

November/December 2015

# ServiceLine

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

*Make plans for the*  
**2016 ATC**

JANUARY 12-14, 2016 | PIERRE, SOUTH DAKOTA

WATERPRO HIGHLIGHTS | ATC AGENDA



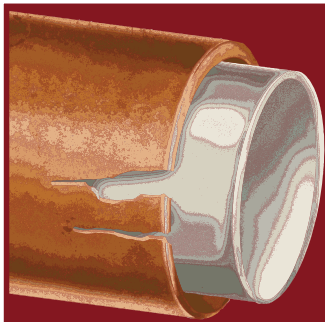


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# President's Message

Ron Gillen, SDARWS President



## Join us at the 2016 ATC!

Association staff are currently very busy gearing up for the 2016 Annual Technical Conference in Pierre, South Dakota, January 13-15 at the Ramkota Hotel and Convention Center in Pierre. The conference features an exhibit hall and educational sessions.

VJ Smith is this year's keynote speaker. A 1978 graduate of South Dakota State University, Smith spent the decade of the 1980s working for the Allied Signal Aerospace Company in Kansas City, MO. He returned to his alma mater in 1990 to serve as Assistant Athletic Director for the SDSU athletic program. He was appointed Executive Director of the SDSU Alumni Association in 1996 and resigned from that position in January 2007 due to the overwhelming requests for speaking appearances.

Smith is the author of the books, "The Richest Man in Town," and "Can You Hear What I See – How Words and Actions Matter."

We are also hosting a spouse program this year, so make sure to bring along your significant other. See pages 17-21 for a full description of this year's event, as well as pages 16-17 for a handy pull-out agenda on all the great classes offered this year. Haven't registered yet? You can find everything you need to know about this year's conference on our website at: [www.sdarws.com/atc.html](http://www.sdarws.com/atc.html), including registration information, updated agendas, and more! Make sure to register soon – the Early Bird discount ends December 14th!

## NRWA WaterPro Conference

Nearly 50 individuals from South Dakota, including SDARWS staff, board members and rural water employees from throughout South Dakota recently traveled to Oklahoma City, OK, to attend NRWA's WaterPro Conference. To see highlights from this year's conference, check out pages 12-13.

## Rural Water Rally

With the unpredictability of the government these days, we need to make sure that the voice of rural water is heard. I, along with NRWA Director Larry Wasland and SDARWS Executive Director Dennis N. Davis invite you to attend the Rural Water Rally in Washington, DC February 9-11, 2016 to show your support for continued rural water funding.

Your dedication to rural water makes a difference! It is important that we work together to focus our efforts on informing our elected leaders of the needs and concerns of water and wastewater utilities in South Dakota. To make hotel reservations at the Hyatt Regency on Capitol Hill, please call 202-737-1234. ♦

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Cover Photo: Falls Park on the Big Sioux River, Sioux Falls, SD

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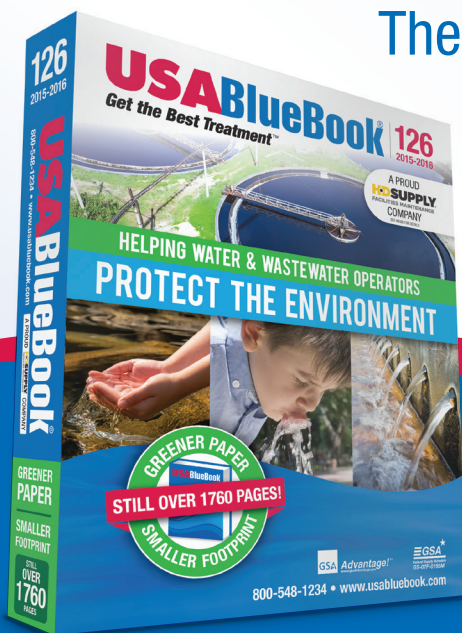


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# Events Calendar

## NOVEMBER

### 17-19 – Basic Water Treatment\* Sioux Falls Water Purification Plant

Topics covered include: South Dakota Drinking Water Regulations, disinfection, fluoridation, groundwater and wells, pumping, hardness, cross connections, pH, filtration, turbidity and mathematics. Days 1&2: 8:00am - 4:00pm; Day 3: 8:00am - 11:30am CT

### 18-19 – Leadership Seminar Pierre Ramkota

This seminar is geared towards Rural Water System Directors and Board Members and includes informational sessions on water rates, asset management, sustainability, financing, and director and manager panels. The cost to attend Leadership is \$125, and includes a meal at the President's Reception on the evening of November 18th. See page 6 for more information.

## DECEMBER

### 1 – Sustainable Management of Rural & Small Systems Rapid City Ramkota

This workshop will help utilities address a full range of challenges and improve the management of their operations and infrastructure. Class runs from 8:30am - 4:00pm MT.

### 8-10 – Basic Wastewater Treatment\* Sioux Falls Water Reclamation Facility

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. Days 1&2: 8:00am - 4:00pm; Day 3: 8:00am - 11:30am CT.

## JANUARY

### 12-14 – Annual Technical Conference Pierre Ramkota

See pages 17-21 for more information.  
Register online at: [www.sdarws.com/atc.html](http://www.sdarws.com/atc.html)

### 26-28 – Basic Water Treatment\* Spearfish Holiday Inn

Topics covered include: South Dakota Drinking Water Regulations, disinfection, fluoridation, groundwater and wells, pumping, hardness, cross connections, pH, filtration, turbidity and mathematics. Days 1&2: 8:00am - 4:00pm; Day 3: 8:00am - 11:30am MT.

## 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.

### 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.

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Visit [www.sdarws.com](http://www.sdarws.com)  
or go directly to:  
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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.*



# How Cold Is Too Cold?

## Cold Weather Problems for Storage Tanks

By Nick Jackson, SDARWS Circuit Rider

A frozen water storage tank, whether it's an elevated tank or a ground storage tank, is worse than no tank at all. How does a storage tanks freeze, and what is happening when it does? Most say water tanks tend to ice up and freeze during the nighttime when water demand is at the lowest point when people tend to be sleeping, not taking showers, washing clothes, or running faucets. When water demands falls to a drip and all that water in the tanks just sits there stagnant, not moving or refilling with fresh (and warmer) groundwater.

Storage tanks are primarily either ground tanks or a standpipe style elevated tank. Ice formation inside potable water storage tanks and standpipes is a common occurrence in South Dakota during the winter. Depending on the average air temperature and the amount of turnover, ice formation can range from a thin skin on top of a water tank to a massive ice cap that can weigh several tons. While most people enjoy a little ice in their glass of water, thick ice in a water tank can spell disaster. Like an iceberg, a massive plug of ice can scrape the sides of a tank as the water depth fluctuates. If ladders and other internal hardware inside a tank become frozen in the ice, the rise and fall of the ice cap can literally tear the hardware apart from the walls. Numerous occurrences have happened around South Dakota over the years that have badly damaged or even ruptured by the action of ice. Here are just a few examples of iced tanks.

- In Pine Ridge, a ground tank froze leaving the bottom of the tank rounded off and pulled away from its anchors.
- In Belvidere, a stand pipe froze and spit open.
- In the Igloo Provo Township, a tank overflowed and froze all the way down the outside of the tank making it inoperable.
- In Isabel, a standpipe froze in its elevated tank.
- The City of Custer has three ground tanks where ice plugs froze at the top and dropped to the bottom of the tanks years ago.
- At Pactola Estates, underground concrete water tank froze cracking the walls of the tank.
- At the Rushmore KOA, a steel storage tank froze causing the bottom of the tank to round out and expand near the base.

Even modest damage may require partial or complete overall, costing hundreds, or even of thousands of dollars.

### What Makes Tank Freeze?

What makes storage tank freeze? Basically, there are three causes: static water conditions (lack of sufficient water turnover), tank overflow and improper design of the structure. Under each cause falls a number of contributing factors, for example:

- Static conditions (most common) occur when tanks are reserved for fire protection or when a tank is too large for the present system usage.
- Overflows may be caused by leaky valves or frozen controls for pumps or altitude valves.
- Troublesome design elements may include a vented design, or an insufficiently installed pipe or riser.

With such a definitive list, you might think that preventing cold weather problems with tanks is an exact science. It certainly is not!

As the water level rises and falls within the tank, the ring of ice gets thicker and thicker. Eventually, even the center of the tank becomes frozen over, but that ice is repeatedly shattered and refrozen by the piston like action of the rising and falling tank level. The ring of ice expands as it freezes, pushing against the walls of the tank. When water levels fall, the massive ring of ice clings to the sides of the tank, pulling down on the tank walls. When water levels rise, the collar is submerged, and its buoyancy pulls the walls of the tank in the opposite direction. This stresses, or in extreme cases, can buckle the sides of the tank.

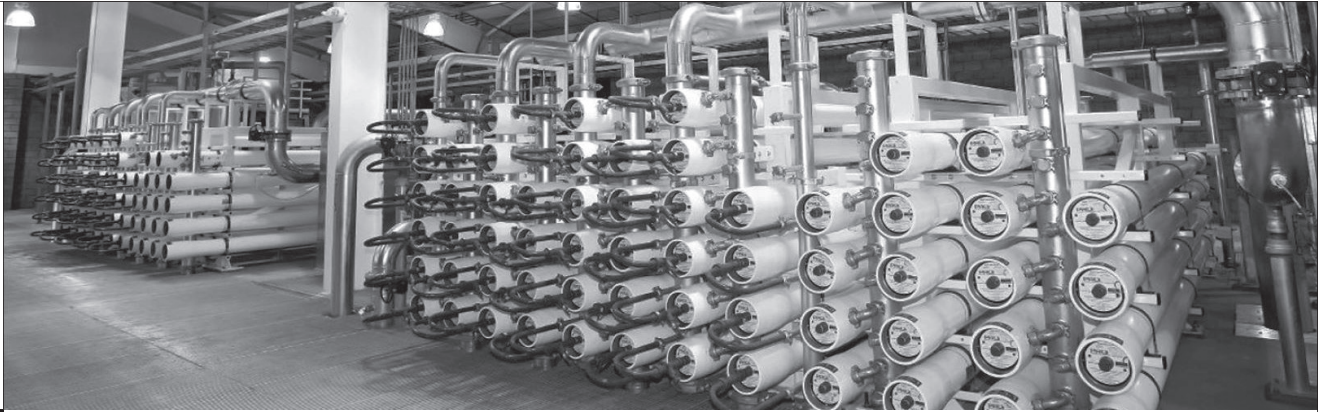
### Cold Weather Operations

A number of steps can be taken to prevent freezing. Some of these steps must be taken as

...continued on page 29

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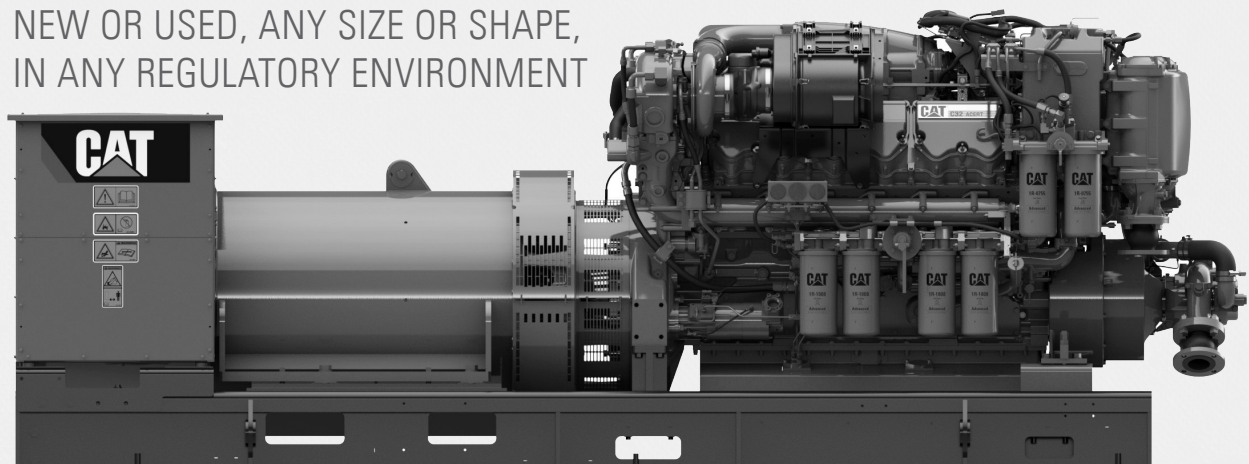
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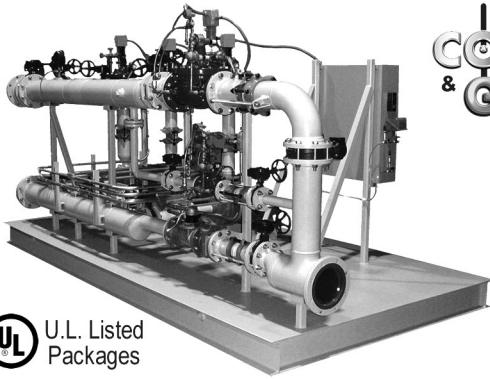


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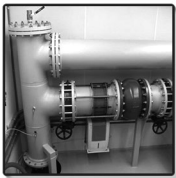


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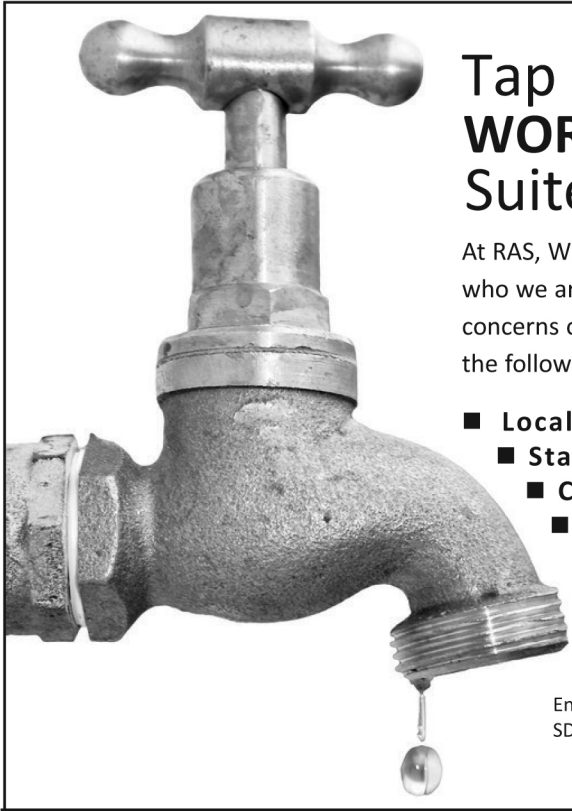
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# RURAL WATER



**Q:** Should the lagoon be discharged and how much?

**A:** In the fall the ponds should be drawn to the two foot level. Remember when too much water is moved it is hard to put back to the primary cell. If it is a dry year, move small amounts. You can always open a valve to transfer from primary to secondary pond.

**Q:** Why does my toilet bowl develop a pink ring around it at the water line?

**A:** The pink stuff is actually produced by naturally occurring bacteria. Presence of the pink bacteria does not have anything to do with the water quality coming out of the faucet distributed by the water system. These bacteria are very common but cannot be seen until after they grow and multiply. Left undisturbed in areas of high humidity at room temperature, the bacteria multiply producing a pinkish-red pigment, or sometimes a dark gray color, on surfaces that are regularly moist."

**Q:** What is the required number of operator training contact hours I need and how do I find out the number of hours I have?

**A:** The required number of contact hours are as follows:

- Operator Certificate(s) and Class
  - Contact Hours Needed Every 3 Years
- Holds One Certificate (Class I or II)
  - 10 Contact Hours
- Holds One Certificate (Class III or IV)
  - 20 Contact Hours
- Holds Two or More Certificates (All Class I or II)
  - 15 Contact Hours
- Holds Two or More Certificates (Any are Class III or IV) – 30 Contact Hours

To find out the number of hours you currently have, visit: [denr.sd.gov/des/dw/dbopcertsearch.aspx](http://denr.sd.gov/des/dw/dbopcertsearch.aspx). Submit your information and it will bring up the classes you have attended and the number of hours you received for that training. Add up the contact hours for the training you completed within the last three years only (the listing gives training you attended beyond the last 3 years).

**Q:** What type of ladder should be used around electrical equipment?

**A:** Ladders made out of non-conductive material such as fiberglass or wood should be used around electrical equipment.

**Q:** What is a water audit?

**A:** A water audit is an evaluation of all water (used and unused) throughout a water system. A water audit determines the amount of "unbilled" and "unaccounted for" water lost for billing purposes. Unbilled water is any water for which no financial compensation is obtained. Examples: government use, leaks, inaccurate meters, maintenance, fire fighting, and stolen water. Unaccounted for water is any amount of water where the destination cannot be determined. Examples: leaks, inaccurate meters, and stolen water.

**Q:** How do I find out what base stations are available for post processing in South Dakota for my Trimble unit?

**A:** The National Geodetic Survey maintains a map of current CORS base stations on their website. You can view the map at [www.ngs.noaa.gov/CORS\\_Map/](http://www.ngs.noaa.gov/CORS_Map/)

**Q:** What is SDWARN?

**A:** SDWARN is a statewide Water/Wastewater Agency Response Network (WARN) of "utilities helping utilities" to prepare for the next natural or human-caused emergency.

SDWARN provides water and wastewater utilities with: A Mutual Aid Agreement and process for sharing emergency resources among water and wastewater agencies statewide; a mutual assistance program consistent with other statewide mutual aid and assistance programs and the National Incident Management System; the resources to respond and recover more quickly from a natural or human caused disaster; a forum for developing and maintaining emergency contacts and relationships.

To learn more, visit [www.sdwarn.org](http://www.sdwarn.org).

# 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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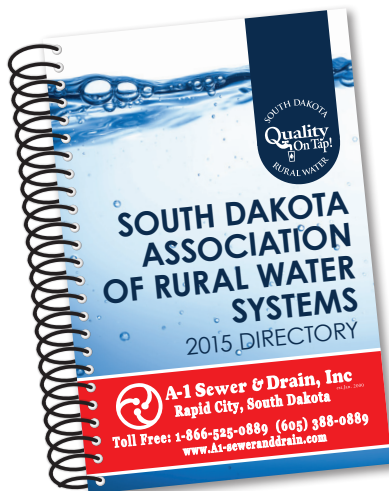
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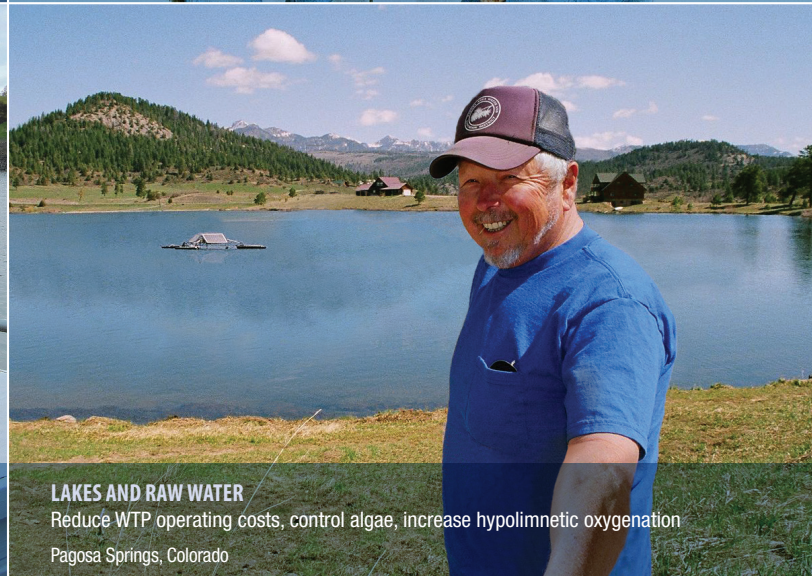
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# Conference Highlights

The National Rural Water Association opened the 2015 WaterPro Conference in Oklahoma City with a ceremony on Sept. 28, 2015.

The ceremony included speeches from USDA Rural Utility Service Administrator Brandon McBride, NRWA President Charles Hilton, NRWA's Oklahoma Director Jimmy Seago, and NRWA CEO Sam Wade. SDARWS Circuit Rider Nick Jackson had the honor of posting the colors.

After the speeches, a group of Native American dancers from the

Cherokee Tribe of Tahlequah led a procession to the exhibit hall. Over 2,000 water and wastewater professionals from across the nation assembled for the opening of the three-day conference.

Almost 50 individuals from South Dakota make the trek to Oklahoma City to learn about new techniques, the latest equipment and regulatory updates regarding water and wastewater.

The conference ran through September 30th, and included an exhibit hall and featured over 40 hours of educational sessions.









# SDARWS CLASS REGISTRATION IS AS EASY AS 1-2-3!

## FIND A TRAINING CLASS

### 1. VISIT THE SITE

go.activecalendar.com/sdarws

### 2. VIEW UPCOMING CLASSES

Pick the view that works for you: summary view, calendar view, list view OR search for a class by clicking on the SEARCH icon

**SOUTH DAKOTA RURAL WATER TRAINING & EVENTS CALENDAR**

Click on the logo to return to [sdarws.com](http://sdarws.com)

Click here to search for classes based on keywords, locations or dates

Choose how many classes to see

VIEW TYPE: [Icons] < VIEW BY: NEXT 90 > SEARCH

View classes as a summary, calendar, or list (shown) AUGUST 27, 2015 - NOVEMBER 25, 2015

**Tuesday, September 1, 2015**

**Intermediate Water Treatment - Brookings** ← Click on the class title for details and registration info

Starts: 9/1/2015 8:00 AM (CT)  
Ends: 9/3/2015 11:30 AM (CT)

email a class to a friend

**Tuesday, September 29, 2015**

**Hydrant & Flushing Workshop - Rapid City**

9/29/2015, 8:30 AM - 4:00 PM (MT)

tweet class to your Twitter followers

**Wednesday, September 30, 2015**

**Hydrant & Flushing Workshop - Oacoma**

9/30/2015, 8:30 AM - 4:00 PM (CT)

share a class with your Facebook friends

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**REGISTER**

enter how many people you are registering and then click REGISTER

Name	Description	Quantity	Update
Intermediate Water Treatment - Brookings	Topics covered include: wastewater lab testing & microbiology, activated sludge, trickling filters, sludge handling; anaerobic digestion; aerobic digestion, sludge land application, sedimentation, stabilization ponds, disinfection, DMR's Surface Water Discharge Permits and advanced wastewater treatment math. Day 1 & 2 - 8:00 a.m. to 4:30 p.m.; Day 3 - 8:00 a.m. to 11:30 a.m.	<input type="text"/>	Update

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YOU MAY ALSO LIKE

Keywords: [water](#) [intermediate water treatment](#) [certification](#) [Brookings](#) ← similar classes shown here

ADDITIONAL INFO

Attachments: Intermediate Water Treatment Agenda ← Agendas can be found here

## REGISTER FOR A CLASS

### 3. REGISTER

Under the REGISTER section - enter the number of registrants in the QUANTITY box, click REGISTER, fill out the form, and submit. **It's that simple!**

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# Water loss numbers down 55 percent in Lead

*Reprinted with permission from The Black Hills Pioneer*  
By Adam Hulburt

This time last year, Lead was losing an estimated 10 million gallons of water per month out of its municipal water system thanks to a bevy of unidentified leaks all across town. Twelve months, 25 leak repairs, and seven fire hydrant replacements later and the city's water loss numbers are down to 4 million gallons per month — a 55 percent decrease in water loss.

“When you've got an antique water system you've got to expect holes,” Lead Utilities Supervisor Roger Thomas said Monday afternoon. “Most of our lines in Lead were put in in the late 1890s to the early 1900s.”

Thomas and his crew began a veritable crusade to curtail Lead's massive water loss numbers last year, and the battle is hardly over. Thomas said his team fixed nine leaks in the system last week.

There are several reasons why dozens of substantial leaks in Lead's municipal water system could go undetected underground for so long, but the principle-shrouding factor at work is the makeup of the ground itself, Thomas said.

“You get a six-inch line with a little half-inch hole in it, but it's under 100 pounds of pressure; it doesn't show up because we have rocky soil, and it's going down into the ground. The ground has to get saturated or the rupture has to grow before we can see

it,” he explained. “Some of these we found had been leaking for years, but they just now showed up.”

While many in Lead assumed the replacement of the 100-plus-year-old water mains under Main Street as part of the Highway 85 reconstruction project would make a significant dent in Lead's water loss problem, Thomas said that hasn't turned out to be the case. There were a few leaks there, but the ancient Main Street water lines didn't turn out to be the smoking gun some expected.

With a water loss number as large as 10 million gallons per month, one might expect to find two or three pipes cracked all but wide open, the principal culprits of the loss. But it's just not that simple.

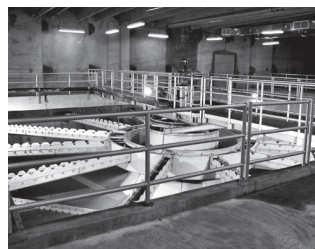
“There were a myriad of small leaks,” Thomas said, “and the hydrants were probably leaking anywhere from three to eight gallons per minute; they've been leaking for a long time. As a result – catch-22 – repairing the hydrants caused some of these leaks that I fixed because it added pressure to the system, where before pressure was going out the hydrants. Now it's causing my 100-year-old pipes to break. Some of these leaks I'm actually causing because I'm trying to stop the leaks that I actually do have, but it's creating more for me. That's just part of doing business, I guess.”

So many other small factors are at work here, too. Thomas said

*...continued on page 25*

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JANUARY 12-14

# ATC 2016

## SOUTH DAKOTA RURAL WATER'S ANNUAL TECHNICAL CONFERENCE

**W**inter is upon us, which can only mean one thing – time to make plans to attend our 41st Annual Technical Conference in January! The 2016 ATC will be our largest training event of the year for managers, operation specialists and board members. This year's conference takes place January 12-14 at the Best Western Ramkota Hotel and Conference Center in Pierre, SD.

### Registration

Save some money and register early – our early bird registration ends December 14th. Registration is open to members and non-members. To register, please visit our ATC website at [www.sdarws.com/atc.html](http://www.sdarws.com/atc.html).

### Training Sessions

This year's agenda offers a wide range of water and wastewater topics designed to educate and inform attendees on such topics as water rates, compliance monitoring, testing for EPA regulations, benchmarking and customer service. Our featured speaker is V.J. Smith.

Take a look at the pull-out agenda on pages 18-19 in this issue of *ServiceLine* and plan out the sessions you would like to attend.

### Spouse Program

We are encouraging everyone attending to bring along their spouse as we have some wonderful events lined up including a tour of the Verendrye Museum in Fort Pierre, Continental

Breakfast, crafting some boho beaded bracelets, and a catered luncheon. Spouse registration is only \$25 and also includes entry into our Exhibit Hall and our Awards Brunch.

### Exhibit Hall

One of the favorite elements of the ATC is the Exhibit Hall where you can check out the latest and greatest products available in the water and wastewater industry. Be sure to plan some time to visit the booths located in the hallways during the conference as well as inside the Exhibit Hall on Wednesday evening.

### Limited Booth Spaces Available

For Associate Members interested in exhibiting at the conference, the exhibit booths are reserved on a first-come, first served basis, and spaces fill up fast. We are offering two different types of booths this year – Full Conference Hallway, and Wednesday Night in the Exhibit Hall. Reserve your space online by visiting [www.sdarws.com/atc.html](http://www.sdarws.com/atc.html).

### Exhibitors: Sign up for a Sponsorship

This year we are offering sponsorship opportunities to our exhibitors who would like to make themselves stand out at the conference. Put your logo on the conference T-Shirt, advertise in our program booklet, put your logo on the hotel room key cards, or have your fliers put in our conference bags. Call 605-556-7219 and talk to Jennifer, or view the sponsorship opportunities available at [www.sdarws.com/atc.html](http://www.sdarws.com/atc.html). More information is available on page 21.

*Pierre Ramkota Hotel & Convention Center*  
[sdarws.com/atc.html](http://sdarws.com/atc.html)

JANUARY 12-14

# ATC 2016

SOUTH DAKOTA RURAL WATER'S ANNUAL TECHNICAL CONFERENCE

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# SCHEDULE OF EVENTS

TUESDAY

JANUARY 12, 2016

TIME	AMPHITHEATER I	AMPHITHEATER II	ROOM D-E	ROOM F-G
8AM-4PM	CONFERENCE REGISTRATION – Registration Desk			
8AM-4PM	WATER PAC RAFFLE – Lobby Area			
8:00 AM	REFRESHMENT TABLE – Lobby Area			
10:00 AM	41st Annual Membership Meeting (This is the Official Business Meeting of the SDARWS)		Tank Maintenance	Sanitary Sewer Service Lateral Lining with CIPP
11:00 AM			New Tank Coating Technologies	
			Winter Tank Operations	Chlorine Safety and Security
NOON	LUNCH – On your own			
1:00 PM		OPENING SESSION Keynote Address – V.J. Smith		
2:00 PM				
2:30 PM	BREAK TABLE – SPONSORED BY DGR – Lobby Area			
3:00 PM	LAKE SHARPE B Quality on Tap! Editorial Board Meeting (This meeting is open to Rural Water managers, board members and office staff)	KEYNOTE BREAKOUT – V.J. Smith	Control Valves	TBD
4:00 PM			Do's and Don'ts of Tracer Wire (3:45pm)	Total Coliform Rule Modifications THM Reduction in Water Tanks
5:00 PM	SDARWS Board Meeting			

[WWW.SDARWS.COM/ATC.HTML](http://WWW.SDARWS.COM/ATC.HTML)



# WEDNESDAY

# JANUARY 13, 2016

TIME	AMPHITHEATER I	AMPHITHEATER II	L. FRANCIS CASE A-B	LAKE SHARPE B
8AM-4PM	CONFERENCE REGISTRATION – Registration Desk			
8AM-4PM	WATER PAC RAFFLE – Lobby Area			
8:00 AM	<i>Rural Water Center Annual Meeting</i>	<i>The Importance of Proper Torquing</i>	<i>Reinforced Concrete Pipe &amp; Precast Manholes</i>	<b>SIGN UP TO USE THIS ROOM FOR CLIENT MEETINGS</b> 605-556-7219
8:45 AM		<i>AMI from Selection to Installation</i>	<i>SCADA &amp; Security</i>	
9:30 AM	BREAK TABLE – SPONSORED BY HR Green – Lobby Area			
10:00 AM	<i>CoBank: Headwinds in Rural Water</i>	<i>Biotta™ Efficient Nitrate Destruction</i>	<i>Neptune Meter &amp; Automation</i>	<i>On Site Presentation</i>
10:30 AM		<i>Online RD Loan &amp; Grant Application</i>	<i>Composite Performance Mni Wiconi WTP (10:45)</i>	
11:00 AM				
11:30 PM	LUNCH – On your own			
1:00 PM	<i>Legislative Panel</i>	<i>Mapping</i>	<i>Water Quality Modeling</i>	<b>SIGN UP TO USE THIS ROOM FOR CLIENT MEETINGS</b> 605-556-7219
1:30 PM		<i>Madison: Recovery from Clear Well Collapse</i>	<i>Difficulties &amp; Strategies of Leak Detection</i>	
2:00 PM				
2:30 PM	BREAK TABLE – SPONSORED BY CoBank – Lobby Area			
3:00 PM	<i>Legislative Preview</i>	<i>System Mapping and What is New from Trimble</i>	<i>Control Power Generation</i>	<b>SIGN UP TO USE THIS ROOM FOR CLIENT MEETINGS</b> 605-556-7219
3:30 PM			<i>What's New in Leak Detection</i>	
4:00 PM	LEGISLATIVE RECEPTION AND TECHNOLOGY EXHIBITS – Grand Galleria			

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## THURSDAY JANUARY 14, 2016

8:00 AM	REFRESHMENT TABLE – Rooms D&E
8:00 AM	LEGISLATIVE OPEN FORUM – Rooms D&E
9:30 AM	AWARDS BRUNCH SPONSORED BY COMPASSTOOLS – Rooms A-B-C

**EARLY BIRD DISCOUNT ENDS DECEMBER 14!**

## SPONSORSHIPS AVAILABLE

There are a few sponsorships still available!  
Call 605-556-7219 for the most current listing  
or visit: [www.sdarws.com/atc.html](http://www.sdarws.com/atc.html)

Deadline to advertise in the program booklet is  
December 5, 2015

## SPOUSE PROGRAM

TUESDAY JANUARY 12, 2016

3:00 PM Tour of Verendrye Museum Ft. Pierre  
(Meet in Lobby at 2:45pm)

WEDNESDAY JANUARY 13, 2016

9:00 AM Continental Breakfast  
(Ramkota Courtyard)

10:00 AM Boho Bead Bracelets  
(Ramkota Courtyard)

11:30 AM Spouse Luncheon  
(Ramkota Courtyard)

1:30 PM Rural Water Taste Test Finals  
(Outside of Amphitheater I)

*This is a tentative Agenda.  
Session topics and times are subject to change.*

# ATTENDEE INFORMATION

## EARLY BIRD REGISTRATION ENDS DECEMBER 14, 2015!

### Member Full Registration

**\$230** (Standard)

**\$200** (WaterPro Discount Standard)

**\$205** (Early Bird)

**\$175** (WaterPro Discount Early Bird)

### Member Full + Spouse

**\$270** (Standard)

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### Member Tuesday Only

**\$155** (Standard)

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### Member Wednesday Only

**\$205** (Standard)

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**\$180** (Early Bird)

**\$150** (WaterPro Discount Early Bird)

### Member Brunch Only

**\$35** (Standard)

**\$25** (Early Bird)

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- Access to the latest information on technology, regulation and funding through Water University webinars
- NRWA Membership lapel pin, certificate and wallet card
- Support funding for water and wastewater utilities – NRWA is a leading advocate for infrastructure funding, resulting in billions of dollars of funding
- Timely information on the impact your support is having throughout the water industry
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To learn more, please visit [www.waterprocommunity.org/r/us/](http://www.waterprocommunity.org/r/us/)

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41st Annual Technical Conference in Pierre*

All entries must be submitted to the registration desk by 2:00 pm on January 12th in order to be entered into the contest. Entries must be submitted in a glass jar and should be kept cold.

*The winner's name will be announced at the ATC Awards Banquet on Thursday, January 14, 2016. The winner will go on to represent South Dakota at the NRWA Great American Water Taste Test in Washington, DC on February 10th, 2016*



# EXHIBITOR INFORMATION

SDARWS offers two types of exhibitor booth spaces: two types of booth registrations: Full Conference Hallway (Tuesday and Wednesday), and Exhibit Hall (Wednesday evening). Booth spaces are limited – so make sure to register soon to reserve your space! Additional exhibit personnel will need to register as an attendee. All booth spaces are 8-feet wide and contain electricity, a table, and two chairs.

You must be a paid-up member of South Dakota Rural Water to reserve a booth. All registrations will be reviewed.

## Exhibit Hall\* – \$350 (\$400 after 12.14.15)

- Exhibit in our Exhibit Hall/Legislative Reception on Wednesday evening from 4-8pm
- Booth registration includes full conference registration for 2 individuals

**Setup:** Wednesday, January 13th – 9:30am - 1:30pm  
**Exhibit:** Wednesday, January 13th – 4:00pm - 8:00pm  
**Tear Down:** Wednesday, January 13th – 8:15pm - 9:00pm

## Full Conference Hallway – \$450 (\$500 after 12.14.15)

- Exhibit for the entire duration of the ATC (Tuesday, January 12th, and Wednesday, January 13th)
- Booth registration includes full conference registration for 2 individuals
- Booth will be assigned in the hallway area of the Convention Hall.

**Setup:** Tuesday, January 12th – 8:00am - 10:00am  
**Exhibit:** Tuesday, January 12th – 10:00am - 5:00pm  
 Wednesday, January 13th – 7:30am - 8:00pm  
**Tear Down:** Wednesday, January 13th – 8:15pm - 9:00pm

Corporate Sponsors of South Dakota Rural Water have the option of an additional booth. Please call 605-556-7219 for the access code.

**DON'T FORGET TO REGISTER EARLY!  
 EARLY BIRD REGISTRATION ENDS DEC. 14, 2015**

# ATC SPONSORSHIPS AVAILABLE

Would you like to increase your visibility at this year's ATC? Consider one of our Sponsorships. We have several sponsorships available to fit any size budget – from advertising in our program booklet. See below what is available below, or for more information, email [atc@sdarws.com](mailto:atc@sdarws.com), or call 605-556-7219.

## EDUCATIONAL SESSIONS SPONSOR – \$2,500

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Includes your logo on the hotel room keys for both the Pierre Ramkota, and the Clubhouse Inn & Suites. SDARWS can design, or submit your own artwork. Artwork deadline for this sponsorship is December 1st.

## CONFERENCE BAG INSERTS – \$100

Have your postcard, company brochure or flier inserted into each conference attendee's bag to be handed out at registration. Deadline to send inserts is December 11th.

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Put your ad in our program booklet to be handed out to each attendee. Ad deadline is December 5th.

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# BE A T-SHIRT SPONSOR!



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# KNOW BEFORE YOU GO

By Nick Jackson, SDARWS Circuit Rider



Ready or not, winter is coming! Days are getting shorter, evenings are becoming somewhat cooler, and most of the tourists are leaving. Hunting season is upon us, and we are officially in the midst of autumn, but wintery weather conditions can strike at any time.

This means that your winter survival mentality needs to begin once again. Many people do not change their habits from winter to summer, but if you've ever been stopped by a blizzard, stuck in a snow drift or been otherwise disabled on the roadway, you know that having some basic supplies is a must. If you don't already, you should carry a winter survival kit within their vehicle.

## Winter safe driving tips:

- Know before you leave by checking weather forecasts and road conditions before you travel.
- Dress according to weather conditions.
- Prepare your vehicle; make sure to keep the fuel tank at least above half full.
- Assure you have a full charged battery, all weather or snow tires and good windshield wipers / fluid.
- Turn on your lights; this will increase your visibility to other motorists.
- Always drive with your seat belts on, it's the law.
- Slow down and drive according to the conditions, don't drive too fast.
- Never drive through "white outs" or "snow fog" caused by cross winds; wait until you can see.
- Stay back, give yourself plenty of room and watch out for other drivers.
- Be patient; allow more time to get to your destination.
- Be sure to watch out for the snow plows, and give them plenty of room when they are clearing the roads.
- Never use cruise control on wet, snowy or icy roadways.

- Always have a well stocked and prepared winter survival kit for emergencies.

## What to do when you get into trouble:

- Be easy to find. Tell someone where you are going, the route that you are taking and your anticipated arrival time, and make sure to check in when you reach your destination.
- Keep your winter survival kit in the vehicle compartment and not in the trunk or back area of the vehicle. In the event of an accident you may not be able to access it do to blockage or damage.
- If you take prescription medications, or insulin, bring extra (at least a couple days worth).
- If you become stuck or are in trouble, remain calm and call 911. Advise them of the situation, provide your location, and detail the problems you are experiencing. Do not hang up until told to do so; wait for instructions and guidance from the dispatcher.
- Conserve your cell phone battery as much as possible.
- Tie a bright colored or florescent flag or streamer to your vehicle antenna.
- Do not run your vehicle for heat continuously. Running your vehicle 10-15 minutes an hour or so will maintain adequate heat and save fuel for extended periods. Keeping a window open a crack while running the engine is also a good idea.
- Fresh air is vital. It is better to be cold and awake rather than comfortably warm and sleepy. Snow can plug your vehicle's exhaust system and cause deadly carbon monoxide gas to enter your vehicle if you aren't careful.
- If you are with someone else, make sure at least one person is awake and keeping watch for help at all times.
- To reduce battery drain, use emergency flashers only if you hear or see an approaching vehicle.

...continued on page 21

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## WATER LOSS NUMBERS DOWN IN LEAD: continued from page 15...

there's no telling how many households in town are plagued with leaking faucets, running toilets, and the like.

Beyond that, Thomas said he's recently run into a number of household water meters that aren't showing actual water usage. With a large number of faulty meters out there, it's possible that a significant amount of the remaining 4 million gallons of lost water per month is really calculation error.

Lead city officials are aware that the water meters in town are up for replacement and have been investigating a citywide replacement plan for several months. Thomas said he hopes to see water loss numbers fall by another 10 to 15 percent after the water meters are replaced all across town.

"I'm just happy beyond happy that I got a 55 percent water loss capture from last year," Thomas said. "If I can get another 10 or 15 percent when I do the meters, if I can get it down to 30 percent, 25 percent, I'll be happy. That's a lot better than what we've been doing."

"Roger and his crew are to be commended, because ultimately this is a savings for the taxpayers of Lead; it's much appreciated by not only myself, but also all the city commissioners," Lead Mayor Jerry Apa said Monday. "If anybody should see Roger, tell him thank you for the great effort that he's made." ♦

## KNOW BEFORE YOU GO: continued from page 19...

- At night, keep your dome light on. Rescue crews can see a small glow at a distance.
- Avoid over exertion. Shoveling snow or pushing your vehicle takes a lot of effort in storm conditions. Don't risk a heart attack or injury.
- Excess work can make you hot and sweaty. Wet clothing loses insulation value, making you susceptible to hypothermia.
- Unless absolutely necessary or instructed to, do not leave your vehicle. Walking in a storm can be very dangerous; you might become lost or exhausted. Your vehicle is a good shelter. All too often, when help does not appear readily available, people will try to venture out to find help. Unfortunately, several have become victims of the elements and succumb to exposure.
- If you do leave your vehicle, write a note including contact information, name, address, phone number and destination. Then leave the note on the dashboard visible through the windshield for someone to see.

If you stay where you are, and follow the basic steps outlined, your chances of survival are extremely good. Being prepared is the key. Don't expect to be comfortable, you want to survive until you're found.

### Your winter survival kit should include:

windshield ice scraper with brush • shovel and a broom • flashlight with extra batteries • tow chain and rope • jumper cables • emergency flares and reflectors • fire extinguisher • basic tool box • road salt, sand or cat litter for traction • bright colored or florescent flags or surveyors tape • battery powered radio with extra batteries • first aid kit • blankets/ sleeping bag • emergency foil blankets • stocking caps, gloves, extra socks and extra clothing • whistle to attract attention • cell phone, charger (lighter plug in adapter) and battery • water • a metal container suitable for melting snow or ice • matches (strike anywhere, water proof) • candles • sterno fuel • pocket knife • toilet paper • reading material or puzzle books to stay awake • snack foods that you can eat hot or cold, jerky, nuts, energy bars, raisins, candy bars, etc. • cup, spoon, fork and knife • packages soups, bouillon cubes, tea, instant coffee, hot chocolate.

Be aware, think smart, plan ahead and drive safely! ♦

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# When it doesn't surface

By Mike Moeller, SDARWS Circuit Rider

Many communities across the state of South Dakota are suffering from an epidemic of water loss. The reason for these losses often vary greatly from one community to another, but one that is the most common is leaks in the systems that are under ground.

One of the misconceptions from years gone by is that if there is a leak in a pipe, no matter where it is, it will eventually come to the surface. This theory may work in some areas of the state where the soil is very dense and made up of mostly clay, but if there is one vein of gravel where the water passes by, it will take the easiest path and follow the gravel vein, and may never come to the surface. Another difference that can be seen in South Dakota is the difference from East River to West River.

**East River** – The east side of the state has many different types of soil ranging from heavy clay to sugar sand. These different types of soil have many different effects on a water leak – and how it will travel to the surface – if it ever does. When the soil is heavy clay, more than likely the leak will come to the surface; but if there is a gravel or sand vein in the clay, the water will take the path of least resistance and may never come to the surface. East River soils may vary from one extreme to another within just a few feet.

**West River** – The land west of the river also has many different soil types from sand by the river to sandy loam in the western plains and rocky mountainous in the far west. All of these soil types are porous enough that water doesn't usually surface when there is a leak in a pipe.

**\$\$\$\$\$** – Water that is being lost out of a system can be very expensive to a community. Communities around the state are doing a better job today of tracking this loss than in years past. The reason for this is the understanding that the water that is being bought by a community is treated by their water plant at a cost to the community, and when it does not make it to a consumers water meter to be sold, then the community becomes the one paying for it without reaping the benefit. An example of this would be if a community had a water loss of 25 gallons per minute from five different leaks it would add up to a loss of just over 1 million gallons per month. The American Water Works Association calculates that the average cost of tap water is \$.004 per gallon. The cost to the community would be \$4000.00 per month for water that was paid for but not getting that money back from consumers.

**Finding the Leak** – There are many methods for finding a leak. Some of the methods used by South Dakota Association of Rural Water Systems are:

- System pressure match and flow monitoring with a trailer mounted pump system.
- Listening devices that listen for sound in a water main.
- Listening devices that a circuit rider uses to listen to the ground.

Leaks on a water main or service line all make noise. This noise can be compared to water being sprayed out of a garden hose or even the sound made when you turn on the kitchen sink. Some of the difficulties with listening for the system leaks are of course the obvious of six feet of dirt over it, and then the type of pipe. If the pipe is metallic, it will carry sound much better and farther than plastic pipe. Leak detection with listening type equipment is much more difficult on plastic pipe, and sometimes the leaks are not detected.

Another type of detection equipment used is to inject helium or hydrogen into the water main and to use a "sniffer" while walking along the top of the main to sense the gas that was injected in the main. The theory is the gas is lighter than air and will float out of the ground above the leak.

In conclusion, water leaks can be very expensive to a community and can be very hard to find. There is equipment that is made to aid in the leak detection process. Water loss is not only water loss but is money lost. Keeping good records on the amount of water purchased or treated versus the amount of water sold is a good practice to have, and will keep the city budget out of the red. If your system needs assistance with leak location, please give SDARWS a call at 605-556-7219. ♦



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Sioux Falls Aberdeen Watertown

# IN APPRECIATION

Dear Dennis N. Davis,

I wish to thank you for the assistance South Dakota Rural Water has recently provided us in regards to our Total Tri-halo Methanes (THMs) rising very near the MCL of 80 ug/L. As a ground water source, it is somewhat unexpected that we would be seeing levels this high.

Your thoughts on possible remedies to this problem such as oxidation, chloramination and the possibility of checking the water in potential new wells or THM formation potential was very much appreciated. Your assistance helps to ensure that we meet our Safe Drinking Water Act requirements and deliver a quality product to our customers.

Respectfully,

Heath Thompson  
General Manager - Sioux Rural Water

## PLEASE SEND LETTERS!

SDARWS asks for your letters of appreciation in return for our on-site assistance. These letters are used to help obtain funding to continue these programs. Please submit letters to: [info@sdarws.com](mailto:info@sdarws.com); or SDARWS • PO Box 287 • Madison, SD 57042



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part of the design; others are a matter of operations.

Achieve water turn over, with proper management and operation, the heat needed to prevent freezing can be added to the tank with fresh treated water. Pumping management can be used to achieve turnover in small systems. During the day, pumps are used only to maintain the minimum emergency reserve level otherwise they are turned off. At night, the tank is filled. This not only ensures flow during periods of low demand, but it adds warmer water at night, when heat loss is at its peak. Larger systems, pumps are usually sequenced cumulatively to meet demand. Consider changing winter operating procedures. Let system water pressure drop a little more than usual, then switch on several pumps at nearly the same time. This will cause greater fluctuations in the water levels of the storage tanks.

Lowering high water level, if it is possible to keep less water in the tank during the winter months say to about 10ft, this minimizes the probability of ice forming on the upper curved portion or roof support structure.

Keep an eye on your altitude valves; they are often used in systems where tank's high water level is lower than the pressure gradient of the system. Belle Fourche is an excellent example of using altitude valves, not to overflow their tanks. Altitude valves may malfunction even in good weather. Freezing weather brings special problems. For example, frozen pressure sensing lines give the valve false signals. Usually this causes the valve to stay open, and the tank overflows. Tri-County/Mni Waste' Water Plant had issues where their pumps remained on causing the whole Treatment Plant lower level to fill until water came out of the vents.

Check ground cover on connecting pipes, a common cause of tank freeze ups is lack of protection for the pipe leading to the tank.

Sometimes soil conditions make it impossible to install the tank foundation deep enough to provide adequate frost cover. I have seen where improvements were made to remove dirt for beautification or road grades, not leaving sufficient cover for frost protection.

Newer technologies have installed various circulating pumps or mixer pumps to constantly keep the water moving to prevent freeze ups. The theory behind this is, if the warmer inlet water could be physically transported to the top of the tank, it would greatly reduce the rate at which ice would form.

#### **When the Tank Freezes**

When a tank freezes, the following may result:

- inside overflow or other piping breaks;
- ladder, strut braces, roof supports or other fixtures in the tank are pulled out by the ice, making a hole at the point of attachment;
- ice pressure expands riveted or bolted seams, or breaks plates, welds, bolts or rivets;
- leaks due to corrosion become apparent;
- overflow through overflow pipes, all sorts of problems can develop;
- overflow through the roof hatch or vent will form large icicles, weighing tons on tank exterior;
- icicles form, creates a hazard for all people and objects below, possibly causing tank structural failure.

#### **Repairing Freeze Damage**

After the cold weather is over, the tank should be drained and thoroughly inspected for any damage caused by the overflowing or freezing. If modifications are recommended to prevent recurrence of the problem, they should be done when the weather is warm, NOT next winter. ♠



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# SDARWS MATH REVIEW

## Dosages & Pounds of Chemical

**1** 60 lbs of a chemical was added to 2.5 MGD of water which ran through the treatment plant, what is the dosage in mg/L?

- a. 2.88 mg/L
- b. 1.23 mg/L
- c. 4.5 mg/L
- d. 6.3 mg/L

**2** 20 lbs of potassium permanganate was added at the treatment plant to 0.8 MGD, what is the dosage in mg/L?

- a. 1.5 mg/L
- b. 3.8 mg/L
- c. 2.99 mg/L
- d. 4.2 mg/L

**3** You have been given the following, calculate the dosage. 30 lbs of calcium hypochlorite 0.035 MGD of water treated.

- a. 55 mg/L
- b. 103 mg/L
- c. 78 mg/L
- d. 95 mg/L

**4** You have been given the following, calculate the dosage. 310 lbs of lime 1,500,000 gal/day.

- a. 17 mg/L
- b. 25 mg/L
- c. 29 mg/L
- d. 33 mg/L

**5** The water treatment plant added 330 lbs. of soda ash to 1,440,000 gal/day. Calculate the dosage.

- a. 28 mg/L
- b. 23 mg/L
- c. 32 mg/L
- d. 18 mg/L

**6** How many pounds of chlorine gas would it take to disinfect 4.5 MGD at a dosage rate of 4.5 mg/L?

- a. 125 lbs
- b. 234 lbs
- c. 105 lbs
- d. 169 lbs

**7** You have a tank that holds 300,000 gallons of water. You want to dose it at a rate of 100 ppm. How many pounds of chlorine gas are needed?

- a. 150 lbs
- b. 200 lbs
- c. 250 lbs
- d. 300 lbs

**8** You have a tank 40 feet in diameter and 10 feet deep. If you treat it with 200 mg/L of chlorine, how many pounds of 65% HTH will be needed?

- a. 211 lbs
- b. 328 lbs
- c. 294 lbs
- d. 241 lbs

**9** How many pounds of sodium fluoride (NaF) (95% purity, 46.5% available ion) are needed to treat 350,000 gallons per day to a level of 1.3 mg/L?

- a. 8.6 lbs/day
- b. 7.4 lbs/day
- c. 3.9 lbs/day
- d. 9.3 lbs/day

**10** You have a tank which holds 1,345,386 gallons of water. You want to batch treat it with 150 ppm of chlorine gas. How many pounds of chlorine gas are needed?

- a. 1575 lbs
- b. 2244 lbs
- c. 2182 lbs
- d. 1683 lbs

## Answer Key

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

# MIDCONTINENT

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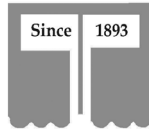
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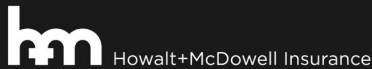
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# YOUR EMERGENCY RESPONSE PLAN

By Nick Jackson, SDARWS Circuit Rider

The purpose of this article is to provide guidance for either developing or revising public water supply system Emergency Response Plan (ERP). An ERP is a document that describes the actions that a Public Water Supply System (PWSS) will take in response to major emergency events. Emergency water supply plans are necessary for PWSS to provide adequate potable water during emergency conditions and restore normal services quickly following an emergency. Emergency conditions may develop as a result of natural or man-made catastrophes.

The day to day management and operation of public water supply systems generally rests with local agencies (Rural Development), municipalities and rural water systems. Protecting public health is the primary goal of community drinking water systems. Having an up-to-date and workable emergency response plan helps achieve this goal in a crisis situation. Emergency response plans for PWSS includes several components, all designed to insure an immediate response can be made to meet the needs arising from an emergency situation. Successfully responding to an emergency event is largely dependent on pre-emergency planning by management staff and operation specialist of the public water supply system.

## Why should a PWSS have an Emergency Response Plan?

The Bioterrorism Act of 2002 assigned responsibility to EPA to require all community water systems serving populations of 3,200 or greater to have Vulnerability Assessments (VA) and Emergency Response Plans (ERP). On May 12th, 2005, the Rural Utility Services (RUS) Administrator required that all RD funded water and wastewater systems would also maintain current VAs and ERPs. Rural Development has asked assistance from SDARWS to help develop new plans or update existing plans on several RD funded water and wastewater systems.

In addition to the regulatory requirements, there are a number of reasons including the following:

- The ERP prepares the water or wastewater system for all kinds of emergencies – natural disasters, man-made events and terrorist activities.
- The ERP gives specific instructions about who to call if there is an emergency situation that may affect the water or wastewater system.
- The ERP helps you develop procedures for responding to events that affect the drinking water, such as a contaminated water source or reservoir.
- The ERP addresses security measures for the water or wastewater system.
- The ERP organizes a number of important management and operations procedures into one document.

## How is an ERP incorporated into PWSS?

The ERP should be an integral part of the water or wastewater system routine operations. For example, water system security is an ongoing plan element that should include daily inspection of the system's facilities, a procedure that could be done along with other daily tasks. When the operation specialist checks the stock

of regular parts and supplies, they should include an inventory of emergency parts, supplies and equipment. Also, ongoing training of the water or wastewater staff should cover the actions outlined in the ERP.

Keep the ERP active. Update the plan at least annually (especially the contact information), and replace outdated copies of the plan immediately. Maintain your ERP on the computer, it can be easily updated and the current version shared with staff and other vital entities. When upgrading or replacing to a new computer, transfer your saved files of the VA and ERP. Always maintain additional safe files on a flash drive or CD in case the old computer crashes.

## Emergencies and disasters occur in SD

Emergencies and disasters can occur any time without warning. The more you are prepared for them, the better you will be able to act, minimizing panic and confusion when an emergency occurs. Over the years, the South Dakota environment has challenged public water systems and wastewater systems. Natural disasters including damaging ice storms, rain storms, drought, wind, electrical outages and flooding have been documented. History has shown public water supplies will continue to be threatened by the South Dakota environment.

You might consider asking the question: Has your system ever experienced a blizzard with electrical outages? Would an ERP be of benefit if your community was struck by a tornado? If there was a major system failure, do you have a pre-determined plan on how to deal with it? Would your taxpayers appreciate knowing that there is a plan for restoring or continuing services in the event of an emergency? Regardless as to the source or cause of a disaster, it is in the best interests of public water supply systems, wastewater systems and South Dakota citizens to plan and prepare for emergency events.

## What Items to Update?

Consider the following when updating your system's plan:

- Do employees know and understand their responsibilities with respect to the emergency response plan?
- Have problem areas in the plan been addressed?
- Does the plan reflect changes in personnel or the layout of the system?
- Has your system changed its processes or procedures?
- Are photographs, maps and records in your system up-to-date?
- Are names, areas of expertise and phone numbers in your plan current?
- Does your system's plan have a training component and are staff members meeting training objectives based on it?
- Have first responders, community organizations, and your regulatory agency been briefed on the system's plan? Have they had a chance to evaluate it?

I realize the original intent of VAs and ERPs was for being ready for a terrorist attack, but it seems like it sure would help for the natural disasters that regularly occur in our state as well.

If you need any assistance with your plans, please contact SDARWS at 605-556-7219, and we will be there for you. ♦



## 30 YEARS OF RALLYING

Dennis N. Davis  
Executive Director

South Dakota Rural Water does many things, and one of the most important benefit to our rural water membership relates to our legislative efforts. Every year the National Rural Water Association hosts a Rural Water Rally in Washington D.C. to further the work of providing drinking water and wastewater services to rural communities. Rural Water professionals, leaders and customers from every state attend the rally to thank their Senators and Representatives for their support and encourage them to further support the goals and needs of the Rural Water Industry. SDARWS has participated in the Rally since its inception in 1986, and 2016 will be no exception. The Rally provides your Association the opportunity to meet directly with our congressional delegation one-on-one to discuss concerns of SDARWS members and other systems, as well as with their staffers, and USDA. Guest speakers from legislative staffs and federal organizations, like the EPA and USDA, are invited by NRWA to share their views and insight to the assembled guests from across the nation.

SDARWS generally meets with both of our two Senators and our Representative; we also meet directly with their key staff members to make sure that rural water funding remains a priority. Our time at the Rally usually culminates with a meeting with the loan program specialists at USDA Rural Development. Managers and board members, and even employees of systems make the trek to DC for this important endeavor.

State rural water associations operate contracts that are funded through the National Rural Water Association. This funding originates with EPA and the Rural Utilities Service (RUS), a division of the USDA. For SDARWS, and more importantly, the public we serve, those programs include three circuit riders, a wastewater tech, a source water protection specialist, and a part-time training specialist. While membership dollars help to support your association, we cannot cover the cost of staff and travel to provide assistance to systems without continued funding through the State of South Dakota, USDA, and EPA.

While the Rally began as an information meeting to make us aware of legislative and regulatory issues affecting our industry, it also prepares us to discuss these very issues with our legislators. There are a few mainline items that we always like to discuss during our time in DC. It is important to note that all rural water priorities are authorized in the Farm Bill or the Safe Drinking Water Act. They are not earmarks. These items are as follows:

### USDA Circuit Riders

Circuit Riders provide the primary assistance to small communities for operation of safe and clean drinking water supplies and compliance with water regulations. This assistance protects the sizable investment the federal government has made in rural water infrastructure. Circuit Riders are in the field everyday helping systems with compliance, operations, maintenance, management, and training. The total average

hourly cost to provide this service is \$51.47 – a tremendous value. The Circuit Rider program has long been one of USDA's most successful public-private partnerships, efficiently and effectively using appropriated funds to provide technical assistance and training to rural communities through state based nonprofit associations.

### USDA Farm Service Agency Grassroots Source Water Protection

This is the only statewide local community-based initiative ensuring environmentally progressive local land-use decisions without the controversy and bureaucracy of regulatory programs. It provides each state with one full-time person to organize and assist rural communities, farmers, and other land-use interests in the implementation of source water protection plans including non-point source (runoff) protection practices in agriculture regions. This initiative allows the people who benefit from environmental protection to take responsibility for achieving it – ensuring its success and eliminating local controversy.

### USDA Rural Utilities Service Water and Waste Disposal Loans and Grants

Small communities often have difficulty providing safe, affordable drinking water and sanitation due to limited economies of scale and lack of technical expertise. Rural communities often have lower median household incomes and higher water rates compared to larger communities. To overcome this, rural communities have turned to USDA to construct water and wastewater infrastructure through grants and loans provided at reasonable rates and terms. Without this assistance, many could not construct new systems, expand existing ones, or comply with mandates.

### EPA Safe Drinking Water Act Assistance

Small and rural communities rely on local/on-site technical assistance and training for compliance with the myriad of federal EPA regulations, avoiding EPA fines, and operating drinking water and wastewater supplies. According to small and rural communities, this EPA-funded local initiative is the most effective environmental protection effort for drinking water & wastewater, ground water, source water, and compliance with the Safe Drinking Water Act and Clean Water Act. Small communities want to ensure quality water and stay in compliance – rural water provides them the shared technical resources to do it. Next year, the need for rural water assistance will increase with the expansion of federal water regulations.

### EPA State Revolving Funds

These funds provide low-interest and subsidized funding to communities for compliance with federal water standards.

SDARWS invites any and all member rural water systems to join us at the 2016 Rally slated for February 8-10. For more information, please contact us at 605-556-7219. We'd love to see you on the Hill! ♦





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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.

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