Arkansas Rural Water Association

WATER INSIGHT

SUMMER 2016

39th Annual Technical Conference

September 18-21, 2016 • Hot Springs Convention Center

FROM YOUR CHIEF EXECUTIVE OFFICER

DENNIS STERNBERG

Hopefully, everyone is doing well and your water and wastewater utilities are operating at their top efficiencies.

Utility Board of Directors, Mayors/City Council Members, Managers, Office Personnel and/or Water/Wastewater Specialists play very important roles in your utility. Elected officials oversee their utilities by setting policies, overseeing the financials throughout the year in regular scheduled meetings either monthly, quarterly, or annual meetings depending on the different utility requirements. Managers are hired by the boards, mayors, councils, or commissions from their respective utilities. The Manager is responsible to their respective governing bodies for reporting the condition of the utilities, presenting financial reports for year-to-date, and the status of being in budget for the different line items in the budget. Managers must be able to explain as to why there might be a variance in the budget at the report period and how it will hopefully come back into budget before the year end. Managers should be in charge of all hiring and firing employees through the normal operation of the system, and the governing body should get reports from the Manager at all regular meetings or special meetings if there has been a change of employees within the organization.

All employees of the utility carry out the policies of the water/wastewater utility in their own area of responsibility. All too often, we are called in to help a utility, only to find that the utility has no written and approved policies regarding the operation of the utility. One of the most common things with small cities that have both water and wastewater systems is they don't keep separate budgets or financials to tell what expenses are to be applied to water or wastewater expenses. To figure fair rates for any utility, you need to have correct and accurate financials for a whole year and have some historical data if possible on the systems growth or lack of growth. A lot of factors need to be figured into setting fair, dependable rates, and you must hold educational meetings with the public, or take a chance of having an upset customer base! Small rate increases annually are a lot easier to accept than a major increase.

I would encourage all utilities to consult with their legal counsel before implementing or changing policies within their utility, as it might cost a little bit of money now but could save you a lot of money later if a lawsuit arises. Cities can get legal advice from the Arkansas Municipal League, and all the other utilities should have some type of utility lawyer that they can contact when matters arise.

I would like to invite all of you to make plans now to attend the Arkansas Rural Water Association's 39th Annual Technical Conference, September 18-21, 2016, at the Hot Springs Convention Center. Come and learn from the many technical sessions that will be held on Monday and Tuesday as well as visiting the Exhibit Hall with all the exhibitors showcasing their latest products for the water and wastewater industry from the office to the meter of your customers. They have it all in the Exhibit Hall.

Also, we have two invited guest speakers, United States Senator, John Boozman and USDA Rural Development Administrator, Brandon McBride for the Monday and Tuesday luncheons. Both of these individuals have been great ambassadors for Rural Water funding for the rural and small cities, towns, and Rural Water Technical Assistance that assist water and wastewater across the state and nation.

Look for conference registration coming out in June, or go to the ARWA website @ http//arkansas ruralwater.org to register for the conference!!!!!

Arkansas Rural Water Association

Working To Improve Life In Rural Arkansas

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Josh Freeman, Circuit Rider
Rodney Baldwin, Circuit Rider
Chris Harris, Circuit Rider
Roy Richards, Circuit Rider
David Quattlebaum, USDA Source Water Technician
Steve Frankenberger, Wastewater Specialist/Energy Tech

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Annual Technical Conference
Magazine Editor – Fatina Dodson

ARWA Mission Statement

To provide Arkansas' Rural Water Utilities the highest level of Training and Technical Services in order to obtain Quality Water at the lowest possible cost.

Arkansas Rural Water Association is a non-profit organization of rural and small publicly owned water and wastewater systems. Our goal is to enhance the lives of Arkansans. Our efforts to achieve this goal are focused on providing training and technical assistance to the managers and operators of all eligible systems serving populations not greater than 10,000. We work with other non-profit organizations in representing the interest of public water and wastewater systems at both the local and national levels.

• ARWA is affiliated with the National Rural Water Association •

State Rural Water Associations' Executives Meet with EPA Regional VI Administrator Ron Curry

by Dennis Sternberg

I really appreciate EPA Region VI Administrator, Ron Curry, and his staff taking time to meet with State Rural Water Associations on Friday, May 6, 2016.

The meeting was very open, and each State Rural Water Association gave an update of the work that is being done in their respective state. EPA Administrator Curry and his staff were very helpful in stating they are here to assist the State Primacy Agency and the State Rural Water Associations with issues as they may arise.

EPA staff gave some good pointers in regards to encouraging State Rural Water Associations to make contact and build some working relations with the Corp of Engineers, as they have generators and other equipment that are available to assist during a Presidential Disaster Declaration in our state. This is something Rural Water will be doing in the near future. This was the second meeting with the EPA Administrator in the last three years. I believe it has been very helpful for all to sit down together and discuss different issues, even if we can't agree, hopefully it will build better relations between everyone.

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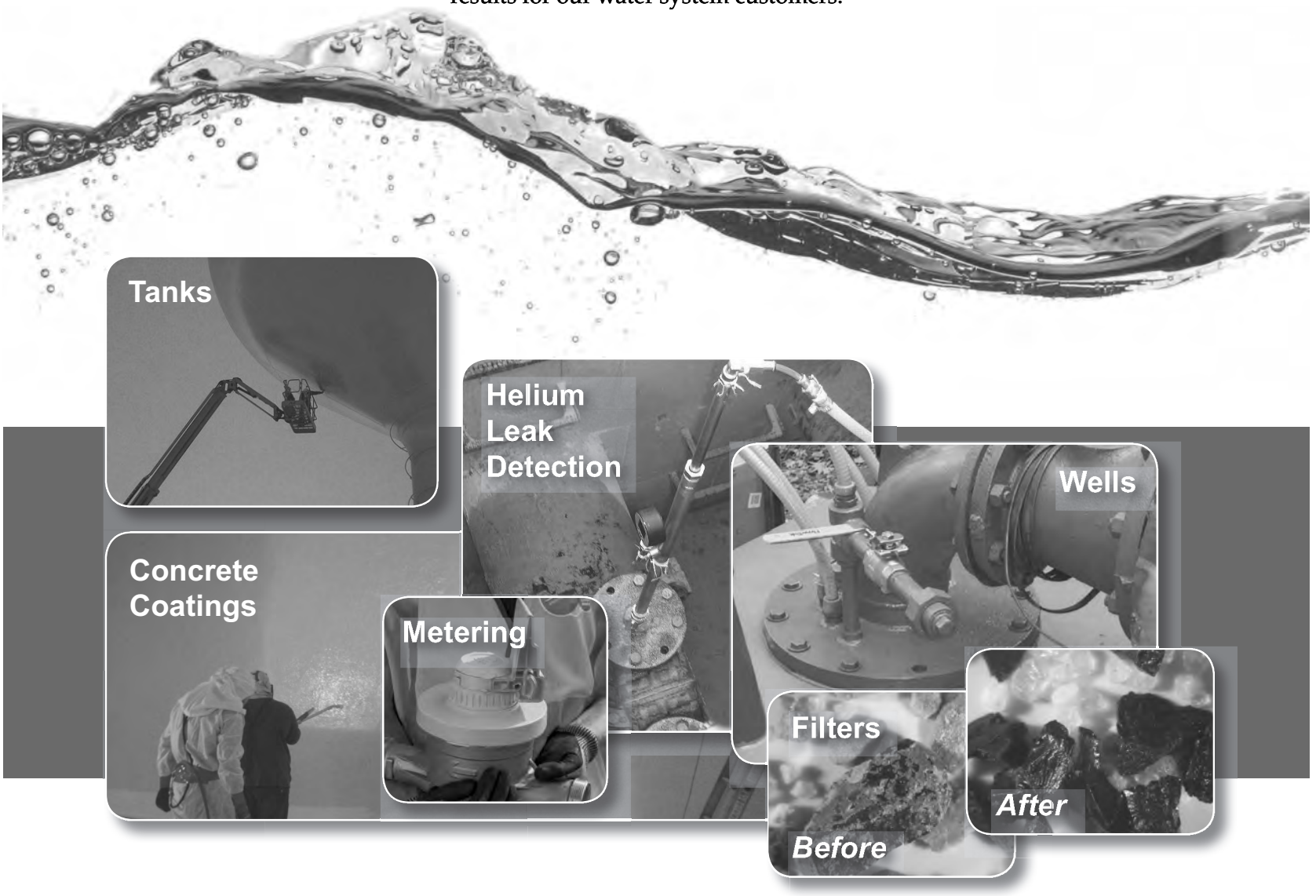

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State of Arkansas | Brian Woodring | 855.526.4413 | help@utilityservice.com

USDA Rural Development Lowers Interest Rates

Washington D.C. (March 30, 2016) – The U.S. Department of Agriculture has announced new, low rates for their Rural Utility Services loan programs.

The following rates will be effective on April 1:

- Market: 2.875%
- Intermediate: 2.25%
- Poverty: 1.75%

"These new low interest rates for the USDA Water and Waste Disposal Program are an opportunity for rural communities to upgrade, expand, or replace their infrastructure affordably and bring cleaner, more reliable service to rural residents," said RUS Administrator Brandon McBride. "Funding is available and USDA is ready to work with rural water leaders now while this low rate window is open."

USDA's Rural Utilities Service administers programs that provide infrastructure and infrastructure improvements to rural communities.

"USDA plays a critical role in helping to expand economic opportunities and improve the quality of life for rural Americans," said Sam Wade, CEO of the National Rural Water Association. "These rates are incredibly low, and systems would be wise to take advantage of this opportunity to make needed improvements."

Project loans can have up to 40-year payback period, based on the useful life of the facilities financed. The interest rate is based on the need for the project and the median household income of the area to be served. Applications are accepted year round at local offices of USDA Rural Development. Utilities and communities interested in learning more about these programs and the available rates can contact their state Rural Development office.

A contact list of state offices is available at **www.rd.usda.gov/contact-us/state-offices**

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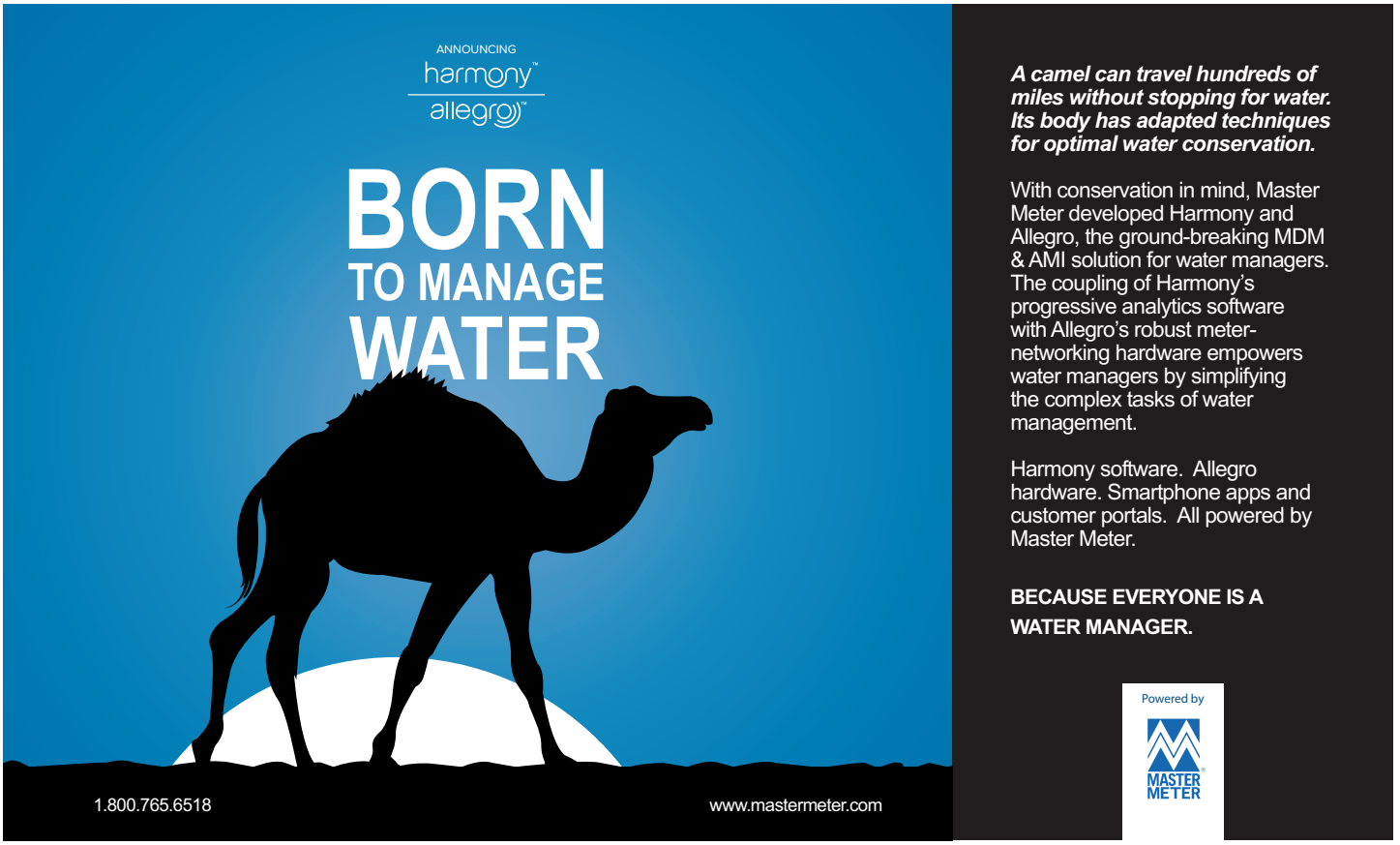
Contact for Arkansas:
Community Programs:
Water/Wastewater & Community Facility
Mr. Stephen Lagasse, Program Director
Stephen.Lagasse@ar.usda.gov
Phone: 501-301-3265
Fax: 855-747-7800



ARKANSAS RURAL WATER ASSOCIATION

REGISTRATION IS NOW OPEN!

Please visit our website to access registration forms or feel free to call us at the ARWA office.

These companies exhibited at the 2015 ARWA Conference with over 800 in total attendance.

IS YOUR NAME ON THE LIST?

It should be! Don't let the competition steal your customer.

APAC - Central, Inc.
Allen Supply Company, LLC
American Flow Control
Aquasure
ArchaeaSolutions, Inc.
Arkansas Department of Emergency Management
Arkansas Department of Environmental Quality
Arkansas Department of Health
Arkansas Natural Resources Commission
Arkansas One Call
Bond Consulting Engineers
Brad Greer & Associates
BT Environmental, Inc.
Chemsearch - Ecoflow
Clow Valve Company
Consolidated Pipe & Supply Co., Inc.
Continental Utility Solutions, Inc.
Cretex Specialty Products
CSA Software Solutions
Cunningham, Inc
Datamatic, Inc.
Ditch Witch of Arkansas
Dixie Utility Supply/Morrison Supply, Co.
Engineering Services, Inc.
engines, inc.
Environmental Technical Sales, Inc.
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Ferguson Waterworks
Flo Trend Systems, Inc.
Ford Meter Box
G & C Supply Co., Inc.
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Hawkins Water Treatment Group
HD Supply Waterworks
Henard Utility Products, Inc.
Horner & Shifrin, Inc.
Instrument & Supply, Inc.
Intedata Systems, Inc.
Jack Tyler Engineering, Inc.
JCM Industries, Inc.
L & L Municipal Supplies
Layne Arkansas Company
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M & H/ Kennedy Valve
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Maguire Iron
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McClelland Consulting Engineers (MCE)
McGoodwin, Williams and Yates, Inc.
Mueller Company
Mueller Systems
Nexbillpay
Pumps and Controls
QS/1
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Reliant Water Technologies
Rep Com/Vivax/Metrotech
Rural Water Impact/Municipal Impact
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Shupe and Associates, Inc.
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arwa

39th

Annual Technical Conference

September 18-21, 2016

Hot Springs Convention Center

EXHIBITORS:

Remember …

• Water Pac Donations
• Sponsorship Opportunities
and
• Golf Registration

ATTENDEES:

Remember …

You must be an ARWA Member and register by August 19, 2016 to be eligible for the 4-Wheeler!

QUESTIONS?

Phone: 501-676-2255
Fax: 501-676-2266

Email:
arkrwa@arwa.net

Web:
arkansasruralwater.org

ARWA MEMBERSHIP – *Why Should I Join?*

The rural water and wastewater industry face many challenges now and in the future due to increasingly complex regulations. These regulations place an increasing technical and financial burden on small communities and systems. Rural communities and systems must stay informed to keep up with changing laws and regulations governing their systems. Operators, managers, board members, and owners must maintain an adequate level of training to deal with these changes. ARWA offers numerous services and educational opportunities in order to make this possible. We welcome communities and utilities to join our association.

- ARWA is a non-profit organization with the purpose to assist water systems with day-to-day operational and management problems.
- Largest water and wastewater utility membership association with over 600 utility members.
- Training and renewal hours in Water, Wastewater, Backflow Tester Certification and Backflow Re-Certification, Backflow Repair, the ARWA EXPO, and the ARWA Annual Technical Conference.
- Governed by a sixteen member non-paid Board of Directors.
- Water Circuit Riders, Wastewater Technicians/Trainers, Water Trainers, and Source Water Technician that provide on-site training and technical assistance.
- Legislative voice for water and wastewater utilities.
- Employs field staff that provides water and wastewater training and on-site technical assistance for ARWA members year-round.
- Through our quarterly magazine, " Water Insight", members stay up to date on water related news and association activities.
- Comprehensive technical training program for water and wastewater operators, managers and board members.
- Members receive a yearly Training Calendar of continuing education training sessions each January.
- All of the training sessions for operator certification renewal offered by ARWA are approved by Arkansas Department of Health and Arkansas Department of Environmental Quality. Members receive discounted prices at ARWA's Annual Technical Conference and Operator Expo.
- ARWA works with the Arkansas Department of Health, Arkansas Department of Environmental Quality, the USDA Rural Development Administration, the Arkansas Natural Resources Commission, and other state and federal governmental entities that influence water, wastewater, and solid waste policies in Arkansas.
- Lobbying - Arkansas Rural Water Association monitors water and wastewater legislation in both Little Rock, Arkansas and Washington, D.C.
- NRWA Water Rally - The Washington, D.C. "Water Rally" provides an opportunity for small system representatives to meet with our Congressional delegation to express the concerns of the water and wastewater industry on funding and regulations.

The Arkansas Rural Water Association strives to meet the needs of each individual water and wastewater system.
Suggestions on how we could better serve you and your system or need membership forms?
Phone: 501-676-2255 • Fax: 501-676-2266 • Email: **arkrwa@arwa.net** or **arkrwa@sbcglobal.net** • Web: arkansasruralwater.org

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Loving arwa *every drop of your water?*

Arkansas Rural Water Association is looking for the "BEST TASTING WATER" in the state.

The State Water Taste Test will be held on Monday, September 19th, 2016 at 2:30 pm - 3:00 pm at the ARWA Annual Technical Conference in Hot Springs, Arkansas.

All member water utilities are encouraged to enter.

Arkansas Rural Water Association will choose the best of the best to represent the Arkansas Rural Water Association in Washington, D.C. at the NRWA Water Rally in 2017.

Systems need to bring a quart of water, labeled with their system name, to the ARWA Annual Technical Conference registration desk by Noon on September 19th, 2016

For more information, contact the **Arkansas Rural Water Association at 501-676-2255**

2015 WINNER
Western Greene County RWDD

REGISTRATION

39TH ANNUAL TECHNICAL CONFERENCE & EXHIBITION OF THE ARKANSAS RURAL WATER ASSOCIATION SEPTEMBER 18-21, 2016

NOTE: All member systems must be pre-registered for the conference by August 19, 2016 to be eligible for the grand prize drawing for the 4-wheeler.

Please print or type. Complete a separate form for each person. Photocopy if you need additional forms.

NAME _____

REPRESENTING _____

ADDRESS _____ **CITY** _____ **STATE** _____

COUNTY _____ **ZIP** _____ **PHONE** _____

Enter last four digits of Social Security No. to obtain credit hours (for Water & WW license): _____

_____ **Check here if you have special needs and would like an ARWA Associate to contact you.**

ARWA MEMBER:

PRE-REGISTRATION (includes Registration, 2 Continental Breakfasts and 2 Luncheons)
_____ **$165 per person, $150 Aquasure Member Discount per person**
_____ **$195 per person, after August 19, 2016, $180 per person Aquasure Member Discount**

NON-MEMBER:

PRE-REGISTRATION (includes Registration, 2 Continental Breakfasts and 2 Luncheons)
_____ **$240 per person**
_____ **$270 per person, after August 19, 2016**

ARWA MEMBER AT THE DOOR:

REGISTRATION AT DOOR (includes Registration, 2 Continental Breakfasts and 2 Luncheons)
_____ **$220 per person, $200 Aquasure Member Discount per person**

NON-MEMBER AT THE DOOR:

REGISTRATION AT DOOR (includes Registration, 2 Continental Breakfasts and 2 Luncheons)
_____ **$295 per person**

SPOUSE REGISTRATION - NAME _____

SPOUSE LUNCHEONS (2) $75 PER PERSON _____

ARWA GOLF TOURNAMENT PRE-REGISTRATION FEE: $80 EACH _____
Golf Tournament will be held at the DeGray Lake Resort State Park

TOTAL ENCLOSED _____
ARWA HAS A NO REFUND POLICY

PLEASE RETURN TO: ARWA Conference, P.O. Box 860, Lonoke, AR 72086

HOTEL HOT SPRINGS & SPA 877-623-6697 $88-single $10 for each additional person all room sizes (cutoff 8/17/16)
ARLINGTON 800-643-1502 $96 single (cutoff 8/19/16)
EMBASSY SUITES 501-321-4430 $144 single (cutoff date 8/17/16)
Mention you are attending the ARWA Conference to get these rates

SUNDAY

September 18, 2016 — **ARWA 39th ANNUAL TECHNICAL CONFERENCE AGENDA**

TIME	ACTIVITY	LOCATION	
8:00 am	ARWA Golf Tournament	DeGray Golf Course 4-Man Scramble	**Water for the "Water Taste Test" must be turned in by noon on Monday, September 19, 2016** **Taste Test - 2:30 pm - 3:00 pm at Exhibit Hall "A" on Monday, September 19, 2016** **Winner announced at the Tuesday ARWA Luncheon**
1:00 pm - 6:00 pm	ARWA Registration - Registration Desk is outside of Exhibit Hall "A" in the Convention Center		
1:00 pm - 6:00 pm	Exhibitor's Set-Up	Exhibit Hall "A"	
6:00 pm - 10:00 pm	ARWA Hospitality Room - The Springs Hotel - Second Floor ARWA Hospitality Room is Sponsored by L & L Supply - Larry & Lily Fisher		

MONDAY

September 19, 2016 — **ARWA 39th ANNUAL TECHNICAL CONFERENCE AGENDA**

TIME	CLASS I WASTEWATER ROOM 207	DIRECTORS AND ADMINISTRATION & OFFICE PERSONNEL ROOM 208	ARKANSAS DEPT OF HEALTH ENGINEERING SECTION ROOM 209	GENERAL WATER SESSION ROOM 203	GENERAL WASTEWATER ROOM 204	ADEQ NetDMR ROOM 205
7:00 am	ARWA REGISTRATION OPENS					
8:00 am - 9:00 am	**Class I Wastewater** James Barkie ARWA	**ARWA ANNUAL BUSINESS MEETING EXHIBIT HALL "B"**				
8:00 am- 9:30 am	BREAK - EXHIBIT HALL OPEN		LADIES PROGRAM - ARLINGTON ROOM (9:00 am - 11:00 am) MONDAY			
9:30 am - 10:30 am	**Class I Wastewater** James Barkie ARWA	**Legal Hour What's Your Question??** David Menz, Allan Gates, Heartsill Ragon III, Mark Hayes	**Drinking Water Program Update & Fee Use Status** Jeff Stone/ADH	**Basic Chlorinator Service** Mike Henard Henard Utility Products, Inc.	**Wastewater Microbiology & Algae Control** Tony Glymph	**NetDMR**
11:00 am - 12 Noon	**Class I Wastewater** James Barkie ARWA	**ServLine Customer Leak Protection** Kirk Smith TAUD	**Meeting Revised Total Coliform Rule & Sample Site Plan Importance** Lance Jones/ADH	**Well & Pump Maintenance** Jeff Jones Jones Hydro Service, Inc.	**Wastewater Microbiology & Algae Control** Tony Glymph	**NetDMR**

12:00 noon - 1:30 pm ARWA LUNCHEON - EXHIBIT HALL "B " Scholarship Presentations & CASH DRAWING Invited Speaker - United States Senator, John Boozman						
1:30 pm - 2:30 pm	**Class I Wastewater** James Barkie ARWA	**Cellular Antennas On Water Tanks** Ted Luft Site Solutions	**Disinfection/DBP Control Strategies** Aaron Hilborn/ADH	**Water Tank Issues and Options** Tomcat Consultants, LLC T.A.P. Co	**Wastewater Microbiology & Algae Control** Tony Glymph	**NetDMR**
2:30 pm - 3:00 pm BREAK & WATER TASTE TEST - EXHIBIT HALL "A"						
3:00 pm - 4:00 pm	**Class I Wastewater** James Barkie ARWA	**Systems Staying Financially Solvent** Crystal Phelps-Attorney Cynthia Bearden-Agency Controller Arkansas Natural Resource Commission	**Lead Update & Corrosion Control** Taylor Brown/ADH & Teresa Lee/ADH	**AMR / AMI Metering** HD Supply	**Wastewater Microbiology & Algae Control** Tony Glymph	**NetDMR**
4:00 pm - 5:00 pm	**Class I Wastewater** James Barkie ARWA					
DINNER ON YOUR OWN						
7:00 pm - 12:00 am - "ARWA DANCE" - " BAND" - HOTEL HOT SPRINGS						
TUESDAY **September 20, 2016** **ARWA 39th ANNUAL TECHNICAL CONFERENCE AGENDA**						
TIME	**CLASS I WASTEWATER** ROOM 207	**DIRECTORS AND ADMINISTRATION & OFFICE PERSONNEL** ROOM 208	**WATER ARKANSAS DEPT OF HEALTH ENGINEERING SECTION** ROOM 209	**GENERAL WATER SESSION** ROOM 203	**GENERAL WASTEWATER** ROOM 204	**ADEQ NetDMR** ROOM 205
7:00 am	ARWA REGISTRATION OPENS					
8:00 am - 9:00 am	**Class I Wastewater** James Barkie ARWA	**EXHIBIT HALL "A" OPEN** **CONTINENTAL BREAKFAST**				
9:00 am - 10:00 am	**Class I Wastewater** James Barkie ARWA	**Insurance Issues** John A. Schlarb Safety and Risk Consultant INSURICA	**Source Water Protection Using ADH GIS Mapping Tools** Darcia Routh/ADH	**Science of Mixing Water Storage Tanks** H*E Engineered Equipment	**Aerated Lift Stations** Sherman Eoff Jack Tyler, Engineering, Inc.	**NetDMR**
"CLOW VALVE FIRE HYDRANT COMPETITION" 10:00 am - 10:30 am BREAK - EXHIBIT HALL "A"						

10:30 am - 11:30 am	**Class I Wastewater** James Barkie ARWA	**Legislative Relations Issues & Questions** Tim Lemons State Representative District 43	**Requirements For Tank Inspection, Maintenance, and Operation** Craig Corder/ADH	**Different Types of Restraints For Water Lines** Brent Hutchins Brad Greer & Associates	**Activating The Sludge in a Lagoon** Jim Dartez Reliant Water Technologies	**NetDMR**

11:30 am – 1:30 pm **ARWA LUNCHEON - EXHIBIT HALL "B "**

Invited Speaker - U.S. Department of Agriculture Rural Development Brandon McBride, Administrator Rural Utilities Service

WATERPAC DRAWING & PRIZES & 4 WHEELER DRAWING

1:30 pm - 2:30 pm	**Class I Wastewater** James Barkie ARWA	**NO CLASS** (Room 208)	**Turbidimeters Operation & General Lab Observations** Robert Arthur/ADH	**Hydrant & Valve Maintenance** Barry Nichols Clow Valve Company	**Wastewater Pumps-Motors & Controls** Scott Sells Evans EnterPrises, Inc.	**NetDMR**
		2:30 pm - 3:00 pm	**BREAK - REFRESHMENTS WILL BE IN THE HALLWAY BETWEEN THE MEETING ROOMS EXHIBIT HALL CLOSED**			
3:00 pm - 4:00 pm	**Class I Wastewater** James Barkie ARWA	**NO CLASS** (Room 208)	**Exam Help & Hints For Managers & Candidates Water License Program Update** Martin Nutt/ADH	**Water Loss Cost Leak Detection Methods** ARWA Staff	**Sewer Collection System Cleaning & CCTV Inspection** ARWA Staff	**NetDMR**
4:00 pm - 5:00 pm	**Class I Wastewater** James Barkie ARWA					

DINNER ON YOUR OWN

WEDNESDAY

September 21, 2016 **HOT SPRINGS CONVENTION CENTER**

TIME	**WATER EXAM** ROOM 201-202	**Class II and Class III WASTEWATER EXAM** ROOM 203	**Class I WASTEWATER EXAMS** ROOM 204
8:00 am - 12 Noon			**Class I Wastewater James Barkie ARWA**
9:00 am - 1:00 pm	**Water Exams AR Department of Health**	**Class II and Class III Wastewater Exams ADEQ**	
12 Noon - 1:00 pm	**Lunch (on your own)**		
1:00 pm - 5:00 pm			**Class I Wastewater Exams ADEQ**

Ernie Faucett Scholarship Program

by Dennis Sternberg

Arkansas Rural Water Association held their Annual Jack Lambert Memorial Golf Tournament on May 18, 2016, at the beautiful Hurricane Creek Golf Course in Bryant, Arkansas to support the ARWA/Ernie Faucett Scholarship Fund.

I would like to take a moment to Thank everyone who came out and participated in the Arkansas Rural Water Association's "Jack Lambert Annual Memorial Golf Tournament" with proceeds to benefit the "ERNIE FAUCETT Scholarship Fund". This year 45 players experienced rather cool and breezy weather for the day, a great golf course, great golf and fellowship. This tournament wouldn't be what it is today without the great sponsorship from the following companies:

Corporate Sponsors - Crews & Associates and HD Supply Waterworks.

Other companies donating to the scholarship fund - Smith Blair, Inc., Advanced Drainage Systems, JCM Industries, Tyler/Union, Star Pipe Products, Pipelife/JetStream, Lee Mastell & Associates and Brad Greer & Associates. If one of these companies calls on you in the future, take a minute to thank them for their support of the ARWA Scholarship Program which benefits the dependents of member utilities of Arkansas Rural Water Association.

A big thank you to our partners David Feild with Risk Services of Arkansas, LLC/INSURICA for sponsoring the lunch for all the players in the golf tournament. The food was excellent, and everyone had great comments about the hamburgers and sausages. Thanks to the great cooks, David Feild and ARWA staff Rodney Baldwin and Tim Carey for assisting in cooking. Thanks to Donna McGaha for handling registration, Terry Fortenberry - official camera man, Jim Philipp, Jim Barkie, and Chris Harris for operating the hospitality wagons for the tournament.

ARWA will provide Scholarships at Arkansas Rural Water Association's 39th Annual Technical Conference on September 18-21, 2016, in beautiful Hot Springs, Arkansas.

Algae Problems On Wastewater Lagoons

By Susan Poe, Wastewater Trainer/Technician

Our wastewater program has received a lot of calls concerning algae problems on lagoons this past year. We have had more "blue-green" algae calls than I can recall in all my years at ARWA. There are several different types of the species, but the bottom line is it is toxic to the environment. When I receive a call, my first recommendation is to try to contain it from passing through due to the serious impacts it can have, and it is a definite sign of toxicity no matter how it came in your pond. Next recommendation is to move it, whether it be by aeration, blowing water with a trash pump, or driving your boat around the area to break it up and get it moving and blending with your good water. Allowing it to start and ignoring the section can lead to it spreading throughout the pond.

A lot of causes this past year are due to the weather conditions which have been unusually wet, then extremely hot along with high infiltration or large nutrient loads hitting our ponds and lagoons. Keep in mind, taking in waste from outside sources without testing the loads from trucks can also lead to overloads which may be increasing the problem from one cell to the next. There are all kinds of conditions that will make the production of algae increase on the lagoon, and lack of aeration has increased problems as well. The following information in a news article from EPA may be helpful to our operators on fighting the battle of the toxic algae as well as letting you know the serious effects on the environment.

What are the causes of blue-green algae blooms?

Blue-green algae can reproduce quickly in favorable conditions where there is still or slow-flowing water, abundant sunlight and sufficient levels of nutrients, especially nitrogen and phosphorus. In still conditions, surface water may form a separate warm top layer ('stratification') in which blue-green algae is able to access sunlight and nutrients. If these combined factors are present for several days, algae multiply and form large 'blooms'. The process of excess nutrients causing rapid growth of aquatic plant and bacterial life in a water body is known as 'eutrophication'.

Nutrients are either naturally present in sediments or are washed into water systems. In particular, phosphorus may be stored in significant amounts in sediments and released by normal bacterial activity. External sources of nitrogen and phosphorus are agricultural fertilizers, household products, sewage effluent, and stormwater runoff, all of which can enter receiving waters either directly or during rainfall events. The availability of varying levels of nitrogen and phosphorus can affect which species of blue-green algae dominate and form blooms.

Blooms can form in response to increased temperatures and phosphorus levels even if nitrogen in water remains low, as some bluegreen algae species can obtain nitrogen from the atmosphere.

What are the effects of a blue-green algae bloom?

The main effects of blue-green algae blooms are deterioration of water quality and production of toxins by some species. Exposure to algal toxins has been linked to fatalities of livestock, wildlife and pets.

Decaying algae can reduce dissolved oxygen levels in the water column which can severely degrade aquatic ecosystems and lead to the death of aquatic organisms and hence, a decline in biodiversity.

Outbreaks of blue-green algae may have economic consequences from restrictions to the consumptive use of water and recreational activities due to health and aesthetic concerns. Some species of blue-green algae can produce neurotoxins, hepatotoxins, allergens or irritants to the skin and eyes, as well as compounds that affect the taste of water and produce unpleasant odours. In severe cases, the toxins can cause damage to the liver and nervous system and there have been human deaths associated with non-routine exposure to algal toxins through dialysis.

When a bloom is detected, alternative sources of water should be sought for human consumption and domestic purposes until specialized treatment processes can be introduced. Boiling water does not destroy algal toxins and can, in fact, release more toxins as the blue-green algae are killed. Irrigators are usually advised to avoid using contaminated water on edible crops or, if this is not possible, to avoid direct spraying.

If you need assistance with any wastewater problems, please call us at 501-676-2255 for one of our wastewater techs to help you with your problem.

Attention: Board Members and Managers of Rural Water Associations:

Airport Road Water Association
Arkansas Rural Water Association, Inc.
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Bald Knob North Water Association
Beaver Water District of Washington & Benton Counties
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The Benefits of Cleaning and Videoing Your Infrastructure

By Chris Harris, ARWA Circuit Rider

I have been privileged to work at Arkansas Rural Water Association for the past two years. I have learned many things since I have been here. A few of those things are the benefits of cleaning and videoing a facility's wastewater infrastructure. Arkansas Rural Water offers a Vac-Con service to help in this area. The Vac-Con is a helpful resource to many operating systems across the natural state. While all infrastructures, over time, will experience some form of deterioration related to the buildup of foreign objects or the breakdown of material, the use of the Vac-Con can greatly slow down this process. Another advantage of using the Vac-Con in your system is that it enables the use of a mobile camera to record a real-time video of your infrastructure. This camera enables the operator to view all problematic areas within the system. Along with the viewing of the problems on recorded video, a very detailed report containing accurate measurements, length of service connections, and flaws within your system will be generated and given to you.

This report is very beneficial to the operator and is a great troubleshooting tool. These tools are essential in controlling infiltration and planning for your system's future needs. The Vac-Con can also be used to clean out lift stations and keep debris and other raw materials from causing potential pump problems. It is important to make sure that the lift stations remain patent to ensure compliance with state regulations and financial sustainability for the system. By using the Vac-Con, it can prolong the life of the lift station pump. No collection system is perfect, no matter how up-to-date or state-of-the-art it is. All systems will eventually run into problems and need assistance.

However, with the help of Arkansas Rural Water Association, the Vac-Con, and the Mobile Camera, these problems can be identified and resolved in a cost efficient and timely manner. The Vac-Con has proven time and time again in numerous systems across the state, that it is very cost effective for systems, saves bountiful amounts of time, and decreases labor in the long run. If you have any questions about this service or would like to utilize this service you can call me, Chris Harris, at 870-448-7647 or Arkansas Rural Water at 501-676-2255.

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LETTERS To DAVID QUATTLEBAUM

To whom it may concern,

March 8, 2016

Lonoke High School AP Environmental Science would like to thank you and David A. Quattlebaum for providing the educational speaker provided to us by Arkansas Rural Water. The presentation was clear, interesting, and educational; the presenter was friendly and very well educated about his work. He showed us things that many people cannot; he provided an insight that unless it was demonstrated in front of you, you would never see what is happening around you. It amazes me how informed and how passionate someone is about educating young people like ourselves about water contaminants and pollution.

Some things I personally learned from the presentation provided by Arkansas Rural Water was: (1) I did not know they filter out the fluoride and chlorine out of bottled water. (2) I had no idea there was even a bug that could repel Chlorine. That is actually quite frightening. (3) It is sad to see our drinking water contaminated, not just by random people, but it happens by everyone who has ever thrown trash on the ground or poured chemicals in the grass. What is even worse than knowing people are doing it, is watching them do it knowing they are poisoning our water, their water, and then watching their children play in the water that is contaminated.

However, thankfully our Earth is a filter all on its own. It can filter out much of the contamination on its own, but how long can it really filter out all the contaminants the people are putting in it these days?

I guess I am just trying to say we need more programs like this to teach people to not only recycle but to take care of the Earth. It isn't every day you get a perfect planet like this one.

Thank you for your valuable time and patience.

Cassandra Powell
AP Environmental Science Student
Lonoke High School

David Quattlebaum: March 16, 2016

Thank you for coming to S.C. Tucker Elementary in Danville, AR. We learned a lot about how to take care of our water. We also hope you spread the word about how to take care of our water, because we use many gallons of clean water. So, if we are wasting water, we need to know bad things can get WORSE! Your talks can really motivate people by not contaminating the water. When you spread the word, you help the Earth.

THINK WATER

Go with the Flow!!!

Thank you a lot
Fernanda

March 16, 2016

David Quattlebaum taught me so much about water pollution. I feel like this learning should be spread around the United States. The Arkansas Rural Water Association helps this happen. This should be shared around the world. The more facts shared around the world, the more it is amazing to kids.

Addey Wright
S.C. Tucker Elementary

To: Mr. Quattlebaum
From: *Weston Blankenship*
March 16, 2016

Hi,

My name is Weston Blankenship. I am 10 years old. I go to S.C. Tucker Elementary. I play baseball for the Spa City Crushers. I play shortstop, second, and pitcher. I loved your presentation. Thank you Mr. Quattlebaum for coming and teaching us more about water systems.

Make Your Free Time Count

By Jim Barkie, ARWA Circuit Rider

The majority of the systems I work with are small with only a few employees. Some are so small that they are basically a one man show. Between repairing water leaks, filling potholes, and being the dogcatcher, they have very limited time for anything else. Maintenance of the collection system and wastewater treatment plant usually takes a back seat to everything else.

Maintaining your collection system and wastewater treatment plant can save you a lot of headaches down the line. All systems have different times of the year when things finally slow down, and this is when you need to make the best use of that time. The actual type of treatment plant you have doesn't matter. If the collection system and treatment plant are neglected long enough, you are going to have problems.

Whenever possible, clean the mains and remove debris from the manholes. Identify problem areas and address any inflow and infiltration you have. This will help your plant operate more efficiently and save energy by eliminating the amount of surface and ground water you are pumping to the treatment plant. If you have lagoons, keep all the vegetation under control, and limit any cut vegetation from falling into the lagoons. If you have an activated sludge system, clean the influent to reduce head loss, and clean the sides and weirs of any algae or other buildup that normally appears. Post aeration and disinfection chambers that have accumulated sludge and other debris can result in a bad sample no matter how good your plant is operating.

The bottom line is that you have to stay in compliance no matter what. If you get an extra hour, make the best of it and take care of your system. Lack of maintenance is common with systems that struggle to stay in compliance. A little effort here and there can make a big difference when you pull samples.

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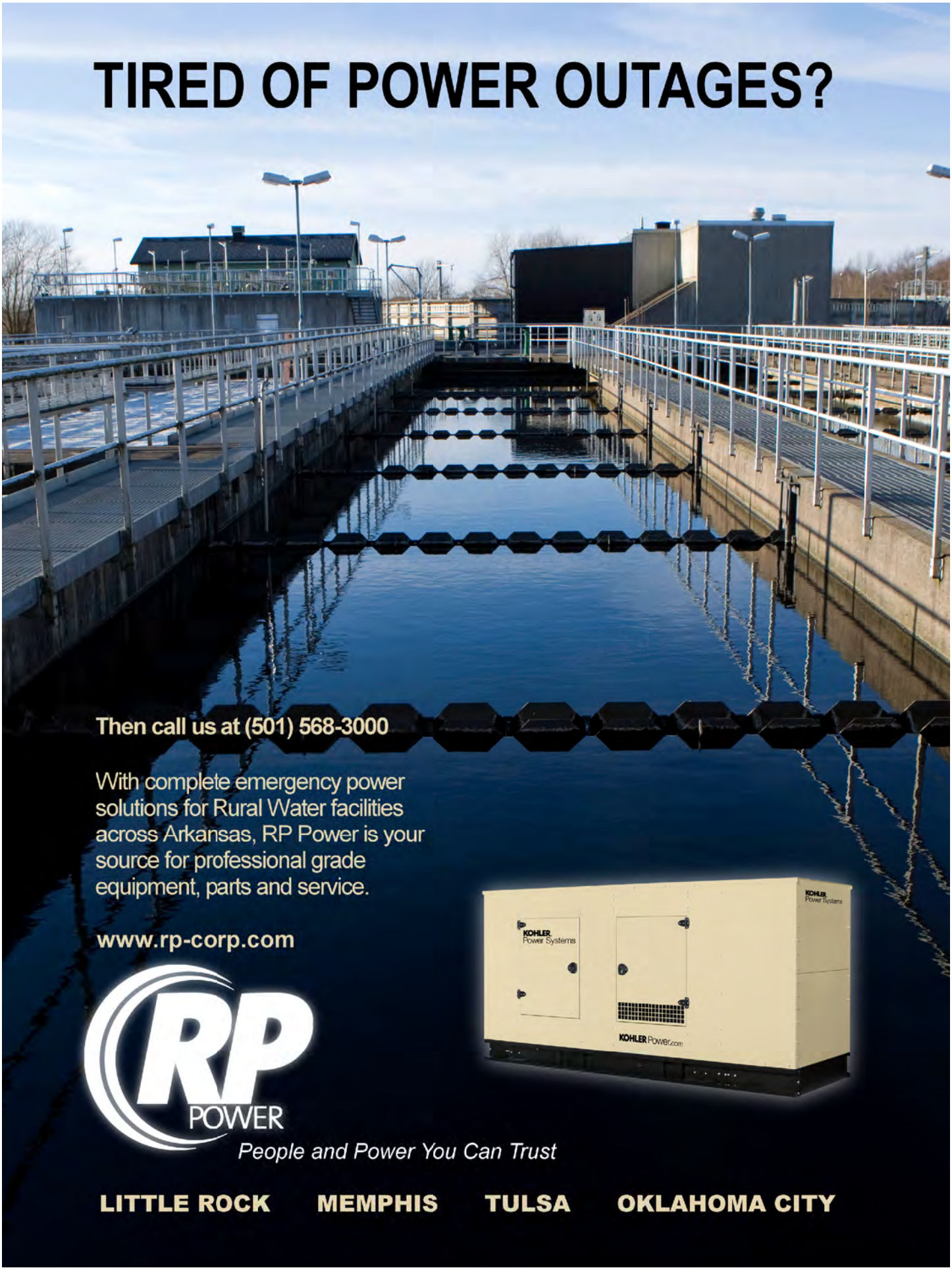
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The Importance of Implementing an Annual Rate Increase

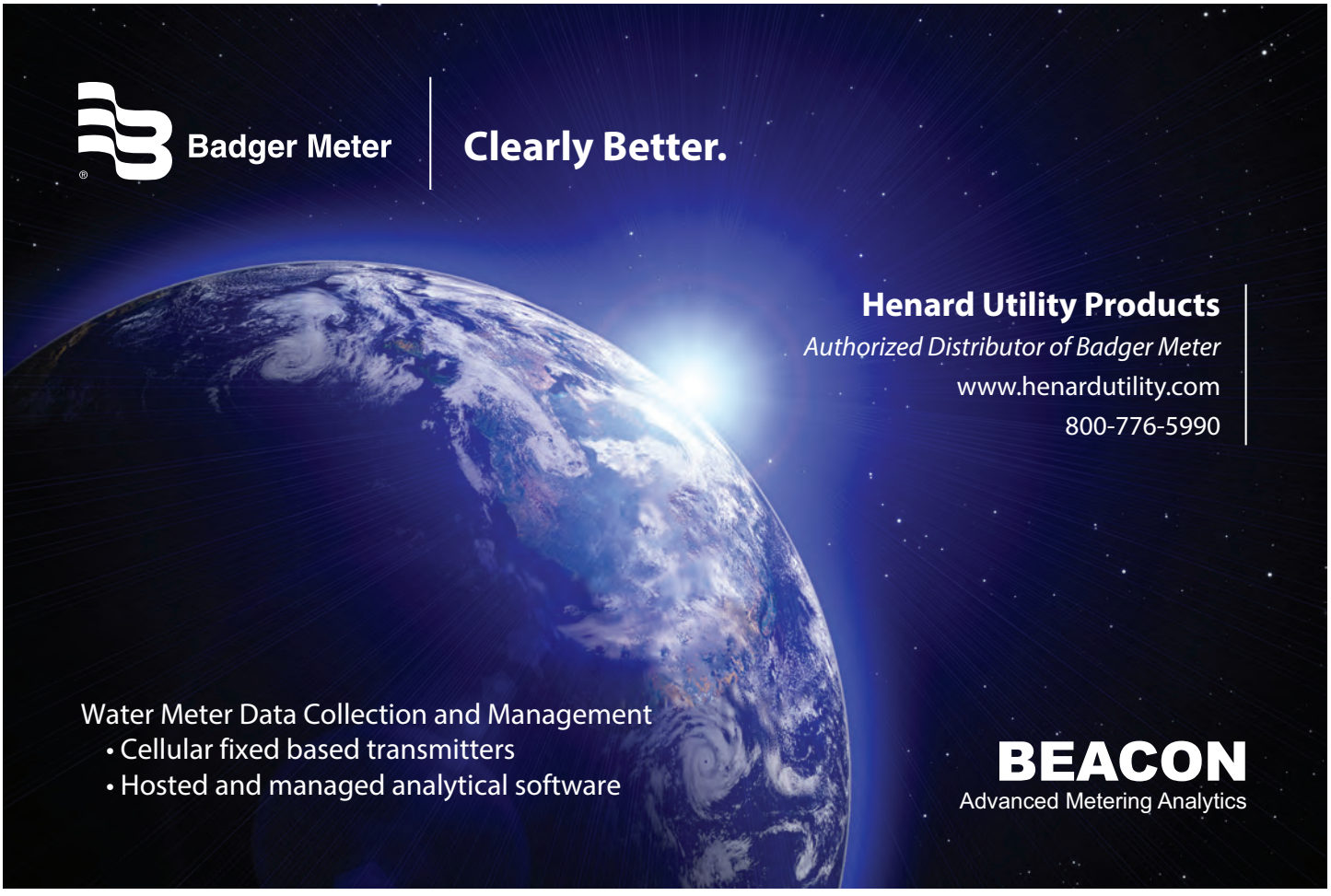
By Josh Freeman, ARWA Circuit Rider

Arkansas Rural Water Association encourages systems to analyze or perform a rate study annually. This could allow you to implement a small increase in rates versus a much larger increase every few years. The main reason for this is most systems' operation and maintenance is increasing annually, and systems are not having a lot of growth in connections or sales when a lot of customers are taking means to reduce their water leaks to save money on their water bills as the costs rise.

Water rates need to be adjusted based on how your business is operating. Several systems keep operating in the negative, and it will eventually catch up with them. Some think it's a bad thing to have to put a rate increase on the customer each year, but in all actuality, you are hurting the costumer in the long run by neglecting the problem. Ask yourself this question: Would you rather see an increase of 3% on your bill annually or 15% all at one time? We at ARWA see systems even having to increase more than 50% in a one-year period when they neglected to watch their rates and kept depleting their reserve accounts. Rate Studies are free of charge and easy to perform, so basically, there is no reason not to perform one annually whether you increase that year or not. Annual rate studies will give you valuable information on an annual basis to stay on top of the problem and let you know where you stand financially.

If you have any questions or want to learn more about performing a rate study, please feel free to call Arkansas Rural Water Association at 501-676-2255.

I hope to see everybody at the 39th Annual Technical Conference in Hot Springs September 18-21, 2016.



Selection and Need of a Generator

By Rodney Baldwin/ARWA Circuit Rider

A generator is a device that converts mechanical energy to electrical energy and can restore just enough electricity to run the items you are trying to maintain during energy failure. Energy failures normally occur when there is some sort of inclement weather. Power can be lost if there is lightning and thunder, extreme windy conditions, some sort of snow or ice storm, or a downpour of rain. These types of severe weather conditions can cause electrical lines to fall down, tree limbs to fall over power lines, circuits to overload, and electric equipment to fail.

Most people want to rely on Arkansas Rural Water Association or other Agencies to provide a generator when a disaster strikes; however, history has shown that there is not always enough generators to go around to supply all the water and wastewater systems in need. Consider where a generator would be needed on your system to make sure you are able to continue to provide the service to your customers. After deciding you want to add a generator to your equipment, you would then need to compile a list of the essential equipment to be run (such as booster pumps, controls for wells, etc…) You will then need to calculate the total wattage of the item or items to be run and add about 20% to that figure to make sure you are covered. The next thing to determine is how to power the generator for the area you want to serve. Is it feasible to supply diesel, is there natural gas available, or do you want to use propane? All of the above fuels have pros and cons. For example, diesel fuel may only burn efficiently for 18 to 24 months before having to be replaced, but gasoline has an even shorter shelf life. All factors should be considered when making a selection as opposed to getting what your neighbors are using.

Hopefully, there won't be a need for you to use a generator, but when the event arises, you will be glad you prepared ahead instead of waiting to get on a list of many that could take a long time to fill by priority needs. If you have any questions about selecting a generator or using one through Arkansas Rural Water Association, please give us a call at 501-676-2255.

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WATER OPERATOR LICENSE EXAMINATIONS
SEPTEMBER 2016 – DECEMBER 2016 PAPER BASED SCHEDULE

Most current Exam Schedule is available at http://www.healthy.arkansas.gov/eng/autoupdates/oper/operexam.htm
You must register for the exam 45 days in advance. Call (501) 661-2623, ask for Water Licensing Program.

Listed below are the dates and locations of examination sessions as scheduled, as of **January 1, 2016**. All Treatment and Distribution exam grades will be available at the sessions. Acceptable photo identification (Drivers License or equivalent) will be required to sit for an Exam. Cell phones, pagers and other electronic communication devices are not allowed. Non-Programmable calculators are allowed in exam sessions.

EXAM DATE	REGISTER DEADLINE	CITY	LOCATION	TIME
9/2/2016	7/19/2016	Fayetteville	Fayetteville Operations Center, 2435 S Industrial Dr	9:00 AM
9/2/2016	7/19/2016	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	9:00 AM
9/2/2016	7/19/2016	Mtn. Home	Baxter Co OEM Training Facility, 170 Dillard Dr, Midway	9:00 AM
9/9/2016	7/26/2016	Clarksville	CLW (Operations Bld) 710 East Main (Hwy 64 East)	9:00 AM
9/9/2016	7/26/2016	Jonesboro	Jonesboro CWL Office Training Rm, 400 E Monroe	9:00 AM
9/9/2016	7/26/2016	Camden	AR Environmental Training Academy, 100 Carr Road	9:00 AM
9/21/2016	8/8/2016	Hot Springs	ARWA Conference, HS Convention Center	9:00 AM
12/2/2016	10/18/2016	Fayetteville	Fayetteville Operations Center, 2435 S Industrial Dr	9:00 AM
12/2/2016	10/18/2016	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	9:00 AM
12/2/2016	10/18/2016	Nashville	Carter Day Center, 200 Nichols Drive	9:00 AM
12/9/2016	10/25/2016	Camden	AR Environmental Training Academy, 100 Carr Road	9:00 AM
12/9/2016	10/25/2016	Clarksville	CLW (Operations Bld) 710 East Main (Hwy 64 East)	9:00 AM
12/9/2016	10/25/2016	Jonesboro	Jonesboro CWL Office Training Rm, 400 E Monroe	9:00 AM

The above exam session information is subject to change. You should confirm this information just prior to the scheduled examination period. Also, the latest exam schedule information can be viewed on the Internet at: < http://www.healthy.arkansas.gov/eng/autoupdates/oper/operexam.htm >.

You must register for the exam 45 days in advance. Call (501) 661-2623, ask for Water Licensing Program.

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VFDs: The Magical Problem Solver

By Steve Frankenberger, USDA Energy Tech

In the spring 2016 issue of the Water Insight, one use of Variable Frequency Drives (VFDs) was discussed. To review a minute, a VFD is an electronic device that can change the frequency of the power coming to a motor. This allows the speed of the motor to be changed. Last time we discussed applications with water booster pumps. Many more applications exist. Let's talk about a few of them.

Lift station pumps are notoriously oversized. They are sized for the worst-case scenario. (See Water Insight, fall 2015). The incoming flow varies substantially due to inflow and infiltration as well as daily fluctuations. Lift stations respond to these changes by running for longer or shorter intervals. What if they could respond to the load by speeding up or slowing down? During periods of low incoming flow, the pumps could be slowed down. By pumping slower, the forced main friction would generate less backpressure, and energy is saved.

One of the issues that many sewage forced mains see is excessive backpressure caused by air or other gas accumulations in elevated sections of the line. When the system is flowing, the air accumulates in every down-hill leg of forced main. This air robs you of the siphoning effect you normally get in a downhill section, and results in more back pressure. Air release valves go a long way to vent this air. Air release valves are often ignored and malfunction. A lift station pump, when experiencing this higher back pressure, produces less flow; so, it normally just runs longer. In extreme cases, the back pressure is so great the pump dead heads, the flow drops to nothing, and the pump then overheats and wastes a lot of energy as it dies. A VFD could sense that the flow has dropped off (it does this by noticing that the wet well level is not dropping). It would speed up, generate more head, and blow the obstruction on down the line and then it can return to normal speed. All of this also applies to any obstruction in a forced main.

Self-priming sewage pumps are a little more difficult to apply than other pumps. The pump has to accomplish two tasks. First it has to be able to prime itself, and secondly it has to meet the pumping requirements. Frequently in low head applications, the speed required for pumping is too low to prime the pump. In the past, "artificial head" would be added. This artificial head is generated by an orifice, small diameter pipe in the discharge, or any flow restriction. This lets the pump run fast enough to reprime and reduces flow enough to not flow too much at the higher RPM. A VFD allows the pump to prime at one speed and pump at another.

The two scenarios above often occur when pumping sludge. When not flowing, the viscosity of sludge can get very high, and then as it begins to flow, the shear action reduces the viscosity to almost that of water. Catsup has similar properties. These two conditions require two different speeds- one to get things moving and another to pump. This is a great place to use a VFD.

Often single phase power is all that is economically available. If the pumping rate and head dictate the use of a motor over 7.5 hp, then three phase power is required. (It is possible to get 10 horsepower motors in single phase, but they are expensive, have long lead times, and have limited number of starts per hour). In the past, single phase to three phase converters were available, but they are problematic, inefficient, and often produce voltage imbalances that would void the motor warrantee. Enter the modern VFD! A VFD can produce good, clean, balanced three-phase electricity from single phase electricity.

The motor can be coupled to a pump, a blower, or an agitator. Although very useful, there are a couple of cautions when using a VFD.

If you use a VFD, ensure you have good lightening and electrical surge protection. Like any solid state device, protection is a very good idea.

When applying a VFD, the service factor of a motor becomes 1.00. The service factor is the amount of overload a motor can withstand. A service factor of 1.15 means a 10 horsepower motor can handle 11.5 horsepower. Your pump motor may well be using some of this service factor. If you add a VFD, the motor or the VFD may overheat.

VFDs cannot be used on many electric motors. Almost any TEFC motor manufactured in the last 10 years will be ok. Check with the motor manufacturer to be sure. ODP motors may be a problem.

If you operate a 20 horsepower motor at 50% speed, the motor rating drops from 20 horsepower to only 10. Remember Horsepower is proportional to the product of torque and rpm. If you cut the rpm in half, the rated power is cut in half.

VFDs can be coupled to computers and monitor pump flow and efficiency. They can provide information such as "this pump used to be able to produce this same flow at a lower rpm. Perhaps it is time for maintenance". There are VFD computer systems on the market place that can monitor power consumption and flow. They will even experiment around with different pump speeds to find the one that is the optimum.

VFDs are the wave of the future. They are getting cheaper every day; especially on new installation where they can replace some of the motor control devices you need anyway.

If you have a possible VFD application, give us a call at 501-676-2255. We would be glad to help.

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BACKFLOW TESTER CERTIFICATION CLASSES IN 2016

7/11-15/2016	8:00 am – 5:00 pm	ARWA Training Center	240 Dee Dee Lane – Lonoke	Jeff Ford/Terry Fortenberry
10/17-21/2016	8:00 am – 5:00 pm	ARWA Training Center	240 Dee Dee Lane – Lonoke	Jeff Ford/Terry Fortenberry

BACKFLOW TESTER RE-CERTIFICATION CLASSES IN 2016

7/11/2016	8:00 am – 5:00 pm	ARWA Training Center	240 Dee Dee Lane – Lonoke	Jeff Ford/Terry Fortenberry
10/17/2016	8:00 am – 5:00 pm	ARWA Training Center	240 Dee Dee Lane – Lonoke	Jeff Ford/Terry Fortenberry

BACKFLOW REPAIR CLASSES IN 2016

8/16-18/2016	8:00 am – 5:00 pm	ARWA Training Center	240 Dee Dee Lane – Lonoke	Jeff Ford/Terry Fortenberry

ARWA WATER TRAINING SCHEDULE 2016

6/28-30/2016	8:00 am – 5:00 pm	Springdale Water Utilities	525 Oak Avenue – Springdale	Basic Distrib.	Jim Philipp
7/12-14/2016	8:00 am – 5:00 pm	Charles R. Newton-ER Ctr	170 Dillard Drive – Midway	Basic Distrib.	Jim Philipp
7/26-28/2016	8:00 am – 5:00 pm	Springdale Water Utilities	525 Oak Avenue – Springdale	Intermediate Distrib.	Jim Philipp
8/2/2016	8:00 am – 5:00 pm	ARWA Training Center	240 Dee Dee Lane – Lonoke	Basic Math	Jim Philipp
8/4/2016	8:00 am – 5:00 pm	ARWA Training Center	240 Dee Dee Lane – Lonoke	Applied Math	Jim Philipp
8/23-25/2016	8:00 am – 5:00 pm	ARWA Training Center	240 Dee Dee Lane – Lonoke	Intermediate Distrib.	Jim Philipp
8/31/2016	8:00 am – 5:00 pm	ARWA Training Center	240 Dee Dee Lane – Lonoke	Water Exam Review	Jim Philipp
9/1/2016	8:00 am – 5:00 pm	ARWA Training Center	240 Dee Dee Lane – Lonoke	Water Exam Review	Jim Philipp
9/27-28/2016	8:00 am – 5:00 pm	Charles R. Newton-ER Ctr	170 Dillard Drive – Midway	License Renewal	Jim Philipp
10/11-13/2016	8:00 am – 5:00 pm	Springdale Water Utilities	525 Oak Avenue – Springdale	Advanced Distrib.	Jim Philipp
11/8/2016	8:00 am – 5:00 pm	ARWA Training Center	240 Dee Dee Lane – Lonoke	Basic Math	Jim Philipp
11/10/2016	8:00 am – 5:00 pm	ARWA Training Center	240 Dee Dee Lane – Lonoke	Applied Math	Jim Philipp
11/15-17/2016	8:00 am – 5:00 pm	ARWA Training Center	240 Dee Dee Lane – Lonoke	Advanced Distrib.	Jim Philipp
11/30/2016	8:00 am – 5:00 pm	ARWA Training Center	240 Dee Dee Lane – Lonoke	Water Exam Review	Jim Philipp
12/1/2016	8:00 am – 5:00 pm	ARWA Training Center	240 Dee Dee Lane – Lonoke	Water Exam Review	Jim Philipp
12/6-8/2016	8:00 am – 5:00 pm	ARWA Training Center	240 Dee Dee Lane – Lonoke	Advanced Treatment	Jim Philipp
12/13-14/2016	8:00 am – 5:00 pm	Community Center	201 Bobbie Jean Lane – Heber Springs	License Renewal	Jim Philipp

ARWA WASTEWATER CLASS SCHEDULE 2016

7/18-22/2016	8:00 am – 5:00 pm	Community Center	222 Webber – West Fork	Class III Wastewater	Susan Poe
8/16-18/2016	8:00 am – 5:00 pm	ARWA Training Center	240 Dee Dee Lane – Lonoke	Class I Wastewater	Susan Poe
9/19-21/2016	8:00 am – 5:00 pm	Hot Springs Convention Ctr	134 Convention Blvd – Hot Springs	Class I Wastewater	Jim Barkie
9/28-29/2016	8:00 am – 5:00 pm	Charles R. Newton-ER Ctr	170 Dillard Drive – Midway	License Renewal	Susan Poe
10/3-6/2016	8:00 am – 5:00 pm	Oil and Brine Museum	3853 Smackover Hwy – Smackover	Class II Wastewater	Susan Poe
12/14-15/2016	8:00 am – 5:00 pm	Community Center	201 Bobbie Jean Lane – Heber Springs	License Renewal	Susan Poe

To see our entire schedule of classes or to get more details please go to our website: www.arkansasruralwater.org

ARWA GETS LETTERS AND E-MAILS FROM SYSTEMS

• Dear Mr. Sternberg, 2/12/2016

On behalf of Lockesburg, I wanted to take a moment to thank the Arkansas Rural Water Association for the assistance they provide to Arkansas water and wastewater systems. Our membership has been one of the best values, and we consider it an extremely affordable insurance policy of sorts. After becoming Mayor over 9 years ago, I realized the water system needed the assistance of ARWA to help with a number of issues.

My first contact was with James Philipp, the EPA training and technical assistance provider. Mr. Philipp was cordial, professional, and has been a steady source of help when our city needed. He has assisted with general questions regarding wells and treatment techniques, helped us put together our VA & ERP documents required by the ADH, assisted with a monitoring sampling plan, provided answers to questions we had after the last sanitary survey and even provided a temporary chlorine unit when ours unexpectedly stopped working.

Recently, our entire distribution system was replaced, and while it has reduced water loss by a tremendous amount, we had some unresolved issues that required several calls to Mr. Philipp. He answered his phone every time and offered helpful insight as to what might have been the cause and offered proactive suggestions to resolve the problem.

We trust and rely on the training provided by ARWA (Mr. Philipp also teaches most of those) and thoroughly enjoy your activities like the annual conference, EXPO and specialized training classes provided throughout the state. Thanks, ARWA for all that you do for the water and wastewater systems in Arkansas.

Danny Ruth, Mayor
City of Lockesburg

• February 16, 2016

Just wanted to say thank you for the use of your equipment and for the assistance of Jim Barkie and Josh Freeman in helping us install the guide rail system for the lift station. They were a great asset to us...These guys are always ready to help us with our projects, again thank you guys and your association for your help.

Thank You
Gary Woodard
City of Charleston

• Dear Mr. Sternberg, Feb. 21, 2016

As a representative for the City of Salesville, I would like to point out a few things that Susan Poe, your Wastewater Trainer/Technician, helped us with the last few months. First of all, she has never failed to answer a question, even if she had to do research to come up with the answer. She visited our wastewater treatment plant and gave very helpful advice to help us get in compliance with ADEQ. We have now been in compliance for 7 months, and I would like to give her some of the credit for that. She took the time to walk our leach fields and troubleshoot our puddle issues. She is very knowledgeable and made the operators feel at ease when making suggestions for improvements.

Beyond all that, she completed a rate study for us. This was the first rate study we have done, and I was unsure on how it all worked. She spent all the time I needed to help me understand the process. When I was unsure how to explain the process to the City Council, she took it upon herself to attend the council meeting when it was presented and explain the process to them as well.

As a small city (population 450) our funding is very limited. The wastewater program, classes, and services provided by ARWA have been extremely valuable to us in so many ways. We sincerely appreciate USDA for making this program available. We look forward to continue working with Ms. Poe and all the staff at ARWA.

Sincerely,
Shelly McFall, Clerk
City of Salesville

• Dear Mr. Sternberg, 2/22/2016

I would like to express the City of Salesville's deepest gratitude for Susan Poe, and her commitment as a wastewater trainer/technician. She has assisted our small community in so many ways. As an instructor, in my wastewater classes, she went above and beyond what I felt most would do. She would stay after class every day to help students with whatever they were struggling with. Susan has also gone out of her way to point

out corrective measures with our wastewater treatment facility when she came down here. Speaking for the city as an operator, we would like to thank the USDA for having this program available for us.

Jai Wescoat
City of Salesville

• Josh February 23, 2016

I wanted to drop you a note and Thank You for all of your help with our rates. I really appreciate all the effort both you and Jim Barkie always put in to help us.

I look forward to the increased revenue these new rates are going to generate.

Thank You again!
Kim Hicks
Bonanza Water Operator

• To: Whom it may concern:
2/24/2016

The instructions given by Mr. Jim Phillip is instrumental in our training. He makes himself available at all times, day or night.

We very much appreciate him. The instructions and knowledge in the field and classroom is a valuable asset to all in the industry.

Sincerely,
Your Basic Distribution Class
2/23-25/2016

• Dennis Sternberg, Feb. 25, 2016

I just want you to know that Jim is the best teacher I have ever had! I've been through many seminars and classes where the teacher or speaker would put me to sleep! Not Jim, he is the best! Not only is he passionate about what he does, he put it in words I could understand. I had him in Lonoke and in Clarksville this month, and there is no doubt I will pass my water test because of this man. I hope you know that you have one heck of an employee right there sir!

Robert Dunlap

• Dennis Sternberg: March 4, 2016

Hello, My name is Laqudia Evans, and I just wanted to take the time out to thank you personally for allowing Mr. Philipp to teach the class I attended.

Again, Thanks
Laqudia Evans

• Mr. Sternberg, March 29, 2016

We recently discovered that we were experiencing a major loss of water. We knew that we had a leak, to the nature of 50,000 gallons a day, but could not pin point the source even with a listening device. Finally, I called you guys, and Jeff Ford showed up and found the leak within a matter of minutes. The leak was about 300' away from where the water was coming out of the ground. A month later, Jeff and Josh Freeman came to our water plant and discovered that our treated master meter was around 25% out of calibration. Those two things alone are going to fix most of our water loss problems.

On behalf of the Village Water Department, I want to thank you and all of your staff for their outstanding professionalism and expertise. I also want to thank ARWA for the services that they have provided to us, and also mega kudos to Jim Philipp who is a world class instructor and mentor.

Best Regards,
Joey Stadler
Hot Springs Village Water Department

• Mr. Dennis, April 6, 2016

I have been working in the water and wastewater industry now for almost 8 years. I am the manager of a small system in southeast Arkansas, Kingsland AR. From the first day that I started my training, to the present, you guys at A.R.W.A have been nothing but great to me. From advice, hands on help, you guys are the best.

I recently had a problem with what I thought was my chlorinator. I had done all that I knew to do, and I was out of ideas on how to fix the problem.

It was at this time that I called Rodney Baldwin, who is one of your Circuit Riders, who has been to check on me several times. Rodney told me that he was 2 hours from me, but he would be here as quick as he could.

Rodney rebuilt my chlorinator and started troubleshooting my injector and check valve. He stayed with me from 12:30 p.m. until 7:30 p.m. that evening. He finally determined that my booster pump was going out and was not pumping enough pressure to pull a vacuum on the injector.

I was able to get one the following morning. I picked the pump up as soon as the company opened their doors. Not only was Rodney sitting here waiting on me to get back with the new pump, he had the entire plumbing ready to install it.

In closing, I would like to express how much I appreciate Rodney for hanging with me till the problem was solved. I would also like to thank all of your guys in the past for being there when I needed them.

Mr. Dennis you have a good bunch of guys. They have always been so helpful with any problems that has arose.

Thanks A.R.W.A. and thank you Rodney Baldwin.
Kingsland Water and Waste Water Manager,
Joe W. Cook

Water Loss and In-house Leak Detection (Part 1)

By Roy Richards/ARWA Circuit Rider

Since coming on board at ARWA and working with some of the smaller systems throughout the state, I have noticed that water loss is a big problem with most systems. One thing that I've noticed the most is that some operators do not know where to start in looking for leaks. This article will give you the basic steps to find water leaks without having to spend a lot of money right off the bat.

1. You need to know how much you are losing. If you have a master meter on your system, you are already ahead of the game. If you don't have one, we suggest that you install a 1" meter around your main valve from your tank to your system. This will allow you to meter the water going out of your tank into your system. Wait until off-peak demand (usually about midnight to 3 a.m.) to valve off your main tank valve and then turn on the meter you installed.

2. You will need to time the meter by waiting until it is on zero, then start a timer for one minute. At the end of that minute, see how many gallons have gone through that meter. You will need to do this at least five or six times to get a good average reading. After you complete this and have your data, turn your tank valve back on and the meter off.

3. Now that you have an idea on how much you are losing. Now it's time to do some night valving. First, have a good map of your system to see where you can isolate sections off for leak detection. Next, locate the valves and make sure you can get on them, and they work properly. You want to be able to isolate sections of your system in zones. This will allow you to know how much water you have going to each zone. Some systems might have 2,3,4,5, even 7 or more zones.

4. Now that you have it zoned off and valves located and working, you can do another night valving session. This will require someone at the tank/meter the entire time, along with at least one or more in the field to do the valving in the zones. Now that all personnel are in place, turn off main valve to tank and start timing the meter to see how many GPM are going through the meter.

5. Then have the field person start valving off zones one at a time, and see if the meter timing slows down. You should time it for five minutes like before to get the average. Be sure to write this down in a notebook as to what zone and how much the meter timing slows in each zone.

This all should be done from midnight to 3 a.m. during lowest flow times. Larger systems may have to split it up over a couple of nights, but it can be done fairly easily. After the valving of each zone is complete, you should be able to narrow down the area of the most water loss.

See the fall issue of the *Winter Insight* for the next step.

Looking for Submissions

We are looking for article and recipe submissions from our members for future editions of Water Insight! Please email your submissions or questions to **arkrwa@sbcglobal.net,** or feel free to call us at 501-676-2255. ARWA reserves the right to edit all submissions, and we do not guarantee that all articles or recipes will be published. We are looking forward to hearing from the Arkansas Rural Water Community!

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Exam Success – Manager & Tester Responsibilities

James Philipp, MPA, ARWA Training Specialist

Great day fellow Arkansas operational professionals. The warm summer weather is upon us. Our kids are enjoying their time off, and students continue to struggle with the new ABC water exam. In each class I instruct, I pull all of my reference materials out, so students get a visualization of the information now needed for a successful exam.

I think it is important for mayors and managers to understand and to provide the resources necessary for the ABC exam to their employees. A complete list of this material can be found at the Arkansas Department of Health website, under the Operator Certification section and at the abcccert.org website.

Students should be provided the reference materials well in advance of ANY required classes they must attend. Please note, I strongly recommend that ALL suggested reference materials be made available to future test takers. This includes the Office of Water Programs - CSUS manuals and the recommended American Water Works Association manuals. Individuals wishing to have success on the exam should spend 10- 30 minutes/day reading and reviewing the reference materials which will help them understand the concepts discussed in the formal classroom setting.

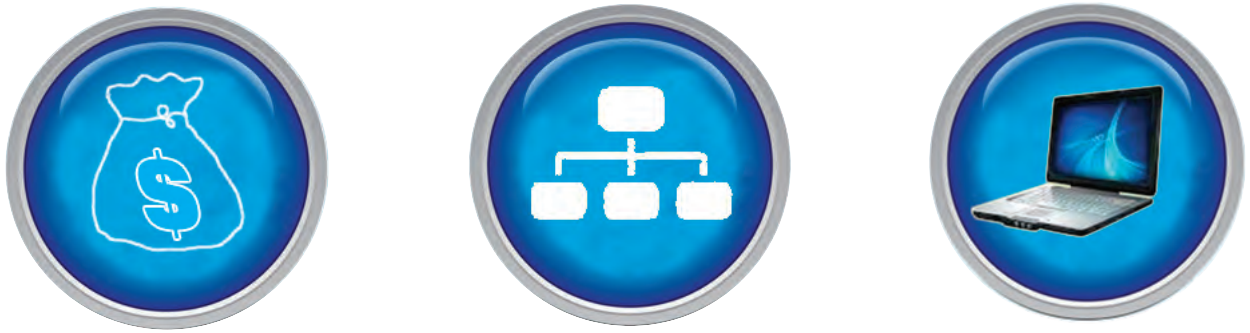
Students MUST take ownership of their learning and can no longer memorize review questions as a way to pass the exam. I encourage everyone attending my training sessions to ask when a concept is not clear and I repeat over and over how important that 10 minutes a day of study time will be for their success.

I would also like to remind those reading this article that the exam levels are based on several factors including operational level, experience, and knowledge of the industry. When an operator has been on the job less than 3 months, it seems unrealistic that they will have success on a Treatment or Distribution IV exam, which REQUIRES 3 years of verifiable experience. I hope mayors, managers, and supervisors take this into consideration. While I always encourage operators to obtain the highest level license possible, it might be wise to start with a level I or II exam, and obtain more experience prior to taking higher level exams.

We at ARWA are proud to offer the highest quality training and technical assistance to the hard working men and women of our wonderful industry. I wish each operator success in their future and will do whatever I can to help you succeed. But remember- YOU HAVE TO PUT IN THE STUDY EFFORT!

Until I write again, please continue to educate yourself and your public, continue to work safely, and most importantly, continue to keep that water flowing.

FINANCE **MANAGEMENT** **TECHNICAL**



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Rural Cooking

• Tropical Cheese Spread

1 8 oz Cream Cheese
1 8-1/4 oz crushed pineapple with juice
2 cups Monterey Jack cheese
½ cup coconut
½ cup pecans, chopped
½ cup apricots, chopped

Combine cream cheese (room temp or warmed in microwave) and pineapple. Add Monterey Jack cheese and mix well by hand. Add remaining ingredients and mix well. Chill. Serve with crackers or French bread slices. Yields 3 cups.

• Colorful Fruit Salad

1 large can of Peach pie filling
2 small cans of Mandarin oranges, drained
1 large can Pineapple chunks, drained
1 box frozen Strawberries
3 Bananas, peeled and sliced

Mix all ingredients together, gently stirring in bananas. You can add coconut and chopped pecans if you like. Chill and serve.

• Banana Split Salad

1 large carton Cool Whip
1 can Eagle Brand Milk
1 can Cherry Pie Filling
1 can crushed Pineapple, drained
3 Bananas, chopped
½ cup chopped pecans

Mix Cool Whip and Eagle Brand Milk well. Add all other ingredients. Chill until ready to serve.

• Green Bean Bundles

2 16 ox cans WHOLE green beans, drained
1 1lb package thin sliced bacon
¾ cup butter
½ cup brown sugar
1 teaspoon garlic powder
1 ½ to ¾ teaspoon red pepper flakes

Take six or so green beans and wrap them with bacon placed in Pam sprayed baking pan. In a pan melt butter and add brown sugar, garlic powder, and red pepper flakes. Do not boil. Remove from heat and spoon over green bean bundles. Bake in 375 degree oven covered with alum foil. Uncover and bake an additional 15 more minutes.

• Aunt Mary Lou's Smoked Brisket

(Cooked in oven)

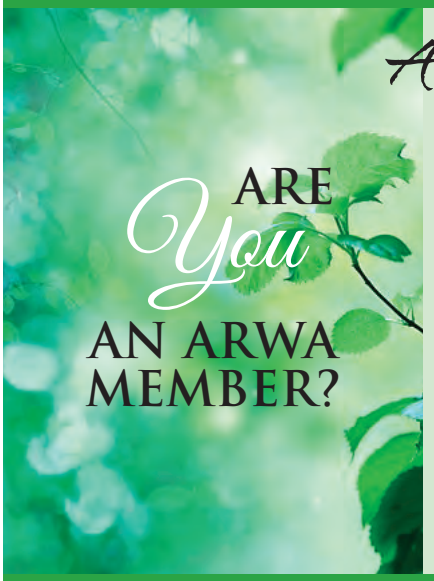
4 lb trimmed beef brisket
3 oz liquid smoke
1 teaspoon celery salt
1 teaspoon garlic salt
1 teaspoon onion salt
2 tablespoon Worchester sauce

Mix all seasonings together and place in plastic freezer bag.
Place brisket in the bag, seal and shake. Place in refrigerator overnight. Take out of fridge and let set to room temperature. Place in baking pan with a lid or cover tightly with foil. Bake covered at 275 degrees for 3 ½ to 4 hours. Take out of oven and let set in pan for 30 to 45 minutes. Take out and slice against the grain. I pour the pan juices over the meat before serving. Delicious!!

• Mexican Punch

1/3 gallon of sweet tea
1 large can of Pineapple juice
1 small can frozen orange juice concentrate
2 cups of sugar

Mix all together, chill and enjoy.



All of our regular training classes are free of charge to all ARWA members. Non-members will be charged $99 a day for each person attending our training sessions effective January 1, 2015. These fees cover the cost of training materials provided in each class. If you want to update your ARWA membership you can print our membership form online at www.arkansasruralwater.org You can also call us directly at 501-676-2255.

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Does Your System Have a Website Yet?

By Jeff Ford, Deputy Director

Websites are not as hard to get up and going as you may think if you start out in the right direction. Some companies charge a very hefty fee for building and hosting a website, and it can take weeks or months to set it up. Now there is an easy and affordable alternative.

RuralWaterImpact.com (RWI) is by far the easiest solution for a website. If you have never had a website and are not sure what to expect, a site with RWI is the hassle-free way to go.

The friendly team at RWI will setup the site and show you how to maintain it yourself, and they can even make updates for you when you are too busy.

Already have a website but just want a better one? RWI helps migrate all the content for you and helps you redirect your website address.

So, once you have a website, what can you do with it? First, it helps with compliance and customer service. It is a great way to inform your customers about many things with the utility. You can post directions to your office, office hours, alert customers about outages, post the current water rates, forms and reports, conservation tips, and much more. Think of the phone calls that will save.

You can also save time and money by posting your CCR on your website instead of mailing a hard copy to every resident, as long as you meet the criteria.

Your RWI website looks beautiful on any size

Having a website is also pretty necessary if you want to collect online payments. You can get it set up with any payment provider you choose, and then RWI will add a "Pay Your Bill Now" button to your website so your customers can click right to it.

Thanks to their innovative service and flawless customer support, RuralWaterImpact.com is endorsed by the Arkansas Rural Water Association as the recommended website provider for all our Water System Members.

Oh, and if you need a larger website to cover your whole town, then you'll want to check out RWI's other service **MunicipalImpact.com** which provides a similar easy-to-use website service for small cities and towns.

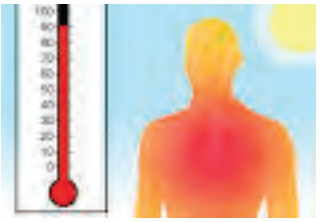
Ready to have a new web site this week? Or just want a proposal to take to your Board? Then give the friendly folks at RWI a call today and they'll take good care of you. You'll be glad you did.

Just visit **www.RuralWaterImpact.com** or call (888) 551-4815.

Be sure to visit
RuralWaterImpact.com's booth
at the upcoming
ARWA Technical Conference

HEAT ILLNESS PREVENTION

Protecting outdoor workers from Heat Illness has become an increasingly important focus by OSHA and many employers. Recognizing the hazards associated with Heat Illness and enacting a plan of prevention is helping employers overcome repeated incidents of Heat Illness.



Working outdoors in the heat and humidity can cause several different types of Heat related illnesses that are all easily preventable with some knowledge and education. The most common forms of Heat Illness are heat cramps, heat exhaustion and heat stroke. These all occur when employees do not provide the body with preventative measures to cool down enough, resulting in a heat related illness.

Identifying Heat Related Illnesses:

- Heat Cramps are muscular pains and spasms caused by heavy exertion. This is generally the result of a loss of water, electrolytes and salt. Cramps usually occur in the abdomen, arms, hands and legs.
- Heat Exhaustion is the result of too much fluid loss from sweating resulting in decreased blood flow to vital organs. This condition typically starts producing flu-like symptoms. Workers most prone to heat exhaustion are the elderly, those with high blood pressure and employees not acclimated to hot conditions.
- Heat Stroke is the most serious heat-related illness and requires immediate medical attention. Heat Stroke occurs when the body has been subjected to periods of over exertion in hot environments and the body's internal cooling system fails.

Prevention of Heat Related Illnesses:

- Schedule maintenance and repair jobs in hot areas for cooler months.
- Schedule hot jobs for the cooler part of the day.
- Utilize fans where possible
- Stage work so employees are in shade during hottest part of day
- Acclimatize workers by exposing them for progressively longer periods to hot work environments.
- Reduce the physical demands of workers.
- Use relief workers or assign extra workers for physically demanding jobs.
- Provide cool potable water or liquids to workers. In remote locations that do not have plumbed water sources, water will be provided in sufficient quantities.

  Avoid drinks with caffeine, alcohol, or large amounts of sugar.
- Provide rest periods with water breaks.
- Provide cool areas for use during break periods.
- Monitor workers who are at risk of heat stress.

Employers must ensure personal factors that contribute to heat related illness are taken into consideration before assigning a task where there is the possibility of a heat-related illness occurring. The most common personal factors that can contribute to heat related illness are age, weight/fitness, drug/alcohol use, prior heat-related illness, etc.

For more information on Heat Illness prevention, OSHA 's website contains several resources developed to assist employers in preventing Heat Illness at: **https://www.osha.gov/SLTC/heatillness/index.html**

Wastewater To Tap Water?

By David Quattlebaum, ARWA Source Water Specialist

We might think this comment is a stretch. Thinking back to presentations in school classrooms and festivals around the state, this is something being relayed to my audience. I've been telling kids this for years, but, wastewater to tap water? That can't be right.

The fact of the matter is that in Orange County, California this is being done today. With the drought experienced in California over the past three years, available water levels in reservoirs are at record lows. You might think, well that explains why. The truth of the matter is that Orange County Water Department started reclaiming some waste water to be recycled and eventually used as drinking water in 2008. As far back as the 1970s Orange County Water Department has recycled wastewater for non-potable use.

At the Groundwater Replenishment System plant, treated wastewater goes through a three-step treatment process using microfiltration, reverse osmosis, and UV light. As of May of 2014, the plant produced about seventy million gallons per day with plans to expand the operation to 100 million gallons per day. This would provide enough drinking water for about 850,000 people daily. At the present, the "sewer" water being reclaimed and processed is being mixed with the regular supply and reaches around seventy percent of Orange County customers.

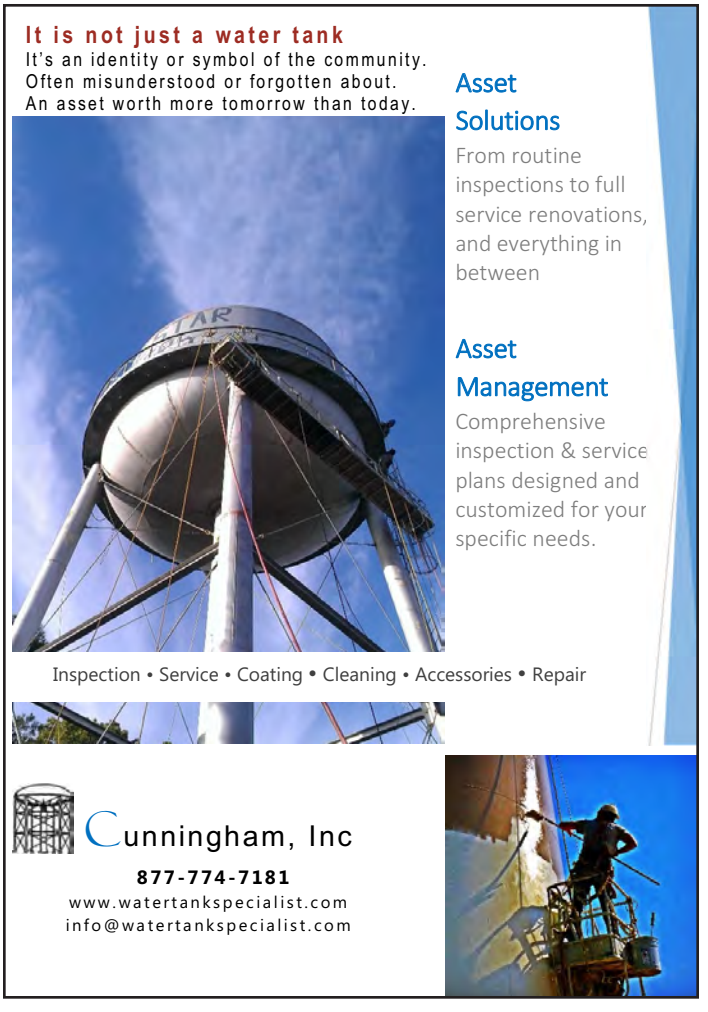
California is experiencing one of the worst droughts in recent history. So far, the drought has lasted more than three years. Many of the smaller water systems in California are facing the issue of running out of water if the drought continues much longer. Reservoirs are at record low levels: these low levels are critical and are affecting agriculture and the local area economy.

Australia is another place where water is used and reclaimed. The practice of reclaiming water for use as drinking water is not restricted to these two places. Singapore, Africa, and even the state of Texas are utilizing the process. Public awareness and acceptance is growing. After a three-year trial in the city of Perth, Australia and with a seventy-six percent public support, they will be getting up to twenty percent of their drinking water from reclaimed water. According to the Australian Water Recycling Center of Excellence, many like programs are springing up across the Australian Continent.

A search of "NEWater" on Wikipedia tells us that in 1974 Singapore started an experimental program of recycling water. After a year, the plant was shut down because of high costs and the reliability of the process. The "NEWater" study began in 1998. Its purpose was to determine if NEWater was a realistic process for reclaiming and processing water for use in Singapore. In 2001, the Public Utilities Board of Singapore had started efforts to increase water supplies for non-potable use, and using the NEWater process would help reduce the demand placed on reservoirs used for potable water.

Education outreach has done much to increase understanding by the public. Singapore has a yearly festival where water bottled through the NEWater process is the only water served at the festival.

In time, hopefully, we can get past the thought process we now experience. If the water is processed, goes through the disinfection process, the filter process, and passes the tests required for drinking water it should be safe to drink. Shouldn't it? What are your thoughts?



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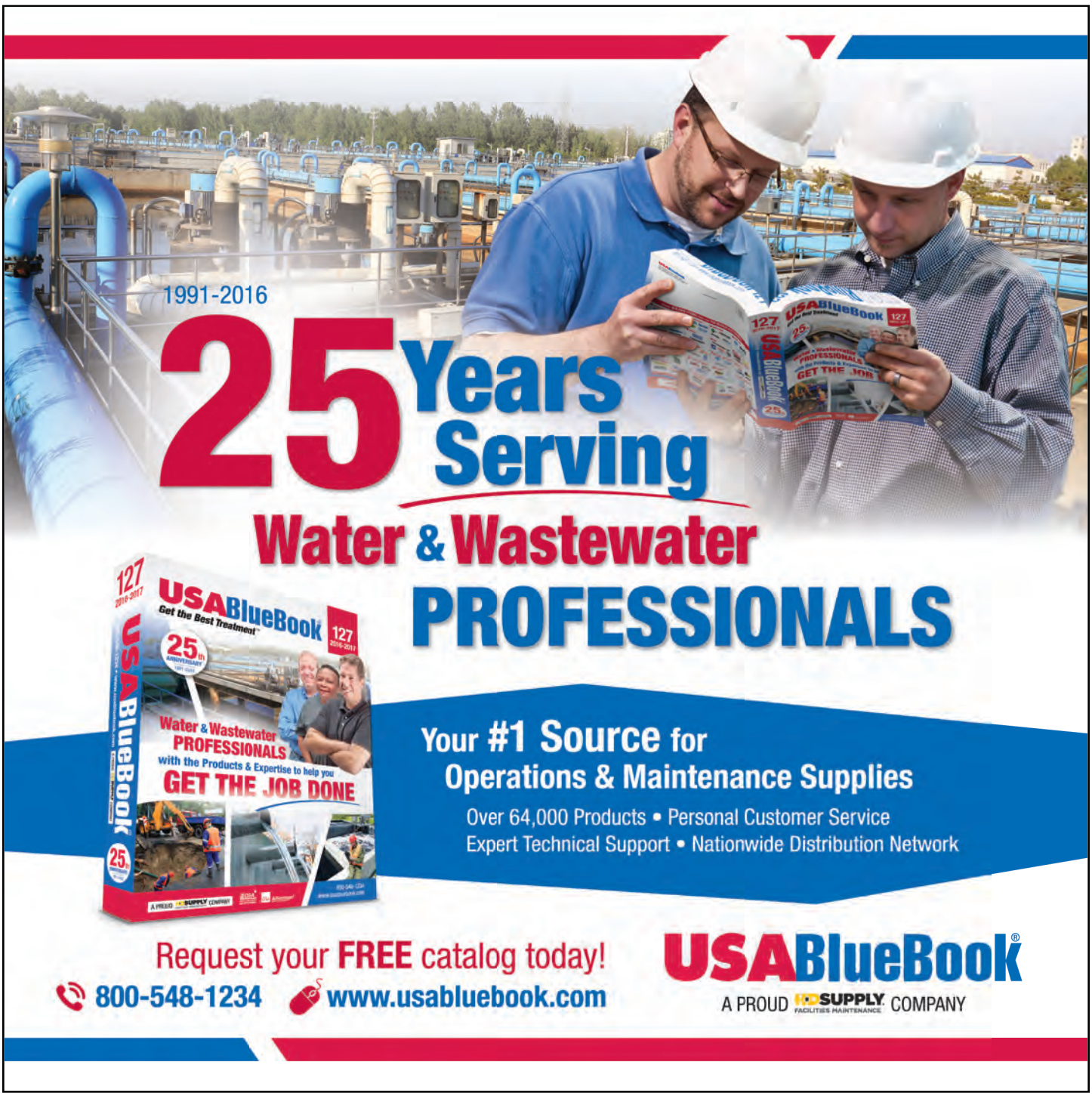
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