



# Water Ways

Volume XI — Summer 2014



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## MISSION STATEMENT

*“Protecting and preserving the water and wastewater resources of Rural Illinois through education, representation and on-site technical assistance”.*

### On the Cover:

This photo is of the water tower in Peoria Heights, Illinois taken by Evan Jones, IRWA Circuit Rider.

Water Ways is the official publication of the Illinois Rural Water Association, P.O. Box 49, Taylorville, Illinois 62568, and is published quarterly for distribution to members as well as other industry associations and friends. Our website is [www.ilrwa.org](http://www.ilrwa.org). Articles and photographs are encouraged. Advertising and submissions should be mailed to the above address or e-mail us at [ilrwadb@ilrwa.org](mailto:ilrwadb@ilrwa.org).



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# Hey – Where Did All the Water Go?!!

by *Jacque Plese,*  
*IRWA District 2 Board Member*

Have you ever found yourself asking that question when you first arrive at work in the morning? Of course you have, most of you have anyway.

And then the obvious answer! A century year old water main ruptured overnight. The leak was so substantial that the pumps couldn't keep up with the leak. The undependable alarms that were installed 20 years ago and haven't been updated since because of budget restraints, didn't alert you to the low levels in the tower and now everyone is scrambling like rats on a sinking ship.

Does any of this sound familiar? I thought it might since this situation seems to be happening more frequently.

We could ask the question, "why have the incidents of water main failure, pump failure, or system troubles in

general, increased recently, but I think we all know the answer.

Our infrastructure is deteriorating rapidly because it is being used far beyond its original intended length of use.

Why? Because little or no funding has been set aside to maintain or replace these systems.

In an effort to please the majority of the voting public our elected officials have not enacted policies and ordinances that will adequately fund such infrastructure maintenance.

As a result, while being one of the most necessary of natural resources needed to sustain life, our drinking water has remained one of the least expensive commodities or products we can purchase today. Moreover it is also among the most wasted and unappreciated products we consume daily.

At most public water systems in Illinois you can purchase an entire 5,000 gallon semi load of water monthly and have it delivered to your home on an as needed basis for about the same cost as six or seven gallons of gasoline. Is there any wonder a good clean water supply is unappreciated and wasted as if it were an endlessly replenishing natural resource?

But I digress, my initial thoughts were about the neglect and over use of the infrastructure used to deliver the water supply to our homes and the reclamation systems used to remove and reclaim the water once it's used, returning



it back to nature safely.

What is the solution to the lack of funding needed to sustain and renew our "plumbing" to ensure we hand it off to future generations in good condition and capable of supporting their needs and future growth.

I'm just a simple country boy. I don't propose to have all the answers to these questions, but I do have a few thoughts for you to ponder; "chew on", if you will. Possibly as a state/national group of water and waste water operators, who are responsible for these systems, we can together find the best answers.

One thought I've had is to remove the control and responsibility of setting municipal utility rates from the hands of elected officials and place that dreaded responsibility in the hands of a more capable, neutral third party.

I say capable not in the sense that our elected officials are inept, but that they are "elected" and in that, they tend to have to do what the popular opinion calls for instead of what is in the best long term interest of greater good.

*continued on page 6*

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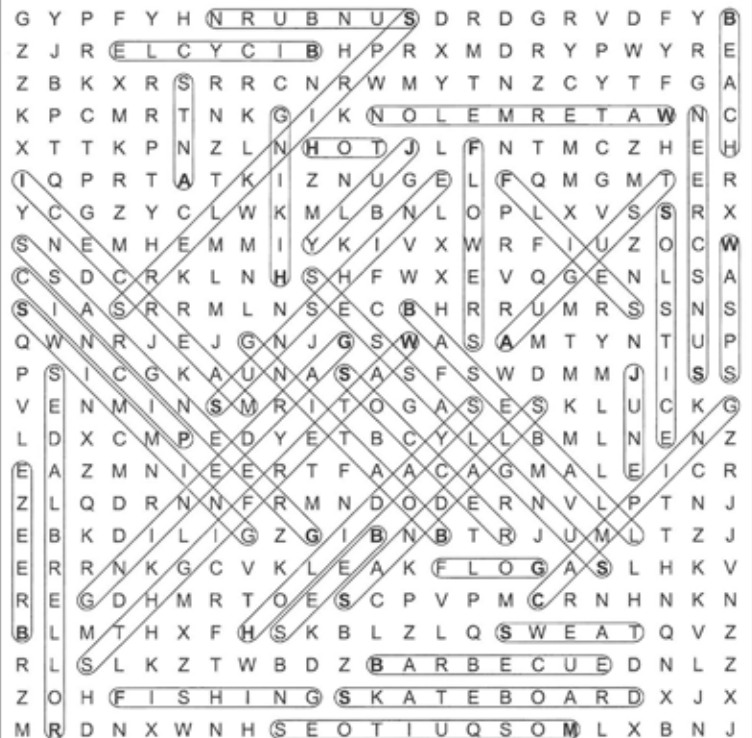
## OOPS!

In the last issue of the newsletter, "Motor" was inadvertently left off the name of new member ***J&J Electric Motor Repair Shop, Inc.***

Please make a note of this and we apologize for the error.



## SUMMER Word Search Answer Key



## Hey – Where Did All The Water Go?!!

*continued from page 4*

I can understand how many or most elected officials might cringe at the thought of what I've stated in the previous paragraph, but after they consider that the financial burden of trying to operate and maintain a municipal utility would be removed from their plate and that such things as rate increases wouldn't be campaign issues in future elections, they might be more receptive to the idea.

Would it benefit all of us to consider

a system where the governing agency for our water and waste water systems (IEPA) established a panel similar to the ICC?

This panel would review rate studies and long term plans that each system preformed every ten years. The studies would be done by an independent engineering firm or an organization such as IRWA.

The panel would then set the rates and fees individually for each system for the ensuing ten year period based on

these studies while reviewing the success of the previous ten year plan and rate structure.

I'm sure many of you have other ideas to solve this escalating problem. There are probably many better and more innovative suggestions and ideas out there. Let's start the conversation and share some of these ideas. We need to fix this and it's up to us, the operators to start the ball rolling. 💧

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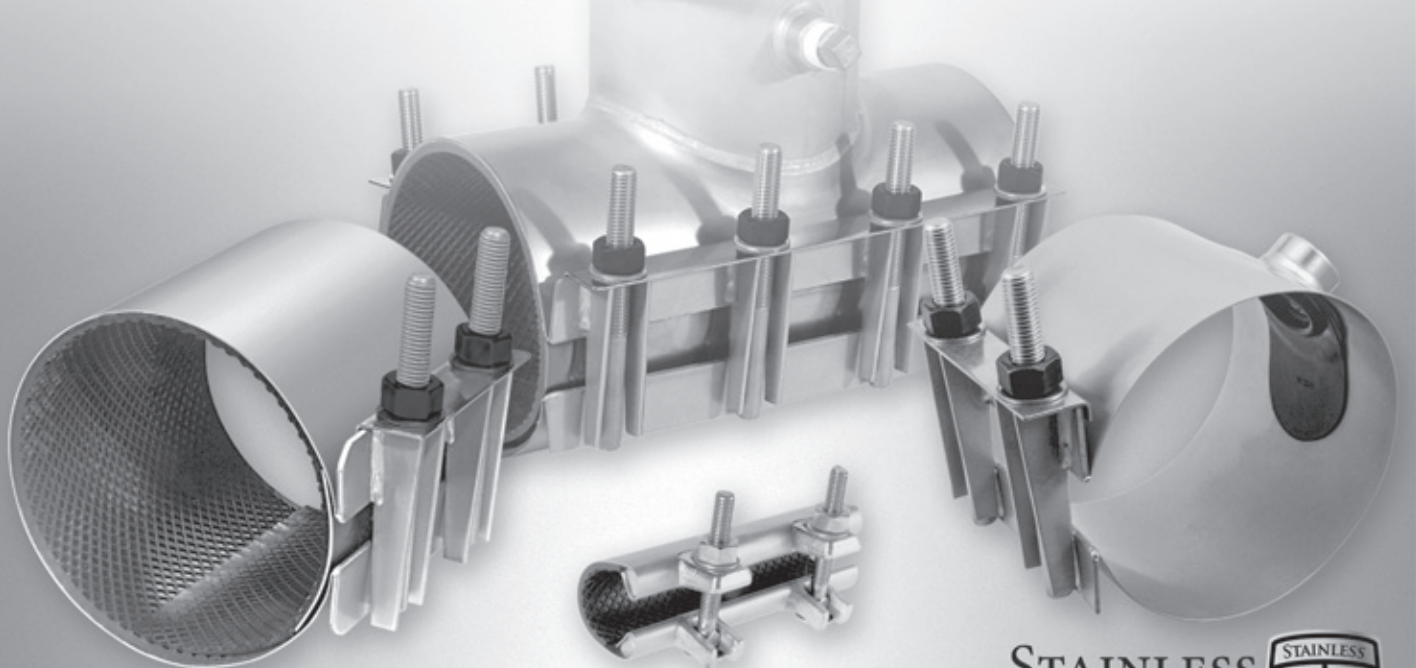
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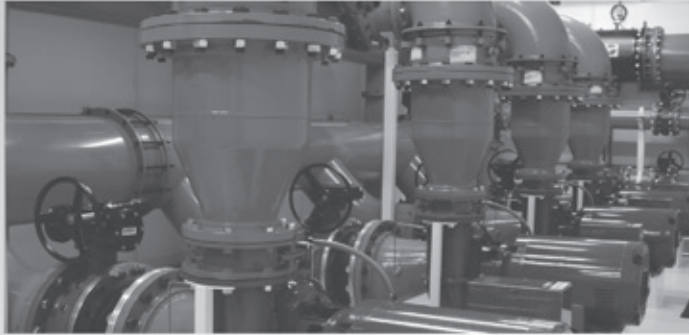


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## Back In Business

by Frank Dunmire,  
IRWA Executive Director

It has been a long funding drought for Illinois Rural Water Association's USEPA training and technical assistance program. Last August IRWA was notified that the competitively bid funds for the next year would not be awarded until late December and that funding of the program would cease on September 1<sup>st</sup>. As in past years, IRWA chose to keep all staff on board and "weather the storm" until funding was restored by tapping into their reserve funds. Then the government shutdown came along.

As Congress debated on a budget and increasing the Nation's debt limits it became clear that there was going to be no compromising before the government ran out of spending authority. From October 1 through October 16, the Federal Government shutdown and pared down most of its routine operations. Only those government services deemed "excepted" under the Antideficiency Act were continued (essential services); and only those employees deemed "excepted" continued to report to work. Of course this did not include USEPA. The 16-day shutdown last October was the third-longest government shutdown in U.S. history, following the 18-day shutdown in 1978 and the 21-day 1995-96 shutdown. This shutdown has had a profound effect on the training and technical assistance that rural water associations across the country have been able to offer. Eventually a continuing resolution for the authorization of appropriations for fiscal year 2014 was enacted and regular government operations resumed October 17. Unfortunately, this did not signal an

end to the lack of funding for the nation's premier training and technical assistance (T&TA) program for small water systems.

For funds to begin flowing for the T&TA program USEPA would need to review the proposals for the competitively bid program before making any award(s). Originally we were hopeful that the review process would be relatively short and that an award announcement would be made prior to the end of the year. November came and went without any announcement, followed by December and January. Finally, February brought word that we would be receiving funding for our T&TA program along with a lesser amount for training sessions for wastewater. At the time of the announcement it was anticipated that the startup date would be April 1, 2014. That timeline did not work out either as final negotiations took longer than anticipated and the actual startup date slipped to June 1<sup>st</sup>. Prior to the June 1 startup date a couple of workshops were necessary.

The first of these workshops entailed all of the USEPA region 5 states (OH, IN, IL, MI, WI, and MN) meeting at the USEPA region 5 headquarters in downtown Chicago where we met with several of their folks to discuss what they viewed as being priority areas for training topics. It was obvious early on that this was not going to be a "one-size fits all" training program. What was deemed to be a priority in one state was not necessarily so in others.



Meetings with the individual states' primary agency would shed more light on what was needed.

The final workshop was held at IEPA's headquarters in Springfield and a number of stakeholders were in attendance to discuss the training needs of Illinois. With these workshops completed Wayne was able to complete his operating plan for the program year so that he can hit the ground running. Visit our website ([www.ilrwa.org](http://www.ilrwa.org)) to view his tentative training schedule for the upcoming year.

In closing I would like to leave you with a quote from John Romaniello – *"The best training program in the world is absolutely worthless without the will to execute it properly, consistently, and with intensity."* 💧



## “Winter Lingers On...”

by Bill Dowell,  
IRWA Wastewater Technician

Now it's hot and humid, summer has just begun. We have almost forgotten the frozen water towers, frozen services, and nightly watermain breaks from the “old-time” winter that we recently had. Wastewater plants also had their cold-weather problems, sometimes mysteriously appearing to provide an operator with an experience they'd never had before. Some of them are still thinking about it.

Mainly confined to activated sludge plants, filamentous/Nocardia problems can be triggered by a number of factors. Dirty, greasy foam and poor sludge-settling, (“pudding” on the clarifiers), are the main indicators. Temperature changes and an “old” sludge also seems to be a factor in creating the right conditions. And, sometimes high concentrations of grease and oils in the influent tend to aggravate the situation. Here's how it usually happens, and what to look for.

Under normal conditions in activated sludge, bacteria occur singly, in small chains or clumps. Under certain conditions however, bacteria can begin

to form longer chains called filamentous bacteria or “filaments”. Filaments can dominate in the wastewater treatment system under a variety of conditions. When filaments begin to grow in excess amounts, extending from the floc into the fluid, they can interfere with settling, and likely cause foaming when introduced in aeration zones. Different types of filaments dominate under different conditions. Identifying which filaments are dominating in the system will help the operator to understand the conditions in the treatment system so that corrective changes can be made. Microscopic evaluations to identify filamentous bacteria can be complicated and time-consuming. In the past keys or charts have been developed to help the operator identify filamentous bacteria. In order to use the charts, however, the operator must first gather information about the filament, and, then, using this information, follow the chart to identify the probable filament. The time-consuming part can be gathering the information. To accurately use the charts the operator would be required



to measure the length and width of the filament, the length and width of the individual cells, and record the shape, along with many other characteristics. The more detailed microscopic techniques are beyond the normal lab capabilities and should be performed by trained professionals.

To make a fairly basic determination of the cause of these problems, here's some information about the different characteristics of filamentous bacteria. As mentioned earlier, in most activated sludge treatment systems, bacteria may occur singly, or in small chains or clumps. Shifts in the activated sludge environment such as: changes



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in temperature, pH, dissolved oxygen, nutrients, etc., will often cause a change in the behavior of the bacteria. Instead of single cells, small chains, or clumps, the bacteria will begin to form longer “chains” which develop into filamentous bacteria. Filament shape is one of the characteristics often used to help identify filamentous bacteria. Some filaments are smoothly curved, some are straight and others are simply irregularly shaped. The individual cells that make up the filament can be either bacillus-shaped, which includes square, rectangle or barrel-shaped cells, or coccus-shaped which includes round, oval, or rod-shaped cells. There is also a wide variation in the size of the individual cells that make up the different filaments.

Typically filaments can aid in the settling of the sludge by creating a “backbone” for floc-forming bacteria to attach to. It is only when they are present in excessive amounts that they can cause operational problems. Excessive amounts of filaments extending from the floc into the bulk fluid can cause sludge to “bulk”. Bulking sludge will not settle well, and, in severe cases, sludge will flow over the clarifier weirs and into the final effluent. This, of course, can lead to a variety of permit violations. Some filaments can also cause foaming when introduced to aeration. The foam caused by filamentous bacteria can be very stable and can measure from inches to several feet thick. Although foaming rarely causes effluent violations, it can lead to a considerable loss of solids and pretty ugly landscaping. Bulking and foaming will also occur with

nutrient deficiencies. To better determine if the bulking is due to filamentous bacteria, take a representative sample of the mixed liquor and examine it under a microscope. If filaments can be seen in the floc and extending into the bulk fluid, then the filaments are most likely contributing to the bulking condition. To determine if filamentous bacteria are causing the foam, take a sample of the foam and examine it also. If filaments are causing the foaming, then they will be present in the foam.

All foaming filaments generally thrive in wastewater that contains excess amounts of oils and greases. Influent oils and grease must be controlled. High-density restaurants or any industry discharging oils and grease must be required to install grease traps and then have the collected grease removed, (instead of rinsing it down with hot water and sending it to the treatment plant). To help eliminate foaming, aeration basin pH might be adjusted as well. Raising the F/M ratio is another control. The F/M ratio is a measure of how much “food” is available compared to the amount of microorganisms present. If there is a little bit of food and a lot of microorganisms, the F/M ratio will be low. This ratio can be increased through wasting. While chlorination can help control foaming from some types it is not useful in controlling Nocardia foaming. In fact, it will make it worse. Spraying chlorine on Nocardia foam will cause it to multiply, by causing the Nocardia branches to prematurely break up into tiny cells, and start regenerating. The

sludge age determines to a great degree whether or not Nocardia will remain in its early growth stage and cause no foam. A “younger” sludge age keeps Nocardia existing as harmless, small cells.

What about all the foam on the tanks, in the wet-wells and on the clarifiers? As long as the foam remains on the surface of the aeration basin, clarifiers and wet-wells, Nocardia will continue its growth cycle. The foam, once accumulated, also provides a source of seed for Nocardia growth. So, the foam must be removed; pulled off or skimmed off, to prevent Nocardia from multiplying. Most importantly, don’t put the skimmed off foam back into the head of the treatment system.

***TO HELP DISSIPATE FOAMING PROBLEMS CAUSED BY FILAMENTOUS/NOCARDIA, TRY:***

<b>Increasing Return Sludge Flow –</b>	10 to 20 %
<b>Increasing Waste –</b>	10 to 15%
<b>D.O. –</b>	Keep about 2 ppm

Be patient, conditions should be improved within 2 – 3 weeks, and you can return to normal operations. (In extreme conditions, chlorination of the Return Sludge Flow can be attempted. This process must be done very carefully or the entire process population can be damaged.) Eliminating foaming problems caused by Nocardia will require time, patience and work. 💧

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# ILLINOIS RURAL WATER ASSOCIATION

## 11th Annual Golf Outing



The Illinois Rural Water Association (IRWA) is hosting its 11th Annual Golf Outing. This event is sponsored as a way to have a fun IRWA member activity.

The location for this event is **Piper Glen Golf Course in Springfield, Illinois**. The date for this four person scramble is **Friday, August 22, 2014**. The fee is \$60.00 which includes lunch, a gift bag, green fees and golf cart. Various prizes will be given away as well. As always, IRWA is trying to make this a fun-filled and affordable golf scramble. Your participation will ensure that this year's event will be every bit as successful as past outings. This event gives the IRWA members an opportunity to have fun and enjoy a day of golf with fellow industry professionals.

Last year's event sold out so you are encouraged to submit your registration forms prior to the **Friday, August 8, 2014** deadline. Please make checks payable to Illinois Rural Water Association. You can also go online and sign up and pay by credit card at [www.ilrwa.org](http://www.ilrwa.org).

This will be a four-person scramble with a **10:00 a.m. shotgun start**. Participants are encouraged to be at Piper Glen Golf Course and check in at the registration table no later than 9:45 a.m. Lunch will be served as you make your way by the club house while playing golf.

It is IRWA's hope that you will be able to attend this event. Please feel free to contact **Denise Burke** at 1-217-287-2115 with any questions you may have. We look forward to seeing you there!

Sincerely,



Board of Directors & Staff

**WHAT:** 11th Annual IRWA Golf Outing

**WHO:** Water & Wastewater Operators, Board Members, Councilmen, Mayors, Vendors, Others

**WHEN:** Friday, August 22, 2014

**WHERE:** Piper Glen Golf Course—Springfield, IL

**FEE:** \$60.00 for operators (includes lunch, gift bag, green fees & golf cart)



**ILLINOIS RURAL WATER ASSOCIATION**  
**11TH ANNUAL GOLF OUTING**

The 11th Annual Illinois Rural Water Association Golf Outing will be held on Friday, August 22, 2014 at Piper Glen Golf Course located in Springfield, Illinois. Directions to the course are located on the last page. The golf format will be a shotgun start at **10:00 a.m.** Please check in at the registration table no later than 9:45 a.m. Please fill out the registration form below and send it along with your check to the address listed below. **You may also pay by credit card online at [www.ilrwa.org](http://www.ilrwa.org).** **Registration must be received and paid by Friday, August 8, 2014 in order to reserve your spot. We are limited to 144 golfers for this event.**

**Course Rules:**

- Dress must be in good taste keeping with golf tradition.
- Only non metal spikes are allowed.

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**Registration Form**

**Friday, August 22, 2014—10:00 a.m. (Shotgun start—4 person scramble)**

**Single Golfers will be teamed with a foursome.**

**NAME(S):**

\_\_\_\_\_  
\_\_\_\_\_

**SYSTEM NAME:**

\_\_\_\_\_

**ADDRESS:**

\_\_\_\_\_

**PHONE:**

\_\_\_\_\_

**# OF GOLFERS**

**Operators / City Officials / Guests** \_\_\_\_\_ **@ \$60.00 =** \_\_\_\_\_

**Associate Members / Vendors** \_\_\_\_\_ **@ \$75.00 =** \_\_\_\_\_

**(If Associate members are sponsoring the golf outing (please see next page), then the fee to participate will be \$60.00).**

**Total** \_\_\_\_\_ **=** \_\_\_\_\_  
**(includes lunch, gift bag, green fees & golf cart)**

Please make all checks payable to Illinois Rural Water Association. Return your completed registration and payment to: **Illinois Rural Water Association—P.O. Box 49—Taylorville, Illinois 62568**

If you have any questions, please contact **Denise** at Illinois Rural Water Association at 1-800-762-3547 or email her at: [ilrwadb@ilrwa.org](mailto:ilrwadb@ilrwa.org).

### Sponsorship Form

Lunch Sponsorship	-	\$500.00	(limited to 3 sponsors)
Beverage Cart Sponsorship	-	\$500.00	(limited to 2 sponsors)
Hole Sponsorship	-	\$150.00	(limited to 18 sponsors)
Hole in One Sponsorship	-		
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\$250.00 (Golf Clubs)		\$250.00	(\$500.00 golf shop credit)
Gift Bag & Prize Sponsorship	-	SEE BELOW	

**LUNCH SPONSORSHIP:** Lunch sponsors will have their sponsorship sign posted where lunch will be served reaching all of the golfers and two free registrations to participate in the golf outing.

**BEVERAGE CART SPONSORSHIP:** Beverage cart sponsors will have their sponsorship sign on the courtesy carts that will be on the golf course driving around with bottled water, beer and soda compliments of your company. They will also receive two free registrations to participate in the golf outing.

**HOLE SPONSORSHIP:** Hole sponsors will have their sponsorship sign **off the tee**. This is a great opportunity for visibility.

**HOLE IN ONE SPONSORSHIP:** Hole in one sponsors will have their sponsorship sign displayed off the tee and will be recognized prior to the shotgun start of the outing.

**GIFT BAG SPONSORSHIP:** If your company wishes to provide an item for each gift bag (approximately 144), please contact Denise to discuss.

**PRIZE SPONSORSHIP:** If your company wishes to bring a door prize the day of the golf outing or send it in prior to outing, please contact Denise to let her know.

### Sponsorship Registration Form

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Contact Name: \_\_\_\_\_

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Please complete and return the Sponsorship registration form and payment to:  
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If you plan on participating in the golf outing, please fill out the registration form on the previous page and return with this form with your payment. If you plan to attend but not golf in the outing, please let us know on this form.

## Winter In July!

Wow, what a winter we had! I know by now, you are all in the same state as everyone in the industry, as to what we went through. Well for some of you in the water and wastewater fields, this wasn't the first time you had seen a winter like this, but for us younger generation of operators, nobody ever warned this could happen to that degree.

The reason for the topic of "Winter in July" is that I worked with the City of Fairbury in Livingston County, from January to May trying to get their leaks under control. It all started right after I began filling in for Chuck Woodworth in our central region of the state. As some

of you may know, Chuck is not gone; he is just filling in for our southern region. Anyway, Dwayne Ifft, Fairbury's Water Superintendent, called me and said that Chuck had given him my number. These words would haunt me for the next five months. As I was saying, Dwayne called and asked if I could come do a leak locate. And, I said that I would and asked the routine questions - how much water loss, have you got an idea of where the leak is at, and are you capable of keeping up? After Dwayne's responses, I got up off the floor and said I would be there in the morning. His response to my questions were... "500,000 gallons

by Evan Jones,  
IRWA Circuit Rider



per day; I have a couple of areas that we could start with, but if it is not there then it could be anywhere; and the most important answer I was looking for was... yes, we can keep up".

*continued on page 17*

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The next day, I met Dwayne and Bob at the water plant in Fairbury; and little did we know that would become our regular meeting place in town over the coming months. Of course as everyone knows, whenever you have to be outdoors, the temperature always drops another 20 degrees. Over the five months of trying to track down the “big one”, I was only in Fairbury one time that it wasn’t either at least 10 below zero, raining or snowing. I informed Dwayne of this many times and he would just smile and say that he “was trying to warm things up”.

So for the next several months, Dwayne and I would go listening in certain areas of the system and find a leak or two. When they would get them fixed, Dwayne would give me a call and inform me that the big one was still out there... so, we would do it all over again and then Dwayne would give me the same call that the big leak was still out there. This went on for four months of finding and fixing different smaller, but appreciable, system leaks.

Then in May, Dwayne called me and said that he they had a contractor lining some sewers, and had found a six inch tile running full of clear water. Luck was finally going our way. I thought this for two reasons - one being we had a starting point to look; and the other was that I was in the area while the camera crew was still on site with the video they shot of this unknown tile. Upon arriving and meeting with Dwayne, Martin and their street collections Superintendent, they informed me that their water loss was

down to 150,000 GPD, which we all thought was great being as we started at 500,000. We were able to track down, find, and eventually fix, a four inch water main that was leaking very badly. This was just a short block and half from where we had started in January.

In the next day or two, Dwayne called and informed me that they weren’t entirely sure, but their pumping appeared to be back to normal at that time, to what they were pumping the two previous years. I was ecstatic until Dwayne said he thought he still had another leak that wouldn’t surface. I thought here we go again! But, we did some sound testing and found a valve that we believe was bad so they are making a list to start summer repairs.

Dwayne is now monitoring his water loss very closely. He says he knows there is water loss still out there in the system, and with any luck we will be able to get most of that ‘put to bed’... so to speak. So it has been a long winter with snow, extreme cold, and water breaks out the wazoo. Dwayne was very pleased to report to the city council that they were back to a normal pumping rate, and he is still continuing his efforts to save his system, and the community money by staying on top of his water loss by searching out leaks, installing new meters, and conducting water main replacement projects.

The total count as of May 22, 2014, were eighteen water leaks of which only three surfaced, and those only because they had a two inch rain. The guys at

Fairbury did an excellent job and should be commended by their community and peers. I know for a fact, that these men went above and beyond what was called from them as employees. (For example, Dwayne told me he and his wife started going for drives around town on Sundays just to see if they could find standing water or wet spots that could be our elusive leak.) This is just as anyone working in the water or wastewater fields does on a daily basis, but we ignore the cold, frost, snow and rain to make sure our customers can get a drink from their tap and are able to flush their toilets in the middle of the night. This past winter, the staff at Fairbury and the other water and wastewater personnel around the state, have definitely taught this Circuit Rider what Quality on Tap really means.

So in closing, just remember when you think you have it bad, remember why you are doing what you are doing. We all know it is not for fame or fortune, but for the customers we provide services to, our love of our home towns, and the ones we love. Talk to you next time... Until then, I will see you in the field. 💧





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# WHAT'S IN IT FOR ME?

## **ALL MEMBERS RECEIVE:**

- ◆ Mailing of T.A.B. (Technical Assistance Bulletin) pertaining to water/wastewater systems every other month
- ◆ Mailing of "IRWA Water Ways" quarterly magazine
- ◆ Member prices for IRWA conferences and other fee based training
- ◆ Annual mailing of Industry Contact Book
- ◆ A voice at the State and Federal levels of government via lobbying efforts



## **VOTING & SUPPORTING MEMBERS RECEIVE:**

- ◆ Mailings of all upcoming training sessions in your area
- ◆ Free access to our large selection of technical equipment
- ◆ Technical assistance provided by field technicians at no charge to you
- ◆ Listing of your job openings in a mail out to our S.O.U.P. Members at no charge to you
- ◆ Access to IRWA Technical Assistance Library, slide presentations, & videos at no charge
- ◆ Discounts from affiliate programs through National Rural Water on fleet vehicles

## **ASSOCIATE MEMBERS RECEIVE:**

- ◆ Discount on advertising rates in Water Ways
- ◆ Free advertising in IRWA's Industry Contact Book
- ◆ Link to your website from ours
- ◆ Discount for members only given on IRWA's conferences
- ◆ The chance to offer IRWA's members a special discount to promote your product
- ◆ The opportunity to submit abstract for review for possible presentation at training sessions or conferences



## **S.O.U.P. MEMBERS RECEIVE:**

- ◆ We will keep a database of all IRWA training sessions you have received throughout the year. A printout of IRWA CEU's will be mailed out to you on an annual basis
- ◆ Job referral mailing with a listing of jobs open in the water & wastewater industry from our voting members
- ◆ 10 % discount on all items in the IRWA store for S.O.U.P. members whose system is a Voting member

# *JULIE Celebrates 40 Years of Damage Prevention in Illinois*

*Member-Driven, Not-for-Profit Organization Encourages Homeowners and Professional Excavators to Dig Safely in Illinois.*

JULIE, Inc. (JULIE) is proud to mark 40 years of damage prevention this year. With more than 1,860 members, JULIE, Inc. stresses the importance of calling 8-1-1 or entering a locate request online before any type of digging project and promotes safe digging practices in Illinois.

Since its inception in 1974, JULIE has logged more than 26 million locate requests resulting in more than 155 million messages being sent to members. JULIE's annual call volume makes it one of the largest industry one-call centers in the nation. Based in Joliet and covering the entire state outside the city limits of Chicago, the not-for-profit organization annually receives 1.2 million locate requests and has nearly 100 employees.

“Working closely with our members and other stakeholders, our mission is to prevent damages to underground utilities, the environment and property, reduce service interruptions and costly repairs, and save lives,” Mark A. Frost, executive director at JULIE, Inc. “According to a recent report from the Common Ground Alliance, when a homeowner or professional excavator notifies a one call center such as JULIE before digging, damage occurs less than one percent of the time.”

JULIE, Inc., also known as the Illinois One-Call System, has 100 employees during peak periods and provides homeowners and professional excavators with a toll-free number (8-1-1 or 800-892-0123) for the free locating and marking

of underground facilities. More than 50 percent of notifications are now entered directly online through Remote Ticket Entry (RTE) and E-Request.

JULIE serves as a notification service for underground facility owners, taking information about planned excavations and distributing this information to its membership. It is then the responsibility of each facility owner to mark the location of their underground facilities at the excavation site. JULIE, Inc. neither owns nor marks any underground facilities.



## **HISTORY OF JULIE, INC.**

In August 1974, JULIE, Inc. was founded by the owners and operators of underground facilities in Illinois as a means of preventing injuries and reducing damages to those facilities. JULIE, Inc. began operations in Will County and expanded its coverage in December 1980 to include all of Illinois, with the exception of the city of Chicago (which is served by the Chicago Utility Alert Network at 8-1-1 or 312-744-7000). In 1976, the organization was accepted by the Illinois

Commerce Commission as compliance with the one-call notification section of General Order 185.

Originally located in the Illinois Bell Telephone facility on Webster Street in Joliet, Illinois, the corporation moved to leased space at 3033 West Jefferson in the early 1980s. Then in 1992, JULIE, Inc. became a pioneer on Essington Street with a state-of-the-art one-call center that has served as a model facility for similar organizations across the nation. The facility, located at 3275 Executive Drive in Joliet, was expanded in recent years.

In 1976, the JULIE System was accepted by the Illinois Commerce Commission as compliance with the one-call notification section of General Order 185. The Illinois General Assembly enacted the Illinois Underground Utility Facilities Damage Prevention Act on January 1, 1991. Changes to the Act became effective in 2002, 2003, 2004, 2005 and 2009. The law requires anyone excavating to contact the Illinois One-Call System before digging and requires owners and operators of underground utilities to be members of the one-call system.

Illinois law requires anyone digging, regardless of depth or size of the project, to contact JULIE at least two working days prior to the start of excavation and to begin that project within 14 calendar days from the notification. Call center agents are available to receive and process calls 24 hours a day, seven days a week. 💧



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- New Tank Construction
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- Cathodic Protection
- Welding/Repair

#### Engineering Services

- Tank Repainting Specifications
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- Cathodic Protection Specifications
- Antenna Design and Review
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**October  
28 & 29, 2014**

**Grizzly Jacks Grand Bear Lodge  
2643 N. IL Rt. 178 Utica, IL**

# TENTATIVE SCHEDULE

Tuesday, October 28th		
	WATER	WASTEWATER
9:00—9:30	Welcome/RD	
9:30—10:30	Cross-Connection Control with Backflow	UV Disinfection
11:00—12:00	Water Well & Pump Preventative Maintenance	I & I Investigations: Basics, Methods & Tools
1:00—2:00	Pipe, Connections & Repair	EPA Update
2:30—3:15	AMI Metering Program	NetDMR
3:45—4:30	Water Treatment Plant Filter Maintenance	Preparing WWTP & Lagoons for Winter
Wednesday, October 29th		
9:00—10:00	IEPA Regulatory Update	[Hatched Area]
10:30—12:00	Improvement Planning & the Operator	
1:00—1:45	J.U.L.I.E. E-tickets	
2:00—2:45	Monthly Operating Reports	
3:00—4:00	Water Main Lining Technologies	



## Hotel Block is open until October 14, 2014

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**HEY EXHIBITORS!!** The Villas & Cabins would be great not only for sleeping—but you could also use them for your own hospitality suite! Bring in your own food & beverages, music, giveaways, etc.



## Registration Form

Please print or type

NAME OF ATTENDEE OR BOOTH PERSONNEL: \_\_\_\_\_  
SYSTEM/COMPANY : \_\_\_\_\_ PHONE: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ CITY: \_\_\_\_\_  
STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_ E-MAIL ADDRESS: \_\_\_\_\_

### ATTENDEES — Please Circle Registration Type

**FULL REGISTRATION:** (Includes Technical Sessions, Meals, Activities & Exhibit Hall for both days)

MEMBER \$150.00

NON-MEMBER \$190.00

**ONE DAY REGISTRATION:** (Includes Technical Sessions, Meals, Activities & Exhibit Hall for ONE DAY ONLY - circle choice)

MEMBER \$125.00 -attending Tuesday or Wednesday

NON-MEMBER \$165.00 attending Tuesday or Wednesday

### Exhibitors - Please fill out the portion below

Member: \$225.00 \_\_\_\_\_ Non-Member: \$350.00 \_\_\_\_\_

Will you need electricity? Yes \_\_\_\_\_ No \_\_\_\_\_ (no extra charge, but will need to know ahead of time)

Do you need a table for your booth? Yes \_\_\_\_\_ No \_\_\_\_\_

**Meals** (All meals must be purchased before the conference)

Tuesday Lunch - \$15.00 (ea) \_\_\_\_\_ Wednesday Lunch - \$19.00 (ea) \_\_\_\_\_

#### Donations

Cash Prize Drawing (Minimum of \$50.00) \$ \_\_\_\_\_

**Sponsorships** - Must be paid for before August 16 for ordering of promos (Please e-mail your logo to: [ilwahm@ilrwa.org](mailto:ilwahm@ilrwa.org))

Break - \$250.00 \_\_\_\_\_ Breakfast - \$250.00 \_\_\_\_\_ Tues. or Wed. Lunch or Hospitality Night (Please circle choice) \$500.00 \_\_\_\_\_

Please list any companies you would like to be next to: \_\_\_\_\_

Please list any companies you would NOT like to be next to: \_\_\_\_\_

**ALL fees must be paid when registering— we cannot do purchase orders or special billings.**

Pre-Registrations will not be accepted and no refunds will be made after October 17, 2014

Please make check payable to: Illinois Rural Water Association, P.O. Box 49, Taylorville, IL 62568

Call 1-800-762-3547 with questions



Cordless power tools may be heavier than corded ones but the extra mobility afforded is important for both homeowners and professional craftsmen alike. Advancements in battery technology have made cordless power tools as powerful as corded ones. Packing more power into the same volume of battery definitely extends how long your tool can be used away from the mains and what sort of work it can do. Therefore, the cardinal aims of battery manufacturers are making batteries that run longer, provide more power and weigh less.

Nickel Cadmium batteries came with the first cordless power tools but were surpassed by the efficiency of Nickel Metal Hydride batteries. Lately, the battery technology in most new tools has been Lithium Ion. Lithium Ion batteries pack more capacities and can, therefore, last longer between recharges. This makes them perfect for those who work for some considerable time with their tools because increasing time taken before needing to pop out the battery means working with your tools longer. In addition, Lithium Ion batteries do not show the charging peculiarities of Nickel-based batteries. You do not need to babysit the charging process. You can just set it to charge and go without needing to worry about damage from overcharging or incomplete discharges.

Yet another advantage of Lithium Ion batteries for power tool is that it is lighter than the Nickel-based batteries. Lithium Ion batteries have high energy densities which means they pack more charges per any given volume. Lastly,

Lithium Ion batteries are easier to make in different sizes and shapes which is why some manufacturers now put them into the handles of the tools to save space and provide balanced hefts.

However, Lithium Ion batteries have their demerits too. For one, placing them in the handles of power tools means that to replace a battery you will need to send the whole power tool back to the manufacturer or have it shipped to repair centers. In addition, except you plan on buying new power tools, there are few Lithium Ion batteries fitted to go in your old models.

Therefore, the first step in buying a replacement battery for your power tool is finding an exact fit with the same power ratings. It is not necessary to buy a replacement battery from the same manufacturer just as long as you can guarantee the quality of the replacement. However, where the old battery served well, it is advisable to buy the same as a replacement if you can find it. You can either take the old battery along when looking for replacements or note down the model number on its casing.

Batteries are rated by their voltages and capacities. Therefore, expect to know what volts and ampere-hours the replacement battery you intend to buy are rated in. Of these two, ampere-hours is more important since it determines how long the battery will last. However, the higher the voltage and ampere-hour of a battery, the longer and stronger the power tool will perform. Batteries usually come in ampere-hours of 1.4, 2.4 and 3.0 amp/hr

ratings. You can find these written on the battery itself.

Another consideration to have when choosing a replacement battery is the charging time. It is impractical to have a cordless power tool that needs to be charged after every hour of use and that takes long to charge. The advice is to go for a battery that last longer in use and that charges faster so that it can be re-used as soon as possible.

You can buy your replacement battery at a dedicated tools shop or from online stores. Online, you can order from the websites dedicated to homeowners and professional users. Here, you will find a broader range of batteries to choose from and at more favorable prices. Some buyers prefer to buy from the big brands in the market e.g. Makita, Bosch etc. Generally, batteries from these manufacturers are known to perform well but they may also be more expensive. You should consider shopping for batteries that are rated high by previous buyers and users like you regardless of what brands they are just as long as you are sure the batteries are the right fit for your power tools.

### *About The Author*

Timothy is a writer for needbattery.com. He has written many articles on cheap laptop battery, cheap ups battery, cheap phone battery, laptop battery sale, ups battery sale and phone battery sale.

For more information visit [www.needbattery.com](http://www.needbattery.com).



# Summer Word Search

Find the words in the grid. Words can go horizontally, vertically and diagonally in all eight directions.

G Y P F Y H N R U B N U S D R D G R V D F Y B  
 Z J R E L C Y C I B H P R X M D R Y P W Y R E  
 Z B K X R S R R C N R W M Y T N Z C Y T F G A  
 K P C M R T N K G I K N O L E M R E T A W N C  
 X T T K P N Z L N H O T J L F N T M C Z H E H  
 I Q P R T A T K I Z N U G E L F Q M G M T E R  
 Y C G Z Y C L W K M L B N L O P L X V S S R X  
 S N E M H E M M I Y K I V X W R F I U Z O C W  
 C S D C R K L N H S H F W X E V Q G E N L S A  
 S I A S R R M L N S E C B H R R U M R S S N S  
 Q W N R J E J G N J G S W A S A M T Y N T U P  
 P S I C G K A U N A S A S F S W D M M J I S S  
 V E N M I N S M R I T O G A S E S K L U C K G  
 L D X C M P E D Y E T B C Y L L B M L N E N Z  
 E A Z M N I E E R T F A A C A G M A L E I C R  
 Z L Q D R N N F R M N D O D E R N V L P T N J  
 E B K D I L I G Z G I B N B T R J U M L T Z J  
 E R R N K G C V K L E A K F L O G A S L H K V  
 R E G D H M R T O E S C P V P M C R N H N K N  
 B L M T H X F H S K B L Z L Q S W E A T Q V Z  
 R L S L K Z T W B D Z B A R B E C U E D N L Z  
 Z O H F I S H I N G S K A T E B O A R D X J X  
 M R D N X W N H S E O T I U Q S O M L X B N J

- |          |             |               |              |
|----------|-------------|---------------|--------------|
| Ants     | Fishing     | July          | Sunburn      |
| August   | Flies       | June          | Sunglasses   |
| Barbecue | Flowers     | Mosquitoes    | Sunscreen    |
| Baseball | Gardening   | Picnic        | Sunshine     |
| Beach    | Golf        | Roller Blades | Sweat        |
| Bees     | Green Grass | Sandals       | Swimming     |
| Bicycle  | Hiking      | Skateboard    | Wasps        |
| Boating  | Holidays    | Soccer        | Water Fights |
| Breeze   | Hot         | Solstice      | Watermelon   |
| Camping  | Ice Cream   | Sprinklers    |              |

Answer Key on page 10

### **GPS/GIS MAPPING SERVICES**

Through the implementation of GPS & GIS technology, IRWA can effectively produce hard copy and digital maps. With this new service available from IRWA, utilities can attain new and accurate maps to better manage their infrastructure assets.

The printed maps can be large-scale wall maps up to 36"x48" showing major water and wastewater features with the desired layers (aerial photos, streets, topography, etc.). The printed maps can also be generated into a map book format. The map book is a bound 11"x17" book of high-detail maps printed at the best available scale.

The digital map file on a CD, can be viewed and printed with free software that IRWA will provide. The software allows you to click on a waterline with a leak and highlight which valves need to be closed to isolate the line. There are also tracing features to show the direction of water flow, and other useful features.

Payment for services is determined by a charge per each system feature located. The amount charged for a Map Book will be \$50 plus \$5 per page; and a wall map is billed at \$100 per map. More information is also posted on our website at [www.ilrwa.org](http://www.ilrwa.org) or you may call our office at 217-287-2115.



### **VIDEO INSPECTION SERVICES**

Video inspection technology can help you identify and prioritize maintenance issues, while improving service and reducing emergency maintenance costs.

IRWA is excited to introduce our new Video Inspection Service to our members. The normal fee for this service is \$350.00 for small projects, larger projects requiring more than 1 day will be based on cost per foot.

A contract must be signed in advance of the inspection. Upon completion, your system will be invoiced for the services and will also receive a detailed report including diagrams of the inspection features, and a DVD for your references.

For more information, or to schedule an inspection of your system, please call our office at 217-287-2115 or visit our website: [www.ilrwa.org](http://www.ilrwa.org)



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