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TRIVIA ANSWERS

From the Office of the AZ Water Association Historian

A. Benjamin Franklin (1785): Franklin could see distant objects much better than closer ones. He used two different pairs of glasses for a long time – switching them to look at distant objects, then changing to the other pair for closer things. That grew tiresome; so he had the glass lenses of each pair cut in half and the preferred halves of each "framed" together to create "bifocals".

b. "Hot dog"; in a cartoon released 23 May 1929 – in which Mickey was cast as a hot dog vendor at a carnival. The man behind Mickey’s voice in 1929 was Walt Disney himself!

c. St. Louis, Missouri.

d. It was constructed (originally, it was to be a temporary structure – to be torn down within 20 years) for the 1889 Worlds Fair in Paris. Designed and built by Alexandre Eiffel for 8 mil francs (today’s equiv. of $40 mil) – it topped off at 1100’ in height.

e. 1715 in Paris France by Jean Maurius. "Umbrellas" had been around for many years prior (made in an always open position) – mostly, in Italy – to keep the sun off the person using it; and, to a lesser degree, rain. With the introduction of the 1715 folding model; it was now much more convenient to carry with you – for “sun” or for “rain” situations.

See questions on page 13
The AZ Water Association (AZ Water) is a nonprofit educational organization founded in 1928 with a membership of more than 2,200 water and wastewater professionals dedicated to preserving and enhancing Arizona’s water environment. The vision of AZ Water is to be the recognized advocate for enhancing Arizona’s water and environmental resources.

AZ Water awarded $12,000 in scholarships for the 2013 Scholarship Program to undergraduate and graduate students at Arizona colleges and universities pursuing studies related to water, wastewater, or environmental resources.

The AZ Water annual scholarship judging takes into consideration the experience and interest of the students as well as their academic status (graduate, undergraduate, etc.) and students were judged against their peers.

This year’s Recipients are:

<table>
<thead>
<tr>
<th>Name</th>
<th>Program</th>
<th>Institution</th>
<th>Prize Amount</th>
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<td>Ph.D</td>
<td>ASU</td>
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<td>JD</td>
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<td>John Mark Wilson</td>
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<tr>
<td>Michelle Young</td>
<td>Ph.D</td>
<td>ASU</td>
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</table>

Back row, L-R: James “Mac” Gifford, Chris Hill (AZ Water President), Kyle Doudrick, Chao-An Chiu (AWWA Publication Award Recipient), John Mark Wilson; Front row, L-R: Michelle Young, Cheryl Dilks, Olga Epshtein.
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LEGEND would also like to thank ADEQ for their dedicated concern to ensure Operators are updated and have the capability to obtain their needed PDHs Free of Charge.

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Legend Technical Services of Arizona, Inc. (LEGEND), a full-service environmental laboratory, is providing assistance to water and wastewater operators and the environmental community in obtaining training and professional development hours (PDHs) through free workshops held throughout Arizona. Workshops will be held in outreach areas as well as in the Phoenix and Tucson metropolitan regions.
Memoirs
OPEN WINDOW ON TO THE PAST

In my many travels around the country, the journeys are made at an average speed of probably 50 miles per hour in climate-controlled comfort. We are so accustomed to fast, comfortable travel by air or on the interstate highway system crisscrossing America that it’s easy to forget how difficult even a short journey was back in “the good old days.”

Above: During the 1830s, one slow way between Pittsburgh and Philadelphia was a mixture of rail, canal and river; the other was by stage coach along the National Road, nothing like today’s Pennsylvania Turnpike. Left: George Escol Sellers: born Nov. 26, 1808; died Jan. 1, 1899.
I collect old books and magazines. Recently I found a set of reminiscences written by an early Philadelphia “mechanician” about his experiences from 1815 to 1840 as a boy and young man. The stories, collected by Eugene S. Ferguson while he was curator of engineering in the Museum of History and Technology (part of the U.S. National Museum now known as the National Museum of American History), were published by the U.S. Government Printing Office in 1965.

‘Fearful undertaking’
George Escol Sellers was born in 1808 into a family of prominent inventors, mechanics and manufacturers who lived and worked in Philadelphia during the early years of our new country. In his memoirs, Sellers tells us that a trip from Philadelphia to Pittsburgh in a fast mail coach “was a fearful undertaking of three days and two nights. Six passengers were cramped in a coach, with mail pouches filling all proper legroom. Rather more comfort was to be had in the slower nine-passenger coach” that took four days to make the journey.

He also recounts the story of a trip he took from Philadelphia to Washington, D.C., probably in early 1832. A modern Rand McNally road atlas says the distance between the two cities is 140 miles; estimated travel time today is 2 hours and 33 minutes.

To make the journey in good weather, a traveler got on a steamboat in Philadelphia and ran down the Delaware River to New Castle, Del. There he boarded horse-drawn cars running on light strap-iron rail for a trip overland to the Elk River in Maryland and another steamboat, which took him down the Elk and the Chesapeake and up the Patapsco River to Baltimore. From Baltimore it was an easy 3-1/2-hour run to Washington in a stagecoach. In winter, however, it was a different story.

Night crossing
“I was obliged to go from Philadelphia to Washington, and thought myself very fortunate to be of a party with Mr. Reeside, the proprietor of the line, and one of the largest mail contractors and stage line owners in the United States,” Sellers wrote. “He promised us a quick trip, with relays of his best teams, the hardest stage to be with six instead of four horses.

“We left Philadelphia an hour before daylight, in an open-front coach on sleigh runners. The day was very cold, and before we reached Elkton, Md., a driving, blinding snowstorm set in, steadily increasing in violence. It was long after dark when we got to the Susquehanna, opposite Havre de Grace. The river was frozen, and had to be crossed on the ice.”

The crossing was to be effected by small sleds; either pushed by men or pulled by one horse, since the coach and its four horses was deemed too heavy for the ice. “Some of the sled men refused to (cross); all considered it dangerous. The road tracks were covered by the falling snow; the night very dark, the snow blinding, and the only guide the sound of a constantly-tolling bell (in) Havre de Grace. Mr. Reeside encouraged us to venture, and advised walking alongside the sleds instead of riding on them.

“When about (halfway) the bell either stopped, or (it couldn’t be heard due to) the wind that had increased to almost a gale. Soon the sled pushers became confused and called a halt.”

Rough on boots
The men had only feeble candle lanterns for light and felt around in the snow looking for old tracks to guide them. No one had a compass, but Reeside offered to lead them. Apparently the men didn’t think much of his abilities and refused to move. Sellers continues:

“‘Then,’ said Reeside, ‘stamp about and keep your blood circulating, or you will all freeze.’ He then sat down on a sled, pulled off one of his heavy boots, thrust into it some crumpled newspaper and (with a lantern) set fire to the paper. As it blazed he shook it about in the boot, which, when well heated, he pulled on to his foot; then went through the same operation for the other foot.
Several of the party followed his example. His next move was to demolish a sled to make a fire, but before it was kindled the wind lulled, and we again heard the tolling of the bell. ... the pushers had got considerably off the track (but) by slow and cautious work they landed us safely. There was not a temperance member of that party who refused a hot whiskey punch of Reeside’s brewing, to brace and warm up while a hot supper was preparing.

“From Havre de Grace to Baltimore in regular stagecoach, arriving there after daylight, and Washington by noon – over 30 hours of hardship in accomplishing what is now done within five hours on the railroad, regardless of the seasons, with ease and comfort to the traveler.” (Sellers wrote this account about 1865.)

The old mechanic couldn’t resist ending his story with a plug for his profession and the free enterprise system. “This (the railroad) is what the country owes to the labor and skill of its civil and mechanical engineers, backed by the capital of far-seeing men, who were to reap the profits from its accomplishments.”

George Sellers’ memoirs give us a fascinating look at the dangers and hardships of travel during the first half of the 19th century. FC

Sam Moore grew up on a farm in western Pennsylvania. He now lives in Salem, Ohio, and collects antique tractors, implements and related items. Contact Sam by email at ietfolkorayfron@att.net.

EARLY GOVERNMENT CONTRACTOR WORKED THE SYSTEM

George Escol Sellers mentions a Mr. Reeside, the proprietor of the stage line who was present during the harrowing trip from Philadelphia to Washington, D.C. James Reeside, often referred to as “Colonel” (although I found no record of military service other than as a teamster during the War of 1812), was one of the bigger stagecoach operators on the old National Road (now U.S. Route 40).

Reeside was awarded a U.S. government contract to haul mail from Philadelphia to Wheeling, W. Va., upon completion of the National Road between those two cities in 1818. Initially he sub-contracted with shorter stage lines along the way, but eventually established a through line of his own, a line that one of his competitors scornfully predicted “Would not last until the June bugs come.” When it finally did, it became known as “The June Bug Line.”

Reeside is said to have owned more than 1,000 horses and employed some 400 men, causing some folks to call him the “Land Admiral,” presumably in addition to “Colonel.” The early “coach wagons” were rough riding and uncomfortable, and at some point Reeside adopted the stylish and relatively comfortable Concord-style coaches made in Troy, N.Y. All Reeside’s coaches were painted bright red, and he even took to wearing a red vest and cravat to match his coaches.

Reeside was not universally loved, however. During the Lincoln-Douglas Debate of 1858, Lincoln took President Andrew Jackson’s Postmaster General, William Barry, to task. Lincoln maintained that Barry was determined to throw mail contracts into the hands of his friends, even though by law the contracts were to be awarded to the lowest bidder. He accomplished this by having his chosen ones bid ridiculously low, and after they had received the contract he would rewrite it to add “some slight additional duty.” Then, as Lincoln said, he would “double, treuple and often quadruple what honest and fair bidders had proposed to take it at.”

Lincoln cited the following example: “The contract for carrying the mail upon a certain route had expired, and of course was to be let again. The old contractor offered to take it for $300 a year, the mail to be transported thereon three times a week, or for $600, transported daily. One James Reeside bid $40 for three times a week, or $99 (for) daily (delivery), and of course received the contract. On the examination of the (Congessional) committee, it was discovered that Reeside had received for the service on this route, which he had contracted to render for less than $100, the enormous sum of $1,999! This is but a single case.”

Later, the government sued Reeside for almost $33,000 overpayment, but he claimed something in law called “set-off,” which I don’t understand, and that instead of having been overpaid he was owed almost $190,000. A jury found for Reeside and said the government did owe him. The treasury was never authorized to pay, however, and Mr. Reeside died unpaid in September 1842. In 1848, his widow sued the U.S. government for the money but lost. Later, she petitioned Congress for the sum but it’s unclear whether or not it was awarded.

—Sam Moore
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UP TO 21 Contact Hours
GENERAL INFORMATION

MONDAY • September 23, 2013
4:00 pm - 6:00 pm Attendee Registration
2:00 pm - 9:00 pm Exhibitor Setup
6:00 pm - 8:00 pm Water for People
6:00 pm - 8:00 pm Tri-State Mixer @ the pool

TUESDAY • September 24, 2013
7:00 am - 5:00 pm Attendee Registration
7:00 am - 1:00 pm Exhibitor Setup
7:00 am - 3:50 pm Classes
11:45 am - 12:45 pm Young Professional Luncheon
3:30 pm - 7:00 pm Exhibits Open

WEDNESDAY • September 25, 2013
7:00 am - 5:00 pm Attendee Registration
7:00 am - 3:50 pm Classes
3:30 pm - 6:30 pm Exhibits Open
6:30 pm - 9:00 pm Tri-State Volunteer Banquet and Awards

THURSDAY • September 26, 2013
7:00 am - 5:00 pm Attendee Registration
7:00 am - 3:50 pm Classes

TRANSPORTATION
If you are planning on using the South Point’s Airport Shuttle, please call and make reservations at least 24 hours in advance. The toll-free number is 866-791-7626 (ask for Shuttle Reservations). Seating is limited and only those with reservations will be allowed to board. However, if the shuttle isn’t full, seating will be on a first come, first serve basis.

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The Tri-State Seminar Committee involving AZ Water, CWEA, and NWEA is proud to announce the 29th Annual Tri-State Seminar for 2013. Our efforts continue to focus on the educational opportunities for all attendees. Our objectives are to provide each attendee with continuing education credits and professional development hours through our technical training seminars in water, wastewater, water re-use advance technologies and safety.

To make this annual meeting affordable for the operators, we are encouraging you to consider being a sponsor at this year’s event. Your sponsorship of this conference will be greatly appreciated by the committee and all the attendees.

**Recognition Facts & Information**
Recognition will be by signage in event areas. All sponsors will be recognized in the program.

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<td>Gold</td>
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<td>A link on our website to your website, Exhibit Hall and Registration Area, Golf Tournament Tee Sponsor, Program Listing</td>
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<tr>
<td>Silver</td>
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<td>Exhibit Hall and Registration Area, Golf Tournament Tee Sponsor, Program Listing</td>
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<tr>
<td>Copper</td>
<td>$50</td>
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Overview of Course
This course consists of lectures, scenarios and hands on training. The course will give an overview of active shooter incidents in the United States, progression of violence and the contributing factors. During the hands on portion, students will be presented and trained with physical examples and methods of self-protection and disarming, personal awareness or situational awareness, and escape.

Course Objective
The objective of this course is to help students:
- Identifying behaviors of concern
- Recognize and survive this type of incident
- Prepare for this possibility
- Enhance self-awareness
- How to develop plan, prepare and react to this situation.
<table>
<thead>
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<th>Time</th>
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<th>Time</th>
<th>Maintenance - Grand Ballroom B Session</th>
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<td>THE GOOD, THE BAD AND THE UGLY OF ANIMALS IN WASTEWATER TREATMENT</td>
<td>7:30-8:20</td>
<td>PUMPS CURVES AND SYSTEM HEAD CURVES, PART 1</td>
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<td>Dr. David Jenkins, UC Berkeley</td>
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<td>Paul Walton, Evans Hydro</td>
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<td>NITRIFICATION/DENITRIFICATION BASICS</td>
<td>8:30-9:20</td>
<td>PUMPS CURVES AND SYSTEM HEAD CURVES, PART 2</td>
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<td>Ronald G. Schurer, CDWAC</td>
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<td>HOW TO USE THE MICROSCOPE IN WASTEWATER TREATMENT</td>
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<td>BYPASS PUMPING EFFICIENCY</td>
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<td>EMERGING TECHNOLOGIES FOR WASTEWATER TREATMENT</td>
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<td>EARLY DETECTION OF BEARING FAILURES</td>
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<td>Greg Lee, LIDFEC, INC</td>
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<td>12:50-1:40</td>
<td>FACTS AND FICTION ABOUT ACTIVATED SLUDGE</td>
<td>12:50-1:40</td>
<td>CONDITION MONITORING THROUGH ANALYSIS</td>
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<td></td>
<td>Dr. David Jenkins, UC Berkeley</td>
<td></td>
<td>Patrick Forgan, ANALOGICS, Inc.</td>
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<td>Rick Allen, Biggby</td>
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<td>3:00-3:50</td>
<td>PHOSPHORUS REMOVAL FROM EBPR SLUDGE USING LANTHANUM CHLORIDE</td>
<td>3:00-3:50</td>
<td>POWERFUL UTILITIES DATA ON YOUR iPAD</td>
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<td></td>
<td>Michael Strelecki, UTC</td>
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<td>Scott Wengen, P.E. and Nancy Hauman, P. E., Telegraph Engineering, LLC</td>
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<thead>
<tr>
<th>Time</th>
<th>Backflow Prevention - Napa A &amp; B Session</th>
<th>Time</th>
<th>Water Treatment and Surface Water - Napa A &amp; B Session</th>
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<tbody>
<tr>
<td>7:30-8:20</td>
<td>BACKFLOW: THE HYDRAULIC CONDITION</td>
<td>7:30-8:20</td>
<td>STORMWATER PROTECTION FOR WATER UTILITIES</td>
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<td></td>
<td>Jim Puryear, BAVCO</td>
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<td>Steven Ross, Las Vegas Valley Water District</td>
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<tr>
<td>8:30-9:20</td>
<td>BACKFLOW PREVENTION ASSEMBLIES AND THEIR APPLICATIONS</td>
<td>8:30-9:20</td>
<td>BIO-BASED INVASIVE MUSSEL CONTROL</td>
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<td>Scott Altos, O’Connor Scales, Inc.</td>
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<td>Carolyn Liu, Marrone Bo Innovations</td>
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<td>9:40-10:30</td>
<td>BACKFLOW PREVENTION TESTER TRAINING AND CERTIFICATION</td>
<td>9:40-10:30</td>
<td>EFFICIENT, BIOLOGICAL NITRATE REMOVAL OF NITRATE AND OTHER GROUNDWATER CONTAMINANTS USING BIOTRA SYSTEM</td>
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<td>Lyne Greenhill, Southern Nevada Backflow Services</td>
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<td>Jeroen Geraedts, Carolus Expresso</td>
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<td>10:40-11:30</td>
<td>BACKFLOW PREVENTION ASSEMBLY TESTING</td>
<td>10:40-11:30</td>
<td>SMART WATER ANALYTICS</td>
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<td>Lyne Greenhill, Southern Nevada Backflow Services</td>
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<td>Jeff Neuman, Nick Burns, and Guy Voss, Black and Veatch</td>
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<td>12:50-1:40</td>
<td>BACKFLOW PREVENTION AND FIRE SUPPRESSION SYSTEMS</td>
<td>12:50-1:40</td>
<td>PWTP DUAL - MEDIA FILTER PILOT STUDY</td>
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<td>Kevin Poe, Watts/Ames Corporation</td>
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<td>Lei Hong, Santa Clara Valley Water District</td>
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<td>2:00-2:50</td>
<td>RESPONSE TO A BACKFLOW INCIDENT</td>
<td>2:00-2:50</td>
<td>C.C. CHAGIN WATER SUPPLY HISTORY</td>
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<td>Jim Puryear, BAVCO</td>
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<td>Dave A. Dimon, C.E.T., Sunrise Engineering</td>
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<td>3:00-3:50</td>
<td>OPERATION OF AN EFFECTIVE CCP PROGRAM</td>
<td>3:00-3:50</td>
<td>THMH: SOURCE, CLEARWELL &amp; TANK CONTROL</td>
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<td></td>
<td>Eugene Bragazzi, Cross-Connection Control Specialist, City of Henderson</td>
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<td>Ken Hudek, University of North Carolina, Medora Corp.</td>
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<tr>
<th>Time</th>
<th>Water Distribution - Grand Ballroom A Session</th>
<th>Time</th>
<th>Water Distribution - Grand Ballroom A Session</th>
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<tbody>
<tr>
<td>7:30-8:30</td>
<td>LIFE CYCLE COSTS FOR TANK COATINGS</td>
<td>7:30-8:30</td>
<td>WATER QUALITY ISSUES IN YOUR WATER STORAGE TANK</td>
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<td></td>
<td>Rocky Owens, Pacific Tank Solutions</td>
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<td>Mark Moore, DN Tanks Concrete Tank Services</td>
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<td>8:30-9:20</td>
<td>SOLUTIONS FOR WATER QUALITY ISSUES IN YOUR WATER STORAGE TANK</td>
<td>8:30-9:20</td>
<td>WATER CUSTOM METTERING ISSUES AND RESPONSES</td>
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<td>Stephen R. Davis, ARCADIS U.S.</td>
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<td>Steven S. Davis, ARCADIS U.S.</td>
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<tr>
<td>9:40-10:30</td>
<td>HOW TO IMPLEMENT A SUCCESSFUL AMR SYSTEM</td>
<td>9:40-10:30</td>
<td>MANAGING AND IMPROVING WATER QUALITY</td>
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<td></td>
<td>Jeremy L. Tonti, National Meter and Automation, Inc.</td>
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<td>Dr. Peter S. Hise, PAS Water Technologies, Inc.</td>
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<td>10:40-11:30</td>
<td>THE DEAD END DANGER ZONE</td>
<td>10:40-11:30</td>
<td>DETECTION BASIN DESIGN-CONTROL &amp; NO-1</td>
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<td></td>
<td>Robert Galvin, The Kupferle Company</td>
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<td>Andrew Treliese, P.E., and Angela Macklinson, P.E., MWH Americas</td>
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<td>12:50-1:40</td>
<td>THE IMPORTANCE OF LARGE METER TESTING AND EVALUATION</td>
<td>12:50-1:40</td>
<td>MUCKING AROUND WITH BMPs: CHALLENGES IN REMOVING SEDIMENT, TRASH &amp; DEBRIS FROM URBAN STORMWATER RUNOFF</td>
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<td>Scott McClary, M.E. Simpson Co., Inc.</td>
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<td>James Nabong, P.E., City of San Diego</td>
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<td>2:00-2:50</td>
<td>WORKSHOP CERTIFICATION</td>
<td>2:00-2:50</td>
<td>David Link, SES Consulting</td>
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<td>3:00-3:50</td>
<td>Temporary Traffic Control &amp; Work Zone Safety</td>
<td>3:00-3:50</td>
<td>ECOSSYSTEM SERVICES OF THE LAS VEGAS WASH</td>
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<td>John Barnes, Sewer Trent Services</td>
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<td>Seth Shinnall, Southern Nevada Water Authority</td>
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<tr>
<td>7:30-8:30</td>
<td>NASCO INFRASTRUCTURE CONDITION ASSESSMENTS (MACD/LACF)</td>
<td>7:30-8:30</td>
<td>CIGARETTE POLLUTION AND THE</td>
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<td></td>
<td>John Barnes, Sewer Trent Services</td>
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<td>Ken Beckstead and Janel Kapsy, Cigarette Pollution Solutions/Cigarette Butt Services</td>
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<tr>
<th>Time</th>
<th>Workshop Certification - Joshua Session</th>
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<tr>
<td>7:30-8:30</td>
<td>OSHA 10/30-HOUR for General Industry</td>
<td>7:30-8:30</td>
<td>NASCO INFRASTRUCTURE CONDITION ASSESSMENTS (MACD/LACF)</td>
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<td>John Barness, John Tim and Pole, Total Safety Compliance</td>
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<td>JOSHUA</td>
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<td>8:30-9:20</td>
<td>Permit Required Confined Spaced Entry Certification</td>
<td>8:30-9:20</td>
<td>REDWOOD</td>
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<td>Sean Scours, Terra Tech</td>
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<td>CYPRESS</td>
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<td>9:40-10:30</td>
<td>NASSCO INFRASTRUCTURE CONDITION ASSESSMENTS (MACD/LACF)</td>
<td>9:40-10:30</td>
<td>PALM</td>
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<td>Rick Prince, Prince Consulting</td>
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### WEDNESDAY, SEPTEMBER 25, 2013

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<thead>
<tr>
<th>TIME</th>
<th>MAINTENANCE</th>
<th>Ballroom B</th>
<th>Session</th>
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<tbody>
<tr>
<td>7:30 - 8:20</td>
<td>POLYMER COATING &amp; REPAIR SYSTEMS</td>
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<td>8:30 - 9:20</td>
<td>CATHODIC PROTECTION FOR WATER STORAGE TANKS</td>
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<tr>
<td>9:40 - 10:30</td>
<td>NEW FLANGE BOLTING &amp; NSF 61 GASKETS</td>
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<td>10:40 - 11:30</td>
<td>POINT REPAIR, TRENCHLESS TECHNOLOGY</td>
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<td>2406</td>
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<tr>
<td>12:50 - 1:40</td>
<td>WATER TANK SELECTION, CONSTRUCTION AND MAINTENANCE - PART 1</td>
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<tr>
<td>2:00 - 2:50</td>
<td>REPAIRING, JOINING AND TAPPING PIPE</td>
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<td>3:00 - 3:30</td>
<td>平文</td>
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<tr>
<th>TIME</th>
<th>WASTEWATER TREATMENT</th>
<th>Sonoma A &amp; B</th>
<th>Session</th>
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<tbody>
<tr>
<td>7:30 - 8:20</td>
<td>COMPREHENSIVE RENEWAL PLANNING</td>
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<td>8:30 - 9:20</td>
<td>IMPROVED SLUDGE Dewatering BY ADVANCED MIXING OF POLYMICROBIAL</td>
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<tr>
<td>9:40 - 10:30</td>
<td>ACTIVATED SLUDGE MICROBIOLOGY I</td>
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<tr>
<td>10:40 - 11:30</td>
<td>ACTIVATED SLUDGE MICROBIOLOGY II</td>
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<tr>
<td>12:50 - 1:40</td>
<td>BIOLOGICAL NUTRIENT REMOVAL BASICS</td>
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<td>2:00 - 2:50</td>
<td>BRINGING UP INTEREST: A REVIEW</td>
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<td>3:00 - 3:30</td>
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<tr>
<th>TIME</th>
<th>ENVIRONMENTAL COMPLIANCE / PRETREATMENT</th>
<th>Napa C &amp; D</th>
<th>Session</th>
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<tbody>
<tr>
<td>7:30 - 8:20</td>
<td>BREAKING BAD: THE ENFORCEMENT RESPONSE PLAN</td>
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<td>8:30 - 9:20</td>
<td>FIELD TO LAB - CRITICAL PROTOCOLS</td>
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<tr>
<td>9:40 - 10:30</td>
<td>RAGS STEAL OUR RICHESIA</td>
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<td>10:40 - 11:30</td>
<td>PREPARING FOR AN AUDIT</td>
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<td>12:50 - 1:40</td>
<td>PRETREATMENT AND COMPLEXITY: A GREASE TRAP EVALUATION THAT MORPHED INTO AN INTERESTING LOW pH CAUSATION STUDY</td>
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<td>2:00 - 2:50</td>
<td>THE REGULATORY BILL OF RIGHTS</td>
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<td>3:00 - 3:30</td>
<td>COMPLIANCE DATED SYSTEM OVERVIEW</td>
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<tr>
<th>TIME</th>
<th>WATER TREATMENT &amp; SURFACE WATER</th>
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<tr>
<td>7:30 - 8:20</td>
<td>OPTIMIZING STAGE 2 DBP RULE COMPLIANCE USING DIFFUSSED AERATION FOR THM REDUCTION: TWO CASE STUDIES</td>
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<td>8:30 - 9:20</td>
<td>CHALLENGES AND SUCCESSES OF CONSULTING AND COMMISSIONING A NEW MEMBRABE WATER PLANT</td>
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<td>9:40 - 10:30</td>
<td>WATER QUALITY AND THE WETLANDS CREATED BEHIND THE EROSION CONTROL STRUCTURES IN THE LAS VEGAS WASH</td>
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<td>10:40 - 11:30</td>
<td>LOW MAINTENANCE TURBIDITY METERS</td>
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<td>12:50 - 1:40</td>
<td>TABLET CHLORINATION VS OTHER METHODS</td>
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<td>2:00 - 2:50</td>
<td>SPLITTING THE FINISHED WATER SYSTEM AT THE VAL VISTA WTP</td>
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<td>3:00 - 3:30</td>
<td>RENEWAL PLANNING FOR WATER TREATMENT FACILITIES</td>
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<tr>
<td>7:30 - 8:20</td>
<td>CLEARING THE FROG’S FROM SEWERS: FATS, ROOTS, OILS AND GREASE</td>
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<td>8:30 - 9:20</td>
<td>USE, CARE &amp; REPAIR HI PRESS SEWER HOSE</td>
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<td>9:40 - 10:30</td>
<td>THE RIGHT IMPELLER—THE RIGHT PUMP</td>
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<td>10:40 - 11:30</td>
<td>QUANTITATIVE SEWER ASSESSMENT</td>
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<td>12:50 - 1:40</td>
<td>COLLECTION SYSTEM MANAGEMENT</td>
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<td>PROJECT DELIVERY AND C.M.O.M. COMPLIANCE</td>
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<td>COLLECTION SYSTEM MAINTENANCE</td>
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<th>TIME</th>
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<tr>
<td>7:30 - 8:20</td>
<td>PERMIT CONFINED SPACE ENTRY EQUIPMENT</td>
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<td>8:30 - 9:20</td>
<td>LOCKOUT TAGOUT - WHAT TO LOOK FOR</td>
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<td>9:40 - 10:30</td>
<td>GHS AND HAZARD COMMUNICATION</td>
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<td>10:40 - 11:30</td>
<td>HUMOR IN SAFETY</td>
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<td>12:50 - 1:40</td>
<td>ERGONOMICS AND MUSCULOSKELETAL DISORDERS</td>
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<td>MONITORING CONFINED SPACES</td>
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<td>SLIPS, TRIPS, AND SHIFT</td>
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<th>TIME</th>
<th>WATER DISTRIBUTION</th>
<th>Grand Ballroom</th>
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<tr>
<td>7:30 - 8:20</td>
<td>CIPP PRESSURE PIPE LINERS - GUIDELINES AND OPTIONS</td>
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<tr>
<td>8:30 - 9:20</td>
<td>AIR VALVES: FLOW EFFICIENCY AND SURGES</td>
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<tr>
<td>9:40 - 10:30</td>
<td>UNDERGROUND UTILITY LOCATING - PART 1</td>
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<tr>
<td>10:40 - 11:30</td>
<td>UNDERGROUND UTILITY LOCATING - PART 2</td>
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<td>REPAIRING, JOINING, AND TAPPING PIPE</td>
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<td>2:00 - 2:50</td>
<td>HYDRAULICS AND PUMP CURVES 101</td>
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<td>3:00 - 3:30</td>
<td>SURGE IN WATER SYSTEMS</td>
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<th>TIME</th>
<th>WORKSHOP CERTIFICATION</th>
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<tr>
<td>7:30 - 11:30</td>
<td>OSHA - GENERAL INDUSTRY</td>
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<td>12:50 - 3:00</td>
<td>PERMIT REQUIRED CONFINED SPACE ENTRY CERTIFICATION</td>
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<tr>
<td>3:30 - 5:30</td>
<td>NASSCO INFRASTRUCTURE CONDITION ASSESSMENTS (PACP, MACP and LACP)</td>
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### Water Distribution and Recharge

- **7:30 - 8:20**
  - **INTRODUCTION TO METERING PUMPS**
    - Tony Donohue, Grundfos Pumps
  - **WATER DISTRIBUTION, DATA AND PROCESSES - PART 1**
    - Greg Evans, General Pump Company, Inc.
  - **WATER DISTRIBUTION, DATA AND PROCESSES - PART 2**
    - Greg Evans, General Pump Company, Inc.
  - **THE RIGHT IMPPELLER, THE RIGHT PUMP**
    - Gary Ham, Crane Pumps & Systems
  - **INTEGRATED ROOT CONTROL**
    - Judith From, Dutch Products
  - **MECHANICAL SEALS**
    - Paul Walton, Evans Hydro
  - **PUMP MATH**
    - Paul Walton, Evans Hydro

### Laboratory

- **7:30 - 8:20**
  - **ARSENIC REMOVAL FROM GROUNDWATER**
  - **ASR WELL OPERATION AND MAINTENANCE**
    - Tom Morris, ASR Systems
  - **NOT JUST ANOTHER PUMP IN THE SYSTEM**
    - Gary C. Bollinger, Metropolitan Domestic Water Improvement District
  - **EFFICIENT WELL DESIGN PRINCIPLES**
    - Kevin McCool, Fyfe Co.
  - **OTHER USES FOR OIL AND GAS WELL DATA**
    - Jesse Crews, JRC Geoscience
  - **WATER BANKING IN THE WESTERN U.S.**
    - Carlos Ronstadt, Brownstreet Hyatt Farber Scheck, LLP
  - **GROUNDWATER IN THE SALT RIVER BASIN**
    - Ryan Mitchell, Clear Creek Associates

### Water Distribution

- **7:30 - 8:20**
  - **THE AGING BISBEE WATER SYSTEM**
    - Andy Mast, Arizona Water Co.
  - **INTELLIGENT WATER AND ORGANIZATIONAL CULTURE**
    - Terry Boardman, General Electric / Intelligent Platforms
  - **CONDITION ASSESSMENT OF LARGE DIAMETER PIPELINES: DRIVERS, TOOLS & TECHNIQUES**
    - Timothy M. Thomure, HDR Engineering, Inc.
  - **CONDITION ASSESSMENT OF RESERVOIRS: DRIVERS, TOOLS & TECHNIQUES**
    - Timothy M. Thomure, HDR Engineering, Inc.
  - **ACOUSTIC METHODS FOR DETERMINING REMAINING STRUCTURAL WALL INTEGRITY AND PINPOINTING LEAKS**
    - Carl Sherley, Scholzscott, LLC
  - **AM SYSTEM BENEFITS, SYSTEM SELECTION, PROJECT MANAGEMENT AND DEPLOYMENT STRATEGIES**
    - Mathew Raderer, Dana & Company/Asim Elzamani, Sensus Metering

### Workshops and Certification

- **7:30 - 3:30**
  - **NASCO INFRASTRUCTURE CONDITION ASSESSMENTS (PAC/R/MACP and LACP)**
    - Marilyn Shepard, International Training & Rehab Technologies

### Water Reclamation

- **7:30 - 8:20**
  - **ARSENIC REMOVAL FROM GROUNDWATER**
    - Mark Grabowski, Electro Scan, Inc.
  - **LOCATING PRIVATE LATERAL INFILTRATION**
    - Mark Grabowski, Electro Scan, Inc.
  - **WATER BANKING IN THE WESTERN U.S.**
    - Carlos Ronstadt, Brownstreet Hyatt Farber Scheck, LLP
  - **GROUNDWATER IN THE SALT RIVER BASIN**
    - Ryan Mitchell, Clear Creek Associates

### Instrumentation/Electrical & Control

- **7:30 - 8:20**
  - **ELECTRICAL MAINTENANCE FOR SAFETY-PART 1**
    - David Kreger, Emerson Network Power - Electrical Reliability Services, Inc.
  - **ELECTRICAL MAINTENANCE FOR SAFETY-PART 2**
    - David Kreger, Emerson Network Power - Electrical Reliability Services, Inc.
  - **ELECTRICAL MAINTENANCE FOR SAFETY-PART 3**
    - David Kreger, Emerson Network Power - Electrical Reliability Services, Inc.
The AZ Water Association’s 86th Annual Conference & Exhibition was a resounding success! Over 1000 registrants gathered in Glendale, AZ at the Renaissance Glendale Hotel for three days from May 1-3 to learn, discuss, network and be involved as Professionals Dedicated to Arizona’s Water!

Gratitude and sincere appreciation go out to Kevin Conway, Conference Chair, John Masche, Conference Program Task Force Chair, and the numerous volunteers who helped make this year’s event a remarkable success. The willingness of the volunteer corps who served to step in, step up, and do what needed to be done speaks volumes to the dedication we all have to our water profession and to our Association.

“Sustainable Water, Sustainable Arizona” was the conference theme this year and attendees heard from best-selling author Dr. Robert Glennon. He spoke upon the theme of sustainability from his book *Unquenchable: America’s Water Crisis & What to Do About It*. Following his keynote address, Dr. Glennon led a panel of distinguished guests from the Governor’s Office, CAP, and ASU in a thought-provoking discussion on providing reliable and sustainable supplies of safe drinking water to Arizona’s customers now and into the future.

Over 150 speakers gave technical presentations on topics as diverse as energy efficiency, upcoming regulatory updates, desalination, rehabilitation or replacement, and optimization of processes. The common theme throughout the conference was to provide a sustainable infrastructure for Arizona, and Friday afternoon’s Enhancing the Steps of Sustainable Project Delivery panel discussion was an excellent capstone to the week’s discussions. In addition to the technical presentations, over 25 classes were held for Operator Training as part of the Association’s commitment to provide training and education all of Arizona’s water professionals. Showcasing all of the latest in equipment, technology, and services for the water and wastewater industry, were 170 manufacturers and over 350 representatives. Even a future generation of water professionals took the spotlight when students from Future City AZ presented their award winning presentation and scale model of the Future City of “Elysium”.

This year’s Conference & Exhibition introduced a new format and new events to the attendees to refresh the experience of the attendees. More emphasis was placed on providing attendees with the opportunity to learn through additional sessions and classes while also providing additional opportunities to meet and network with other water and wastewater professionals.

We look forward to seeing our “Professionals Dedicated to Arizona’s Water” again next year. Mark your calendars now for AZ Water’s 87th Annual Conference and Exhibition, May 7-9, 2014 at the Renaissance Glendale Hotel!
AZ WATER AWARDS

Water System
Project of the Year
(see article on page 22)
Deer Valley WTP Reservoir Interconnect Pipe Project
• City of Phoenix
• Wilson Engineers
• Kiewit Infrastructure West Co.

Water Treatment
Project of the Year
(see article on page 28)
Ak-Chin Indian Community Surface WTP
• Ak-Chin Indian Community
• Carollo Engineers
• PCL Construction

Wastewater System
Project of the Year
(see article on page 14)
Avenue B&C, Colonia Wastewater Collection System
• Yuma County Improvement District No. 07-09, Avenue B&C Colonia
• Stantec Consulting Services
• Blucor Contracting Inc.

Wastewater Treatment
Project of the Year
(see article on page 18)
City of Casa Grande WRF Phase 3 Expansion
• City of Casa Grande
• Carollo Engineers
• Hunter Contracting

Young Professional of the Year
Jacqueline Shaw
• B.S. Chemical Engineering, University of Arizona (2005)
• M.S. Environmental Engineering, University of Arizona (2007)
• Engineer with ARCADIS, Inc. (2007 to Present)
• Quentin Mees Research Award (2011)
• AZ Water Board Member (2011-2012)
• AZ Water Board Secretary (2012 to Present)
• Member American Water Works Association (2007 to Present)
• Member Water Environment Federation (2011 to Present)
• For Fun! - Running marathons, yoga, hiking, travel, playing with my dog named Kitty

Engineer of the Year
Uday Gandhe
Education
• BS and MS in Civil Engineering – Osmania University, India
• MS in Civil and Environmental Engineering, New Jersey Institute of Technology
• MBA, Arizona State University
Activities
• Past Chair, Water Treatment Committee
• Member of Water Treatment and Membership Committees
• Local Host Committee Chair, AWWA WQTC in Phoenix (2011)
Notable Projects
• Deer Valley WTP East Basins Reconstruction Project
• Deer Valley WTP Solids Handling Facilities Project
• Deer Valley WTP RCEP and Misc Rehabilitation Projects
• Deer Valley WTP Reservoir Interconnect Project
• Chandler Airport WRF 5 MGD, 10 MGD, 15 MGD and 22 MGD Projects
• Lake Havasu North Regional Plant Project
• Kyrene Reclamation Facility Expansion Project
• Cholla WTP Solids Handling Facilities Project

Operations Leader of the Year
Linda Bezy-Botma
• AZ Water, Water Treatment Committee Member
• Multiple years of service in AZ Water
• Provided optimization at all of the City of Peoria treatment facilities: Butler WRF, Beardsley WRF, and Jomax WRF.
• Has accumulated over $850,000 in savings over the last few years.
• Highly respected leader that holds the highest standards to internal and external clients.

Environmental Stewardship
Kim Neill and John Knudson
"Both have successfully championed the City of Chandler’s cause of reclaiming every drop of wastewater produced, putting to full use to aid the Valley’s water conservation efforts. Kim and John are currently spearheading $200 million worth of City infrastructure projects” – Dave Siegel, City of Chandler Utilities Director.

Nathan Burbank
Environmental Educator
Dr. Peter Fox
• 22 Years at Arizona State University
• Graduate Chair of School of Sustainable Engineering and the Built Environment
• Member of National Academy of Science Ad-hoc Committee on Managed Underground Storage of Water
• Executive Committee Member for the National Roadmap for Desalination and Water Purification
Kachina Award for Outstanding Service
Vance G. Lee
- After graduating from ASU (Go Devils!) in 1970 Vance worked:
  - As an Engineer at Salt River Project 70-74
  - As a manager at Las Vegas Water District 74-78
  - As a Principal Engineer at James M. Montgomery 78-85
  - As a Vice President at Camp Dresser and McKee 85-88
  - As a Vice President at HDR Engineering 88-98
  - As an Associate at Carollo Engineers 98-2010
  - As a Project Manager at WaterWorks Engineers 2010-present
- Licensed as a Professional Civil Engineer in Arizona, Nevada and California.
- Board Certified Environmental Engineer by AAEE
- George Warren Fuller Award (AZ Water) – AWWA – 2005
- Vice President of AZ Water – (2006 – 2007)
- President of AZ Water – (2008 – 2009)
- AZ Water Engineer of the Year Award – 2010
- Vance is knowledgeable, conducts himself with the utmost integrity and always strives for perfection in his work.

“BEST OF THE YEAR”

Large Wastewater Collection System Operator
Jeff Foster, City of Mesa

Large Wastewater Treatment Plant Operator
David Epperson, City of Phoenix, 91st Ave.

Large Wastewater Treatment Plant Operations Supervisor
Robert Garcia, City of Peoria, Butler WRF

Small Wastewater Collection System Operator
Daniel Allen, City of Casa Grande Facility

Small Wastewater Treatment Plant Operator
James Krikawa Severn Trent Services, Ft. McDowell WWTP
GIMMICKS AND GADGETS
Lee Hoff, Senior Water Mechanic at City of Surprise
“LEEGEE”

- Giant squeegee that greatly helped remove water from the bottom of the uneven reservoir.
- Constructed with 2” PVC and extra unused gasket material. When in use, sandbags were also used on the gasket material. Ropes were tied to it and operated by only 2-3 people, as opposed to the 8-10 people, which saved considerable time.
- Leegee cost under $100 to construct.

SAFETY AWARDS
Levels of Awards – Water Distribution or Treatment
Letter of Commendation - Awarded for utilities that operate one year, but less than 200,000 man hours at the facility without a disabling injury accident.
Award of Merit - Awarded for utilities that operate one year, and more than 200,000 man hours at the facility without a disabling injury accident.

Levels of Awards – Wastewater Collection or Wastewater Treatment
Award of Merit - Awarded for utilities that operate one year with less than the maximum number of lost days but have less than 20,800 hours worked for the current year. Award of Honor - Awarded for utilities that operate one year with NO accidents and have more than 20,800 hours worked in that year.

EPCOR Water - Anthem District ............................................... Wastewater Combo ............Award of Honor
City of Surprise - Utilities Division
Water Treatment & Distribution ............................................. Wastewater Combo ............Award of Honor
FMN Water Reclamation Facility
Operated by STES ................................................................. Wastewater Treatment.......Award of Honor
City of Mesa - Southeast Water Reclamation Plant...... Wastewater Treatment.......Award of Honor
City of Mesa - Greenfield Water Reclamation Plant...... Wastewater Treatment.......Award of Honor
City of Mesa - Northwest Water Reclamation Plant...... Wastewater Treatment.......Award of Honor
City of Peoria Butler Water Reclamation Facility........ Wastewater Treatment.......Award of Honor
City of Peoria Jomax Water Reclamation Facility........ Wastewater Treatment.......Award of Honor
City of Safford Water Reclamation Facility
Operated by STES ................................................................. Wastewater Treatment.......Award of Honor
City of Scottsdale - Desert Mountain Recharge Facility.................. Wastewater Treatment.......Award of Honor
City of Scottsdale - Water Campus Wastewater Reclamation Plant............................. Wastewater Treatment.......Award of Honor
City of Scottsdale - Gainey Ranch Reclamation Plant........................................ Wastewater Treatment.......Award of Honor
Gilbert Neely Water Reclamation Facility
Operated by STES ................................................................. Wastewater Treatment.......Award of Honor
ADOT ................................................................. Water Combo .......................Letter of Commendation
EPCOR Water - Chaparral.................................................. Water Combo .......................Letter of Commendation
EPCOR Water - Bullhead City.................................................. Water Combo .......................Letter of Commendation
City of Surprise - Utilities Div. Wastewater Treatment & Collections........................ Water Combo .......................Letter of Commendation
City of Peoria - Greenway Water Treatment Plant............ Water Treatment ..................Letter of Commendation
City of Peoria Quintero Water System............................... Water Treatment ..................Letter of Commendation
City of Peoria Well Production.................................................. Water Treatment ..................Letter of Commendation
City of Scottsdale - Chaparral Water Treatment Plant......... Water Treatment ..................Letter of Commendation
City of Scottsdale - Central Ground Water Treatment Facility.......................... Water Treatment ..................Letter of Commendation
City of Scottsdale - Desert Mountain Recharge Facility.......................... Water Treatment ..................Letter of Commendation
City of Scottsdale - CAP Water Treatment Plant.......................... Water Treatment ..................Letter of Commendation

Electrician, Large System
David Chavarria, City of Surprise, SPA 1 WRF

Instrumentation Technician, Large System
Ken Jones, City of Peoria, Butler WRF

Maintenance Mechanic, Large System
Joseph Butler, City of Peoria, Butler WRF

Laboratory Analyst
Matthew HagenSwiecicki, City of Peoria

ADOT - operated by GHD ESI.......................... Wastewater Combo ............Award of Merit
EPCOR Water - Anthem District.................. Wastewater Combo ............Award of Honor
City of Surprise - Utilities Division
Water Treatment & Distribution ............................................. Wastewater Combo ............Award of Honor
EPCOR Water - Northwest Regional WRF........ Wastewater Treatment.......Award of Honor
EPCOR Water - Verrado Water Reclamation Facility........ Wastewater Treatment.......Award of Honor
City of Mesa - Greenfield Water Reclamation Plant...... Wastewater Treatment.......Award of Honor
City of Mesa - Northwest Water Reclamation Plant...... Wastewater Treatment.......Award of Honor
City of Peoria Butler Water Reclamation Facility........ Wastewater Treatment.......Award of Honor
City of Peoria Jomax Water Reclamation Facility........ Wastewater Treatment.......Award of Honor
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City of Scottsdale - Central Ground Water Treatment Facility.......................... Water Treatment ..................Letter of Commendation
City of Scottsdale - Desert Mountain Recharge Facility.......................... Water Treatment ..................Letter of Commendation
City of Scottsdale - CAP Water Treatment Plant.......................... Water Treatment ..................Letter of Commendation

Summer 2013 AZ Water Association | 61
Arthur Sydney Bedell Award
Kevin D. Conway
• AZ Water Past President
• Air Force Veteran
• World Traveler, Worked in Saudi Arabia
• Wine Aficionado
• Principal at Greeley and Hansen
• Spends significant time in the Big Apple
• Dedicated to the water and wastewater industry

Arthur Sydney Bedell Award is presented annually by the Water Environment Federation (WEF) to the sections’ respective selected member to acknowledge extraordinary personal service to a WEF Member Association.

George W. Burke Award
City of Scottsdale
Water Resources Division
The Burke Award is presented annually by the Water Environment Federation to the sections’ selected municipal or industrial wastewater facility for establishing and maintaining an active and effective safety program. This award was established in 1982 in honor of George W. Burke, Jr., for his many years of service to both the water environment field and WEF.

George Warren Fuller Award
Don Manthe
George Warren Fuller Awards are presented annually by the American Water Works Association to the sections’ respective selected members for their distinguished service to the water supply field in commemoration of the sound engineering skill ... the brilliant diplomatic talent ... and the constructive leadership which characterized the life of George Warren Fuller.

Kenneth J. Miller Water For People Award
Mark Stratton
Mark has provided exemplary service to Water For People through project facilitation, fund raising, education and/or raising the awareness of Water for People and its work. AZ Water has been recognizing its most committed volunteers with the Kenneth J. Miller Founders’ Award since 2002.

AWWA Outstanding Service Award
Andrew Richardson
The AWWA Outstanding Service Award was awarded to Andy for being a very active member of the Arizona Section of the American Water Works Association. Not only has he served on the board of the AZ Water Association but was also a past President. He was also a Past President of AWWA. Andy is highly regarded for his engineering skills and his integrity.

Publications Award
Mr. Paul Westerhoff and Mr. Chao-An Chiu, Arizona State University
For GC/MS Removal of Organic Nitrogen and Other DBP Precursors
To annually recognize and honor the most notable contribution, scientific or practical, to the public water supply profession as published in the Journal AWWA of the American Water Works Association.

AWWA Hall of Fame Inductee
Karl Kohlhoff
The Water Industry Hall of Fame was established in 1970 to perpetuate the memory of those living and deceased who have made the most significant contributions to the field of public water supply. Karl’s name will be engraved on a bronze plaque at AWWA headquarters.

AWWA Life Member
Kevin S. Chadwick
AWWA Life Member & Silver Drop Awardee, Kevin S. Chadwick (join us in congratulating Samuel A. Edmonson and Kenneth E. Spiker - not in attendance)
### Thank You to All Our Sponsors!

#### Keynote

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2013 EXHIBITING COMPANIES – EXHIBIT HALL

3M PURIFICATION
ACURATE CORROSION
ADAPTOR, INC.
ADEDGE WATER TECHNOLOGIES
AIRVAC, INC.
ALFA LAVAL
ALLEN INSTRUMENTS AND SUPPLIES
AMEC ENVIRONMENT & INFRASTRUCTURE
AMERICAN FLOW CONTROL
AMERON INTERNATIONAL
AMID
ANDRITZ
APPLIED PROCESS EQUIPMENT, INC.
APPLIED PRODUCTS GROUP
AQUA AEROBIC SYSTEM
AQUALITEC CORPORATION
AZ WASTEWATER INDUSTRIES
AZBIL NORTH AMERICA
B & W DISTRIBUTORS, INC.
BECC CORPORATION
BILL JOHNSON EQUIPMENT COMPANY
BIO-AQUATIC TESTING
BIOlysceus
BOERGER, LLC
BORDER MARKETING, INC.
BUILDING PRODUCTS COMPANY
CALGON CARBON CORPORATION
CANYON STATE FILTRATION
CDG ENVIRONMENTAL
CDM SMITH
CHEMICAL FEEDING TECHNOLOGIES
CHEMSCAN
CIVITEC ENGINEERING
CLAYVAL
CLASS VALVE COMPANY
CONSTRUCTION PRODUCT MARKETING, LLC
THE COOMBS HOPKINS COMPANY
CORRPRO COMPANIES INC.
CRANE PUMPS
DANA KEPNER COMPANY, INC.
DETECTION INSTRUMENT CORPORATION
DIBBLE ENGINEERING
DN TANKS
DUKE’S ROOT CONTROL, INC.
ECOVERDE
ENGINEERED SALES COMPANY
ENGINEERING AMERICA INC.
ENTELLUS, INC.
ENVIRONMENTAL CORPORATION
FELIX CONSTRUCTION COMPANY
FERGUSON WATERWORKS
FLUID TECHNOLOGY
GE MEASUREMENT & CONTROL
GENEVA POLYMER PRODUCTS
GIBBES AMPSON
GRAND CANYON PUMP AND SUPPLY
GRAVER TECHNOLOGIES, LLC
GT ENVIRONMENTAL
HACH
HANNA INSTRUMENTS
HARRINGTON INDUSTRIAL PLASTICS
HD SUPPLY WATERWORKS
HENNESSY EQUIPMENT SALES CO.
HENNES MECHANICAL SALES
HERON

HILL BROTHERS CHEMICAL COMPANY
HOBAS PIPE USA
HOSE SOLUTIONS INC.
HSI
HUBER TECHNOLOGIES
IDEX LABORATORIES, INC.
IEC SUPPLY
IES SOUTHWEST INC.
INDUSTRIAL SERVICE AND SUPPLY, INC.
INFRA TECT
INNOVYZ
INSTANT BIO SCAN
INSTRUMENTATION AND CONTROLS
JBI WATER
J.F. HURLBUT COMPANY
JAMES, COOKE & HOBSON (JCH)
JWC ENVIRONMENTAL
KELLER ELECTRICAL INDUSTRIES, INC.
KENDALL & SONS
KENNEDY VALVE COMPANY
KEMIRA
KievIT INFRASTRUCTURE WEST CO.
KSG, INC.
KUPPERLE FOUNDRY
LEGEND TECHNICAL SERVICES
M.E. SIMPSON COMPANY, INC.
MAGENTROL
MEASUREMENT SOLUTIONS
METSO
MILTON ROY, LLC
MISOCWATER
MORRIS ENVIRONMENTAL
MOUNTAIN STATES PIPE & SUPPLY
MUELLER COMPANY
NATIONAL METER & AUTOMATION
NATIONAL PUMP COMPANY
NEPTUNE TECHNOLOGY GROUP, INC.
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MICROCLEAR
NORTHWEST PIPE COMPANY
NOVA WATER TECHNOLOGIES
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SIMA SOUTHWEST
SOLARBEE/GRIEBEE
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TATA & HOWARD, INC.
TESTAMERICA LABORATORIES, INC.
THERMO SCIENTIFIC
TIDEFLEX
TMMI
TROJAN TECHNOLOGIES
UNIVERSITY OF ARIZONA COLLEGE OF ENGINEERING
USA BLUE BOOK
UTILITY SERVICE COMPANY, INC.
VALENTINE ENVIRONMENTAL ENGINEERS
VAUGHAN COMPANY
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VIC MYERS ASSOCIATES
W.C. SCOUTTEN, INC.
WACHS WATER SERVICES
WALKER PROCESS
WATER INFRASTRUCTURE FINANCE AUTHORITY
WATER MOVERS
WATER TECHNOLOGY GROUP
WEST TECH EQUIPMENT
WESTECH ENGINEERING
WESTERN ENVIRONMENTAL
WESTFALL MANUFACTURING CO.
WESTLAND RESOURCES, INC.
WIGEN WATER TECHNOLOGIES
WORKPLACE SAFETY SPECIALISTS
XYLEM, INC.
ZENNER PERFORMANCE METERS, INC.
2013 CONFERENCE TECHNICAL PROGRAM COMMITTEE

TECHNICAL PROGRAM CHAIR:  JOHN J. MASCHE, City of Phoenix

MIKE AMBROSIAK, HDR, Inc.
LARRY AYERS, MGC Contractors
ROBIN BAIN, City of Peoria
JOHN BANNEN, Severn Trent Services
DOUGLAS BERSCHAUER, CH2M Hill
DANA BISCAN, Burgess & Niple, Inc.
JESSE BLACK, EPCOR Water
TOM BRAATELIEN, Project Engineering Consultants
LARRY HANSON, City of Phoenix
MARIA BRADY, Stantec
ROB BUSS, Carollo Engineers
MICHAEL E. CARUSO, Black & Veatch
KEVIN CHADWICK, Maricopa County Environmental Services Department
VANESSA CHAVEZ, Black & Veatch
DALE CONOVER, EPCOR Water
JOHN CUMMINGS, City of Phoenix
JIM CURCIO, McCarthy Building Co.
FRED ECHEVARRIA, Severn Trent Services
JASON FORT, Dibble Engineering
ERIC FRENCH, City of Phoenix
SETH FRONK, Intel
KEITH GREENBERG, Severn Trent Services
LARRY HANSON, NCS
DAARLENE HELM, City of Phoenix
ROBERT HOLLANDER, Alan Plummer Associates
LISA JACKSON, Black & Veatch
JEANNE JENSEN, City of Tempe
DOUG KOBHICK, Atkins Global
JENNY LOPEZ, Greeley and Hansen
FLOYD MARSH, AZ Water Solutions
WILLIAM MCCARTHY
LACEY MCS Pare, City of Peoria
KATHY MILLS, Mills Engineering
DEBBIE MUSE, AZ Water
NATHAN NUTTER, Carollo Engineers
ALAN O’BRIEN, Gannett Fleming
ALAN PALMQUIST, Stantec
THOMAS PARKER, CDM Smith
DAVE REDMAN, MISCO Water
SREERAM RENGARAJ, Wilson Engineers
RYAN RHOADES, CH2M Hill
KEVIN ROSE, City of Phoenix
FRED ROUSE, Stanley Consultants
RICHARD SACKS, City of Scottsdale
MIKE SIMPSON, M.E. Simpson Company
TERESA SMITH-DEHESUS, Black & Veatch
DAVID SNOW, EPCOR Water
STEVE WEDWICK, NCS Engineers
MIKE WORLTON, GHD
JAMES WRIGHT, Statewide Disinfection Services

2013 ANNUAL CONFERENCE COMMITTEES

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AZ Water Association

Professionals Dedicated To Arizona's Water

would like to thank all of the Conference Attendees!
The Young Professionals Committee Congratulates
This Year’s Fresh Ideas Winner!

Fresh Ideas

Andy Haas

Andy presented his winning presentation titled
“Main Replacement Program for the Aging Bisbee Water System”
at the AZ Water Conference. As this year’s winner he attended
the 2013 AWWA Annual Conference & Exposition (ACE) in
Denver, CO and represented Arizona in the
national Fresh Ideas poster competition.

The Fresh Ideas Contest Will
Return to Arizona in 2014!

One Lucky Young Professional Will Receive a FREE Trip to
the 2014 AWWA Annual Conference & Exposition.
To Participate, Simply Submit an Abstract for the 2014 AZ
Water Annual Conference and Indicate on the Submittal
Form You’re an Interested Young Professional.

Young Professionals are under 35 years old, or have less than 10
years of experience.

If you have questions about this contest, are interested in participating please contact
Gretchen Hawkins (Hawkinsga@BV.com).
2013 AZ Water Conference
Glendale, AZ

BBQ Raffle

The Young Professional Committee Would Like to Thank Our Generous Prize Donors:
Defend your rate structure

Financial Management: Cost of Service Rate-Making Seminar
Sept. 23–25, 2013 | San Antonio, TX

Financial objectives in the drinking water industry are constantly changing, making successful planning more difficult and more important than ever. This three-day course teaches proven strategies for capital finance planning and rate setting.

You’ll Learn How to
- Evaluate financial policies and rate impacts
- Develop defendable, fair, equitable, and objective policies
- Recover the full cost of service by obtaining the rate your utility needs
- Avoid rate shock by using proven techniques of capital budgeting and analysis

Who Should Attend
- Water Utility Management
- Rate Analysts or Designers
- Accounting or Budget Professionals
- Utility Board Members
- Municipal or Regional Government Officials
- Water Resources Professionals

Register by August 12, 2013, for reduced rates!
To learn more or to register online, visit www.awwa.org/financialmgmtsa.
Space Saving Mixer Offers
Superior Mixing & Low Headloss

Model 2800
Wafer Style Static Mixer
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Join AWWA for the DSS/EPS Conferences in Itasca, Illinois

September 15–18, 2013
Westin Chicago NW
Itasca, IL (Northwest Suburbs of Chicago)

Conference and Exposition September 15–17
Facility Tours September 18

AWWA's 2013 Distribution Systems Symposium (DSS) and Emergency Preparedness and Security (EPS) Conferences will be held in one location at one time.

Distribution System Symposium (DSS)
For more than 30 years, DSS has brought together water professionals dealing with distribution and O&M. They are driven to attend DSS to learn how to manage and solve distribution issues, find out about new products and advanced technologies, improve operational efficiency, and manage water loss.

Emergency Preparedness and Security (EPS)
Emergency Preparedness and Security is the event for Emergency Preparedness and Security professionals. Emergency preparedness and security have become vital facets of daily operations and a priority for all water utilities.

Registration opens end of May!
Exhibit and sponsorship opportunities are available.
1.800.926.7337
custsvc@awwa.org
The main point of WIFIA is this – because the borrowing costs incurred by communities would be lower than typical municipal bond market rates, communities and their ratepayers would save millions of dollars in interest and finances charges over the life of their WIFIA loans. This will help communities stretch their own dollars to make more local resources available and simply ease the burden of increase service rates on the customer – you and me.

On May 15th, the U.S. Senate passed S. 601, the Water Resources Development Act (WRDA) containing a title creating a WIFIA pilot program, by a significant margin: 83-14! Unfortunately, both of our Arizona Senators voted no on the bill. The bill now is awaiting House hearing and approval. Hopefully, Arizona’s Representatives will have heard Philip and my message and vote in the majority to pass WRDA and WIFIA.

Please Let People Know: Water Puts America to Work! Help educate the public and decision makers that Water Puts America to Work – Investment in Water Infrastructure Creates Jobs, Drives Innovation, and Safeguards Public Health. Ask elected officials what they intend to do to address our nation’s water infrastructure crisis; ask them to put America to work by making water a top priority. Use social media to deliver the campaign message and visit WaterForJobs.org for more information on how you can support this effort.

Together we are AZ Water!
2nd ANNUAL
RUN FOR WORLD WATER
5K Fun Run, 1K Walk and Kid’s Lollipop Run

Thank you to all Participants, Volunteers, Sponsors and Corporate Teams for joining us at Kiwanis Park on March 16, 2013 and supporting Water For People.

Final times for all 5K-Runners can be found at: 4peaksracing.com

We hope you enjoyed the event and will join us again next year!
For more information visit: http://5krun.arizonawaterforpeople.org

A special Thank You to our Silver SPONSORS!

From Left to Right
Winners of the Event:
5k-1st Place Male, ZAC ZARLING;
5k-1st Place Female, LAURA MARQUIS;
Corporate Challenge, Emma’s Dilemma Team.

....and Bronze SPONSORS
AZ Water Association Membership Form

This information will be added to our database and used to inform you of opportunities specific to your needs. Your contact information will also be used in our annual membership directory. If you do not want this information published in our annual directory, please check here □.

Please Print

Full Name _______________________________________________________________________________________________________________

Title ____________________________________________________________________________________________________________________

Business (if applicable) ____________________________________________________________________________________________________

Address _________________________________________________________________________________________________________________

City/State/Zip ____________________________________________________________________________________________________________

Phone __________________________ Fax __________________________

Email ___________________________ Web Site ______________________

Sponsor _________________________________________________________________________________________________________________

Check here if you are a current member of: □ AWWA □ WEF

Please help us serve you better by indicating the categories that best describe your business/industry, environmental focus, job title, and field services (if one is more prominent than another, please indicate so).

BUSINESS INDUSTRY

Government
□ public owned municipal or special district, water, wastewater treatment system or plant processing > 1 mgd
□ public owned municipal or special district, water, wastewater treatment system or plant processing < 1 mgd
□ administration and/or enforcement of government environment programs
□ administration of public health programs

Private Entity
□ private or investor owned facility
□ private industrial systems
□ consultant
□ contractor
□ manufacturer (equipment or representative)
□ distributor (equipment or representative)

Other Entities
□ educational institutions
□ research laboratory
□ other __________________________

FIELD SERVED
□ water supply only
□ wastewater only
□ both industries
□ other _________________________

ENVIRONMENTAL FOCUS
□ wastewater
□ water
□ process water
□ ground water
□ solid waste
□ storm water
□ pollution prevention
□ residual/biosolids management
□ coastal, river, lake ecology/surface water
□ toxic & hazardous materials
□ public education / information
□ instrumentation/automation controls
□ other _________________________

JOB TITLE

□ EXECUTIVE: commissioner, board member, city manager, mayor, president, vice president, owner, partner, director
□ MANAGEMENT: division head, section head, manager, chief engineer, comptroller, etc.
□ ENGINEERING/NON MANAGERIAL: civil engineer, mechanical engineer, environmental engineer, planning manager, field engineer, system designer
□ SCIENTIFIC/NON MANAGERIAL: chemist, biologist, biophysicist, researcher, analyst, etc.
□ PURCHASING: purchasing agent, procurement specialist, buyer
□ OPERATIONS: foremen, operator, maintenance, crewman, service representative, etc.
□ MARKETING & SALES-NON MANAGERIAL: market analyst, marketing representative, sales representative, etc.
□ STUDENT
□ RETIRED INDUSTRY REPRESENTATIVE
□ OTHER _________________________

Member Dues are Subject to Change

□ Individual Annual Membership — $45 □ Student Annual Membership — $15

RETURN YOUR MEMBERSHIP APPLICATION ALONG WITH ANNUAL DUES TO:
AZ Water Association
1042 Willow Creek Rd., A101-510 • Prescott, AZ 86301

Questions? Call toll free 888-559-8844 • 928-717-9905 phone • 928-717-9910 fax
AZ WATER COMMITTEE VOLUNTEER FORM

Please Print

Name __________________________________________________________________________________________________________________
Title ____________________________________________________________________________________________________________
Organization _____________________________________________________________________________________________________________
Address _________________________________________________________________________________________________________________
City/State/Zip ____________________________________________________________________________________________________________
Phone ____________________________________________________ Fax _____________________________________________________
Email _______________________________________________________________________________________________________

AZ Water COMMITTEES
(indicate 1st, 2nd, 3rd choice)

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☐ I am interested in serving on the committee(s) indicated above.
☐ I would like to know more information about the committee(s) indicated above.
☐ I am looking for suggestions for a committee on which to serve. My skills are: _______________________________________
_______________________________________________________________________________________________________
_______________________________________________________________________________________________________

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1042 Willow Creek Rd., A101-510 • Prescott, AZ 86301

Questions? Call Deborah Muse toll free 888-559-8844
**EZ RANGE**

- Adaptation for quarter turn valves.
- Torque range from 45 to 10,000 Nm.
- IP67.
- Controls
  - On/Off switch version
  - Integrated Positioner Minigami
- Non-maintenance

**Weatherproof Actuators SQ & ST RANGES**

- Adaptation to all types of valves:
  - Quarter Turn - Multimturn - Linear
- Adaptation to specifications of engineering companies
- IP 68 standard

**Explosionproof Actuators SQ & STX RANGES**

- Adaptation to all types of valves:
  - Quarter Turn - Multimturn - Linear
- Adaptation to specifications of engineering companies
- IP 68 standard
- Compliance with international explosion proof standards:
  - ATEX, CE, FIL, ECEx, GOST-EX, NEMA 7 & 9

**Intensive Modulating**

- Adaptation to all modulating valves
- 100% duty service
- Class II intensive modulating duty standard speed, high precision
- Class I continuous modulating duty: high speed, very high precision

**Fail-safe**

- Fail-safe with reliable spring return technology: Fast and shock-free valve travel during emergency operation.
- IP 67 standard
- Explosionproof versions ATEX-NEMA
- No maintenance

**Integrated controls — Fieldbus — Master Station**

- Double sealing protection
- INTELL+, intelligent control with advanced functions such as PSK, Partial Stroking,
  Time...
- Positioners for Class III, II, I Modulating duty
- Fieldbus compatible with all actuators
- Fieldbus Foundation
- Modbus RTU
- PROFIBUS DP (single or redundant)
- MASTER STATION BC:
  - Turnkey solution based on fieldbus

**Special Design**

**NUCLEAR RANGE & Special Actuators**

- SN Nuclear range
- Special actuators for severe environments
- Corrosive processes
- Fire protection
- Extreme temperatures
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The mechanical vertical bar screen Screentec can be installed in many applications including Headworks, Lift/Pump Stations, Deep Wells and Manholes. Due to its vertical design, Screentec can retrofit any kind of structure with minimal or no changes. **Aqualitec: Keep it simple.**

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