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Executive Director
dunmire@ilrwa.org • 217-820-4626

DON CRAIG
Deputy Director
craig@ilrwa.org • 217-561-1061

HEATHER MCLEOD
Membership Services Assistant
ilrwahm@ilrwa.org

DENISE BURKE
Administrative/Program Assistant
ilrwadb@ilrwa.org

MARY REED
Compliance Assistance Specialist
reed@ilrwa.org • 217-561-8376

CLARK CAMERON
State Circuit Rider
cameron@ilrwa.org • 217-820-3814

DAVE SPEAGLE
Energy Efficiency Circuit Rider
speagle@ilrwa.org • 217-820-1560

EVAN JONES
Circuit Rider
jones@ilrwa.org • 217-820-5508

ROGER NOE
Circuit Rider
noe@ilrwa.org • 217-820-1564

CHUCK WOODWORTH
Circuit Rider
ilrwacw@ilrwa.org • 217-820-1569

MARC LEMRISE
Circuit Rider
lemrise@ilrwa.org • 217-820-0222

EPA Program Specialist

DAVE McMILLAN
mcmillan@ilrwa.org • 217-370-6485

STEVE VANCE
vance@ilrwa.org • 217-825-5941

SCOTT TOZIER
Wastewater Technician
tozier@ilrwa.org • 585-314-3759

JEFF MCCREADY
Wastewater Technician
mccready@ilrwa.org • 217-870-4754

RICHMOND ADAMS
Source Water Protection Specialist
adams@ilrwa.org • 217-820-2037

KENT COX
EPA WW Program Specialist
cox@ilrwa.org • 309-333-4069

JEFF TUMIATI
Apprenticeship Coordinator
tumiati@ilrwa.org • 217-820-2220

ARTICLES

| | | |
|--|--------------------|---|
| Price of Poker | by Frank Dunmire | 4 |
| Filling the Skills Gap - | | |
| Teaching, Training and Learning | by Jeff Tumiati | 5 |
| Hey...Where is Chuck? | by Chuck Woodworth | 6 |
| Job Security Through Certification | by Marc Lemrise | 7 |
| Skyscrapers and Water Towers | by Evan Jones | 9 |
| Where in Illinois is this Located? | | 9 |
| Member Services | | |

| | |
|--|----|
| 42nd Annual Technical Conference..... | 18 |
| ABC's of ilrwa.org..... | 23 |
| Rural Water Fleet Program..... | 25 |
| Free Energy Efficiency Assessment..... | 26 |

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 was taken by Roger Noe,
IRWA Circuit Rider, in Fayetteville, Illinois.

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| | |
|-----------------------------------|----|
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| Coe Equipment, Inc..... | 13 |
| Dimond Bros. Insurance..... | 15 |
| Electric Pump, Inc..... | 10 |
| Finishing Chicago..... | 2 |
| Hawkins..... | 17 |
| Illinois Public Risk Fund..... | 12 |
| IWEA/IAWPCO..... | 10 |
| LOCIS, Inc..... | 17 |
| Metropolitan Industries, Inc..... | 14 |
| Ressler & Associates..... | 25 |
| Schulte Supply, Inc..... | 16 |
| Taylor Coating Sales, Inc..... | 14 |
| The Ford Meter Box Co., Inc..... | 17 |
| USG Water Solutions..... | 11 |
| Water Treat Technology..... | 27 |

Price of Poker

by Frank Dunmire,
IRWA Executive Director

Illinois Rural Water Association has enjoyed a 17-year relationship with its contract lobbyist, Steve Longhta of SRL Consulting. It is hard to believe that it has been that long – it seems like it was just yesterday IRWA signed on with his firm. SRL Consulting was a “one-man” show and has represented the Association admirably. He has been the “eyes and the ears” for IRWA in Springfield. He would track any and all legislation that would have an effect on the members (as well as non-members) of the Association. Just to give you an idea of how big of a task this has been, for the current 103rd General Assembly, 4,319 House Bills and 2,644 Senate Bills have been introduced. The vast majority of these bills will not go anywhere but you have to be ready to act when a bill of interest gets traction and starts to move. This is where Steve came in. When a bill of interest was beginning to see the light of day, he would contact me and off to Springfield I would go to testify at hearings, attend stakeholder meetings, or visit with sponsors of the bills. We didn’t win every battle, but we were successful in negotiating more favorable terms in the bills that did pass. But nothing lasts forever, and all good things must come to an end. December 31, 2023 was Steve’s last day as contract lobbyist for IRWA as he officially retired on that date. IRWA wishes Steve all the best in his retirement!

IRWA began the search for a new contract lobbyist and Mr. Longhta cautioned us and said the “price of poker” in Springfield has increased dramatically. In the 17 years since signing on with SRL Consulting, IRWA never saw an increase in the quarterly fee paid. What we paid in the first year was the same amount that was paid in the final year. Many discussions and meetings were held trying to narrow down the field of candidates to replace SRL. There was even consideration of not replacing the lobbyist services (all be it short lived). The Board of Directors for IRWA recognized that lobbying is an important tool for a productive government. Without it, legislators would struggle to sort out the seemingly infinite competing interests. Fortunately, lobbying provides access to these legislators and acts as an educational tool.

At its December meeting, the Board of Directors of IRWA agreed to engage Dykema as the Association’s contract lobbyist for the Illinois Legislature. Dykema is a professional services firm that provides legal and lobbying services to public, private, and nonprofit entities. They were founded in 1929, and today, have nearly 400 professionals in 14 offices based in six states and Washington, D.C. In the Springfield office they have Scott Selinger and Andre Jordan.

Scott works with a diverse group of clients leveraging his extensive knowledge of state and local government and the many key relationships he has cultivated over the years. In the past, he served on the Illinois House Democratic Staff and focused on strategic caucus initiatives, including media relations, constituent outreach, and legislative agenda development for various legislative members. He also staffed the House State Government, Labor, Energy and Environment and Public Utilities Committees.

Andre has more than 20 years of experience working through complex issues and building deep relationships with members of the General Assembly. Before joining Dykema, Andre served as the Director of Legislative Affairs for the Illinois Department of Human Services where he oversaw the agency’s legislative portfolio and issues related to the Division of Mental Health, Division of Developmental Disabilities, Division of Family Community Services, Division of Substance Use Prevention & Recovery, Early Childhood, and Rehabilitative Services.

IRWA looks forward to a great working relationship with Scott and Andre as the State Legislature is scheduled to go into session on January 16th.

As mentioned above, the “price of poker” in Springfield did go up – much more than was anticipated. Going into the search, everyone recognized the fact that IRWA had been getting a bargain for the lobbying services received over the past 17 years. What we didn’t realize was that the price was going to more than double. The Board agreed that it was imperative that the Association should have representation at the State Capitol and decided that an increase in the Legislative Assessment on membership dues would need to be increased. This assessment had not been increased in 17 years just as the expense for lobbying services had not increased. Most members will see an increase of \$25 on their next annual renewal to offset the increased cost of representation in Springfield. 💧



Filling the Skills Gap - Teaching, Training and Learning

by Jeff Tumiat, IRWA Apprenticeship Coordinator

More than 80 percent of businesses nationally face critical skill gaps. What's one age-old art that can help address the issue? Apprenticeship.

I am very happy to provide you with a very positive update for the apprenticeship training program both nationally with National Rural Water and locally with Illinois Rural Water Association. Currently thirty-six states have active programs. To date this includes six hundred and thirteen active Apprentices, and one hundred and ninety-five graduates. As the program continues to grow adding much needed Operation Specialists into the work force while making a noticeable difference to our industry. Illinois Rural Water Association currently have twenty-eight active Apprentices. Twenty are participating in the water program and eight are in the wastewater program. To date, we have eighty-two applicants. An ever-expanding pool of eligible applicants, currently fourteen are waiting for their chance to enter the Water/Wastewater industry and ultimately someday become Operations Specialists. So, if you're looking to hire new staff, please consider giving one of our applicants your consideration. IRWA has been fortunate to be able to acquire partial funding for the majority of apprentices and are currently working towards more funding sources that can defer the costs of training and development.

With the addition of our traveling trainer Marc Lemrise, we are now able to offer onsite training opportunities for each Apprentices scattered around the state. This onsite service has allowed for more one on one time with each Apprentice while limiting their travel and time away from work. Also, not to mention a much less stressful learning environment, training at your own facilities. I'm also very proud to announce that we have had several Apprentices recently take their IEPA certification test and are now Certified Operators in training. Congratulations and thank you for your commitment to yourself and to our industry. It truly takes a team effort, and I can't find words to thank my coworkers here at Illinois Rural Water enough for all their help and assistance with the apprenticeship program journey. As I mentioned in previous updates Illinois Rural Water has a great team always ready and willing to assist you with all your training and technical needs.

The brotherhood of operators, whether it be water or wastewater is extremely important especially to smaller communities. In our industry, the idea of "mutual aid" has long been a staple of helping each other without a written policy.

This becomes even more important when new apprentices are enlisted to work as guidance and direction are the much-needed items. From my personal perspective, it is very refreshing to see that it is alive and well.

Both the apprentice and the municipality that hosts an apprentice have a mutual gain. Both attain what they need, in the case of the apprentice, technical and practical training in the proper field. For the municipality, it gains an employee whose knowledge will grow and serve the municipality. The journey of an apprentice can be like any other journey, smooth and even or filled with obstacles and pitfalls, most of this depends on the apprentice and the mentor.

We are constantly trying to increase our pool of eligible applicants and participating employers looking to hire and help train the next generation of operators. And I would be happy to add you to those groups. There's no fee and we will complete all the necessary paperwork. Interested individuals looking to enter the water and wastewater field can complete an application on our website. Once all the criteria are met, they will be placed on the eligible apprentice pool list. Systems looking to fill the shoes of those retiring employees or simply fill an unexpected opening must also meet the criteria in the Apprenticeship Program standards to be eligible to train apprentices. Once all the criteria has been met, we will register the employer and apprentice with the U.S. Department of Labor. The next step is connecting the applicants and employers. To learn more about the Apprenticeship Program, please visit our website at www.ilrwa.org. Until we meet again stay healthy, work safe and best wishes.

The Journey of a good apprentice begins with desire, proceeds with effort and ends with accomplishment. 💧



*"The best teachers are those who show you where to look,
but don't tell you what to see."*

Alexandra K. Trenfor

Hey....Where is Chuck?

by Chuck Woodworth,
IRWA Circuit Rider

I hope everyone had a Merry Christmas, and that your new year is starting off in a safe way. I wanted to use this opportunity to share with everyone where I was this past summer, and why someone else responded to your call instead of me.

For the past 26 years, I have mostly covered the east-central part of Illinois in one form or another. Covering a low of 23 counties, to currently covering 33 counties. The best part of those 26 years, has been in the role having the title of Circuit Rider #3. The job of Circuit Rider, in my opinion, is the best position within the Association. That #3 is only a number that indicates how many Circuit Riders we have, nothing else... lol. The Association does have other important positions such as the Apprenticeship Coordinator, Wastewater Techs, Energy Efficiency Circuit Rider, and several other quality programs. Being a Circuit Rider, means that I get to go to different water plants and or water systems daily. In doing so, I help to troubleshoot treatment problems, locate leaks, locate system valves, locate curb stops...and the list goes on.

I have really enjoyed doing everything I have done as a Circuit Rider; and that is ultimately helping you the water operator. Well, maybe not so much having to do a leak locate when the temperature is below zero, or trying to locate a lost valve when the summer temperature is over one hundred degrees. In such cases, that "leak" and "lost valve" are typically found... and the then the next day, there's always something else!

The bottom line is, that I have always enjoyed working with operators to help in any way that I can; and now I am able to continue to do so with a new outlook on life. The Roman poet Horace once said, "carpe diem quam minimum credula postero", when translated to English is, "Seize the day...enjoy yourself while you have the chance".

Two years ago, I was diagnosed with multiple myeloma cancer. For about a year and half, I was being treated with chemo-therapy in pill form, with occasional IV injections through the Cancer Care institute in Decatur, Illinois. The purpose of this, was to get the number of cancer cells down to a smaller figure. I wanted to keep working as much as I could during this time, and I was able to keep doing so. Some days were harder than others, but I kept doing the best I could. I wanted that...no, I needed that! I didn't tell anyone about this, because I feared no one would call me for assistance.

When my cancer numbers were low enough, it was suggested that I go to Mayo Clinic in Rochester, Minnesota for a stem cell transplant. So, the last week of April 2023, my wife and I started the journey to Mayo. We were advised that this entire process would be done as an outpatient. We would be living there for almost two months. When we arrived, we moved into our hotel room. Of course my wife packed everything we

would need and then some...ha!

My first day at Mayo consisted of 5 doctor appointments and a few blood draws. Each doctor's visit went very well and on time. Mayo is always on time...there is no sitting around waiting. After a week of more tests, X-rays, and CT scans, they were ready to start the stem cell collection. They were ready, I'm not sure how ready my wife and I were!

We began the process by having a port installed in my chest. Each morning was started by going to the clinic for them to draw my blood through a machine that collected my stem cells, and returned everything else back to my body. That went on for 5 hours.

We returned to the hotel around 2 pm, and then returned to the clinic at 7 pm for a stem cell booster shot. This shot was to make my bone marrow produce and release more stem cells to my blood stream. This process continued for 5 days. After that, we got two days off from going to the clinic. Then we went back for massive amounts of Chemo treatments to kill off the remaining cancer cells in my body. The following three days were off to allow that to work.

I started to lose all my hair...that was an odd feeling!

Again, we went back to the clinic for them to start giving me my stem cells back, after they had sorted out the cancer cells and the good cells. I had four days of this, along with daily blood draws to check to make sure the cells were growing. After they gave me back my "cleaned" stem cells, I went in daily for blood work, to make sure they were still growing; and that other tests were still good.

After a couple weeks of this, we were sent home...my wife and I had spent a total of 42 days living in Rochester.

Once home, I rested and went to physical therapy...for what seemed like forever! I was cleared to return to work on the first of September. I had been off for a long 4 months and 1 week!

Needless to say, I'm so glad to be back and looking forward to seeing everyone at our annual conference in February! Until then, stay safe and if you are in my area, give me a call. I would be pleased to help you again! 💧



Job Security Through Certification

by Marc Lemrise,
IRWA Apprenticeship Instructor

As the labor pool becomes depleted through retirements of certified operators there are increasing opportunities for water department personnel to advance to certified operator. Most water systems will pay for the education required to pass an operator competency exam. These classes are held sporadically at junior colleges throughout the state when there are enough students signed up to make it profitable for the college to offer the class. I've gotten many calls over the years from aspiring operators who sign up for the college course only to get a letter stating that there weren't enough people registered so the class was cancelled.

Of course, passing the test is not the only requirement to become a certified public water supply / wastewater operator in the State of Illinois. Certification requirements also mandate a high school diploma or GED and a minimum level of hands-on experience. For the Class D certification, 890 hours of documented experience is required. Class C candidates need 1780 hours and for the A and B operators, 5430 hours. Up to half of these hours can be in the form of college courses or workshops. Many water department personnel have already met or exceeded this requirement and have only to pass the exam to become certified.

Operator certification is regulated by the Illinois EPA and the exam covers a very wide range of topics; including, but not limited to, water chemistry, hydraulic engineering, civil engineering, best management practices, workplace safety, federal and state regulations, and yes, some math.

Illinois Rural water offers certification overviews for operators that feel they are ready to challenge the test. This mini "crash course" can be quite helpful for someone who already has a basic understanding of these concepts through previous study. The overview helps the operator realize which subjects they are weakest in so they can focus on improving their knowledge in those areas. An inexperienced operator has almost no chance of passing this test if their only academic material is our overview/study-guide. At a minimum, an on-line college class would be a good way to start your journey into the academic portion of operator certification. These courses generally cost \$700.00 to \$800.00.

As the title of this piece suggests, job security is significantly enhanced when one's title changes from laborer to operator. So does the compensation. There are of course exceptions. When I was a Circuit Rider, several water department employees throughout the state had told me that the only reward offered by the city for certification was a hearty handshake and a pat on the back. This is very short-sighted on the part of the governing body. On the other end of the spectrum, while

helping a public works employee to study for his exam, I learned that that city's policy was to increase wages by \$7.00 per hour once certification was achieved. Needless to say, this guy was studying very hard.

Incentives motivate people. Unless a governing body creates these incentives there is little chance that they will ever have a back-up operator who can take the reins in the event that they lose their current operator. The good news is; if your employer does not offer these incentives, job openings for certified public water supply operators and/or wastewater operators are plentiful, the license is valid throughout the entire state; and transferrable to some other states. The wages are also increasing as the operator shortage becomes more acute.

The Illinois Rural Water Association, in cooperation with the National Rural Water Association and the United States Department of Labor has instituted an apprenticeship program to address the operator shortage by training people to assume these highly skilled and specialized positions. A certified operator must be present to serve in the role of mentor. The academic part of the training is conducted on-site by a traveling instructor. These training sessions generally last two to three hours monthly. The cost to the system for this service is zero dollars. The only cost is for the books. And in most cases, the State of Illinois pays for those too. Several apprentices have already passed their competency exams and now hold "Operator in Training" certificates, qualifying them for certification as soon as their experience requirements are met. Any water supply or wastewater system interested in taking advantage of this cost-effective program can contact our main office and arrange a meeting with our apprenticeship coordinator, Jeff Tumati.

Between self-study courses, online and in-person courses, apprenticeship and certification overviews, anyone wanting to enhance their job security and/or employability elsewhere can do so. I won't say that it's easy. Most things in life that are worthwhile are not. But it's not rocket science either. And the rewards can come in the way of respect, confidence, and probably more money too. 💧





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Skyscrapers and Water Towers

By: Evan Jones,
IRWA Circuit Rider



So, I ran across something not long ago that I thought was interesting. This is something that I have never really thought of during my career working with small towns and rural water systems. That thought being, “How in the world does acquiring and maintaining pressures work for skyscrapers and other multi-floored buildings?” Now, I know most small towns have one to



three storied houses or buildings, but I’m talking high rises, hotels, and the like. I mean think about it, one foot is equal to 0.43 p.s.i.! Of course, I can do the math on a water tower, don’t get me wrong... but, when you start thinking about it, what happens

with, say the Willis Tower AKA the Sears tower in Chicago? It is 110 stories and 1,451 feet tall. Calculate that out!

$1,451 \text{ feet} \times 0.43 \text{ psi} = 623.93 \text{ psi} \dots!$



continued on page 24



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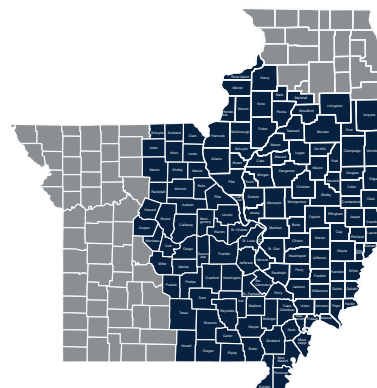
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- * Eliminates Digging
- * Requires No Tools



Company Name _____

Contact Name _____ Phone # _____

ORDER FORM

| Quantity | Manhole # | Street / Location | Lid O.D. Top / Bottom | Thickness of Lid | Desired Rise |
|----------|-----------|-------------------|--------------------------|---------------------|--------------|
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42nd Annual Technical Conference
February 20-22, 2024

Old Friends

Attendee Information
Keller Convention Center - Effingham, IL

**Host Hotel
SOLD OUT!**

HOST HOTEL

Holiday Inn
1301 Ave. of Mid-America
Effingham, IL
Phone: 217-540-7777
\$120.00 + tax per night

Auxiliary Hotel

LaQuinta
1103 Ave of Mid America
Phone: 217-540-1111

Auxiliary Hotel

Country Inn & Suites
1200 N. Raney St.
Phone: 217-540-5555

Auxiliary Hotel

Holiday Inn Express
1604 Fayette Ave
(exit 159)
217-994-9949

Auxiliary Hotel

Best Western-Delta Inn
1509 Hampton Drive
217-342-4499

Auxiliary Hotel

Hampton Inn & Suites
1305 N Keller Dr
217-540-5050

CONFERENCE LOCATION

The conference will be held at the Thelma Keller Convention Center located at 1202 N. Keller Dr. The convention center is attached to the host hotel.

REGISTRATION

Registration & badges are required for all conference attendees. Please register each attendee using the registration form included.

Pre-Registration:

To pre-register complete the registration form and mail with payment to:

IRWA, PO Box 49, Taylorville, IL 62568

To pay on-line with your credit card, go to www.ilrwa.org and click on the conference link on the home page.

**CONFIRMATIONS OF
REGISTRATION WILL NOT BE SENT!**

Pre-registration must be postmarked by February 9, 2024.

On-Site Registration:

All conference attendees must obtain a name badge and conference material at the registration desk. If you do not pre-register, please make sure that you register as soon as possible after you arrive at the Keller Convention Center. **Please note that on-site registration is \$25.00 higher than pre-registration.**

An event membership of one-cent per person is included in your registration fee(s) allowing participants in NRWA fundraising activities. This is required by Federal Election Commission laws. If you wish to opt-out, please go to the registration booth at the conference for your refund of this one-cent fee.

CANCELLATION & REFUNDS

Refunds only in the event of emergencies. We must have a written notice of cancellation to issue a refund.

REGISTRATION HOURS

Pre-Registration Pickup ONLY

Monday, February 19 4:00 p.m. - 6:00 p.m.

Regular Registration Hours

Tuesday, February 20 8:00 a.m. - 4:00 p.m.

Wednesday, February 21 8:00 a.m. - 3:00 p.m.

EXHIBIT HALL

Professionals from all areas of the water and wastewater industry will be on hand to help solve your problems and provide you with the information you need to make those crucial decisions. 109 companies will be bringing their products and services to you at this year's conference.

The exhibit hall will be open during the following hours:

Tuesday, February 20 10:00 a.m. - 4:00 p.m.

Wednesday, February 21 8:00 a.m. - 3:00 p.m.

OTHER ACTIVITIES

Exhibitors Hospitality Night

Tuesday, February 20 4:30 p.m. - 7:30 p.m.

All food and beverages for the evening provided by our exhibitors.

Pub Crawl

Tuesday, February 20 7:30 p.m. - 12:00 a.m.

Thank you to the City of Effingham for their continued support of the pub crawl! The buses will begin picking up at the Holiday Inn at the conclusion of Hospitality Night.

Casino Night

Wednesday, February 21 7:00 p.m. - 9:00 p.m.

CERTIFICATION OVERVIEWS & EXAMS

Certification overview courses and state certification exams for drinking water and wastewater will be held at the conference. The reviews will be given courtesy of E.R.T.C. on Wednesday, February 21, 2024. The review is included with your conference registration.

The exams will be given on Thursday, February 22, 2024 beginning at 8:30 a.m. It will be available for attendees and non-attendees alike. You must have a valid **Letter of Admission** issued by the IEPA. You **must** bring the Letter of Admission and a photo ID. There are no conference fees associated with the exam. **However, you must return a registration form with the exam you will be taking circled.**





42nd Annual Technical Conference

February 20-22, 2024

ATTENDEE REGISTRATION FORM

Please complete one form for each attendee

Make check payable to: Illinois Rural Water Association
P.O. Box 49, Taylorville, IL 62568
You may also pay on-line at www.ilrwa.org with a credit card

FIRST NAME: _____ LAST NAME: _____

SYSTEM: _____

MAILING ADDRESS: _____

CITY: _____ STATE _____ ZIP: _____

PHONE NUMBER: _____ E-MAIL ADDRESS: _____



FULL REGISTRATION: (Includes technical sessions, exhibit hall, meals & activities for all 3 days)

- ☐ Member—\$190.00 ☐ Spouse—\$190.00
☐ Non-Member—\$240.00 ☐ Non-Member Individual Joining as a Member + Conference—\$225.00

ONE DAY REGISTRATION: (Includes technical sessions, exhibit hall, meals & activities for 1 day only)

- ☐ Member—\$165.00 ☐ Spouse—\$165.00
☐ Non-Member—\$215.00 ☐ Non-Member Individual Joining as a Member + Conference—\$190.00

PLEASE CIRCLE WHICH DAY YOU WILL BE ATTENDING (for one day registration only)

TUESDAY

WEDNESDAY

THURSDAY



WATER CERTIFICATION EXAM—PLEASE CIRCLE WHICH EXAM YOU ARE TAKING (if applicable)

CLASS A

CLASS B

CLASS C

CLASS D

WASTEWATER CERTIFICATION EXAM—PLEASE CIRCLE WHICH EXAM YOU ARE TAKING (if applicable)

CLASS I

CLASS II

CLASS III

CLASS IV

Registrations must be postmarked by February 9, 2024 to receive pre-registration pricing

****All fees must be paid when registering—no purchase orders or special billings****

NO REFUNDS AFTER FEBRUARY 9, 2024

CONFIRMATIONS OF REGISTRATION WILL NOT BE SENT!



Have a Question?
Call 1-800-762-3547

Conference At A Glance

Tuesday, February 20th - Registration Open: 8:00 a.m.— 4:00 p.m.

4.5 Water/3.5 Wastewater credits available (* = dual credit)

| | | | |
|------------|--|---|--|
| 9:00 a.m. | Opening Session/Awards Ceremony/RD Update* | | |
| 10:00 a.m. | <i>Break/Exhibit Hall Opens</i> | | |
| | WATER | WASTEWATER | BREAKOUT |
| 11:00 a.m. | IEPA Update | | |
| 12:00 p.m. | <i>Lunch Buffet—Ticket Required</i> | | |
| 1:00 p.m. | 13 Water and Wastewater Nightmares* | Lagoon Systems | Jar Testing for Plant Optimization |
| 1:45 p.m. | Saving Money, Pumping Groundwater | Blower Technologies Past and Present | Guatemala Water System: Designing and Constructing a New Water Well and Transmission Line in a Third World Country |
| 2:30 p.m. | <i>Break/Exhibitor Drawings</i> | | |
| 3:00 p.m. | For Operators: The Down and Dirty of How Small Towns Can Avoid Getting Hacked* | Surge for Dummies* | Source Water Planning Case Studies |
| 3:45 p.m. | Smart Tanks | Controlling Algae and Biofilm with Ultrasonic Technology* | Water Main Leak Detection |
| 4:30 p.m. | Water Taste Test | | Annual Meeting |

Wednesday, February 21st - Registration & Exhibit Hall Open: 8:00 a.m.— 3:00 p.m.

5.25 Water/5.25 Wastewater credits available (* = dual credit)

| | | | |
|------------|--|--|-----------------------------------|
| 9:00 a.m. | What is a LoRaWAN®? A New Open Global Standard for Utilities and Cities* | Algae Control | Water Math Review (9:00—11:00) |
| 9:45 a.m. | The Dead-End Danger Zone | Lagoon Operation Control Strategies | |
| 10:30 a.m. | Break/Exhibitor Drawings | | |
| 11:15 a.m. | OSHA 101 for Water & Wastewater Plants* | Farmington, MO — Retrofit Oxidation Ditch Case Study | |
| 12:00 p.m. | Lunch Buffet—Ticket Required | | |
| 1:00 p.m. | Fire Hydrant Maintenance | Submersible Pumps | Disinfection and Softening Review |
| 1:45 p.m. | NRWA Affinity Programs* | The PFAS Connection* | |
| 2:30 p.m. | Break/Exhibitor Drawings | | |
| 3:00 p.m. | Master Meter Testing for ALL Systems | Trenching/Excavation Safety* | Basic Wastewater Math (2:45—4:00) |
| 3:45 p.m. | Biotechnology Solutions for Lake and Reservoir Managers | Pump Maintenance and Repair* | |

Thursday, February 22nd (No registration or exhibit hall open)

3 Water/1.50 Wastewater credits available (* = dual credit)

| | | | |
|------------|--|--|--|
| 7:30 a.m. | <i>Breakfast Buffet—Ticket Required</i> | | |
| 8:30 a.m. | Tank Inspection Methods and Maintenance Considerations | WASTEWATER CERTIFICATION EXAM (until 11:30) | WATER CERTIFICATION EXAM (until 1:30) |
| 9:15 a.m. | Carbon Chemistry 101 | | |
| 10:00 a.m. | <i>Break</i> | | |
| 10:15 a.m. | Tracer Wire | | |
| 11:00 a.m. | Importance of Backup Power* | | |
| 11:45 a.m. | <i>Grand Prize Drawing</i> | | |

Sessions At A Glance

WATER SESSIONS

Rural Development Update - Mike Wallace; RD- Find out about updates to the Rural Development programs.

IEPA Update - TBD; IEPA - This popular session will fill you in on all of the new regs and any changes to older ones.

13 Water and Wastewater Nightmares - Sarah Towle & Jen Aguilar; C and C Pumps & Supply - How to mitigate and/or prevent 13 nightmares that commonly occur in water/wastewater plants.

Saving Money, Pumping Groundwater - Nicolas Steverlynck; Hose Solutions - Focus on pumping efficiencies & highlight what is costing us money, how much it is costing & how we can save money & prolong the life of our wells & pumping equipment.

For Operators: The Down and Dirty of How Small Towns Can Avoid Getting Hacked - Chris Sosnowski; Waterly - Learn how to talk with IT (they speak a different language), what questions to ask your systems integrator and some security best practices you can do yourself without IT.

Smart Tanks - John Busse; Cleanwater1 - This topic will focus on the implementation of active tank mixing, residual control systems, and THM reduction to optimize water quality in the distribution system.

What is a LoRaWAN®? A New Open Global Standard for Utilities and Cities - Richard Sanders; Zenner USA - A comparison of LoRaWAN and other technology will be presented.

Dead End Danger Zone - Chris Jones; Kupferle Foundry - Hear about information about the two main health threats that old, uncirculating potable water on dead-end water mains pose to consumers. Information on EPA guidelines for residual level and the new Stage 2 DBP rule will be shared. Additionally, tools on identifying hazardous dead-ends, as well as, solutions to address the threats will be presented.

OSHA 101 for Water & Wastewater Plants - Erik Kambarian; Illinois Department of Labor - Find out what you should expect from OSHA during a plant inspection.

Fire Hydrant Maintenance—Don Walker; Kennedy Valve - How to maintain a fire hydrant through inspection, exercising, lubrication and flushing.

NRWA Affinity Programs—TBA; National Rural Water Assoc. - NRWA has several programs for small systems to take advantage of. From website design & customer communications, to several insurance packages, background screening as well as our Rural Water Loan Fund. Come to this session to learn more!

Master Meter Testing for ALL Systems—Randy Lusk; M.E. Simpson - Did you know there is a method of testing your large master/production meters called pitot testing? This methodology will work on any size, type or brand of meter and has a +/-2% accuracy.

Biotechnology Solutions for Lake and Reservoir Managers —Dave Shakleton; Clean Flo - Invasive weeds, mucky organic sediment accumulation that promotes excessive weed growth, excessive algae blooms, toxic HABs – all these are signs that the biology of a water body is being degraded. Mechanical dredging and chemical treatments are palliative. Biotechnology solutions that reverse eutrophication, prevent HABs and restore nutrient clearance through a productive food web are a sustainable management tool.

Tank Inspection Methods and Maintenance Considerations - Todd Schaefer; Dixon Engineering - This presentation will discuss different tank inspection methods and tank maintenance.

Carbon Chemistry 101 - Corey Harper; Hawkins, Inc. - The highlights or bullet points include organic reduction, algal toxin reduction, and PFAS/PFOA reduction.

Proper Use of Tracer Wire - Chad Thompson; Copperhead - Hear some tips on how to correctly use tracer wire.

Importance of Backup Power - Scott Sell; Interstate Power Systems - We take for granted that the electricity needed to run our plants to always be there when we need it. Find out why it is important to have a back up power system when it isn't.

WASTEWATER SESSIONS

Lagoon Systems - Dave Shackleton; Clean-Flo - Hidden wastewater treatment treasures – how to get the most out of them.

Blower Technologies Past and Present - Brent Schultz & George Graves; Kaeser Compressors, Inc. - This presentation will go through all of the blower technologies in the US market, when they are best applied, and their typical energy consumption.

Surge for Dummies - William Nicholl; GA Industries - This session will discuss fluid elasticity, surge wave speed, critical period, and much more!

Controlling Algae and Biofilm with Ultrasonic Technology - Todd Austin; Hydro-BioScience - This session will cover critical resonate frequency and sound pressure can be helpful in drinking and wastewater.

Algae Control for Lagoons - Robert Risley; Water Treat Technology - How to identify the different types of algae and what you can do to control them.

Control Strategies for Lagoons - Robert Risley; Water Treat Technology - Tips and tricks to maximize your lagoons performance and efficiency.

Farmington MO - Retrofit Oxidation Ditch Case Study - Brian Gentes; Cochran Engineering/Mark Mayer; Jaeger Aeration - Energy savings from retrofitting an oxidation race track from mechanical aeration to retrievable strip diffusers.

Submersible Pumps - Mark Mayer; Enviro-Line, Co. - A discussion on hydraulics, pumps and controls.

The PFAS Connection - Kimberly Cole; KimHEC - Some background on PFAS, where they came from and lessons learned.

Trenching/Excavation Safety - Brad Hoffman; IML Risk Management Association - This will include inspections for hazards, soil classifications, personal protective equipment and types of trench protective measures. IL OSHA Standards requirements for trenching will also be reviewed.

Pump Maintenance and Repair - Mike Pontrelli; Stenner Pump Company - Basic pump maintenance and repair.

BREAKOUT SESSIONS

Jar Testing for Plant Optimization—Mark Weirich; Hawkins, Inc. - A valuable tool you should be using often! Find out some background and history as well as the benefits of jar testing.

Guatemala Water System: Designing and Constructing a New Water Well and Transmission Line in a Third World Country - Greg Gustafson; Berns Clancy - Greg Gustafson, PE and students from Engineers Without Borders (EWB), University of Illinois chapter traveled to a small community in the highlands of the Central American country of Guatemala to increase the water supply in order to serve the Village in all four seasons of the year.

Source Water Planning Case Studies—Rich Adams; IRWA - Some examples to assist you in preparing for your source water protection plan.

Water Main Leak Detection - Serena Page; TWM, Inc. - A general look at several water main leak detection methods seen within the industry. A leak locating project will also be detailed.

Water and Wastewater Certification Math Overviews—Matt Maas; ERTC - Water math review will be back again this year. By popular request, Matt will also be going over wastewater math as well!

Disinfection and Softening Certification Overview—Drew Hoelscher; ERTC - Come to this session to hear an overview on disinfection and softening to assist you in passing your certification exam.

What are you looking for? - The ABC's of ilrwa.org

- Advertising in Water Ways information** (Ad agreement and links) - Publications > Advertising Information
- Apprenticeship**—Resources > Apprenticeship
- Becoming a Certified Water or Wastewater Operator**—Resources > Becoming a Certified Operator in Illinois
- Boil Order Notice**—Resources > Downloads
- CCR**—Services > e-CCR Hosting
- Certification Overview from IRWA**—Training > Certification
- Certified Water Operator Contract**—Resources > Downloads
- CEU Forms from webinars or conferences**—Training > CEU Form Archives
- CEU's from CD training**—Training > CD's
- Compliance Assistance**—Services > Compliance Assistance
- Cross Connection** (manual, survey & ordinance) - Resources > Cross Connection
- Current hot topics and upcoming events** - Home
- Energy Efficiency Assessment**—Services > Energy Efficiency
- For Sale/Wanted**—Services > For Sale/Wanted
- Forming a new water district**—Resources > Downloads
- GPS/GIS**—Services > GPS/GIS Mapping
- Industry Organizations**—Resources > Links
- Job Board**—Resources > Job Board
- Lead Information** —Resources > Lead Information
- Leak checklist and how much am I losing flyers**—Resources > Downloads
- Legislative Information** – (Who is my rep?, Bills that IRWA is following)—Resources > Legislative
- Mutual Aid**—Resources > Downloads
- Nitrification Action Plan Information**—Resources > NAP
- NFP Tax Forms** — Resources > Downloads
- NRWA Fleet** - Membership > Benefits—click on the NRWA logo
- Operator Groups**—Resources > Links
- PFAS**—Home
- Rate Study**— Services > Rate Study
- Red Flag Act**—Resources > Downloads
- Speaker Request Form for Conference** —Training > Conferences
- Tracer Wire Specs**—Resources > Downloads
- ERP/Contingency Plans**—Resources > Emergency Preparedness Planning
- Video Inspection Services**—Services > Video Inspection
- Wastewater CEU information**—Training > Wastewater > under table
- Water Loss Handouts**—Resources > Downloads



Could you imagine what that would do to your water mains! Talk about system pressure! We know that Chicago doesn't carry that kind of pressure, so how do they handle this? Nor does the City of Chicago own or maintain any water towers. All the towers you see on the Chicago horizon are owned and operated privately, or by systems and suburbs of Chicago. These buildings receive water by the same means as any other building. They pump water with high service pumps up a certain number of floors into a reservoir. These reservoirs provide water by gravity to the floors below them, and allow for water to be pumped to additional reservoirs at different floors higher up thus supplying the floors below. Using the step system, this continues all the way to the top allowing gravity to pressurize those floors below. I did find in my research a short video on YouTube on how this works if you're interested. <https://youtu.be/PgxSD6H799Q>

Now I understand with what most of you deal with... that this isn't something that you really need to know, but it does have a direct relationship with what we do.

I am reminded of a phone call I received several years ago. I had an operator call and said "I've got a problem with my water tower". I knew that seemed kind of strange to me, as they had just put up a brand new tower that was larger than the old one. So, you would think, what's the problem? Well, the issue was, he was trying to fill the new tower, but it just happened to be taller than the old one. As such, he could only get the level up to that equal to the old tower's holding height, before it started to overflow. He wanted to know how to resolve the issue. Well, at the time, we were talking and bouncing ideas off each other, but we couldn't for the life of us, figure out what to do. I was able to supply him with the name and number of a company that I thought might be able to help.

That company was able to bring in a pump that could finish filling the tower, to disinfect and get it online while the old tower was still in use. Now, when I asked later, is when I had the "boy, you're an idiot Evan" moment. I was vastly over thinking this height and pressure issue to fill their tower. I had it in my mind, that they would need something special. Boy was I wrong!

The company that came in, just simply connected to the fire hydrant under the new tower and shut off some valves. Then they opened some others, and presto the small electric pump started filling the tower. It was after that that, the whole of it dawned on me that the small pump wasn't working that hard. This pump was having water pushed through it before it was even turned on as the water from the old tower was seeking its own level and that pump having a steady supply of water had no lift to overcome or priming needed. They didn't need it filled fast, just filled. The pump just hummed right along at whatever gallons a minute that it could, until water flowed from the overflow.

As I said earlier, I for one was over-thinking this way too much. My original thoughts were, where are we going to find a four inch pump, supply line and water source as well as having it all be disinfected... in order to fill this tower that needed to have that process completed. It was a surprise when the operator gave

me the full story of what they did to finish off filling the tower. And like I said, I felt like a complete idiot.

Even if you don't have a skyscraper, you still need to be able to figure out the pressures your water tower and other buildings need, to provide adequate pressure in your system. Twenty pounds per square inch, as you know, is what needs to be maintained everywhere in the distribution system to stay within the regulation. I've added some math questions regarding towers and pressures just for fun. Next time something comes up involving pressure and heights of towers or buildings, just give your IRWA Circuit Rider a call, and they can give you a hand or at least point you in the right direction. 💧

MATH QUESTIONS...(FOR FUN)

1. Two towers are both 125 feet high and, when full, contain 122 feet of water. Tower #1 holds 150,000 gallons of water full. Tower #2 holds 500,000 gallons of water when full. Each tower has a pressure gauge at its base. Which tower gauge registers the most pressure in pounds per square inch (psi) if both towers are full?

- _____ a) Tower #2 registers the most pressure.
- _____ b) Tower #1 registers the most pressure.
- _____ c) Both gauges read the same pressure.
- _____ d) Both gauges register 45.2psi

2. If the water level in tower #1 is 118 feet what is the pressure (in psi) reading on the gauge at the base of tower and why?

- _____ a) 45.2 psi
- _____ b) 55.0 psi
- _____ c) 51.1 psi
- _____ d) 65.0 psi

3. How much pressure (in psi) does one foot of elevation offer?

- _____ a) 1 psi
- _____ b) 2.31 psi
- _____ c) .433 psi
- _____ d) 0.0 psi

Answers
1. C 2. C 3. C



Rural Water Fleet Program

The National Rural Water Association has created partnerships with motor groups to offer discounts to utilities around the country. Member utilities should contact their State Rural Water Association to access the Rural Water Fleet Program.



Visit <https://nrwa.org/members/products-services-portfolio/fleet-program/> for up-to-date information.



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STATISTICS SHOW:



Cost of energy is expected to increase 20% in the next 15 years.

Energy use is the largest controllable cost of providing water and wastewater service to the public.



Rising energy costs represent a major challenge for water and wastewater facilities also facing challenges of:

- 1) Aging Infrastructure which needs replaced
- 2) More stringent regulations
- 3) Population growth
- 4) Higher operational costs and budget restrictions

Consider ...

The high cost of operating utilities has gotten to the point where the utility has to look at all options available. Keeping the operational costs to a minimum ensures that your rates are the lowest possible and still ensure safe drinking water and wastewater utilities.

What do we assess?

The Energy Conservation Circuit Rider will assess your electric bills, system assets and operational procedures. They will break it down into a usable format with options to explore which will lower costs and a projection of the time to payback.

Why ...

Most Operators spend their time in operational issues to ensure safe drinking water and maintaining compliance. They often do not have the time to dedicate to energy savings or expertise in doing assessments. We can take the time and figure it out for you.

Key Offerings

Find where your system can save money on energy. Not only can your system be more efficient, it can outline which changes can generate repayment the quickest.

What is requested of the system?

- Provide Tour of Facilities for Circuit Rider
- Copies of Energy Bills for at least one year
- Review and Share Energy Assessment with Operators
- Review Financing Alternatives if Feasible
- Implement an Energy Efficiency Plan

15-30% SAVINGS ARE READILY ACHIEVABLE



HOW??

- 1) MAKE THE COMMITMENT!
- 2) ASSESS THE FACILITIES
- 3) ESTABLISH A PLAN

A Few Findings of Assessments

- **System-Hot Water Heater-** 80 Gallon Electric Heater-24/7 in a Filter Room only for Eye Wash Station-Approximately \$2,200/Yr Savings
- **System-Water Loss** 75%, System Improvements Save \$3,300/year in Electrical For Wells
- **System-Aeration** running 24/7- \$11,300 potential savings. Improvement Recommendations- \$34,250. Payback 3 years

How Do I Get A Free Energy Assessment?

Contact Dave Speagle

217-820-1560 – cell phone

217-287-2115 – IRWA office

speagle@ilrwa.org

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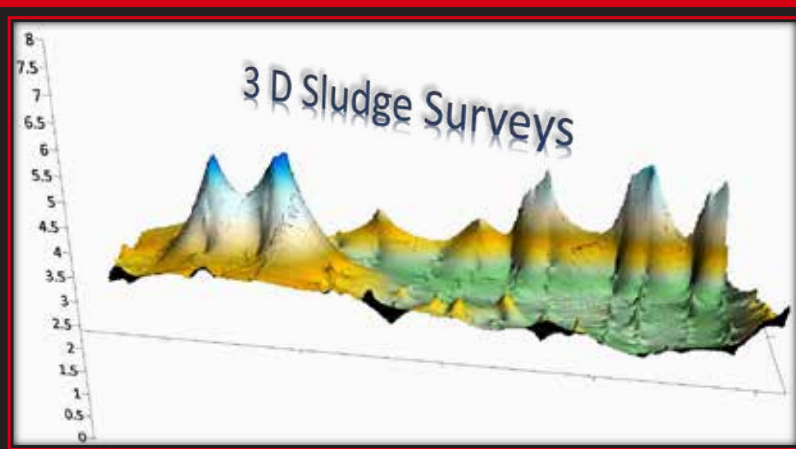
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Improve Your Facility

About the Program

This program provides funding for clean and reliable drinking water systems, sanitary sewage disposal, sanitary solid waste disposal, and storm water drainage to households and businesses in eligible rural areas.

Funding

Long-term, low-interest loan funding is available. If funds are available, a grant may be combined with a loan if necessary to keep user costs reasonable.

USE YOUR FUNDS TO FINANCE THE ACQUISITION, CONSTRUCTION, OR IMPROVEMENT OF:

- 01 Drinking water sourcing, treatment, storage, and distribution
- 02 Sewer collection, transmission, treatment, and disposal
- 03 Solid waste collection, disposal, and closure
- 04 Storm water collection, transmission, and disposal
- 05 Other related activities such as permits and legal fees



Scan the QR code to
view more
information and start
your application.