



Cyber-Security Awareness and Action

By: Don Craig, IRWA Deputy Director

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Newsletter

Cyber-Security in all facets of life, is a very important part of keeping safe in the electronic world. But, in our specific arena of water and wastewater operations and management, it strikes home on a daily basis; and is an imperative process we need to stay on top of, and not let our guard down. All kinds of nasty viruses, malware, scams, and ransomware are constantly being sent our way via all kinds of electronic means.

Here are a few Cyber-Security facts, proactive actions, and some recommendations needed to recognize and deal with such things as Phishing scams.

Water and Wastewater Systems Risk:

- 85 percent of the population receives potable water from public systems, and more than 75 percent of the population has its sanitary sewerage treated by public wastewater systems.
- The contamination of drinking water, a denial of service attack, or a cyber-attack could potentially cause far-reaching economic, psychological, and public health effects for a surrounding community.
- The biggest consequence – to destroy confidence in the system(s).

15 Cybersecurity Fundamental Proactive Actions for Water/Wastewater Utilities:

- Perform Asset Inventories
- Assess Risks
- Minimize Control System Exposure
- Enforce User Access Controls
- Safeguard from Unauthorized Physical Access
- Install Independent Cyber-Physical Safety Systems
- Embrace Vulnerability Management
- Create a Cybersecurity Culture
- Develop and Enforce Cybersecurity Policies and Procedures
- Implement Threat Detection and Monitoring
- Plan for Incidents, Emergencies, and Disasters
- Tackle Insider Threats
- Secure the Supply Chain
- Address All Smart Devices (IoT, IIoT, Mobile, etc.)
- Participate in Information Sharing and Collaboration Communities

Phishing:

A method to acquire sensitive information such as usernames, passwords and credit card details by masquerading as a trustworthy entity. Basically, it's a "con"!

How to recognize Computer Email or Phone Phishing Scams:

- Requests for personal information
- Urgent wording
- The need to open either a URL or an attachment
- May use poor English

Some Phone Specific Phishing Scams:

- Call from an area code you don't recognize that says, give us a call, we have a relative of yours in jail, we have a relative of yours in the hospital or you've won a large prize.
- Three-digit area codes: 284, 649, 876 and 809. Out of country. Check the area code first. Don't call back.

Email Phishing Scams: Mismatched Domains

Often the Domain from Email Does Not match that from the Link:

- Email: jefferey.jones@whitehouse[dot]gov
- Link: [http://elvis.com\[dot\]au/card/](http://elvis.com[dot]au/card/)

Email Best Practices:

- Do NOT trust unsolicited email.
- Do NOT click links or attachments in unsolicited emails.
- Do NOT provide personal information or information about your organization.
- Do NOT respond to phishing emails.

Unfortunately, cyber-attacks are a part of life, as we know it today. And, you can be sure, they will not lessen... More likely, they will continue to increase.

"Make it hard to 'hurt' your system, or you personally"

Train employees as the first line of defense. Backup your files often to a local server, AND to a server that is NOT electronically connected all the time, or in the same physical location.

IRWA'S MISSION STATEMENT

"Protecting and preserving the water and wastewater resources of Rural Illinois through education, representation and on-site technical assistance"

Rural Illinois Water Association



What We Can Learn...If We Listen

By: Steve Vance, IRWA Training & Technical Assistance Specialist

As I ended my career with the Illinois EPA and started a new career with Illinois Rural Water Association, I found myself reflecting and wondering how I got here. While many factors were involved, I always remember the people that I was fortunate enough to work with, and for, during my years in the potable water industry. Many of these people molded and prodded me through my career with gentle encouragement, positive teaching moments, and sometimes, stern corrective communication. Regardless, my reflections result in fond memories and profound appreciation for those that have guided and helped my career.

My involvement in the potable water industry began during the summer of 1980, when I was hired as summer help for the Village of Farmersville. I'm not sure if I was the best candidate, but, my Dad was on the Village Board and persuaded the Board and the Water Superintendent to hire me. My duties included many of the daily responsibilities of every small town employee, including mowing, patching streets, reading meters, painting, dog catching, plowing snow, and whatever else that I was told to do. My supervisor was Charlie Brockmeyer, a seemingly older gentleman with a good memory, attention for details and a great singing voice. It seemed Charlie liked me for some reason and hired me back for the next summer and to a full-time position after graduating from high school.

Charlie introduced me to the water industry and eventually trusted me enough to run the iron-removal plant when he was on vacations. Charlie understood the importance of his duties and worked hard to make sure the water quality was good for Farmersville, Waggoner, and Harvel. Charlie's best attribute seemed to be his focus on customer service and resolving issues in a non-contentious manner.

Charlie has passed, but I will always appreciate the time that he took to patiently teach me the important things in the industry, including water treatment, distribution maintenance and most importantly, how to treat customers. His influence and passion for the industry definitely made an impact on my career direction.

After working full-time for the Village of Farmersville for five years, I chose to enroll in college, eventually earning a bachelors degree in Applied Science with a degree in Civil Engineering. In the back of my mind, I always hoped that this would lead me back to the water industry. Upon graduating from Southern Illinois University in Edwardsville, I was hired by the Illinois EPA. After a few years in the Wastewater Division, I eventually had the opportunity to work in the Division of Public Water Supplies' Springfield Regional Office, where I worked for 18 years in the Springfield Regional Office and 5 more years as the Field Operations Section Manager.

While working in the Springfield Region, I met countless influential people, including co-workers, operators, mayors, USEPA staff, and consulting engineers. John Bartolomucci, a co-worker in the Springfield Regional Office, worked with me for those 18 years and represents the longest tenure of any co-worker that I've had. John had a propensity for detail and helped me realize the importance of details in the inspection process. Dave Cook, manager of the Springfield Regional Office and later, the Division of Public Water Supplies' Permit Section, always provided excellent advice and guidance. Dave had the most rounded knowledge of all aspects in the Division, including Field Operations, Compliance, and Permit matters. Others like Mary Reed and Andrea Rhodes exemplified a dedication to customer service and provided support to countless operators facing potential compliance issues. Their dedication and reliability were a huge resource for myself and water supply officials in Illinois. Finally, I have to mention a former boss, and current co-worker, Dave McMillan. Dave gave me the opportunity to become the Field Operations Section manager during my last five years at the Illinois EPA and provided countless hours of guidance and support. Dave had/has the ability to thoroughly evaluate a problem and manage an effective solution to that problem. One of Dave's quotes, "not making a decision is effectively making a decision", has always stuck with me.

Most importantly, I think back on many water superintendents, water treatment plant operators, public works directors, and consulting engineers that have worked with me and even taught me various aspects regarding water treatment, distribution operation, and water system management. While my previous life involved a regulatory approach to the potable water industry, people like Bob Dill, Ray Weller, Bob Leonhardt, Dan Held, Tim Ferguson, Mike Schopp, Mike and Andy Curry, Matt Maas, Drew Hoelscher, Jim Jordan, Mike Finn and many others have all taken the time to kindly educate me and provide technical insight and knowledge related to daily operations of a potable water system.

For this, I am forever indebted to those that have helped me and taught me to be a good steward for the industry. Fortunately, I have the opportunity to continue my career in the industry and hopefully, provide the same guidance and assistance that I have received over the years. For those new to the industry, or even the "old-timers, my advice is to ask questions, always take the opportunity to listen and learn, and gravitate to those that understand the extreme importance of the industry and are guided by a moral and ethical compass that protects the health and wellness of the people in Illinois.



Funding Depreciation

By: Marc Lemrise, IRWA Circuit Rider

Depreciation is a term everyone is familiar with especially with regard to vehicles. Buy a brand-new car, drive it off the lot, and the value immediately drops a thousand dollars or more. In the case of a company vehicle, that depreciation gets recorded as a loss to the business and that amount is subtracted from the profits for the year to lower their tax liabilities. Depreciation is a loss; a legitimate business expense, recognized by the IRS and part of generally accepted accounting practices. (GAAP)

Non-profit water districts and municipalities are tax exempt. So why do accountants include depreciation in municipal audits and profit and loss statements? Losing \$1000.00 on the value of an asset is no different than spending \$1000.00 on electricity, chemicals, or repairs. Just another expense.

At a glance, depreciation does not appear to be something that needs funding. It's money already spent, amortized over the useful lifespan of an asset. But knowing the approximate useful life of that asset, and the cost of replacement gives utility managers a better understanding of future expenses, and an opportunity to gradually fund them in advance.

A good example of this concept would be my own experience with buying a swimming pool in 2010. After three years, the solar cover disintegrated. Cost: \$150.00. Conclusion: Solar covers are costing me fifty bucks a year. This is an example of a short – term asset. The liner should last 15 years, a longer-term asset, but much costlier.

When I built this pool, I hadn't even considered setting money aside each year to replace components as they wore out. In most cases, the municipal governments installing public water supply treatment facilities and distribution systems years and years ago hadn't considered that either; and here we are.

I know of only one water system (though I'm sure there are more) that began funding their depreciation from day one. It was a brand-new water district in central Ohio that had the foresight to set their rates and annual rate increases sufficient to replace each piece when it wore out.

Unless your system is brand-new, it's too late to fund asset depreciation in this way. That ship probably sailed 50 to 100 years ago. What can be done at this point is to begin funding parts of the system immediately after a major component is replaced. If your water tower had recently been sandblasted down to white metal and recoated inside and out, governing boards can budget in advance for the next time it needs to be done. If a new treatment plant which is expected to last thirty years costs thirty million dollars to build, a million dollars per year should be deposited into a capital improvement fund to finance replacement when its useful life is spent. Painful as it can be to begin paying in advance for something you just replaced, it is a fundamental aspect of sustainability. Public water supply systems need adequate funding if they are to remain in service indefinitely.

A comprehensive rate study answers the nagging question of whether or not a water utility is generating sufficient revenue to meet present and future financial obligations. Most engineering firms will gladly do this at their normal hourly billing rate, which can add up to a hefty price tag. Illinois Rural Water Association provides this service free to our members. Just contact your circuit rider or our office to schedule a rate study from our State Circuit Rider, Clark Cameron, who specializes in these, and you'll be on your way to achieving financial sustainability.

PLEASE SAVE THE DATE!

**ILLINOIS RURAL WATER ASSOCIATION
18TH ANNUAL GOLF OUTING**

**WHEN: FRIDAY, AUGUST 26, 2022
10:00 A.M. SHOT GUN START**

**PIPER GLEN GOLF CLUB
SPRINGFIELD, ILLINOIS**



PLEASE JOIN US FOR ANOTHER FUN FILLED DAY WITH PEERS!
Look for more information in June on our website at www.ilrwa.org and in the mail.

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QUALITY ON TAP



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Energy Efficiency Assessment Program

Will evaluate your energy needs, consumption and costs. It will also recommend measures to reduce energy consumption and identify sources of funding for improvements.

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.

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.

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.

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