

January/February 2016

# ServiceLine

— The Official Publication of the South Dakota Association of Rural Water Systems —



## 2016 ATC HIGHLIGHTS

### LEADERSHIP RECAP

CCR'S MADE EASY | THAWING WATER LINES | CONTROL VALVE CLEANING

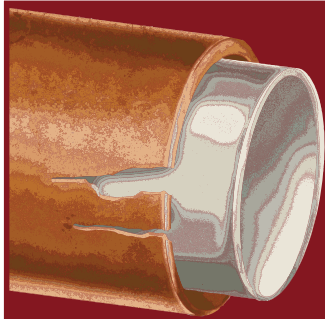


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# President's Message

Ron Gillen, SDARWS President



## ATC Recap

This year's 2016 ATC was a resounding success. SDARWS was pleased to host a special guest from National Rural Water – Director Steve Wear from Arkansas. We would like to thank all of those who attended and participated in all the various aspects of our conference. Without all of your support, this conference would not be possible. We would especially like to thank all of our conference sponsors: Premiere Sponsor – AE<sub>2</sub>S; Educational Session Sponsor – Bartlett & West; Awards Brunch Sponsor – CompassTools; Break Table Sponsors: HR Green, CoBank, Butler Machinery and DGR; Keg Sponsors: AE<sub>2</sub>S, DSG, and HR Green; Bag Sponsor Banner Engineering; Pen Sponsor Clark Engineering; Notepad Sponsor – HydroKlean; T-Shirt Sponsors: CoBank, Electric Pump, Hawkins Water Treatment, Sioux Valley Environmental, and Vessco. See page 16 for the recap. I would also like to thank all of our exhibitors – for without you, our event would not be possible. 💧

## 2016 ATC Exhibitors

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Cover Photo: South Dakota Badlands in Winter

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# Events Calendar

## FEBRUARY

### **8-10 – NRWA Rural Water Rally Hyatt Regency | Washington, DC**

The National Rural Water Rally is a grassroots lobbying effort which brings together hundreds of rural water supporters from around the United States and puts them in direct contact with the people who make things happen in DC. **For more information, visit:** [www.sdarws.com/rally.html](http://www.sdarws.com/rally.html)

### **9-11 – Wastewater Collection/Water Distribution Sioux Falls Water Reclamation Facility**

Day 1 will be Wastewater Collection, Day 2 Water Distribution, and Day 3 will cover topics related to both. Topics covered include: components of distribution & collection systems, system maintenance, disinfection procedures, South Dakota Drinking Water Regulations, wastewater characteristics, safety and mathematics. Day 1 & 2 - 8:00 a.m. to 4:30 p.m.; Day 3 - 8:00 to 11:30 a.m.

### **10 – Wastewater Lift Stations, Pumps & Controls Rapid Valley SD/WS**

This one-day class covers Pump Maintenance in the morning, and Controls and SCADA in the afternoon.

### **23-25 – Basic Wastewater Treatment Spearfish Holiday Inn**

This course is designed to cover the material for the Stabilization Ponds and Class I & II Wastewater Treatment Certification exams. Topics covered include: natural biological processes in lagoons, water level controls, summaries of troubleshooting procedures, control of vegetation and odors, correction for low dissolved oxygen, primary treatment, trickling filters and RBCs, activated sludge, sampling, reporting, DMR's, and wastewater math. Day 1 & 2, 8:00 a.m. to 4:30 p.m.; Day 3, 8:00 to 11:30 a.m.

## MARCH

### **8-10 – Intermediate Water Treatment Rapid City Ramkota**

Topics covered include: South Dakota Drinking Water Regulations, surface water treatment, lime/soda ash softening, chemistry, advanced mathematics, and new technologies in the drinking water industry.

## APRIL

### **12-14 – Wastewater Collection/Water Distribution Huron Crossroads Hotel**

Topics covered include: components of distribution & collection systems, system maintenance, disinfection procedures, South Dakota Drinking Water Regulations, wastewater characteristics, safety and mathematics.

### **27-28 – West River EXPO Rapid City Ramkota**

This 1-1/2 Day event includes presentations and features exhibit displays. Lunch is included on day one. **For more information, visit:** [www.sdarws.com/west-river-expo.html](http://www.sdarws.com/west-river-expo.html)

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*\*Denotes Exam. Visit [denr.sd.gov/des/dw/exam.aspx](http://denr.sd.gov/des/dw/exam.aspx) to register for the exam.*

*Course agendas, maps and registration are all available online at [www.sdarws.com](http://www.sdarws.com). All classes are free unless otherwise noted. For more info on these and other events, visit [www.sdarws.com](http://www.sdarws.com) or call 605-556-7219.*

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## **Consumer Confidence Reports: \$126,000,000 (annually)**

*In 2012, NRWA advocated for the e-delivery of CCRs. Following a supportive vote in the U.S. Senate, the EPA granted the option which will save millions of dollars each year.*

## **Revised Total Coliform Rule: \$25,678,187 (annually)**

*In 2006, NRWA was selected to represent small and rural communities on the federal committee to craft the new TCR. This figure represents the savings for not having to mail notices of violation for the TCR. The benefit of not having to send misleading public notices to the public is "priceless."*

## **Retain Section 1926(b) Protection: \$11,550,871,000**

*In 2013, NRWA successfully opposed Congressional efforts to change the core protection for water service areas. This figure is the total USDA debt that is protected by 1926(b). The figure of all the service protected is much higher.*

## **Non-regulatory Cybersecurity Policy: \$146,629,000**

*The monetized savings for water utilities not having to complete a mandated federal cyber security plan.*

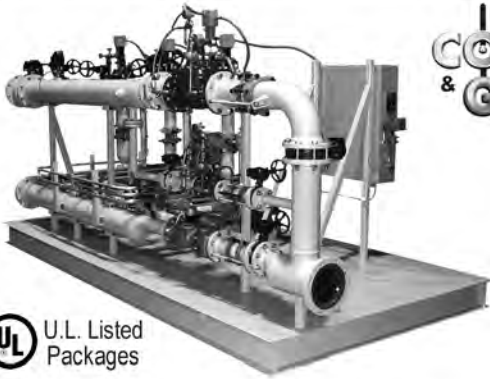
## **The Community Fire Safety Act 2013: \$3,000,000,000**

*The savings for water systems not having to scrap purchased fire hydrants.*

### **In Progress:**

- **In-home Lead and Copper Monitoring**
- **Waters of the U.S. Rule**
- **Stage II Disinfection Byproducts Rule**
- **Federal Storage Tanks Regulation**
- **EPA Public Release of Water Utility Data**
- **Unfair Water Privatization**
- **Unregulated Contaminant Monitoring**

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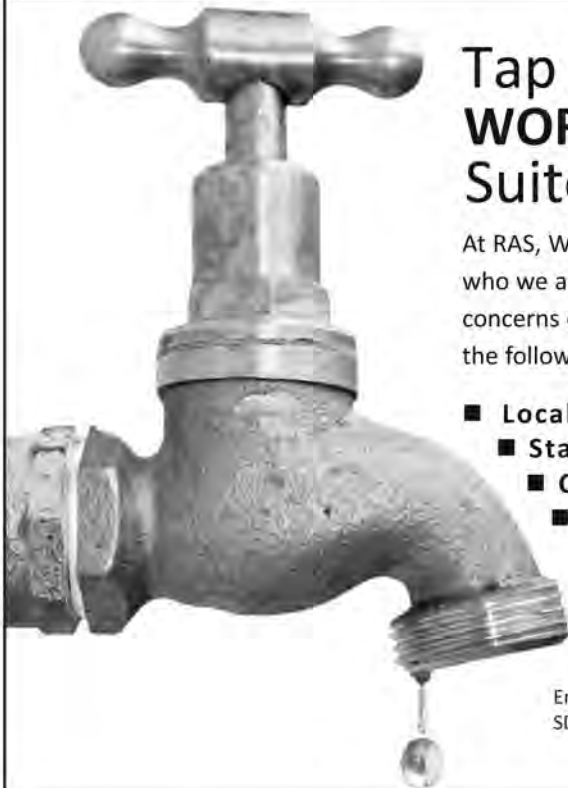
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# RURAL WATER



**Q:** How long should I flush the system before taking a sample to send to the lab after spring start up?

**A:** You should flush with added chlorine to system and take chlorine readings until you see the high chlorine levels. Let the water sit for 24 hours, and then continue flushing until chlorine residue is normal again, then take sample to send to lab.

**Q:** Why is the pressure the same on the inlet and outlet sides of our Cla-Valves?

**A:** Generally the problem is a foreign object obstructing the orifice of one of the control valve assemblies, but it could be a ruptured diaphragm or mis-adjusted set-pressure operating screw.

**Q:** In part of my collection system there is a sewer gas odor, What causes it?

**A:** One causes of sewer gas in sewer systems is an area that has a lift station force main entering the sewer system. If the force main is over 400 feet long many times the water will sit in the pipe for hours. Wastewater will start to turn anaerobic within minutes. After the pump runs several times, the water will be pumped into the discharge manhole where Hydrogen Sulfide gas (H<sub>2</sub>s) will be released causing an odor in the pipe. To prevent this, always check the manholes in this area as H<sub>2</sub>s will eat the concrete and cause the manhole to erode.

**Q:** Where can I find more information on the Revised Total Coliform Rule?

**A:** The Revised Total Coliform Rule affects all public water systems and will take effect on April 1st, 2016. Updated sample site plans are required to be sent to the SDDENR by March 31st, 2016 but are encouraged to send them in earlier. More information can be found on the SDDENR website here: [denr.sd.gov/des/dw/RevisedTCR.aspx](http://denr.sd.gov/des/dw/RevisedTCR.aspx), or on the EPA website here: [www.epa.gov/dwreginfo/revised-total-coliform-rule-and-total-coliform-rule](http://www.epa.gov/dwreginfo/revised-total-coliform-rule-and-total-coliform-rule).

**Q:** Why should my system perform a water audit?

**A:** A water audit can show you what you need to do to improve your water system. It helps you in:

- **Building revenue responsibility:** Determine the best areas to direct your funds – are capitol improvements needed, or do other areas need to be addressed? Also forecast improvements needed versus revenue, and your system's future needs.

- **Personnel planning:** Determine areas of the system that personnel need to address. Discover potential inefficiencies of irrigation or flushing.

- **System evaluation:** Determine the condition of your system and track system conditions from year to year. Also track areas that may be more prone to repair (corrosive or unstable soil)

- **Creating a repair timeline:** Are repairs needed immediately? Is the system digressing faster than expected? Do you need master meter calibration or a full replacement?

*A water audit can also help you to find areas of your process that can be improved to help save money over time.*

- **Reduces expenses:** You get paid for the water used, and you reduce electrical and chemical costs.

- **Increased water sales:** if you update your meters, you may begin metering previously untracked water.

- **Resource management:** Reducing water loss helps you conserve water.

*Accountability: A water audit provides better accountability throughout your water system. It allows for better*

- **Public relations:** show the public responsible management of their finances and resources, and provide information about Government use.

- **Equality between users:** By ensuring both older and newer meters are reading accurately, you guarantee that everyone pays according to what they have used.

- **Financial accountability:** Waste less money, and charge the government and other users correct amounts for water used.

- **Personnel efficiency:** Direct personnel where most needed and gain efficiencies. Plus, there will be less emergency repairs as the system improves.💧

# SDARWS MEMBERSHIP CORNER

## ARTICLE SUBMISSIONS

Does your company have information to share that would be of value to our readership? If so, we would welcome your article submission for ServiceLine magazine.

To send us an article, please email [jbame@sdarws.com](mailto:jbame@sdarws.com).

NOTE: SDARWS reserves the right to refuse any and all article requests.

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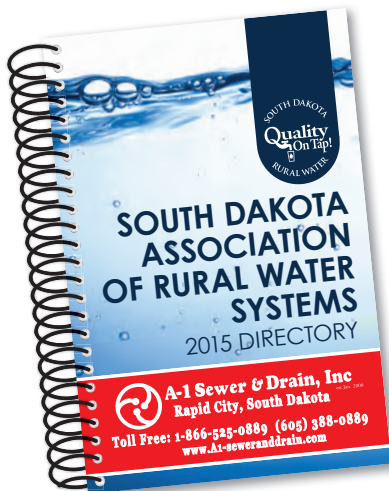
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Cary Johnson, water operations mgr., Rochester Public Utilities, Rochester, Minnesota



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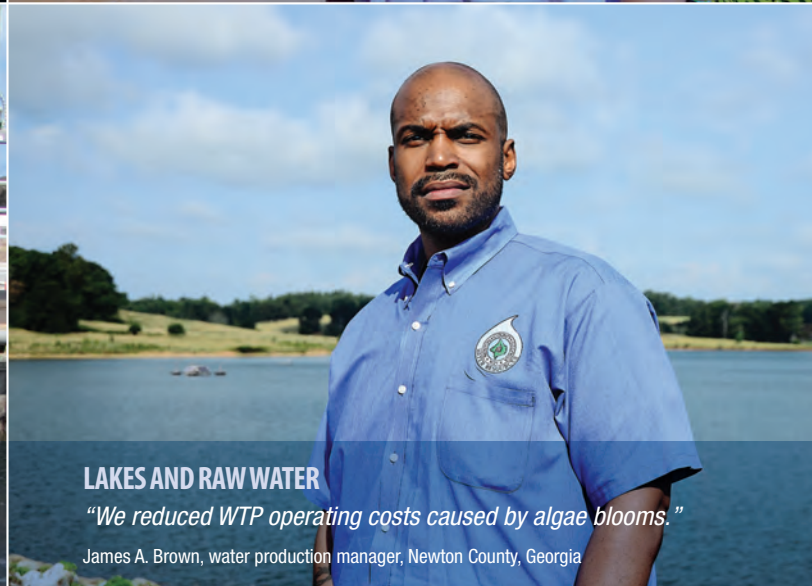
Tony Linder, WTP division chief, Dept. of Water Supply, County of Maui, Hawaii



### WASTEWATER MIXING/BASINS AND LAGOONS

*"We reduced our nitrate levels and lowered our energy costs."*

John Willis, wastewater plant supervisor, Ventura, California



### LAKES AND RAW WATER

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James A. Brown, water production manager, Newton County, Georgia



### WASTEWATER MIXING/WET WELLS

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Curtis Rooth, foreman, Sewer Dept., Cromwell, Connecticut

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2015 RECAP

# SOUTH DAKOTA RURAL WATER LEADERSHIP SEMINAR

**By Jeremiah Corbin, SDARWS Source Water Protection Specialist**

The tenth Leadership Seminar provided an opportunity for 72 attendees from 21 different systems to learn, network and discuss some of the most pressing issues in rural water today. This year's Leadership marked the 3rd year that the Pierre Ramkota has hosted the event. With an agenda filled with topics handpicked by Leadership Seminar attendees, this conference has become a can't miss event for regular attendees.

The first session of the conference covered technology and the board room. A panel of two rural water system managers and a system director discussed different ways to utilize technology in the board room.

Jack Tomac, Trustee with the Rapid Valley Sanitary District / Water System started the conversation with information on cloud storage. Tomac described what the cloud is and how he utilizes it for the information he uses as he prepares for board meetings. As part of his cloud storage presentation, he provided a chart of the best cloud storage services as determined by *PC Magazine*.

After discussing cloud storage, Tomac provided conference attendees with information about tablet computers. There are a lot of tablets on the market today and it can be confusing to determine what best fits your needs. There are three primary

operating systems in the market that power these devices. Apple iOS for iPad, the Android system powers the Samsung Galaxy Tablets (and many others), and then there are Microsoft Surface tablets that are powered by a Windows Operating System. Jack provided a chart with the highest rated tablets according to *PC Magazine*.

Jake Fitzgerald discussed the software that West River/Lyman-Jones utilizes to distribute and manage their board packets. Directpoint software manages all aspects of their board packet. They store their system's governing documents and other tools the board utilize to make decisions. This software makes distributing board packets and updates easily. This software works on iPads, the system has provided each board member with a device.

Mid-Dakota Rural Water System (MDRWS) has been utilizing iPads for their board communication for over one year. Kurt Pfeifle discussed the equipment and software that MDRWS uses and provided attendees with an example of their system's policy for iPad use. MDRWS provides directors with an iPad and an email address. The system emails information out and utilizes Dropbox for board packets. Pfeifle provided a comprehensive overview of effective use of technology in the board room and as a tool to communicate with board members.

Sustainable Water Systems was the topic of the next session.





Sustainability has been a buzz word in the industry for the past few years. With the ever decreasing amounts of grant money available for water and wastewater projects, systems need to identify effective strategies for managing assets effectively in a time where money paid by system members needs to maintain the system.

The session started with a brief introduction to the 10 management areas by Dennis N. Davis, South Dakota Rural Water Executive Director. Davis described the sustainability workshop and how and why it came about. Once he concluded the overview, rural water system staff and board members outlined how their systems have handled the challenges posed by the 10 management areas.

Martin Jarrett, manager of the Big Sioux Community Water System, discussed water resource adequacy. He provided information about a project that East Dakota Water Development District is currently engaged in. They are sampling the Big Sioux River and tributaries at nearly 50 sites. The goal of this sampling is to establish a baseline for nutrient levels in the river.

Infrastructure Stability was the next topic discussed. Greg Merrigan, manager of Clay Rural Water System (CRWS) reviewed Asset Management and its importance in this management area. He stated that an effective asset management program will help board members make better decisions by providing solid facts. CRWS uses their asset management plan in their budget process, and it is incorporated into their long range plan.

David Meyerink, Chairman of Randall Community Water District, discussed Customer Satisfaction and Financial Viability. Meyerink provided an overview of the importance of Customer Satisfaction, and articulated to the group about how Randall gathers feedback from members as well as how they effectively communicate to their members. Part of this communication strategy includes participation in the *Quality on Tap!* magazine, and through the system's website. Meyerink discussed how his system's board monitors their financial viability to ensure that long term goals are being met.

The next management areas the panel discussed were Employee and Leadership Development, and Stakeholder Understanding and Support. Glen Gilbertson, Director of Clay Rural Water, discussed CRWS's approach to employee and leadership development. CRWS utilizes SDARWS for much of their training. By sending staff and directors to events such as the ATC, classroom training, and safety training provided by SDARWS, many of CRWS's needs are met. Another key to their system's success is hiring competent, motivated staff.

In terms of stakeholder understanding and support, CRWS makes it a priority to communicate with local officials, members and other stakeholders. Gilbertson provided examples of the system's experience with the Hyperion project and past membership surveys that they have sent out.

Lloyd Rave, Chairman of Minnehaha Community Water

**...continued on page 14**

## LEADERSHIP RECAP: continued from page 13...

Corporation (MCWC), discussed the management areas of community sustainability, and economic development and operational resiliency. Rave described how MCWC approaches community sustainability, the system encourages the municipalities that they provide bulk water to develop a 20-year infrastructure plan. Once this plan is developed, they ask the community to provide the plan to MCWC so they can incorporate that information into their 20-year plan. This ensures that MCWC can provide the water that the community feels they will require as no one can plan in a vacuum. Rave stated that communication and cooperation are crucial in effective utility planning. His board's goal is to look long term, as economic development and risk management need to be incorporated into a long range plan.

Ron Gillen, President of Aurora Brule Rural Water System (AB) and SDARWS, covered the final two management categories: product quality, and operational optimization. Gillen described the criteria for determining quality, and the benefits of having rural water supply high quality water to communities. Gillen said that priorities of operational optimization are to reduce water loss and to be efficient with energy use. He stated that AB has utilized an energy audit to assist them with identifying strategies for optimizing energy use. Gillen said that his system is proactive in these areas and is doing a good job of keeping

that there is a group of rural water managers who are currently working on a proposal that will be brought to the SDARWS board, and back to member systems. His presentation provided a means to communicate to board members that this oft-discussed conversation is taking place, and changes are anticipated in the future.

The evening concluded with the President's reception, and was highlighted with a presentation by the South Dakota Secretary of Agriculture Lucas Lentsch. He provided the group with the State of South Dakota's goals for agricultural development. These goals have a priority to bringing value added industry to agriculture to increase the value of goods exported from our state. Lentsch also spoke on the importance of keeping young people in the state and providing them with opportunities. Within this conversation, large livestock and dairy operations were also discussed as it is a subject that many rural water systems have had to address over the past few years.

Thursday morning started bright and early with a presentation from AE<sub>2</sub>S on asset management and water rates featuring Dr. Delvin DeBoer, Jared Heller and Kevin Smith. DeBoer started the conversation by showing the attendees the economic impact that rural water has on South Dakota. Jared Heller continued with an overview of what asset management is, the evolution of asset management and the steps to take to implement asset management. Kevin Smith concluded the presentation by addressing water rates and their relationship with asset



water loss low and being efficient with their energy – but they continue to strive to improve in this area.

The next session at the Leadership Conference was a presentation by SDARWS's attorney Margo Northrup on handling rogue directors. Northrup continues to be a popular presenter and provided a nice presentation that defined what a rogue director is and advice on how to deal with one. Within this presentation Northrup also provided information on the role of a board member. She also spoke of board member insurance and what it covered.

For many attendees the SDARWS dues structure presentation was the highlight of this year's Leadership Seminar. Kurt Pfeifle led a conversation about modifying the SDARWS dues structure. This presentation highlighted the changing funding environment that SDARWS faces and highlighted the benefits of maintaining an association who's focus and purpose is to advocate for Rural Water. Pfeifle informed the participants

management.

Dan Harrington from Harrington and Associates provided information on financial reports. As Mid-Dakota's auditor, he explained the difference between non-profit's financial reports and a government entities. He also spent time explaining the differences between the statement of net position, activities, and cash flow.

Dan Carlson, Big Sioux CWS Chairman, headed up the next panel discussion beginning with Big Sioux's process of selecting an automatic meter read system (AMR). Carlson described the benefits to members and management of AMR. Along with the presentation, he provided white papers on advanced water meter technology and cloud-based software for meter reading.

Dale Thompson, Kingbrook Rural Water Director, provided an overview on how his system addresses aging infrastructure. Kingbrook addresses their issues through a combination of

annual capital improvements and expansion projects every five years. He stated that his board is active in the planning process through annual strategic planning sessions which occur off-site and are utilized for updating the long range plan and addressing other long term goals for the system.

The final presentation from this board panel came from Mike Neuharth, WEB Water Chairman. Neuharth discussed the issue of replacing staff. He provided WEB Water's strategy for retaining good employees and the system's challenges and solutions for dealing with a changing workforce.

The conclusion of the 2015 Leadership Seminar was topped off with a rural water financing panel featuring representatives from DENR, Rural Development and CoBank.

Mike Perkovich, Program Administrator with DENR provided information about state financing options. He described the different pools of money that they use for funding, as well as the amount of grant money the state will have available in 2016.

Sherrie Lewis, Community Program Specialist with USDA Rural Development, discussed the many funding programs available through RD for rural communities.

Julie McCusker, Vice President of CoBank, a cooperative bank that provides credit and financial solutions to rural areas, touched on some of the funding options available. She also spent time showing the group some financial ratios that banks utilize when determine loan eligibility, and provided information about CoBank's contributions to South Dakota communities and support to non-profit entities in the state.

The feedback received from this year's Leadership Conference has been very positive and attendees have graciously recommended topics for the next seminar slated for November 16-17, 2016 at the Pierre Ramkota. We hope to see you in Pierre! ♦



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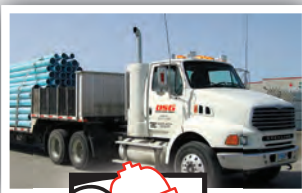
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# CONSUMER CONFIDENCE REPORTS MADE EASY

By Steve Attema, SDARWS Circuit Rider

A Consumer Confidence Report (CCR) is an annual water quality report delivered by community water systems (CWS) to their customers. The CCR includes information on source water, the levels of detected contaminants, compliance with drinking water rules, and some educational language. The reports are due to customers by July 1st of each year

The Purpose of a CCR is to improve public health protection by providing educational material to allow consumers to make educated decisions regarding any potential health risks pertaining to the quality, treatment, and management of their drinking water supply.

Benefits of a CCR are increased consumer knowledge of drinking water sources, quality, susceptibility to contamination, and drinking water supply management. It also increases communication between the utility and the consumers so that there is a better understanding of the value of drinking water and encourages public participation in decisions that affect public health.

## Requirements and Pertinent Dates:

- April 1 – Deadline for CWS that sells water to another CWS to deliver the information necessary for the buyer CWS to prepare their CCR.
- July 1 – Deadline for annual distribution of CCR to customers and state or local primary agency for report covering January 1 - December 31 of previous calendar year.
- A certification of distribution must be signed and submitted to the South Dakota Department of Environment and Natural Resources (SDDENR) as soon as possible after distribution to consumers. The certification form can be found online at: <http://denr.sd.gov/des/dw/PDF/E1371LDV1-crcert.pdf>.

Follow the instructions at the bottom of the form to submit it to the SDDENR.

- All CWSs must make copies of the report available upon request.

The State of South Dakota prepares an Annual Drinking Water Report for all community public water systems throughout the state. Water systems can use the report generated by the state to distribute to their customers. If the system has had no violations for the previous year. A copy of your water system's latest report can be found on the SDDENR website at the following address: <http://denr.sd.gov/des/dw/sysinfomap.aspx>. Just type your water system name into the search box, click the blue dot on the map where your system is located, and then click on Drinking Water Report. Reports for the 2015 calendar year will be emailed to each CWS in March along with a direct website link to their 2016 that can be used for electronic distribution if needed.

If your system had violations in the previous year they must be addressed in the CCR to meet public notice requirements. The language in the CCR that is required will differ depending on the violation.

If you have any questions regarding Consumer Confidence Reports please contact South Dakota Rural Water at 605-556-7219 or DENR at 605-773-3754. ♦

## Sources:

*Environmental Protection Agency (EPA)*  
[www.epa.gov/ccr/how-water-systems-comply-ccr-requirements](http://www.epa.gov/ccr/how-water-systems-comply-ccr-requirements)

*South Dakota Department of Environment and Natural Resources (DENR)*  
<http://denr.sd.gov/des/dw/DrinkingWaterReport.aspx>

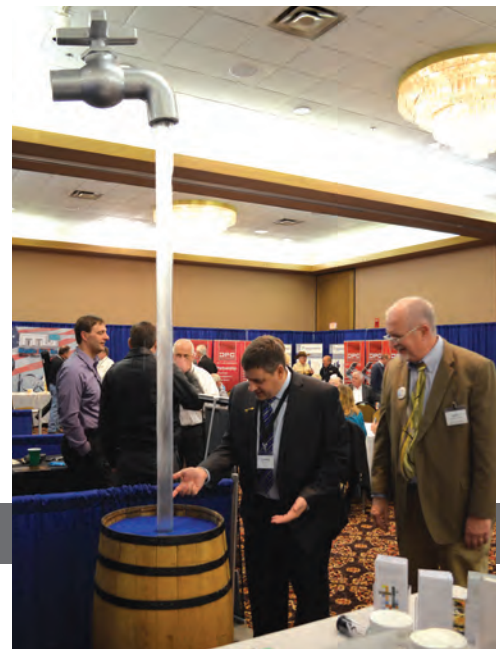
# ATC 2016

## SOUTH DAKOTA RURAL WATER'S ANNUAL TECHNICAL CONFERENCE

The South Dakota Rural Water Annual Technical Conference was held on January 12th-14th at the Pierre Ramkota. The 41st annual event hosted numerous training opportunities for board members, managers, superintendents, and operations specialists. The 2016 ATC Sponsored by AE<sub>2</sub>S (Premier Sponsor) and Bartlett & West (Educational Session Sponsor) hosted 450+ attendees representing rural, municipal and small utilities from across our state and provided ample training and networking opportunities for all in attendance.

This year we offered the chance for exhibitors to be set up in the hallways during the training sessions, or to occupy the Exhibit Hall for our Legislative Reception and Technology Exhibits. Seventy-five manufacturers, suppliers, and engineering firms shared their knowledge, expertise and hardware during this year's conference.

This year we had two pre-conference sessions followed by our Opening Session which began with the presentation of the colors by SDARWS Circuit Rider Nick Jackson. After the Pledge of Allegiance, Dr. Delvin DeBoer of AE<sub>2</sub>S, the Premier Sponsor of the ATC, took the time to address the crowd and let them know how the future of water depends on them. VJ Smith then took the stage and captivated the attention of his audience with his Keynote Address titled "Simple Choices, Big Rewards." In this talk, VJ focused on five key situations we face each day in our personal lives and in our business lives – and how the simple choices we make reflect on the people around us. VJ also talked about Marty, an unforgettable cashier at a local big box store, who had a profound impact on the people who went through his check-out line. Marty became a legend in an unexpected place because he treated everybody with dignity, kindness and respect. As VJ said, "Marty was living proof that you don't need money, power or title to make a difference in life. You just need to care." VJ's talk proved to be very popular among the attendees, and a large crowd was also present at his breakout session titled, "Exceptional is as Exceptional Does." In this session VJ drew on his 20+ years as a manager – and shared the qualities that separate the exceptional employee from the average employee. Other sessions on day one included: Tank Maintenance, New Coatings Technologies for the Water & Wastewater Industry, Winter Tank Operations, Sanitary Sewer Service Lateral Lining with CIPP, Chlorine Safety & Security, Control Valves, Do's and Don'ts of Tracer Wire, Nitrates in the Big Sioux River, Total Coliform Rule Modifications, and TWM Reduction in Water Storage Tanks.





After day one of pre-conference sessions and the Keynote address, conference attendees were ready for day two. Sessions were grouped for Board Members, Management, and Operations and touched on topics such as, the importance of proper torquing, AMI Selection and Installation, Online RD Loan and Grant Applications, Mapping, The benefits of Water System Master Planning, Leak Detection, and Implementing Load Management Power Generation. As we have in past years, a congressional panel was held with staffers from the offices of Senator John Thune, Senator Mike Rounds, and Congresswoman Kristi Noem. Ben Ready, Kim Olson and Andrew Curley fielded legislative questions from the audience and gave updates of the happenings in Washington, DC.

The spouses were also kept busy courtesy of our Spouse Program. On day one, those in attendance traveled across the river to tour the Verendrye Museum in Fort Pierre. For day two they gathered in the courtyard of the Ramkota to enjoy a continental breakfast and create hand crafted beaded bracelets with SDARWS's Communications and Marketing Coordinator Jennifer Bame. Following the bracelet demonstration the ladies were treated to a soup and sandwich luncheon.

A legislative panel was held Thursday morning where attendees could drill the members of the 2016 South Dakota Legislature. Legislators in attendance at the panel were: Sen. Mike Vehle, Sen. Jim White, Rep. Spencer Hawley, Rep. Paula Hawks, Sen. Bernie Hunhoff, and Sen. Billie Sutton.

Combine the previous mentioned sessions with numerous other topics relating directly to water and wastewater systems and conference attendees had no problem gaining valuable knowledge to bring back home to their utility.

At the conclusion of this three day event, systems and individuals were honored during the Awards Brunch sponsored by CompassTools. Steve Wear from the the National Rural Water Association served as the awards ceremony keynote speaker. Mr. Wear spoke of SDARWS's strengths as an Association and touched on the importance of being involved in democracy. SDARWS Trainer Jim Zeck took on the MC duties while SDARWS Vice President Dale Thompson, NRWA Director Larry Wasland, and SDARWS Executive Director Dennis N. Davis handed out awards.

One of the favorite awards, the Conventioneer's Extraordinaire Award (commonly referred to as the "Chicken Award") made yet another appearance at the ATC. This year, bearded SDARWS staff members searched the crowd to locate the mystery man. Mid-Dakota Rural Water Manager Kurt Pfeifle took home a bearded bobbleheaded likeness of himself due to his comments at the Leadership Seminar chastising the crowd for not participating in No Shave

**...continued on page 21**

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ATC: continued from page 19..

November.

## Conference Attendees Continue Support of Water Pac

Thanks to the many rural water systems that contributed items for the annual Water Pac raffle, your rural water association increased our Government Relations fund by \$3,800. Special thanks go out to all who purchased raffle tickets and for lending your support towards our State and Federal legislative programs.

## Water Taste Test Contest: We Have A Winner!

During our conference this year we put samples from 11 municipal and rural water systems before our esteemed group of judges. This year the top three samples were subject to a public judging by some of our exhibitors, including Joe Munson of Banner and Associates, Carson Merkwon of Direct Automation, and Rich Kemmis from Maguire Iron. The final testing round brought on a tie between the top two samples forcing the judges to smell, swirl and re-taste their samples in what was proved to be a difficult decision. In the end, Lewis & Clark Regional Water was crowned as the winner, Big Sioux Community Water System Water took second, and Brookings-Deuel Rural Water took third. Lewis & Clark will go on to represent South Dakota in the National Rural Water Taste Test to vie for the distinction of "Best Tasting Water in the USA" during the NRWA Rally in Washington, DC on February 10th!

Our thanks go out to attendees, speakers, and exhibitors and congratulations are in order for those who brought home individual awards. A complete list of award winners can be seen on page 22. 💧



# 2016 ATC AWARD WINNERS

**2015 Rural Water Office Person of the Year**

Lori Seten, Lewis & Clark RWS

**2015 Municipal Office Person of the Year**

Dawn Murphy, City of Tea

**2015 Rural Water Operations Specialist of the Year**

Jason Orel, Tripp Co. WUD

**2015 Rural Water Operations Supervisor of the Year**

Ryan Allen, Minnehaha CWC

**2015 Municipal Operations Specialist of the Year**

Tom Lesselyoung, City of Redfield

**2015 Rural Water System Manager of the Year**

Wade Blasius, Aurora-Brule RWS

**2015 Municipal Water System Manager of the Year**

Brad Lawrence, City of Fort Pierre

**2015 Water/Wastewater System of the Year**

City of Colman

Grant Groos, Utilities Manager

**2015 Rural Water System of the Year**

Grant Roberts RWS

Wendy Storm, Manager

**2015 Carroll Anderson Award**

Bob Peplinski, Southern Black Hills WS

**2015 Associate Member of the Year**

A1 Sewer and Drain – Josh Franke

**2015 Friend of Rural Water Award**

Pat Hemen, USDA Rural Development

**2015 Donald B. Pospishil Award**

Greg Merrigan, Clay RWS

**2015 Spirit of Rural Water Award**

Dave Odens, Banner

Harold Haber, Brookings-Deuel RWS

Virgil Vreugdenhil, Aurora-Brule RWS

Ray Bartels, Tripp Co. WUD

Richard Ekstrum, Aurora-Brule RWS

Bruce Alexander, Davison RWS

Andy Groos, Big Sioux CWS

Tom O'Connell, City of Moberge

Dan Carlson, Big Sioux CWS

Ted Hall, BOR

**2015 South Dakota Water Taste Test**

Lewis & Clark RWS

Troy Larson, Manager





Lori Seten



Dawn Murphy



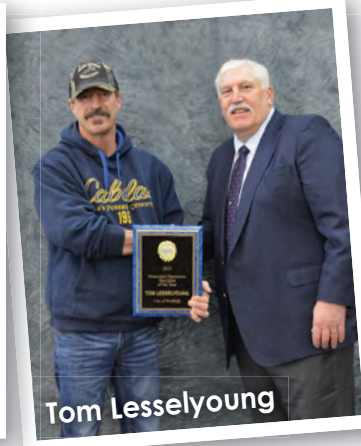
Jason Orel



Brad Lawrence



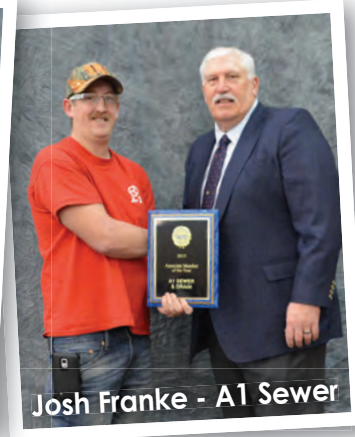
Ryan Allen



Tom Lesselyoung



Pat Hemen



Josh Franke - A1 Sewer



Ray Bartels



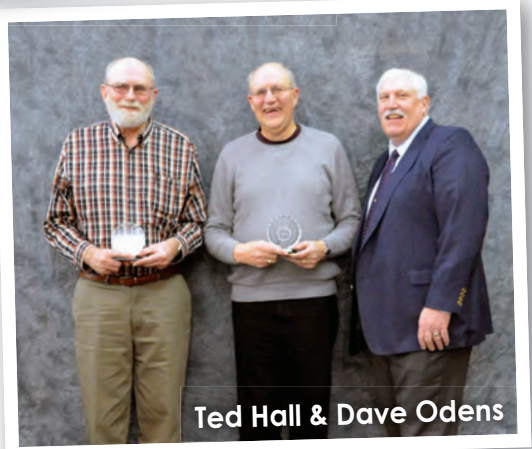
Harold Haber



Virgil Vreugdenhil



Andy Groos



Ted Hall & Dave Odens



Kurt Pfeife - Conventioneer Extraordinaire

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# CONTROL VALVE CLEANING

By Mike Moeller, SDARWS Circuit Rider

Control valves are used in many situations in the water industry, whether it would be to lower the pressure downstream from the valve (pressure reducing valve), or keep the water level in your elevated tank at certain levels (altitude valve). Typically, at some point they will act up and make you scratch your head and wonder what is wrong with this thing.

A lot of operators in water systems have control valves and just

know that they work, and they don't do anything to them until it's too late. One of the most common problems that you will find with a control valve is that after they are installed, they are not maintained. Simple maintenance on a control valve does not take a lot of time, and isn't very hard to do.

One of the easiest things you can do to help maintain a control

**...continued on page 26**



*Control valve that needed the speed controls cleaned and exercised for proper operation.*



*Control valve that needed complete teardown and cleaning*

## CONTROL VALVE CLEANING: continued from page 25...

valve is to clean it. As you know water and metal will eventually make rust on anything; the same thing happens inside your control valve. When the small particles of rust start floating around inside your control valve, they have a tendency to get stuck in places. These places are usually very small – such as in an orifice, and are crucial to the proper operation of the valve. My suggestion would be to take all the external control lines off the valve at least once a year, and with a bucket of water, just flush them out. You may want to take the speed controls off of the control valve as well, and flush them out, while making sure to exercise the speed control from the full open to full closed position while flushing it. The bonnet of the valve is another place that rust likes to build up. Taking the bonnet off the control valve is also a simple process. Just loosen the few bolts around the top of it and it will come right off. Keep in mind that most control valves have a spring in them, and there may be some spring pressure under the bonnet that will cause it to pop up. After you have removed the bonnet, you can use a scrub brush to clean the chamber above the diaphragm – and also to clean the top of the diaphragm. After the top of the diaphragm is clean, give it a quick once over to make sure you don't see any holes or tears in the rubber. If you see any imperfections, you need to put a new diaphragm in the valve. At this point you have more than likely gone far enough into the valve and can reassemble it, making sure to put everything back the way it was. Taking pictures with your phone during the cleaning process is a great way to keep a step by step record of how you took it apart so that reassembling it will be a cinch.

Most control valves have a small pilot valve on them that is hooked up to the external piping. This pilot valve is just a smaller version of the bigger control valve you just cleaned, and probably needs the same attention that you just gave your main valve. The pilot usually doesn't have any external piping to it. With this being said, all the passages are internal to the body of the valve and can be hard to get cleaned out. I find using a very small round scrub brush along with compressed air is helpful. Clean everything that you possibly can with some inspection of the parts like you did on the main valve, and reassemble it.

After you have cleaned all the components of the valve and everything is reassembled you can now start the valve back up. Starting the valve up can be tricky sometime due to the fact that air likes to get trapped in them and cause air locks. Open your speed controls up one to two turns and then start bleeding; open all the valves on the body of the valve, and very slowly open the water line inlet valve. Now, start cracking the lines on the outside of the valve starting low and working your way to the highest one. Let water bleed out from each fitting until it is clear. If you see a milky look to the water that you are bleeding out – it still has air in it. After you feel good about all the air being out of the lines, you can open your discharge valve on your main line. The speed controls may need to be adjusted to slow or speed up the reaction of the valve, and the smaller pilot valve may need to be adjusted to set your downstream pressure or to maintain pressure on the upstream side of the valve.

If your valve doesn't work correctly at this point, you may have to get in touch with the valve supplier and perform a complete rebuild, or set up a time with them to assist you with a complete rebuild. SDARWS may also have someone in the office with some expertise when it comes to the rebuild. If you have problems, give a circuit rider a call at 605-556-7219. ♦



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# SDARWS PIPE THAWING

*By Morris Elcock, SDARWS Circuit Rider*

**H**ave frigid temperatures caused your system's pipes to freeze solid? Frozen pipes can become a huge problem – so South Dakota Rural Water is here to help. We have on hand specialized equipment that can thaw frozen water services up to 2" in diameter using our Swiftee portable electric powered pump. It has a powerful positive displacement gear pump which is designed to pump the hottest water that can be supplied to it. It can develop up to 150 psi which creates a thin stream of hot water from the end of a flexible 5/16" nylon tubing while keeping actual water usage to as low as 1.5 gpm. The process is done while the supply line is live through the use of a unique pressure fitting, called an 'RP' fitting. This allows the nylon tubing to be pushed into the service, but allows excess water resulting from the thawing process to be recycled back into the suction pail or to a nearby drain source through a specialized drain outlet. When the service is thawed, the on-rushing water can be diverted out the side of the RP fitting without damaging the area, and without drenching the operator. When the line is thawed, the nylon tubing can then be removed from the service and the ball valve can be shut off allowing the pipe to resume normal operations. One great feature of the 'RP' fitting is that it allows the service to be thawed without having to turn off the curb stop. The 5/16" nylon tubing can be pushed through a 1" – 2" service up to 150' in length. For more information on the equipment fee related to thawing out a water service please contact the SDARWS office in Madison at 605-556-7219, or call SDARWS Circuit Rider Morris Elcock directly at 605-201-9561.



*Illustrated here is a turkey cooker that is used to keep the water as hot as possible, a garden hose is used as a suction line between the turkey cooker and the pump and motor to the right. The pump is a high pressure hot water pump that uses a 5/16" high temperature nylon tubing to get the hot water into the frozen line.*



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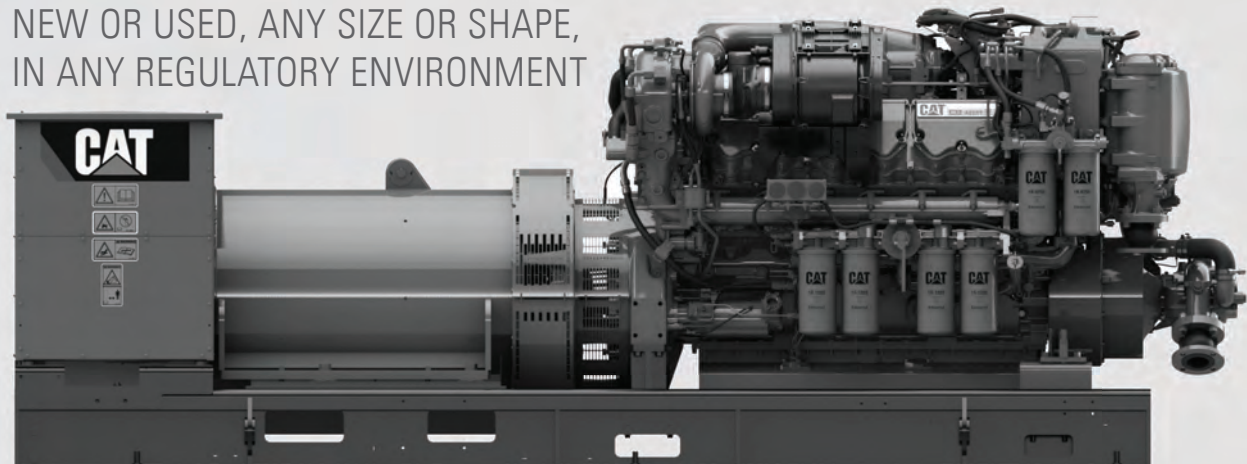


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# Test Your Knowledge

## Certification Practice Questions

**1** The influent Wastewater = 350,000 gal/day, the community population = 3,043, what is the per capita usage in gallons/day/person?

- a. 78 gal/person/day
- b. 248 gal/person/day
- c. 115 gal/person/day
- d. 98 gal/person/day

**2** The wastewater flow = 6.7 ft<sup>3</sup>/min, the community population = 850 people, what is the per capita usage in gallons/day/person?

- a. 850 gal/person/week
- b. 85 gal/person/day
- c. 95 gal/person/day
- d. 118 gal/person/day

**3** Your influent wastewater flow for the month of September was 2,000,000 gallons. Base on a population of 600 people, what was the average per capita usage per day?

- a. 111 gal/person/day
- b. 92 gal/person/day
- c. 127 gal/person/day
- d. 73 gal/person/day

**4** 385 lbs/day of BOD loading is equivalent to what size population. (the PE for BOD is 0.17 lbs/person/day)

- a. 100
- b. 2,264
- c. 15,800
- d. 1,874

**5** 7,500 people would produce approximately \_\_\_\_\_ lbs/day of BOD loading?

- a. 850
- b. 1145
- c. 482
- d. 1275

**6** Your wastewater tests and calculations reveal 965 lbs/day of BOD entering the waste stream from a major industry in your community. What population equivalent (PE) does this industry represent?

- a. 643
- b. 289
- c. 7,821
- d. 5676

**7** The volume of your lagoon = 9,750,000 gallons, the influent flow = 54,305 gallons/day, what is the detention time in days?

- a. 42 days
- b. 180 days
- c. 211 days
- d. 360 days

**8** Your 5 acre lagoon can be filled to the maximum operating depth of 5 feet; the influent flow is equal to 18,100 gallons/day. What is the detention time in days?

- a. 180 days
- b. 240 days
- c. 450 days
- d. 375 days

**9** Your lagoon serves 275 people and receives a flow of 3.2 ft<sup>3</sup>/min. How many days storage does your 6.5 acre lagoon have if 3 feet of wastewater can be added?

- a. 184 days
- b. 96 days
- c. 283 days
- d. 500 days

**10** If each person contributes 0.17 lbs/day of BOD to the waste stream and the average per capita usage is 100 gal/person/day, then how many mg/L of BOD does each person contribute?

- a. 150 mg/L
- b. 285 mg/L
- c. 78 mg/L
- d. 204 mg/L

# Answer Key

1) C 2) B 3) A 4) B 5) D  
6) D 7) B 8) C 9) A 10) D

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# 2016 RURAL WATER RALLY

Dennis N. Davis  
Executive Director



As we gather together February 8-10, for our Rural Water Rally in Washington, D.C., let our voices unite to carry the message of Rural Water to our elected officials. By your participation, you are exercising one of the freedoms your forefathers provided through representation and the right to free speech.

It is vital that we keep up with all of the decision makers in DC and establish firm working relationships with them.

NRWA President Charles A. Hilton is helping to spread the message, saying, "Powerful legislative and regulatory changes continue to challenge rural America in providing clean, safe and affordable water. When you join with other rural water and wastewater professionals at our nation's capitol, you're contributing to positive outcomes on critical issues facing our industry. Rural Water's voice heightens the importance of our agenda before Congress, assuring continued support of our important programs that benefit so many utilities."

The 2016 Rally is an informative and educational experience. You'll learn about the latest trends in our industry and then you'll be able to carry the message forward to your elected officials. The Rally is a vital part of rural water's grassroots movement and is the hallmark of our efforts and the benchmark of our success.

Your dedication to Rural Water makes a difference!

## SUNDAY, FEBRUARY 7<sup>TH</sup>

Worship Service - 8:00am (Hyatt - Regency B)

## MONDAY, FEBRUARY 8<sup>TH</sup>

Registration - 1:00pm-5:30pm (Hyatt Ballroom Level)  
US Capitol Tour - 2:00pm (Meet in Hyatt Lobby at 1:30pm)  
Welcome Social - 5:30pm (Hyatt Ballroom Level)

## TUESDAY, FEBRUARY 9<sup>TH</sup>

Registration - 7:30am-11:00am (Hyatt Ballroom Level)  
Opening Session - 8:00am (Hyatt Ballroom Level)  
John Weber for Rep. Kristi Noem - 2:30pm (562 Dirksen)  
Senator Rounds - 3:00pm (562 Dirksen)  
Senator Thune - 3:30pm (562 Dirksen)

## WEDNESDAY, FEBRUARY 10<sup>TH</sup>

Sunrise Coffee - 9:00am-10:00am (Location TBD)  
USDA Rural Development - 11:00am (Hyatt - Congressional A)  
Lunch & Great American Water Taste Test Finals - 12:00pm (Hyatt Ballroom Level)  
Rural Water Social - 5:00-6:30pm (Hyatt Ballroom Level)

This schedule is tentative and subject to change



2015 Rally Participants

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# CASE STUDY

## 24-Year-Old Tank Installed in 1987 Gets Stunning Facelift

Installed: 1987  
 Client: Rochester Public Utilities  
 Location: Rochester, MN  
 Tank Type: Aquastore® Glass-Fused-to-Steel  
 Storage Capacity: 1 Million Gallons  
 Contractor: Engineering America

### PROJECT OVERVIEW:

Aquastore glass-fused-to-steel tanks never need to be sandblasted and painted. However, after decades of use, some customers wish to clean up the tank cosmetically. The tank can **remain in service** during the thorough power washing, as well as during fillet replacement and installation of nut covers.

Engineering America worked with the city of Rochester, Minnesota, to give their water storage tank a “facelift” after **24 years**. The interior and exterior cleanup provides extra life to the tank and gives it a “like new” appearance.

Engineering America’s professional service team power washed and cleaned the tank exterior walls, removed existing sealer and replaced it with new polyurethane sealer, then installed white HDPE plastic covers over exterior nuts and washers. This highly cost-effective process produced a refreshed looking tank in Rochester.

*“We’re pleased with how the project turned out.”*

Doug C. Rovang, P.E.  
 Senior Civil Engineer  
 Rochester Public Utilities



Power Washing, Fillet Replacement and Nut Covers

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