they are properly equipped/trained, and selecting a successor are all strategic factors for Division (Section) success. Of equal importance: understanding your role and responsibilities as a Division/Section leader. Jerry Clemmons told attendees to visit ISA's website to review leadership resources and responsibilities. It is so important for the new ISA leader to fully understand requirements, expectations, and metrics. You can't hope to be successful if you don't know what is expected and how success is measured.

A good (ISA) leader must demonstrate a positive attitude, team work, good judgment, good interpersonal skills, the highest of professional standards, and commitment to ISA's shared objectives while nurturing and supporting his/her individual Division (Section) and department goals.

Cyrus Taft highlighted how following the successful examples set by other Divisions (Sections) can facilitate the process. He cited successful symposia and newsletters that have been developed by other Divisions. Networking with peer Divisions/Sections can open up a wellspring of resources to help you (and your Division) achieve success.

And, of course, there was my two cents! I started with a question: "What does it mean to be a successful leader?" Not just within ISA, but in any arena. Here's my take on it: A good (ISA) leader must demonstrate a positive attitude, team work, good judgment, good interpersonal skills, the highest of professional standards, and commitment to ISA's shared objectives while nurturing and supporting his/her individual Division (Section) and department goals. If you buy into this definition, then ask: "What does it mean to lead in that context?"

My answer: leverage, engage, advance, and delegate.

- Leverage—The Division/Section leader should leverage the shared resources of ISA, the Division, and the department to achieve the Division (Section) mission and goals
- Engage—The Division/Section leader should cultivate an atmosphere of complete engagement with ISA staff, with department management, with Members of the Board, current and future membership, and experts in the field of automation expertise. Communication is a key initiative in this process.
- Advance—The Division/Section leader should do everything possible, utilizing all the resources and innovative ideas available, to advance the Division/Section in terms of value/benefit to its membership, to ISA, and the automation community at large. This effort includes knowledge sharing via social media as well as more traditional methods; e.g. symposia, contributions to technical publications, website content, newsletters, Lyris groups, social interaction (UCC), etc.
- Delegate—The Division/Section leader should understand that the successful Division/Section is NOT a team of one. She/he must invest in relationship building with others on the Board, ISA and the membership to delegate, so that Division goals are successfully achieved by the team.

That's a pretty tall order, but believe it or not, knowing when (and being willing) to follow can make it so much easier to lead. Okay, so here's the real question: What's in it for you? Each of the panelists shared a different story about initial engagement with ISA: why she/he got involved, why she/he stayed involved, and how ISA has been an enabler of both professional and personal growth and advancement. As for me, my involvement in ISA has been extensive. It all began some 15 years ago when I was a process control manager leading the migration from an older Foxboro 1A process control system to a newer Bailey Controls INFI90 control system for a textile manufacturing firm. I was asked to speak at the ISA EXPO Technical Conference in Anaheim. I talked about the relationship that was formed via our company's Strategic Alliance with Bailey and the benefits of the synergies that were created via the partnership. After the presentation, Jan Jekielek, then director of the Management Division, approached me about joining ISA. I joined the Management Division, became associate director of membership, and over the next 15 years participated in ISA as a session developer, paper reviewer, published author (papers in *InTech*, *ISA Transactions*, and the *Transactions* of the IEEE magazines), and speaker at both local and national ISA and IEEE events. I have also held leadership roles as director-elect and director of ISA's Textiles Technical Interest Group and director-elect and director of ISA's Management Division. And I have recently been selected as the DVP-Elect of ISA's Industries and Sciences Department. I am also a member of the Honors and Awards Committee.

ISA leadership has its benefits! For each of us, those benefits are different. ISA leadership has allowed me to grow and learn both personally and professionally—to be a part of a network of recognized process control and management professionals in the automation industry. It has also enabled me to stay current on new and evolving automation concepts and technologies. Additionally ISA leadership has helped me to expand my sphere of influence by sharing my knowledge with others and use all of the above to benefit the companies for which I have worked. So, if you're already an ISA leader (or have ISA leadership aspirations), follow this advice: LEAD!

Peggie Ward Koon, Ph.D.
Deputy COO, Morris DigitalWorks
VP, ISA Industries and Sciences Department
ISA Honors and Awards Committee
Past Director, ISA Management Division

Setting the Standard for Automation™

Water & Wastewater Division

TO: *Water & Wastewater Division Members*

FROM: *Steve Valdez*
Honors & Awards Committee Chairman

DATE: *May 13, 2010*

Were you aware that our division recently received an honorable mention from the society? This was presented to us as an award for considerable achievements within the division. I would like to note to you that this award reflected the focus and participation of our membership. So hat's off to all of you.

This season the Water & Wastewater Industries Division honors and awards committee is preparing to present several prestigious awards to worthy candidates. The awards will be presented during the Fall Leadership Meeting in October at the Houston Galleria at our annual division luncheon.

It may seem early to be writing of this, but I'd prefer to give you adequate time to consider champions of our division and send in your nomination if there is anyone you would like to have considered. The awards thus far will be for Best Paper, Outstanding Service, Superlative Achievement and Sponsorship Award.

Again, if you have an individual in mind that you feel should be considered for recognition by an award please e-mail me at svaldez1210@yahoo.com

Here to serve you,
Honors & Awards Committee

Steven Valdez
Chairman

Setting the Standard for Automation™

Your technology.
Your solutions.
Your way.

www.isaautomationweek.org/yourway

2010 ISA Automation Week Partners

OSIsoft. Schneider Electric

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2010 ISA Corporate Partner

GE Energy

ISA™ **Automation Week** Technology and Solutions Event

4–7 October 2010
Westin Galleria Hotel
Houston, TX USA

Water & Wastewater Division

From the desk of Frank White, Division Membership Chairman

The trend of our division membership is pleasing. It is not only stable but growing! Growing membership will allow us to plan for greater things for our members and the industry in general. So what is it that increased membership provides?

- Participation which will inherently increase at the division Board of Director's table
- Talent of tomorrow which will better reflect the needs of our membership
- Fresh and exciting ideas
- Greater attentiveness to the evolving challenges facing our industry
- Provide a younger membership to continue the line of "elder statesmen"
- More interest in students across the globe
- Additional readership material related to the Water & Wastewater industry
- Greater financial scholarships
- Plentiful and diverse scholarship awards
- Prestigious division image
- Development of our membership
- A plethora of networking opportunities
- Access to new sponsorship
- Greater exposure for our vendor support
- A wider array of professional speakers and cutting edge technology for our symposia
- Opportunity to promote more members to other areas of the governing body of the ISA

Do you hold the grade of "Senior Member"? Let me encourage you to immediately apply for senior grade. Just click on the link found in this newsletter. It is free, an uncomplicated formality, and most all of you may be eligible. Senior grade, for lack of a humble word, an elite membership, is required in the event that one day you would like to promote yourself to a position in the society. It also gives the division and the section you belong a higher status.

Welcome to our new members. There are so many I cannot list you all here but have asked Joe Bingham, *Newsletter* editor, to publish your names.

The total number of WWID members stand at one thousand five hundred and eighteen (1518). This total is inclusive of students, members, senior members, and life-time members. Thank you for being a member. Frank White- May 13, 2010

Fresh Perspectives on the Water and Wastewater Automatic Distribution Process for Today's Automation and Control Professional

ISA WWAC Symposium2010

4–5 August 2010
Doubletree Castle Hotel
Orlando, FL USA

Don't Miss WWAC Symposium 2010!

Sponsored by the Water and Wastewater and Automatic Control Systems Divisions

Thousands of people in your town, city, or county rely on you to keep their water clean and safe. Don't miss this opportunity to attend one of the few symposia in the water and wastewater industry that target the topics you—the automation and controls professional—need to maintain and advance your skills.

Attend and get a fresh perspective on water and wastewater processing, water collection, and water treatment, along with the latest controls equipment and instrumentation. Industry experts and leaders will cover several topics, including:

- Water and Wastewater Processing
- Automatic Controls Affecting the Process
- Instrumentation and Aeration
- Vermicomposting
- Supervisory Control and Data Acquisition
- Fiber Optic Network
- PC Based Control
- Programmable I/O
- Generator Control Systems
- And more

Schedule-at-a-Glance

Earn CEUs

Earn PDHs

3 August
ISA Training Program:
- Industrial Flow Measurement Overview (EI10C)
- Introduction to SCADA Systems Integration (IC30C1)

4 August
- Keynote Address by Wayne Manges, Oak Ridge National Labs
- Technical Presentations
- Conference Reception

5 August
Conference Presentation and Guest Panel Q&A

Current exhibitors include Emerson Process Management, MOXA, GE Sensing, and Spirax Sarco Inc./EMCO. Additional vendor exhibits and sponsorship opportunities are available.

To find out more, or to register, call 919-549-8411 or visit www.isa.org/wwac.

5th Annual
ISA WWAC Symposium

Sponsored by the Water & Wastewater and Automatic Controls Divisions of ISA

When: 3–5 August 2010

Where: Doubletree Castle Hotel
8629 International Drive, Orlando, FL 32819 USA

The 5th Annual ISA Water & Wastewater and Automatic Controls (WWAC) Symposium will help professionals in the water and wastewater industry understand how automatic control applications affect processing and distribution of water treatment and will provide an outstanding opportunity to gain valuable technical information and training.

Expert speakers will discuss water and wastewater processing. Other event topics will focus on water collection and water treatment. Attendees will be able to review the latest controls equipment as well as instrumentation that fits today's industry needs. A technology-focused, one-day training seminar and two days of technical sessions will provide the latest in applications, networking, communications, and instrumentation technology associated with the water treatment industry. Attendees will also enjoy working luncheons, vendor exhibits showcasing the latest technologies, and an evening reception.

You won't want to miss this event or its training course offerings—register today at **www.isa.org/Event/WWAC.**

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

30-3576-0410

Check out these one-day training courses at the 5th Annual ISA WWAC Symposium!

Standards
Certification
Education & Training
Publishing
Conferences & Exhibits

- **Introduction to SCADA Systems Integration**
- **Industrial Flow Measurement Overview**

Held in conjunction with the 5th Annual ISA WWAC Symposium

Setting the Standard for Automation™

Introduction to SCADA Systems Integration (IC30C1)

Instructor:

Wayne Manges currently directs the US Department of Energy's Industrial Wireless Program for UT-Battelle at the Oak Ridge National Laboratory (ORNL), focusing on the needs of hard industries from DOE's Industrial Technologies Program. With 30 years at ORNL, Wayne works extensively with steel, paper, and other industries to bring robust, wireless technology to their markets; and is committed to the deployment of integrated systems that solve real problems.

Overview:

This course explains the parts and technologies that make up a Supervisory Control and Data Acquisition (SCADA) system and shows you how to evaluate potential benefits of applying the technology to your process application.

Main Topics Covered:

- Definition of SCADA Terminology
- History of Base Technologies
- Concepts of Communication
- Remote Terminal Units (RTUs)
- Field Devices
- Master Terminal Unit (MTU) Applications

You Will Be Able To:

- Describe the various components of a SCADA system
- Discuss the background and history of component technologies
- Recognize potential benefits of applying SCADA to some common industries
- Describe several applications that should not use SCADA
- Recognize the base standards that apply to SCADA
- Sketch out a SCADA system for potential application in your industry
- Identify the limitations of SCADA systems
- Calculate the "scan time" required for SCADA systems of various sizes
- Recognize that human machine interfaces (HMIs) are just a part of SCADA
- Define the terms used in describing the technology
- Explain the concepts of digital coding, protocols, and modulation methods; why they are needed; and where they are most effectively applied
- Evaluate the benefits of several examples of RTUs, MTUs, and communications methods

Industrial Flow Measurement Overview (EI10C)

Instructor:

Wiley Montana is a graduate of Auburn University with a BEE degree. He has worked in instrument maintenance for over 21 years, performing various engineering and technical support activities with emphasis in field instrumentation. He has held positions with Vitro Services, Teledyne Brown Engineering (in support of the NASA Space Program), and The Dow Chemical Company. He is a Charter and Senior Member of ISA and the ISA Brazos Section, holding various offices including Section President.

Overview:

This course will present applications of modern flow measurement systems. Topics covered include flowmeter accuracy, performance, sizing, specification, selection, and installation considerations. This course focuses on productivity improvement and cost efficiencies of measurement and control. You will also cover whether, when, and how to use the technologies that measure flow; the effect of fluid properties; and engineering practices required to optimize flowmeter performance. Also included in this course are practical examples of flowmeter selection and problem solutions, with emphasis, based on class preference, on basic principles or alternative technologies.

Main Topics Covered:

- Engineering Practices
- Differential Pressure Flowmeters
- Magnetic Flowmeters
- Mass Flowmeters
- Oscillatory Flowmeters
- Positive Displacement Flowmeters
- Ultrasonic Flowmeters
- Insertion Flowmeters
- Flowmeter Selection

You Will Be Able To:

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

Course Details (each course)

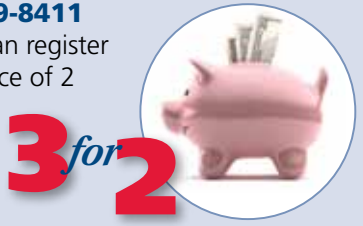
Date:	3 August 2010
Time:	8:00 a.m.–4:00 p.m.
Length:	1 day (7 hours)
Location:	Doubletree Castle Hotel 8629 International Drive Orlando, FL 32819 USA
CEU/PDH Credit:	0.7 CEUs / 7 PDHs
Price:	$445 ISA Member; $545 List

To register for:
Introduction to SCADA Systems Integration (IC30C1),
Call: **919-549-8411**
Visit: **www.isa.org/IC30C1/WWAC**

To register for:
Industrial Flow Measurement Overview (EI10C),
Call: **919-549-8411**
Visit: **www.isa.org/EI10C/WWAC**

Space is Limited—Register Early!

This course is eligible for the ISA 3-for-2 Registration Package!
Call ISA at **919-549-8411** to learn how you can register 3 people for the price of 2 **AND** save an additional $100!



Water & Wastewater Industries Division

May 6, 2010

From: Joe Provenzano, Symposia General Chairman

Subject: Water & Wastewater Symposium Update

The Division's 5th Water & Wastewater Symposium is scheduled to be presented in Orlando August 3, 4, and 5th at the Doubletree – Castle Hotel. We are in our final planning stages.

Our keynote speaker, Mr. Wayne Manges, Co-Chair of the ISA SP 100 Wireless Standards Committee, will open the technical session on August 4. He will review the first released standard and discuss its potential impact on the water and wastewater industries.

We have scheduled 17 experienced speakers representing plants, leading industry manufacturers, AE's and system integrators. I guarantee that attending this conference will open your eyes to the latest in technology and applications that affect day-to-day operations in water and wastewater process plants.

Attendees can receive PDH credits. Speaker presentations will be August 4 and 5. August 3 will be a training day with two ISA-sponsored training courses offered. They are E110C: Industrial Flow Measurement Overview, and IC30C1: Introduction to SCADA Systems Integration.

On August 5 Dr. Gerald Cockrell will open the session with a description of "ISA-Today." In addition to the training and technical sessions, we have scheduled exhibitors, clear leaders in the supply of instrumentation, intelligent digital products, SCADA systems, software products, and engineering services who will display their products in our exhibit area on August 4 and 5.

See you in Orlando!
Joe

Let's Welcome Our New and Returning WWID Members

Mr. Marvin T. Anderl
Instructor

Mr. Peter M. Baker, CAP
President

Antonio Carlos Batista
Analista De Sistemas

Mr. Walter H. Boyes, Jr.
Editor in Chief
Control Magazine

Mr. Alfred L. Brown, PE
Furnace System Engineer

Mr. James A. Brown
Field Engineer

Mr. Reginald L. Coleman
Instrumentation and Controls Technician I
City of Richmond/DPU/Water Utility

Mr. David A. Coppa
Global Sales & Business Manager

Ms. Julie A. Crum
Electronic Technician
Pinellas County Utilities

Mr. Kevin Cutrer
Instrument And Control Systems Tech
City of Austin Texas

Mr. James M. Darling
Controls Engineer

Mr. Brian T. Davidson
Customer Care Liaison
Jordan Engineering Inc

Dr. Laura de Morneau
Sr Field Tech
Environ Strategy Consultants Inc

Dr. Emir Dizdarevic
Control Systems Engineer
King County

Mr. Jason A. Dreyer
McMaster University

Mr. Michael Dean Fjelstad, CCST
Process Instrument Technician
City of Moorhead

Mr. Daniel Gasperin Bulbarela

Mr. Joshua Gelman
I&C Engineer
CDM

Mr. Jonathon H. Grant
I&E Engineer
Woodard & Curran

Mr. Erik Haggstrom
Engineer in Control

Mr. Paul A. Hargrove
Instrument Specialist Maintenance
Pierce County Utilites

Mr. Danny Haskell

Mr. Jay Henderson
Maint Supv
City of Evanston Water Dept

Ashok Jami

Mr. Thomas J. Johnson
Sr I & C Engr

Mr. Bradley M. Johnson, CCST
Instrument Technician
City of Longview Plt Automation Tech

Mr. John G. Johnston, Jr.

Mr. Jarad A. Johnston
Instrumentation and Controls Technician II
City of Richmond/DPU/Water Utility

Reynaldo Barcena Kabigting

Mr. Scott D. Kennedy
Lead Instrument Control Technician
City of Boulder WWTP

Mr. Stanley Joseph Kieta, CAP
Senior Engineer
REAL Controls Inc

Dr. Eric J. Klein

Mr. Jeffrey D. Klemetsen
Project Engineer
In Control Inc

Mr. Tim Kenneth Kott
Purchasing Manager
Tesco Controls Inc

Mr. Chia-Shen Lee
VP
Icomtech Inc

Mr. Grant J. LiaBraaten
Group Leader
Sebesta Blomberg

Ms. Lori F. McKeil

Mr. Darryl L. Mendivil
President
Mid-State Instruments

Mr. Thomas A. Miller, CCST
I & E Technician
City of Winston Salem

Mr. Aaron W. Mitchell
Texas State Technical College

Mr. Ken N. Nakamoto
Acct Mgr

Mr. Steven F. Naoum
Sales Rep
Kern Electric Distributors

Mr. Lance M. Nelson
GHD Inc

Mr. Manuel Nunez Trottino

Mrs. Tes Olson
Marketing Manager
Northwire Inc

Mr. Kandarp M. Patel

Mr. Ken A. Pollock, CCST
Automation Engr

Joao Jose Porto

Nikitaa S. Rao

Mr. Rick W. Redpath
Partner
ARO Technologies Inc

Mr. Jeffrey S. Russo
Sales Engineer
Gilson Engineering Sales

Mr. Jerry A. Samaniego
President
CFM-San Diego Inc

Mr. John W. Schott, P.E.,CAP
Owner

Mr. Larry K. Scott, CCST
Inst Elect Supv
Emerald Coast Utilities Authority

Mr. Donald B. Sexton, CCST
Field Servcie Tech

D. Grant Shannon
President & CEO
Benchmark Instrumentation & Analytical Svcs

Mr. William F. Smith
Sys Engr Consultant
EMA Inc

Mr. Jason Tam

Mr. Albert Veenkamp
Electronic Technician

Continued on page 10

New and Returning WWID Members (Continued)

Mr. Jose Villanueva Santiago

Mr. Mark Wagner
Artemis Inc

Mr. Mark A. Waronker
Sr Project Manager

Syed Wasim M

Ms. Danielle Rae Weiner
Instrument Apprentice

Mr. Larry Williams

Mr. Mark C. Wirfs
President
R & W Engineering Inc

Mr. Gary L. Zaremba
Regional Manager

Michael J. Beckman
President
Matcom Enterprises Inc

Mr. Melvin Carter
Instrument Supervisor

Mr. Tom Cory
Benchmark Instrumentation & Analytical Svcs

Mrs. Annie B. Crabtree-Smith
Account Manager
PAAI - Process Analytics, a Cameron Measurement Division

Mr. Antal Gyori
Electrical Engineer

Mr. William R. Holmes
Control Engineer
Archer Daniels Midland Co

Mr. Gregory Livelli
VP of Marketing - Instrumentation
ABB Inc

Mr. Robert M. Robinson
Instrument Technican
Marathon Petroleum Co

Mr. James E. Stahl
DEKORON

Mr. James P. Bohan
Senior Engineer (SCADA and Control Systems)

Mr. James Douglas Hall, Jr.
Control Systems Specialist
Rotork Controls

Mr. David G. Hobart, CAP, PE
Sr Associate

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Wanting to participate?

Dear WWID Practitioners:

We have the need for a chairperson for the position of Sponsorship Chair this 2010 season. If you would like to commit to the great tradition of ISA by volunteering your time to WWID, please consider joining our slate of officers and drop me an e-mail at **www.mfedenyszen@vanderweil.com**

Of course, the best fit would be someone who could attend a meeting or two, but it is not necessary. Just a go getter! His/her responsibilities would be to seek national and international manufacturers and vendors, factory reps and the like to support our division. We offer quarter-page, half-page, and full-page spots in our two newsletters for a predetermined fee.

It has been the prerogative of the director to fill officer positions by drawing from a pool of active members from both within WWID and the Society in general who will serve at the pleasure of the director. This spot is open to any member of WWID. In particular, anyone having a desire to one day move ahead and be promoted to greater areas of responsibility within the Society.

We are not a closed group. Utilize your talent. Augment our division.

All our officers will work with you as you help build up a robust WWID. Thank you again for considering this position. Again, please let me know by e-mailing **mfedenyszen@vanderweil.com.**

Waiting to hear from you …

Most sincerely,
Michael Fedenyszen
WWID Director

WWID Bookstore

Check out our list of books that are perfect for your summer reading. Click on each book to learn more.

SCADA: Supervisory Control and Data Acquisition, 4th Edition

http://www.isa.org/scada

Supervisory control and data acquisition (SCADA) technology has evolved over the past 30 years as a method of monitoring and controlling large processes. This reference book offers overviews of SCADA's component technologies, as well as details necessary to understand the big picture.

Advanced pH Measurement and Control, 3rd Edition

http://www.isa.org/pH

This best-selling book provides a clear, concise, and comprehensive view of how to select, install, and maintain electrodes, control valves, and control strategies for pH applications critical for product and water quality in the process industry. The book covers every aspect of system design including the mixing and reagent piping requirements that are important for a successful application.

Flow Measurement, 2nd Edition

http://www.isa.org/flowmeashandbook

The industry's most authoritative handbook on flow measurement provides a road map to the field of flow measurement. This best-seller discusses strategies for problem solving and puts the whole array of types of flowmeters at the reader's disposal.

Industrial Flow Measurement, 3rd Edition

http://www.isa.org/industrialflowmeas

Designed to help practicing engineers avoid costs associated with misapplication of flowmeters, this third edition reviews the important concepts of flow measurement and provides explanations, practical considerations, illustrations, and examples of current flowmeter technology.

Flow of Industrial Fluids—Theory and Equations

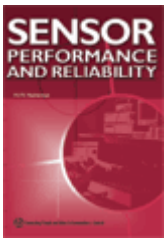
http://www.isa.org/flowfluid

This book provides context—both theoretical and practical to all those who wish to understand fluid flow. The book's purpose is to link fluid flow theory to practice in sufficient detail to give its chosen audience an understanding of both theory and practice.

Automation Blogs—at Your Fingertips!

If you haven't had a chance to sort through the automation blogosphere yet, you might be glad to know that ISA has corralled the blogs for you into our new "Automation Blogs" site. You'll find the most authoritative, entertaining, and occasionally provocative perspectives in the automation and manufacturing community in these blogs.

Just visit **www.isa.org/automationblogs** to view them.



Sensor Performance and Reliability

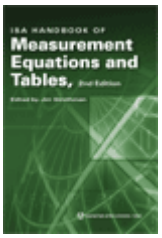
http://www.isa.org/senseandmeasure

Technological advances abound in today's world of instrumentation but much of it depends on conventional sensing technology that has been around for more than 50 years. Many of the instrumentation or sensor problems that exist today are similar to those which we have seen over the past years.

Maintenance of Instruments & Systems, 2nd Edition

http://www.isa.org/IandSMaintenance

This updated edition of ISA's best-selling maintenance handbook provides comprehensive coverage of maintenance requirements for pneumatic and electrical/electronic devices as well as expanded coverage of DCS systems, analytical instrumentation, fiber optics, and smart instruments.



ISA Handbook of Measurement Equations and Tables, 2nd Edition

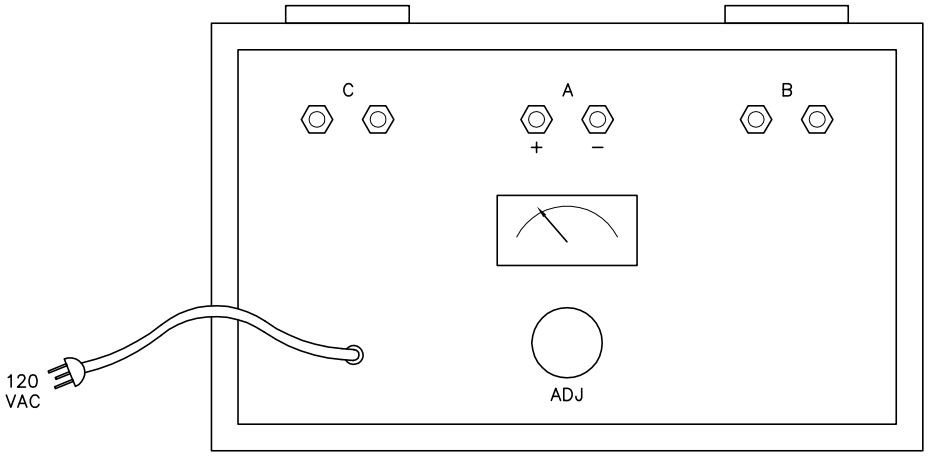
http://www.isa.org/measurehandbook

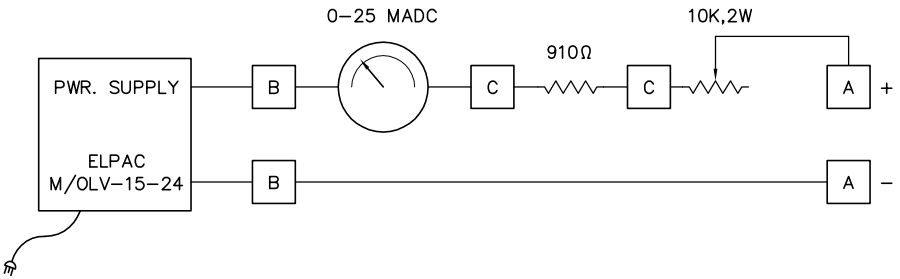
This updated, expanded, and improved version provides hundreds of essential equations and tables to help you select, operate and maintain measurement devices. The 2nd Edition adds brand new chapters packed with tables and equations for Industrial Communications Buses, Safety, and Environmental Measurements.

And the winner is...

Scholarship Chair Hank Hegner picking the newly established annual scholarship winner at the Spring Leadership Meeting in Nevada last June. Michael Fedenyszen, WWID director assisting.

Brian Goldade of Mandan, North Dakota was selected as the primary winner of the ISA WWID one thousand dollar ($1000.00) scholarship at the WWID Board meeting during the Spring Leaders Meeting at the JW Marriott Las Vegas Resort, Summerlin, Nevada on Sunday, 13 June 2010. Brian attends North Dakota State College of Science. He was selected with a drawing from a list of 19 applicants of whom 14 were from the US, 2 from Canada, 2 from Italy, and 1 from Ecuador.





4–20 MADC SIMULATOR				
ITEM	QTY	MFR	DESCRIPTION	MANUFACTURER'S P/N
1	1	BUD	TRANSI–CASE, DARK BLUE 10"Lx7"Wx4 1/2"D	TC–300
2	1	TRIPLET	MILLIAMETER, 0–25 MADC 6"D w/COVER	22 G
	1	TRIPLET	w/BEZEL	13248
3	3	SUPERIOR ELECTRIC	UNIVERSAL BINDING POST	BP–21–2BR
4	1	ALCO	KNOB, 1/4" SHAFT SPACE, NATURAL FINISH	K–700A
5	1	CLAROSTAT	POT	53C1–10K–2W
6	3 FT		SJO CORD, 2#14 w/GND	
7	1	ELPAC	POWER SUPPLY	OLV–15–24
8	1		RESISTOR 910Ω	
9	1	H.H. SMITH	STRAIN RELIEF, 1/8"–3/16"	937
10	1	G.E.	PLUG, 3 PRONG	4382–9

INSTRUCTIONS
4–20 MADC SIMULATOR

I. TO CALIBRATE A 4–20 MADC INPUT WHEN LOAD HAS A 250 OHM MAXIMUM LOOP BURDEN.
   1. PLUG IN POWER CORD TO 120VAC OUTLET.
   2. CONNECT LOAD BEING TESTED ACROSS POSTS A+ AND A–.
   3. ADJUST OUTPUT TO DESIRED LEVEL BY "ADJUSTING KNOB".
   4. OBSERVE DESIRED MA OUTPUT ON METER SCALE.

II. TO SIMULATE 4–20 MADC LOAD OUTPUT WHEN LOOP HAS ITS OWN 24 VDC POWER SUPPLY AND A 250 OHM MAXIMUM LOOP BURDEN.
   1. DISCONNECT POWER CORD ON SIMULATER.
   2. ADD JUMPER TO POSTS MARKED "B".
   3. CONNECT LOOP BEING TESTED ACROSS POSTS A+ AND A–.
   4. REPEAT SECTION I, STEPS 3 AND 4.

III. FOR LOOPS HAVING A 1200 OHM MAXIMUM LOOP BURDEN, ADD JUMPER ACROSS POSTS MARKED "C".

BUILD YOUR OWN CURRENT SIMULATOR – CHEAP

COMPLIMENTS OF THE WWID – MF

Table of Contents

1 PROJECT BACKGROUND

The Town of Whitecourt's Water Treatment Plant (WTP) was originally commissioned in 1980 as a conventional treatment system to provide a capacity of approximately 6 ML/day. Its treatment process included rapid mixing and coagulation, a solids contact clarifier, three dual media rapid sand filters, post chlorination, and fluoridation.

The Town contacted Stantec Consulting Ltd. (Stantec) in 2002 to complete a detailed audit to determine how the WTP could be cost effectively upgraded as it had reached its capacity and did not meet current standards for contact time and *Giardia* reduction. As a result of the audit, the Town of Whitecourt became the first in Alberta to install microfiltration pressure membranes.

The WTP upgrade became a two stage, multi-year project spanning from 2002 to 2009. Stage 1 involved baffling the adjacent potable water reservoir and construction of a new distribution pump house to take advantage of the new baffling arrangement. In addition, Pall Corporation Microza^{TM} MF pressure membranes were installed in parallel with the existing conventional treatment process, providing the redundancy required for the Stage 2 upgrades to proceed.

Since commissioning, in 2005, the Pall Corporation pressure membrane system has performed exceptionally well and has been granted a 4.0-Log *Giardia* and *Cryptosporidium* reduction credit from Alberta Environment and tripled the WTP output without expanding the plant's footprint.

Stage 2 consisted of pre-treatment upgrades involving the conversion of the existing filter chambers and recarbonation channel to provide three stages of flocculation, and adding Lamella inclined plate settler packs into the existing clarifier. Commissioned in April 2009, the WTP now has capacity of approximately 18 ML/day, even when raw water turbidities are as high as 1,500 NTU.

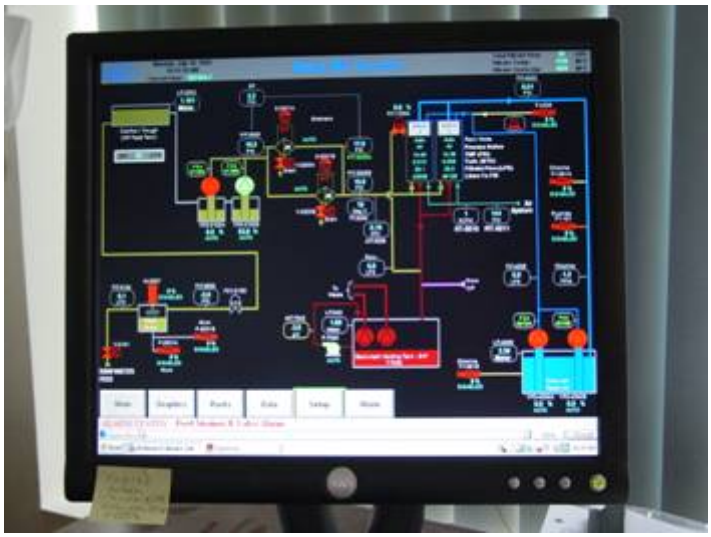
2 ELECTRICAL, INSTRUMENTATION AND CONTROLS UPDATING

Stage 1 required the construction of a new distribution pump house to replace the high lift pumps in the WTP following the potable water reservoir baffling. The new pump house is designed for four 125 HP vertical centrifugal pumps (two variable speed and two fixed speed). Currently only one variable speed pump and one fixed speed pump is installed. To meet the utility company's harmonic requirements, an 18 pulse VFD from Allen-Bradley was supplied for the variable speed pump. The VFD was also supplied with a bypass fixed speed starter in case the VFD developed problems. Of the two pumps installed only one pump is allowed to run at any time with the variable speed pump always the lead pump.

NEW PUMP HOUSE

The new pump house is equipped with A-B ControlLogix PLC with touch screen HMI for monitoring and local control of the pumps and communicates back to the WTP via Ethernet link. Pump house instrumentation includes ultrasonic level, monitoring of the pump well, discharge flow by magnetic flowmeter, and discharge pressure. The pumping scheme is the basic pressure on—flow off with the VFD pump always the lead. The fixed speed pump is equipped with a hydraulic actuated pump control valve to prevent starting and stopping surges.

The pump house has a secondary purpose, which is to keep the existing Hilltop reservoir full. The Hilltop reservoir used obsolete Quindar tone shift telemetry units over dedicated leased telephone lines to the WTP to control the old high lift pumps. During Stage 1, the Quindar was replaced with A-B MicroLogix PLC and phone lines redirected to the new pump house. During periods of low flow, and acceptable Hilltop reservoir level, all distribution pumps are shutdown and the Town is supplied water from the Hilltop reservoir.



At the WTP, instrumentation and control upgrades for Stage 1 were provided primarily by Pall Corporation in the form of a main A-B ControlLogix PLC and remote drops for each filter rack and CIP system. Pall Corporation also provided the main operator HMI station in the WTP office, remote programming modem, and Ethernet router. This allowed the WTP to monitor the new pump house PLC and for Pall to have the ability to provide remote troubleshooting and programming upgrade services.

A SLC 505 was installed in the WTP's existing relay panel to provide minimum interfacing to the old controls required to remain under Stage 1. In addition to the instrumentation supplied by Pall Corporation, the WTP's old Foxboro influent magmeter was replaced with a current Rosemount unit, which could provide a 4 to 20 mA signal to Pall PLC; and all Healy Ruff float level units were replaced with ultrasonic level monitors using the existing standpipes. The remaining WTP pneumatic instrumentation was left in place until the Stage 2 upgrade.


Existing MCC


New A-B MCC

The WTP 600 Volt electrical service was upgraded to accommodate the new pressure membrane and Clean-In-Place (CIP) systems, fortunately the original designers had provided for future upgrading, which resulted in minimal WTP downtime. The existing 30 year old MCC was retained with only the old high lift pumps being decommissioned due to the construction of the new pump house. To accommodate the new pumps, air compressors, CIP heaters, etc. supplied by Pall Corporation, a new A-B MCC, with DeviceNet, was provided with VFDs, starters and breakers. All of the new electrical and control equipment were all networked together using DeviceNet resulting in reduced installation material, labor, and commissioning time.

Stage 2 of the WTP upgrade was when the fun began. All the existing pneumatic filter controls, filter consol, old relay logic, old annunciators, and decommissioned pumps were removed. Additional I/O was added to the SLC 505 in the old control panel to replace the old relay logic. The existing MCC was required to remain in place, but with removal of old starters and rearranging remaining starters there was sufficient space to install six new small VFDs, specially fabricated with DeviceNet interface, to fit the old MCC for Stage 2 flocculator and chemical feed pump additions. In addition, DeviceNet interfaces were added to select existing starters such as the clarifier rake drive, allowing control through the new Pall Corporation PLC/HMI control system. Finally, the old annunciator alarm and status light boxes in the WTP's office were removed with all alarms and statuses switched over to the HMI. Arrangements were made with Pall Corporation and their programmers to provide the additional PLC programming and HMI development required for the final WTP configuration.

A Stage 3 had been planned whereby the river water intake pump house PLC would be upgraded to match the WTP PLCs once Stage 2 was completed. This upgrade was moved ahead and added into Stage 2 and consisted of replacing an obsolete GE PLC with A-B ControlLogix with a local control panel touch screen HMI communicating back to the WTP via Ethernet using an existing direct buried multi-pair instrument cable.

3 ISSUES & CHALLENGES

At the beginning of Stage 1 renovations to the existing WTP, to prepare for the Pall Corporation pressure membranes it was found that the fluorescent light fixtures contained PCBs requiring total fixture replacement.

During commissioning and initial operation of the new reservoir pump house, the variable speed pump was found to have a vibration, of course just at the optimal operating speed. Despite numerous efforts and investigations, the pump vendor could not eliminate the vibration. The solution was therefore to program out the speed range of the vibration in the VFD. In spite of this, the pump operates well.

During Stage 2 commissioning of the communication link between the WTP and the raw water pump house, the link worked fine, but the A-B Ethernet module could not be configured to transfer the data between the two ControlNet PLC's. A-B tech support proved unsupportive. The solution to this apparent protocol incompatibility (signal conversion from RS232 to Ethernet) is still being investigated with A-B.

4 SUMMARY

Overall, the project was a huge success and the WTP currently has upgraded electrical, instrumentation, control, and SCADA systems. The operators currently have the capability to centrally monitor their entire system from the WTP. As an additional benefit, Pall Corporation included a dial-in modem in the main PLC, which has proved to be a big asset in assisting the plant to refine its treatment and operating systems by remotely troubleshooting and modifying the PLC operating program.

The major success of the Whitecourt WTP has resulted in additional contracts for microfiltration upgrades at other WTP's of the same vintage throughout the Province of Alberta.

For further inquiries please contact:

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