Kentucky Rural Water Association
Helping water and wastewater utilities help themselves

January 11, 2019

RECEIVED
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PUBLIC SERVICE COMMISSION

Ms. Gwen R. Pinson, Executive Director
Public Service Commission
P. O. Box 615
Frankfort, KY 40602-0615

Dear Ms. Pinson:

Kentucky Rural Water Association (KRWA) is applying for approval of a proposed water district management training program pursuant to KRS 74.020 and 807 KAR 5:070. The proposed session, entitled "2019 Management Conference," will be conducted February 20-21, 2019, at the Sloan Convention Center in Bowling Green, Kentucky. A copy of the proposed agenda is attached as **Exhibit 1**.

As reflected in Exhibit 1, the proposed training program for the Management Conference is directed toward decision-makers of water and wastewater utilities. This year's conference will offer discussions on trends and ideas affecting our industry and will present ideas for planning and preparing for the future of drinking water and wastewater services in the Commonwealth. These presentations will enhance the attendees' understanding of relevant issues involved in the management, operation, and maintenance of utilities.

The proposed training offers six hours of instruction each day and should be accredited and approved as water management training satisfying the requirements set forth in KRS 74.020(7) to establish a water district commissioner's eligibility for a maximum annual salary of $6,000. **KRWA is not requesting that the proposed training program be accredited as a program of instruction for newly appointed commissioners.**

A biographical statement containing the name and relevant qualifications and credentials for the presenters is attached as **Exhibit 2.**

The PowerPoint presentations, included as **Exhibit 3**, will be copied to a flash drive and provided to commissioners. Should the presenters revise or amend their presentations prior to the proposed session (or provide additional written materials to the attendees), KRWA will include a copy of the revised presentation with their sworn statement and report regarding the instruction.

1151 Old Porter Pike · Bowling Green, KY 42103 · Phone 270.843.2291 · Fax 270.796.8623
www.krwa.org

KRWA has submitted this proposed training to the Kentucky Board of Certification of Drinking Water Treatment and Distribution System Operators and the Kentucky Board of Certification of Wastewater System Operators. A copy of their approval letter is enclosed as **Exhibit 4**. KRWA does not intend to submit this proposed training to additional agencies for accreditation.

Along with a list of the commissioners, their water district, and the number of hours they attend the session, KRWA will provide a sworn statement attesting the accredited instruction was performed, noting any changings in the presenters or proposed program curriculum which may occur after certification.

With this letter and enclosed exhibits, the Kentucky Rural Water Association requests that the Commission approve and accredit the proposed training program entitled "2019 Management Conference" for annual water district management continuing education credit.

Respectfully submitted,

Janet Cole

Janet Cole
Education Coordinator
j.cole@krwa.org

Enclosures
(Original and 10 packets)

EXHIBIT 1

EXHIBIT 1

Kentucky Rural Water Association
2019 Management Conference
February 20-21, 2019
Sloan Convention Center
Bowling Green, Kentucky

PROPOSED AGENDA

Wednesday, February 20, 2019

8:00 a.m. – 9:00 a.m.
Session 1: **The Impending Crisis in Rural Water . . . Causes & Solutions**
Presenter: Michael Schmitt, Chairman, Public Service Commission.
Several Kentucky utilities have faced serious issues stemming from problems with their management and administration. These issues have led to compliance problems with the Kentucky Public Service Commission as well as other state agencies. Many of these utilities are also plagued with persistent financial and operational problems. In this session Chairman Michael Schmitt will share his views on some of the serious issues facing rural water utilities in Kentucky.

9:20 a.m. – 10:20 a.m.
Session 2: **So You Got Caught? Show Cause Enforcement Proceedings at the Kentucky Public Service Commission**
Presenter: Gerald Wuetcher, Stoll Keenon Ogden, PLLC
The Kentucky PSC is pursuing a more aggressive policy against utilities and their officers for non-compliance with PSC-related statutes and regulations, including the assessment of civil penalties. This presentation will address how to avoid more common violations, what to expect if your utility is ordered to appear before the PSC, and various approaches to mitigate the potential consequences of a violation for your utility and its officers.

10:40 a.m. – 11:10 a.m.
Session 3: Customer Leak Adjustments – Problems & Solutions
Presenters: Gerry Harstine and Allie Terrell, ServLine
Water and wastewater utilities and their customers often face difficulties dealing with costs from service line leaks and repairs. Customers are frequently not prepared for the costs of a high water bill or the cost of repairing a water or sewer service line. Utilities often spend excess time dealing with customers and may even be left with an unpaid bill if the customers suddenly move. This session will cover an insurance program supported by both National Rural Water Association as well as Kentucky Rural Water Association that is designed help to benefit utilities and their customers stemming from service line leaks, breaks, and repairs.

11:10 a.m. – 11:40 a.m.
Session 4: KRWA Apprenticeship Program
Presenters: Gary Larimore, Andy Lange and Randall Kelley, Kentucky Rural Water Association
Finding, training, and retaining quality operators are serious challenges facing the water and wastewater utility industry. This session will outline a new apprenticeship program developed by the National Rural Water Association which is designed to help train and prepare water and wastewater operators for positions within utilities. This session will cover how the programs works and what the utility's role will be in the program.

11:40 a.m. – 1:00 p.m. Lunch Break

1:00 p.m. – 2:00 p.m.
Session 5: Development of Utility Management Leadership Skills
Presenters: Robert Cashion, S4 Water Sales & Service and Daren Thompson, Lebanon Water Works
The development of management and leadership skills must be an ongoing process of events, study, soul searching, and personal relationships. This presentation will look at measurable methods to become a more effective leader no matter what your current status might be in the utility industry. This presentation will include interactive polling and discussions with audience input on real applications we deal with in the world of utilities management.

2:15 p.m. – 3:15 p.m.
Session 6: Managing Generational Differences in the Utility Workplace
Presenter: Roy Mundy, McWane Ductile
People from different generations can be different and can clash from time to time. This presentation outlines results of a research project conducted by Midway College where the speaker served as a faculty member and as part of the research team. This presentation highlights generational values, and will demonstrate how these respective values can be synergized to benefit the organization instead of creating conflict.

3:30 p.m. – 4:30 p.m.
Session 7: Complete Utility Locating System
Presenter: Mike Moore, Copperhead Industries
As underground utility damage continues to increase, and networks expand, state regulatory agencies are responding to the problem. In Kentucky, the Public Service Commission will now be investigating excavation breaks and potentially issuing fines. As a preventative measure, it is of critical importance that utilities ensure future detection of their assets long after installation. This session will present the basic principles of underground utility locating and the importance of grounding your system to establish a complete circuit. Discussion will include understanding how to specify best-fit locating systems, proper installation techniques, dos and don'ts, and how to test your system for accuracy.

Thursday, February 21, 2019

8:00 a.m. – 9:00 a.m.
Session 8: The Embezzlement Nightmare: How to Keep it Out of Your Office
Presenter: Robert Mohon, The Neil Group
Unfortunately employee fraud and theft is a problem that is not a stranger to Kentucky utilities. Internal Controls can be a key tool to protect you, your co-workers, and your office from harm, job loss, and legal issues. This session will offer tried and true as well as new takeaways that can help utilities minimize the risk of employee fraud and theft.

9:20 a.m. – 10:20 a.m.
Session 9: Water Loss Reporting
Presenter: Paul Nesbitt, Nesbitt Engineering
Calculating water loss is a process that on the surface seems like a simple process. However, there are several different ways to report water loss, and the results can vary greatly. Without consistent reporting it is hard to determine a utility's progress in meeting regulatory and agency goals. This presentation will discuss the different methods of reporting water loss and what the results generated by these methods can mean.

10:40 a.m. – 11:40 a.m.
Session 10: Repairs without Shutdown
Presenter: Tom Lewis, Lewis Municipal Sales
Repairing water and sewer mains can significantly impact customers if service has to be disrupted. This session will inform attendees of alternative methods to shutting down the water or sewer service during the normal or emergency repair and replacement of common water works and pressure sewer main projects (i.e. fire-hydrants, valves, pipe and appurtenances). The class will review challenges and trends related to this subject (i.e. water conservation, aging infrastructure, poor maps and valve location, etc.) Attendees will be provided an overview of the proven technologies to make repairs and additions to distribution and transmission mains while maintaining system pressure.

11:40 a.m. – 1:00 p.m. Lunch Break

1:00 p.m. – 1:30 p.m.
Session 11: Tips and Tricks for Maintaining Regulatory Compliance
Presenter: Arianna Lageman, Kentucky Rural Water Association
Regulatory compliance can be a complex affair and is always a tough job for water utilities. This session will cover a variety of 'tips and tricks' to help water utilities maintain compliance with drinking water regulations. Included will be mistakes utilities frequently make and how to avoid those problems.

1:30 p.m. – 2:00 p.m.
Session 12: Drinking Water Enforcement
Presenter: Arianna Lageman, Kentucky Rural Water Association
How do utilities end up being referred to enforcement? What happens at an enforcement hearing? What can a utility do to minimize the financial impact of enforcement? This session will provide tips to help drinking water utilities deal with enforcement should the need ever arise.

2:15 p.m. – 3:15 p.m.
Session 13: Electrical Energy Reduction in Utilities
Presenter: Jason Pennell, Kentucky Rural Water Association Presenter
Electrical costs are one of the largest expenses for utilities. Along with rising prices, future air quality regulations are likely to cause an additional burden on budgets. This session will review ways that utilities can reduce their electricity expenses, both by looking at billing structures and also by suggesting ways to run more efficiently.

3:30 p.m. – 4:30 p.m.
Session 14: Ethics and Responsibilities for Utility Board Members and Operators
Presenter: Steve Capps, Kentucky Rural Water Association
Utility boards and councils have a lot of discretion and authority. Utility operators often work unsupervised. The utility industry, while regulated, very much relies on trust in the people who manage and operate utilities. This session will cover ethics for operators and boards.

EXHIBIT 2

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SPEAKER BIOS

Michael J. Schmitt was appointed to the Kentucky Public Service Commission (PSC) by Governor Matthew Bevin on June 21, 2016. His term expires June 30, 2019.Prior to joining the PSC, Chairman Schmitt was a partner in the law firm of Porter, Schmitt, Banks & Baldwin in Paintsville. He is a member of the Kentucky Bar Association. Chairman Schmitt received a Juris Doctorate, with distinction, from the University of Kentucky College of Law. He holds a Bachelor of Arts in political science from the University of Kentucky.

Gerald Wuetcher is a member of Stoll Keenon Ogden's Utility & Energy practice. He spent more than 26 years at the Kentucky Public Service Commission, serving as a staff attorney, deputy general counsel and executive advisor. Although he worked on matters involving electric, natural gas, water and sewer utility issues, he is known for his experience in water and wastewater issues. Jerry developed the PSC's training program for water utility officials in 1998 and served as one of its principal instructors during his tenure at the PSC. After 27 years of service as a judge advocate in the U.S. Army, Jerry retired with the rank of Colonel. He is a regular presenter at seminars on utility law and regulation.

Gerry Harstine started ServLine six years ago, by meeting with over 40 utilities to determine their needs regarding their customer leaks. ServLine has been associated with National Rural Water Assn. for over 4 years and has expanded into over 20 states. Prior to ServLine Gerry's background includes 18 years working with Waste Water Treatment facilities and the beneficial reuse of bio-solids, 7 years in power generation, 4 years managing Aerospace advanced technology for Lear Siegler, and over 6 years managing Medical/Lab equipment manufacturing. His educational background includes a BS in Economics and Math from Morehead State University, an MS in Economics from the University of Connecticut and MBA from Baldwin Wallace.

Allie Terrell is from Morehead, KY. She is a 2018 graduate of Morehead State University with a bachelor's degree in Accounting. While a student at Morehead, she was a tax preparer for the Volunteer Income Tax Assistance program, an intern for Legal Aid of the Bluegrass, and an intern for the Morehead-Rowan County Chamber of Commerce. Currently, Allie works for ServLine where she serves as the Kentucky sales representative. In this role, she provides support for utilities in Kentucky with financial issues surrounding water loss.

Gary Larimore has been Executive Director of the Kentucky Rural Water Association since its formation in March, 1979. He received both Bachelor of Science and Master of Public Service Degrees from Western Kentucky University in Bowling Green, Kentucky. Mr. Larimore is responsible for the administration and day-to-day operation of the association's office. His duties include budgeting and financial management, personnel management, and acting as the primary representative with the membership, the board of directors, and other outside organizations. Other primary duties include representing the Association's legislative and regulatory interests as a full-time lobbyist and working with water-related groups and organizations.

Andy Lange is the Assistant Director for the Kentucky Rural Water Association (KRWA) and has been employed there since 1989. Prior to joining KRWA, Mr. Lange worked for the Barren River Area Development District for five (5) years, providing administrative and financial assistance to local governments in the ten-county BRADD region. Mr. Lange has earned a Bachelor of Science in Geography and a Master of Public Administration from Western Kentucky University in Bowling Green, Kentucky. Mr. Lange's duties include involvement with all management and administrative activities of the Association. Other responsibilities include: coordinating and monitoring internal membership activities, producing and editing KRWA printed publications, and assisting in the administration of KRWA finance programs. He has been involved in the production of operation and maintenance manuals for water systems, the final report for the KY River Authority Water Counts project, and Operation Review studies for utilities.

Randall Kelley has been with Kentucky Rural Water Association (KRWA) since January, 2006. Since joining KRWA, Randall has held the positions of Wastewater Circuit Rider, ARRA Circuit Rider and Training Specialist. Prior to joining KRWA, Randall worked for the University of Louisville at the Center for Watershed Research as a Research Biologist. He participated in numerous projects on small headwater streams, stream restorations, Tri-halomethane formation in natural waters, and numerous other projects. Randall's experience also includes working for a contractor to the USEPA in Cincinnati, Ohio as an aquatic macroinvertebrate taxonomist. Randall received a B.S. in both Biology and Environmental Science from Western Kentucky University and an M.S. in Biology from the University of Louisville.

Robert K. (Bob) Cashlon is a Nationally Certified Water Technologist, he holds class IV Water & Wastewater operators licenses in several states and has been providing water & wastewater related training for over 38 years, he is the Business Development Manager for S4 Water Sales & Services, and is involved extensively in operations and maintenance issues of filtration systems and water quality assessment projects. He is an active member in the AWWA and NRWA and various State associations were he has won several outstanding educational leadership awards. He has a BS degree in Environmental Health & Technology from Missouri Southern State University and a graduate of the Water & Wastewater Technical College, Neosho, MO.

Roy Mundy is a Sales Engineer for McWane Ductile. Roy has extensive experience in the waterworks profession having spent 35 years working up through the ranks at American Water Company to reach the position of President and CEO of AWC's Kentucky-American Water Company. Roy then served as the Commissioner of the Kentucky Department of Vehicle Regulation in the Transportation Cabinet before becoming an instructor and Vice-President of Advancement with Midway College in Kentucky.

Mike Moore is the North American Market Manager for Copperhead Industries. He joined the organization in 2007. Mike has a degree in Electrical Engineering from the University of Minnesota. He volunteers his time as a Board Member for the Treasure Scholarship Fund and previously served as a volunteer fireman and EMT.

Robert Mohon of The Neil Group is a veteran of the credit card, debit card and check processing industry. In 1995, Robert began his career in the credit card processing industry and set up one of the very first websites to accept online credit card payments. With a degree in Marketing from Auburn University, Robert has helped grow the client base of the company through sales process development, CRM, and client support improvements. Robert is an Ambassador of the Brentwood Chamber of Commerce (TN), a Board Member of the Nashville Investors Group, and past member of the Minds in Motion Advisory Board and Nashville Business Breakfast Club. His expertise includes advising clients on security (customer, employee, office), technology, internal controls, interpersonal skills, leadership, and social media/public relations.

Paul Nesbitt founded Nesbitt Engineering in 1976, in Hazard, Kentucky. For more than thirty years, the firm has provided professional engineering consulting services in a broad range of disciplines including solid waste management, civil engineering, mining engineering, oil and gas consulting, surveying, and environmental sciences. The corporate office relocated to Lexington in 1980, retaining the Hazard location as a branch office. During 1998, we purchased Baldridge Engineering in Prestonsburg and expanded our oil and gas consulting services. These strategic office locations conveniently service clients throughout Kentucky and afford us quick access to project sites, and to regulatory agencies in Frankfort.

Tom Lewis of Lewis Municipal Sales is a graduate of the University of Arkansas, Tech Campus, with a degree in Business Administration and Economics. In 1999, Lewis Municipal Sales (LMS) was established as a manufacturer's rep agency and Tom began working in the waterworks industry. The manufacturers represented by Tom's company supply a variety of products, both technical and commodities, to municipalities and contracting companies. Tom conducts training seminars for various industry associations.

Arianna Lageman joined the Kentucky Rural Water Association (KRWA) staff as a Compliance Specialist in July, 2016. Prior to working for KRWA, Arianna worked most recently as the Lexington Laboratory Manager for McCoy & McCoy Laboratories, Inc. She has also worked for the Kentucky Division of Water as an auditor in the Laboratory Certification program and as a Compliance Manager for the Drinking Water Compliance and Technical Assistance Branch. Arianna earned a Bachelor of Arts in Spanish Language and Literature from Hanover College as well as a Bachelor of Science in Geology from Northern Kentucky University. She concentrated on hydrogeology and coastal processes while working on a Master of Science in Geology at East Carolina University. As a Compliance Specialist, Arianna focuses on providing KRWA members assistance through the Compliance Check Program and through various training opportunities.

Steve Capps came to Kentucky Rural Water Association in 1994 from the City of Burkesville, Kentucky, where he had served as Director of Public Works for twelve (12) years. He also had experience as the Water Treatment Plant Operator and also the Wastewater Treatment Plant Operator for six (6) years. He is currently certified in water treatment, wastewater treatment and holds a certificate as a water distribution system operator. Mr. Capps served as the Wastewater Technician for the Kentucky Rural Water Association from June 1994 to June 1999. His primary duties as Wastewater Technician were to provide technical assistance and hands-on training to rural wastewater utility personnel throughout Kentucky. Mr. Capps' position with the Kentucky Rural Water Association from June 1999 to the present is that of Wastewater Trainer/Technician and Compliance. In that capacity he provides on-site technical assistance and training to small rural municipal wastewater treatment systems and rural systems in unincorporated areas.

Jason Pennell joined the Kentucky Rural Water Association staff in August, 2017, as a project specialist. Jason's primary duties are focused on the Energy Program but he also assists on other training and technical assistant programs. Jason's experience in the water and wastewater business began in Whitesburg (Veolia Water) in 2005. There he worked as a meter reader, water treatment plant operator, laboratory manager, operations manager and from 2012-2014 he served as the Chief Operator. Most recently (2014-present), Jason was a Utility and Regulatory Investigator for the Kentucky Public Service Commission. He holds Kentucky certifications/licenses as follows: Class IIIA Water Treatment Operator, Class II Water Distribution Operator, Class II Wastewater Treatment Operator, Class II Collection System Operator, and is certified in Pipeline and Manhole Assessment by NASSCO.

EXHIBIT 3

EXHIBIT 3

List of PowerPoint Presentations

Session 1: The Impending Crisis in Rural Water . . . Causes & Solutions

Session 2: So You Got Caught? Show Cause Enforcement Proceedings at the Kentucky Public Service Commission

Session 3: Customer Leak Adjustments – Problems & Solutions

Session 4: KRWA Apprenticeship Program

Session 5 Development of utility Management Leadership Skills

Session 6: Managing Generational Differences in the Utility Workplace

Session 7: Complete Utility Locating System

Session 8: The Embezzlement Nightmare: How to Keep it Out of Your Office

Session 9: Water Loss Reporting

Session 10: Repairs without Shutdown

Session 11: Tips and Tricks for Maintaining Regulatory Compliance

Session 12: Drinking Water Enforcement

Session 13: Electrical Energy Reduction in Utilities

Session 14: Ethics and Responsibilities for Utility Board Members and Operators

KENTUCKY PUBLIC SERVICE COMMISSION

The Impending Crisis in Rural Water Causes and Solutions

Michael J. Schmitt
Chairman

Kentucky Rural Water Association Management Conference
Bowling Green, KY
February 20, 2019

1

KENTUCKY PUBLIC SERVICE COMMISSION

Mission

The mission of the Kentucky Public Service Commission is to foster the provision of safe and reliable service at a reasonable price to the customers of jurisdictional utilities while providing for the financial stability of those utilities by setting fair and just rates, and supporting their operational competence by overseeing regulated activities.

Kentucky's Water Infrastructure

445 Public Water Systems

2 Investor Owned Water Systems

138 Surface Water Systems with 177 Surface Water Intakes

113 Groundwater Systems: 16 mines and springs and 220 wells

194 Systems do not produce water but purchase water from other systems

3

Kentucky's Water Infrastructure

213 Drinking Water Treatment Plants
1842 Storage Tanks
58,783 miles of Water Lines

The American Society of Civil Engineers estimates that $8.2 billion dollars will be needed over the next 20 years for water infrastructure improvements.

4

5

Kentucky's Wastewater Upgrades

Wastewater Upgrades are expected to total $6.2 billion dollars

6

Infrastructure Problem

Caused in part by lack of management resources at the local level resulting from:

- **Lack of training**
- **Lack of information**
- **Lack of dedication**
- **Lack of communication**
- **Lack of regionalization; and**
- **Too much politicalization.**

7

Infrastructure Problem

A result of failure in part to:

1. **develop and implement a capital improvement program prior to end of design life**
2. **lack of available funding for infrastructure replacement**
3. **plan and allocate resources based on anticipated need**
4. **maintain rates at levels necessary to fund replacement of assets**

8

Infrastructure Problem

A result of failure in part to:

5. **nonuse of pipeline replacement surcharge**
6. **lack of information and training**
7. **lack of understanding of duties**
8. **insufficient regionalization; and**
9. **too much politicalization**

9

Lack of Training

A. The general manager of a water district or a municipal utility should have at least

- a bachelor's degree in accounting or business administration
- a minimum of 5 years experience in the water utility industry.

B. Management training for water district commissioners and general managers has been both inconsistent and inadequate.

10

New Commissioner Training

The PSC sponsors 3 educational programs consisting of 12 hours which train newly appointed water district commissioners in the management and operation of water utilities.

KRS 74.020(8)(a)

11

Water District Management Training

The Public Service Commission is responsible for the regulation of all water district management training programs.

Training shall consist of high quality water district management programs which enhance a water district commissioner's understanding of his or her responsibilities and duties.

KRS 74.020(7)(b)&(c)

12

Lack of Information

Many water utilities lack essential information about their systems infrastructure including:

A. Location of pipes and valves
B. Age of pipes
C. Type of pipe materials

13

Lack of Dedication

A. Failure or refusal to attend *continuing education opportunities*
B. Failure to devote *sufficient time and energy to learning about the system and its needs*
C. Unwillingness or inability to exercise *oversight of the general manager and his staff*
D. Refusal to increase rates to replace aging infrastructure.

14

Lack of Communication

Failure to keep local officials and the general public informed about the management and operational status of the utility.

15

Lack of Regionalization

A. Resistance to expansion of utility operations beyond present political boundaries

B. Losing the advantage of socialization of costs and the opportunity to achieve economies of scale.

16

Public Policy

The General Assembly has established that public policy favors the merger of water districts wherever feasible.

KRS 374.361

Mergers and acquisitions tend to eliminate wasteful duplication of costs and efforts, and result in a sounder, more businesslike degree in management which ultimately results in greater economies, less cost and higher degree of service to the general public.

17

Too Much Politicalization

Political influence on decision making as well as selection and retention of Water District Commissioners based on political considerations instead of merit.

18

In the final analysis the solution to providing a continuous supply of clean water at a reasonable price must come from local leadership.

19

Good Leadership Requires Sound Corporate Governance

Each of us is different but we are all in the same boat.

We all come from different places in life.

Got here under different circumstances but we are all in the same place now.

20

21

How Did We Get Here?

- We were close friends with Judge Executive
- We supported him in his election
- We were out of work and needed a position
- Shared a common interest – we disliked manager of utility; Rates too high etc.
- Needed to fill a vacancy on water board and just happened to think of you.

22

We Are All in It Now

Who we are:

a) one is a school teacher
b) one is an engineer
c) one is retired business man
d) one is a plumber
e) one is a disabled coal miner

23

Now That Each Of Us Is Here –

What are we supposed to do?

1. The *other* members know what to do – *just blend in.*
2. The General Manager and employees are experienced – *leave them alone.*
3. There have not been major problems for years – *everything must be fine.*
4. Rates are high enough; people can't pay any more – *raise only when desperate.*
5. My relatives/friends need jobs; why not here – *anybody can do this work.*

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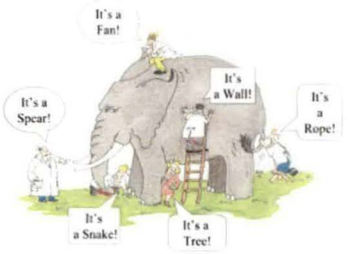
It's a Fan!
It's a Wall!
It's a Spear!
It's a Rope!
It's a Snake!
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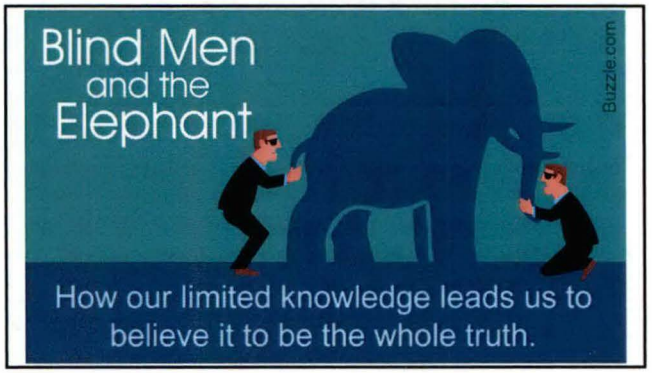
Blind Men and the Elephant
Buzzle.com
How our limited knowledge leads us to believe it to be the whole truth.

Now That Each Of Us Is Here –

What about the organization to which you were appointed -- and which you took an oath faithfully to serve?

A. What is the purpose of your Water District
   - Why was it created and what is it designed to do?
B. What is your role as a Commisioner?-
   - To whom do you owe a duty
   - To Consider First and Foremost.
C. The best interests of the Public and The Water District are not antagonistic but compatible.

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Now That Each Of Us Is Here –

In whose interests are you acting?

1. The Politician who appointed you?
2. The Customer?
3. Your own?
4. Family and Friends?
5. The District as a business entity?

29

Basic Responsibilities of the Commission

1. Understand the organization's mission and purpose
2. Select the general manager
3. Provide proper financial oversight
4. Ensure adequate resources
5. Ensure legal and ethical integrity
6. Maintain accountability
7. Ensure effective organizational planning

30

Basic Responsibilities of the Commission

Good Management is the effective means of operating your district.

Your goals should be to:

- Increase efficiency
- Increase productivity
- And by so doing keep costs low as prudently possible.

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Basic Responsibilities of the Commission

Poor Management will result in

1. Poor productivity
2. Increased costs
3. Poor record keeping
4. Poor communication
5. Poor planning and organization
6. Bad decision making
7. System collapse

32

Basic Responsibilities of the Commission

Exercise Reasonable Business Judgment

You may have to make decisions for the benefit of the financial and organizational health of the District that are unpleasant

--and unpopular.

33

A LITTLE WORK NOW
CAN SAVE
A LOT OF WORK LATER!

What do you think?

34

35

Common Law Fiduciary Duty

- **The fiduciary duties of a water district commissioner are to act bona fide in the interest of the District.**
- **Acting bona fide in the interest of the District is to act with good faith for the benefit of the District.**
- **A commissioner is under a duty to ensure that any act he undertakes is with a view to enhancing the interest of the district either by enhancing revenue, reducing costs or even positive publicity of the district.**

36

Fiduciary Duties of Board of Directors

- Duty of due care
- Duty of loyalty
- Duty of good faith
- Duty to promote success
- Duty to exercise diligence, independent judgment, and skill
- Duty to avoid conflict of interest

37

The Business Judgment Rule

Duty of due diligence says that when acting on behalf of the corporation, a manager must act:

1. in good faith,
2. using the same level of care that an ordinarily prudent individual would use in a comparable situation
3. in the reasonable belief that the best interests of the company are being met.

38

"Now let's talk about money. Do we have any? How much would we like? Does anyone know where we can get some?"

https://goo.gl/images/psLNN5

39

A Funding Source

The Public Service Commission Infrastructure Surcharge

40

Future Funding Sources

Proposed Legislation directs the Energy and Environment Cabinet to convene a working group to

1. Explore and identify options for generating state and local funding to be used for:
   a. Community infrastructure needs
   b. Match for other funding sources -- grants and loans
   c. Leverage federal or private funds available through other programs

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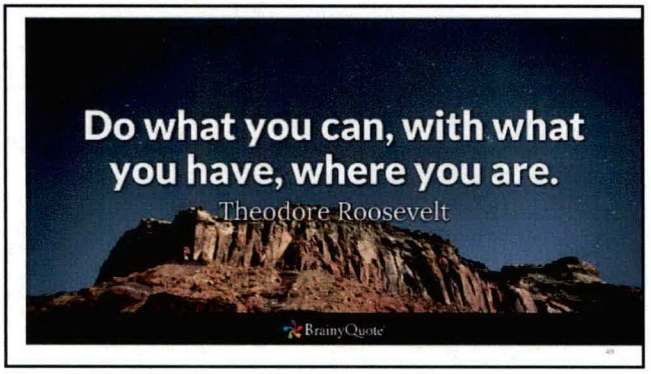
Future Funding Sources

2. Identify how these funds will be managed by the cabinet; and
3. Identify a methodology to distribute funds to communities.

--Report to Legislative Research Commission by December 1, 2019

42



KENTUCKY PUBLIC SERVICE COMMISSION

Thank you.

psc.ky.gov
(502) 564-3940
Hotline: 1-800-772-4636

STOLL KEENON OGDEN

SO YOU GOT CAUGHT?
SHOW CAUSE ENFORCEMENT PROCEEDINGS AT THE KENTUCKY PUBLIC SERVICE COMMISSION

Gerald Wuetcher
Stoll Keenon Ogden PLLC
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(859) 231-3017

STOLL KEENON OGDEN

ORDER OF PRESENTATION

- PSC Enforcement Powers
- Methods of Enforcement
- Proceedings: Procedure
- Proceedings: Representation
- Avoiding Sanctions

STOLL KEENON OGDEN

PSC ENFORCEMENT POWERS

STOLL KEENON OGDEN

STATUTORY AUTHORITY

- KRS 278.040(1): PSC has power to enforce provisions of KRS Chapter 278
- KRS 278.040(3): "PSC may investigate the methods and practices of utilities to require them to conform to the laws of the state and to all reasonable rules, regulations and orders of the commission"
- KRS 278.250: PSC may investigate condition of utility

STOLL KEENON OGDEN

STATUTORY AUTHORITY

- KRS 278.260(1) PSC may initiate investigations into rates & service on its own motion
- KRS 278.280(1): PSC has power to fix inadequate practices
- KRS 278.390: PSC may compel obedience to its orders by proceedings in Franklin Circuit Ct
- KRS 278.990(1): PSC may assess civil penalties

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METHODS OF ENFORCEMENT

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ENFORCEMENT METHODS

- PSC Order Directing Action or Non-Action
- Injunctive Relief from Circuit Court
- Referral for Criminal Prosecution
- Assessment of Civil Penalties
- Removal of Water District Commissioners

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PSC ORDER

- PSC Order has force of law
- PSC may direct compliance with statute or regulation without hearing
- PSC may direct utility to cease action temporarily
- After hearing, PSC may direct utility to take actions or refrain from actions.

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INJUNCTIVE RELIEF

- KRS 278.390: PSC may request injunctive relief from Court to enforce its Orders
- Court orders Utility to comply with PSC Order
- Failure to comply with court order subjects utility & its officers to comtempt of court proceedings

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CRIMINAL REFERRAL

- KRS 278.990(1): Any person who violates KRS Ch. 278, PSC Reg or Order subject to criminal penalty
- Penalty: Six Months Imprisonment
- Misdemeanor
- Must be prosecuted within One Year
- District Court has jurisdiction/County Attorney prosecutes

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CIVIL PENALTY

- KRS 278.990(1) authorizes PSC to assess civil penalties
- Minimum: $25
- Maximum: $2,500
- Penalty may be assessed for each offense
- Action may constitute multiple offenses

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AGAINST WHOM CAN THE PSC ASSESS A PENALTY?

Any Utility that WILLFULLY:

- Violates KRS Chapter 278
- Violates PSC Regulation
- Fails to Obey any PSC Order
- Does any act prohibited or fails to perform duty imposed by those statute or regulation

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AGAINST WHOM CAN THE PSC ASSESS A PENALTY?

- Acts of Utility Employee will be imputed to Utility
- KRS 278.990(1): "Each act, omission, or failure by an officer, agent, or other person acting for or employed by a utility and acting within the scope of his employment **shall be deemed to be the act, omission, or failure of the utility**."

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AGAINST WHOM CAN THE PSC ASSESS A PENALTY?

Any Utility Officer/Employee/Agent or Any Other Person that **WILLFULLY** violates

- KRS Chapter 278
- PSC Regulation/PSC Order

OR

WILLFULLY procures, aids, or abets a violation by a Utility

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WHAT IS "AIDING AND ABETTING"?

"**Help, assist, or facilitate** the commission of a crime, promote the accomplishment thereof, help in advancing or bringing it about, or **encourage, counsel, or incite** as to its commission. . . . It **comprehends all assistance** rendered by words, acts, encouragement, support, or presence, actual or constructive to render assistance if necessary."

Black's Law Dictionary (5th ed.) 63

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EXAMPLES: "AIDING AND ABETTING"

- Board of Commissioners voting in favor of issuing a promissory note with 4-year term without PSC authorization
- Commissioners signing a loan agreement with Kentucky Infrastructure Authority without obtaining prior PSC authorization
- Commissioners approving the construction of a building without first obtaining a CPCN from PSC

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WHO CAN AID & ABET A VIOLATION?

- Water District Commissioners
- Members of Water Association Bd of Directors
- General Managers
- Legal Counsel
- Fiscal Agents
- Lending Institutions

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AGAINST WHOM CAN THE PSC ASSESS A PENALTY?

"Water District Commissioners should be advised that fines and penalties may be assessed against them individually for any such violations, as the Commission does not believe that . . . [water district's] customers should bear the cost of civil penalties in their rates for the negligence or malfeasance of the Water District Commissioners."

Case No. 2016-00400, Order of 1/5/2018 at 5-6.

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WHAT IS A WILLFUL VIOLATION?

- "[A]n act that is committed intentionally, not accidentally nor involuntarily."
- "[A] willful violation has been explained as one which is intentional, knowing, voluntary, deliberate or obstinate, although it may be neither malevolent nor with the purpose to violate the law."

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WHAT IS A WILLFUL VIOLATION?

- Lack of knowledge or ignorance is does not affect willfulness of the act
- Good faith reliance on opinion of legal counsel re: legality of act does not vitiate willfulness
- Questionable whether reliance on lending institution or PSC Staff will vitiate willfulness of act

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REMOVAL OF WATER DISTRICT COMMISSIONERS

- KRS 74.025 authorizes PSC to remove a water district commissioner
- Basis for removal: "failure to comply with rules, regulations, and orders issued by the Public Service Commission"
- Other grounds: "incompetency, neglect of duty, gross immorality, or nonfeasance, misfeasance, or malfeasance in office"

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ENFORCEMENT PROCEDURE

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ENFORCEMENT PROCEEDING: PHASES

- Initial Investigation
- Order To Show Cause (Separate Proceeding)
- Respondents' Response
- Discovery
- Hearing
- Final Order
- Appeal/Enforcement of Order

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INITIAL INVESTIGATION

- Initiated upon suspicion of unlawful conduct
- No formal proceeding required
- May be part of unrelated formal proceeding
- No notice of investigation required
- Examine utility records without providing cause
- PSC may require utility to submit report or information that it reasonable requires

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ORDER TO SHOW CAUSE

- Describes Alleged Violation
- Identifies Statute or Regulation Violated
- Identifies Source of Allegations
- Directs Response to Allegations
- Establishes Hearing Date
- Sets Time to Request Staff Conference
- Orders Publication of Notice of Hearing

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RESPONSE TO ORDER

- Written Response
  - Jt. Response v. Individual Response
  - Potential Defenses
  - Mitigating Factors
- Waiver of Hearing
- Offer of Settlement

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DISCOVERY

- PSC Staff permitted to conduct discovery on Respondents
- Respondents' Right to Conduct Discovery
  - No specific right in regulation
  - Recent refusal to allow discovery on PSC Staff
  - PSC: No right to discovery under 14th Amendment

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HEARING

- PSC Staff – Adversarial Role
- Burden of Proof
- Compelling Respondents to Testify
- Witnesses
- Order of Presentation of Evidence
- Video Record/Streamed Live

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FINAL ORDER

- No Required Time for Final Decision
- Must contain factual findings regarding alleged incident/condition
- If violation or failure to comply found, order imposing some sanction
- Publicizing the Order

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AVAILABLE SANCTIONS

- Assessment of Civil Penalty
- Additional Proceedings re: Removal from Office
- Mandatory Attendance at PSC Water Management Training Programs
- Changes in Utility Practices and Procedures

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AVAILABLE SANCTIONS

- Suspended/Vacated Penalties
  - Conditions Imposed
  - Finding of Violation is usually not vacated

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REQUEST FOR REHEARING

- Affected Party may request rehearing from PSC within 23 days of Order
- Must show legal or factual error
- Offer additional evidence not available at time of hearing
- PSC has 20 days to rule on request

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ACTION FOR REVIEW

- May file action in Franklin Circuit Ct
- No request for rehearing required
- File within 33 days of Order (or 23 days after denial of rehearing)
- Must show Order is unlawful or unreasonable

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REPRESENTATION

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POTENTIAL QUESTIONS

- Does the water utility need an attorney?
- Do the Board members need an attorney?
- Who does water utility's attorney represent?
- Can an attorney jointly represent two or more Board Members?

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POTENTIAL ISSUES

- Can an attorney jointly represent water utility and Board Members?
- May the water utility pay the legal fees of its Board Members & employees?
- Can legal fees incurred in enforcement proceeding be recovered through rates?

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AVOIDING SANCTIONS

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AVOIDING SANCTIONS

- Know the Law
  - Maintain/Improve Your Knowledge of Legal Requirements
  - Attend Training Programs
  - Encourage Your Employees to Attend Relevant programs

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AVOIDING SANCTIONS

- Retain Attorney on recurring basis to review Board actions
  - Ensure legal review of major actions
  - Attendance of attorney at board meetings
  - Legal review of board meeting agenda & meeting minutes
- Develop & Implement Procedures to Ensure Compliance

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AVOIDING SANCTIONS

- Attorney should review any application prior to filing for possible violations
- Petition for Declaratory Order

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ACTIONS TO CONSIDER

- Develop policy re: representation of Bd members and payment of legal costs
- Consider Purchase of Directors and Officers Liability Insurance
- Document Board Meetings and Discussions re: Critical Decisions
- Develop Policy re: Role of Attorney in Your Utility

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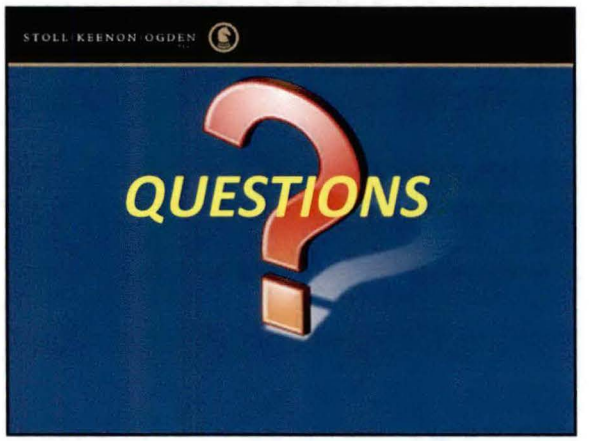

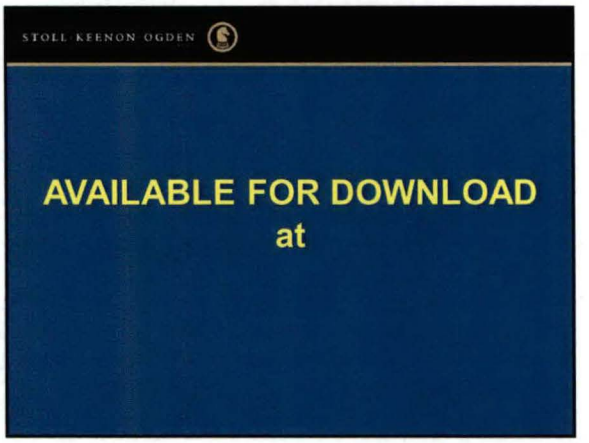
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AVAILABLE FOR DOWNLOAD
at

ServLine®

CUSTOMER LEAK ADJUSTMENTS
PROBLEMS AND SOLUTIONS

An Affinity Program of

EPA STUDY

- Line breaks may allow microbial & other contaminants to enter finished waters
- EPA wants utilities to make line repairs a priority to protect public health
- EPA is encouraging utilities to implement water loss control programs
- 880,000 miles of aging pipes have been in service for decades
- 237,600 breaks / year (avg) Yielding 1.3 trillion gallons

UNITED STATES • ENVIRONMENTAL PROTECTION AGENCY •

$ 2.8 Billion est. lost revenue / year

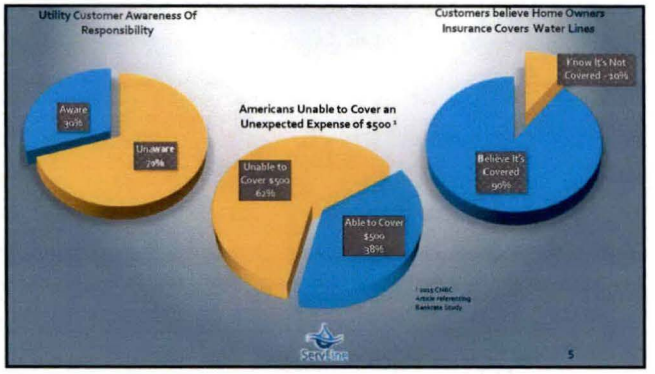
3

CUSTOMER LEAKS
PAINFUL – CUSTOMER & UTILITY

- High cost to customers (usually not prepared)
- Inconvenience of lost water and what it takes to get it repaired
- Customer must find $$$ to pay for leaked water & repairs
- Time involvement for staff and sometimes board members
- Many, long, involved, and stressful phone calls per leak

End result - unhappy customer & frustrated staff

4



WHAT IS SERVLINE

ServLine is a <u>full service specialty program</u> backed by an "A" rated insurance company that:

- Recaptures lost revenue from leak adjustments and bad debts.
- Pays excess water bills from customer's leaks.
- Reduces utility workload associated with customer water leaks.
- Pays for the repair or replacement of customers exterior water service line and/or sewer lateral.

ServLine

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WHAT IS SERVLINE

- Servline was developed specifically for Utilities from the feedback, needs, and ideas of NRWA member Utilities.
- ServLine is Not a warranty.
- ServLine is customized to each Utilities needs to match their current policies.

ServLine 7

LEAK ADJUSTMENT PROTECTION

- ✓Utility chooses its protection limit.
- ✓Low Cost to customers – usually $1-$2 per month.
- ✓Customer now has an option... and so does the Utility.
- ✓Reduces utility workload from customer water leaks
- ✓Improves customers financial condition
- ✓Huge improvement in customer relations

ServLine 8

WATER LINE & SEWER LINE PROTECTION

- ✓Positive Customer Relations - New protection for customers.
- ✓Low Cost to Customers.
- ✓Customer pays nothing out of pocket to repair/replace service lines.
- ✓Protection up to $10,000 for water line and up to $10,000 for sewer line.
- ✓No limit to number of repairs in a year. No deductible.
- ✓No additional cost to Utility .

ServLine 9

MORE THAN INSURANCE

ServLine

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UTILITY FEEDBACK

- *"ServLine has already been a blessing even during the very first month being on board! Our first month with ServLine was the worst on record for leaks in a month. After only one paid premium customers have gotten hundreds of dollars in help. Also, everyone from the ServLine and Hanover have been very friendly and helpful."* - **Sherry Walker, Office Manager, Dade County Water Authority (GA)**
- *"Working with ServLine has been a win/win for our customers and the utility. It has saved both the utility and customers thousands of dollars. The process has been easy and efficient with claims being handled promptly."* - **Kenny Baird, General Manager, LaFollette Utilities (TN)**
- *"The ServLine program provides great savings of both money and time dealing with leak adjustments, as well as providing greater benefit to our customers. It's a win/win!"* - **Tommy Fannin, CFO, Ocoee Utility District (TN)**
- *"This program [ServLine] directly impacts our customers by eliminating the burden of a high water bill due to a leak. Our customers are very appreciative to us for providing this service."* - **Jimmy Langley, General Manager, Luttrell, Blaine, Corryton Utility District (TN)**
- *"ServLine began processing claims almost immediately in a virtually seamless transition into service with zero customer complaint to date."* - **George Hanson, General Manager, Chesapeake Ranch Water Company (MD)**

ServLine

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WHY SERVLINE?

- ✓Turnkey solution
- ✓Recaptures lost revenue
- ✓Can add additional revenue without risk.
- ✓Reduces workload and/or increases workforce capacity.
- ✓Reduces opportunity costs.

ServLine

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CONTACT INFORMATION

ServLine®

Allie Terrell

Phone: 606-356-2153 Email: allie@servline.com

AFFINITY PARTNER

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HOMEOWNER FEEDBACK

- *"Smooth, painless & very efficient" "saved me $2042.52"* ***Mike Stinnett***
- *"Happy I got the insurance coverage. Very satisfied with the customer Service, and more than satisfied with how quickly things were processed." "Saved him $1,075.00"* ***Alan Foster***
- *"Had a good experience and the claim was paid quickly. Pleased with the way Michael Bartkus (with Hanover) handled our problem." "Glad Ocoee told us about this program & the chance to sign up for coverage. This saved us $555.30, the cost for a plumber to repair our pipes."* ***Patsy & Jerry Black***
- *"Couldn't have gone any better" "Saved him $442.46" "Mark Harvey with Hanover was real nice & took care of my claim."* ***Richard Harris***

ServLine

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SERVICE LINE COVERAGE COMPARISON

Coverage Issue	AWR Warranty	Service Line Warranty	ServLine Program
Exterior single lateral water service line	Yes	Yes	Yes
Exterior line break due to Normal Wear & Tear	Yes	Yes	Yes
Repair and Replacement Limits Up to $10,000	Available	No	Yes
Payment of Increased Water Bill up to selected limit	No	No	Yes
Coverage if late on Water Bill	No	No	Yes
Line Breaks after calling Dig Safe 811 with ticket and lines marked	No	No	Yes
Defective or recalled materials	No	Unknown	Yes
Restoring sidewalks, driveways or paved surfaces up to $500	No	No	Yes
Strictly regulated and protected as an Insurance Policy by State Department of Insurance	No	No	Yes
Lines connecting to main water line (sprinklers / irrigation systems)	No	No	No
Water meter, water meter pit, and/or water vault, pumps, valves, or backflow assemblies	No	No	No
Earthquake, Flood, Sinkhole, War, Civil Authority, Dishonest/Illegal Acts, Pollutants backing up into residence	No	No	No

ServLine

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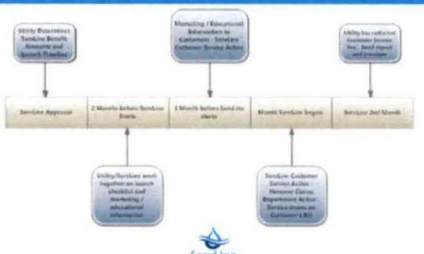
TENNESSEE REGULATION DIFFERENCES

(REGULATIONS DIFFERENCES VARY BY STATE)

Regulation	Warranty Company		Essential Protections
Rates Regulated	*No*	Yes	★
Rates Filed	*No*	Yes	
Forms Reviewed	*No*	Yes	
Forms Regulated	*No*	Yes	★
Forms Filed	*No*	Yes	
Unfair Trade Practices Rules	*No*	Yes	
Privacy Rules	*No*	Yes	
Investments Regulated	*No*	Yes	★
Capital and Surplus Requirements	*No*	Yes	
Licensed Salespersons	*No*	Yes	★
State Insolvency Pool Responds	*No*	Yes	★
Reserves Required for Claims	*No*	Yes	★
Cancellation Provisions	*No*	Yes	★

SAMPLE IMPLEMENTATION TIMELINE



ServLine

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LEAK ADJUSTMENT VOLATILITY

Actual Utility Leak Adj Data with 5600 connections

	2011			2012			2013	
Range	Incidents	Adjustments	Range	Incidents	Adjustments	Range	Incidents	Adjustments
$0 - $500	158	$ 28,301.80	$0 - $500	116	$ 20,698.12	$0 - $500	133	$ 26,383.42
$500 - $1,000	28	$ 20,057.78	$500 - $1,000	22	$ 16,864.50	$500 - $1,000	16	$ 10,914.97
$1,000 - $2,500	6	$ 9,187.62	$1,000 - $2,500	7	$ 11,468.17	$1,000 - $2,500	10	$ 14,663.63
Over $2,500	3	$ 11,620.22	Over $2,500	3	$ 9,316.45	Over $2,500	2	$ 6,406.60
Totals	195	$ 69,147.42	Totals	148	$ 58,347.23	Totals	161	$ 58,368.62

	2014			2015 thru June		Annualized	
Range	Incidents	Adjustments	Range	Incidents	Adjustments	Incidents	Adjustments
$0 - $500	192	$ 36,464.94	$0 - $500	68	$ 13,448.12	136	$ 26,896.23
$500 - $1,000	42	$ 28,655.37	$500 - $1,000	8	$ 5,620.00	16	$ 11,240.00
$1,000 - $2,500	23	$ 34,625.22	$1,000 - $2,500	12	$ 16,979.57	24	$ 33,959.13
Over $2,500	4	$ 16,258.86	Over $2,500	3	$ 10,513.68	6	$ 21,027.37
Totals	261	$ 116,004.40	Totals	91	$ 46,561.37	182	$ 93,122.73

Kentucky Rural Water Association

Apprenticeship Program

Apprenticeship 101

- *Apprenticeship is a training model that combines on-the-job training with related theoretical instruction that increases an apprentice's skill level and wages*
  - Apprentices are learning from a mentor on the job and taking courses that supplement their OJT experience to be practically applied on the job
  - high-quality career pathway where employers can develop and prepare their future workforce
  - It is a proven solution for businesses to recruit, train, and retain highly skilled workers

Apprenticeship 101

- Employer driven
- Earn while you learn model
- Systematic structured training
  - Consists of both on the job learning and related theoretical instruction
- More than certification/licensing
  - Well rounded apprentice

WHY Apprenticeship in This Industry?

- Rural Water workers tend to be significantly older than the national median according to *Brooking Institution, Renewing the water Workforce 2018*
  - *In the midst of a concentrated retirement bubble*
  - *Losing between 30-50 percent of employees to retirement this decade*
- *Small communities struggle to recruit and retain qualified staff*
  - *Cannot offer same wages as large systems*
  - *Lack of public visibility*
  - *Nationwide decline in technical education*

WHY Apprenticeship in This Industry?

- *Long Term Solution*
  - *Change the industries perception*
  - *Increase wages*
- By...
  - *Higher Quality systematic training*
  - *Educating public of the industry opportunities through recruitment efforts*
    - *High School Counselors*
    - *Vocational Schools*

What is this Industry doing now?

- Somewhat haphazard on-the-job training
  - No structure
  - Reactionary vs. proactive
- Classroom training
  - Primarily focused on different state certification requirements
  - Takes a lifetime advancing skills in a non-systematic method

Survey Says.....

- Over 1,050 water utility employers from 40 states and one US territory said:
  - *70% Employers would consider participating in apprenticeship*
  - *89% believe participation would benefit their community, employees and water sector in general*
  - *Anticipated hiring 1,520 new employees in the next year*

Benefits of Apprenticeship

- Return on Investment (ROI)
  - For every $1 spent with apprenticeship there is $1.50 return
- Reduce turnover & liability costs
- Create flexible training options that ensure workers develop the right skills

National Guideline Standards

- What are National Guideline Standards (NGS)?
  - NGS are generally appropriate for organizations with multiple chapters or affiliates across the country. NGS are useful when organizations seek to provide some level of consistency across their affiliates but wish to allow for some ability to customize programs at the local level.
  - Suggested curriculum, work processes, minimum qualifications, structure

Guideline Standards

- National Rural Water Association Guideline Standards created Guideline Standards in coordination with the US Department of Labor which were approved in 2017
- Two Occupations
  - Water System Operations Specialist
  - Wastewater System Operations Specialist
- This is NOT an out of the box product

Developing Standards & Adopting Locally

- Determine.....
  - Work Processes
    - 4,000 hours of on-the-job training
    - Identify work processes and approximate number of hours spent in each category
  - Curriculum
    - 288 classroom/seat hours of related technical instruction
    - Build in licensing/certification training
    - Delivery method
      - Online
      - Instructor lead
      - Combination

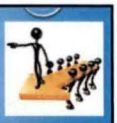
DEVELOPMENT OF UTILITY MANAGEMENT LEADERSHIP SKILLS

KENTUCKY RURAL WATER ASSOCIATION

2019 MANAGEMENT CONFERENCE

FEBRUARY 20, 2019

LEADERSHIP

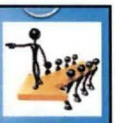


"You are not here merely to make a living. You are here in order to enable the world to live more amply, with greater vision, with a finer spirit of hope and achievement. You are here to enrich the world, and you impoverish yourself if you forget the errand." --Woodrow Wilson

LEADERSHIP

A simple definition is that leadership is the art of motivating a group of people to act towards achieving a common goal. In a business setting, this can mean directing workers and colleagues with a strategy to meet the company's needs.

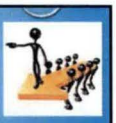
UTILITY MANAGEMENT



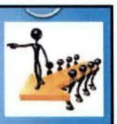
A public utility is an organization that maintains the infrastructure for a public service (often also providing a service using that infrastructure). Public utilities are subject to forms of public control and regulation ranging from local community-based groups to statewide government monopolies.

"The greatest leader is not necessarily the one who does the greatest things. He is the one that gets the people to do the greatest things." --Ronald Reagan

LEADERSHIP POLL



Positive's	Negative's
1. Good Communications	1. Lack of Empathy
2. Leads by Example	2. Poor Communications
3. Set Objectives & Goals	3. My way or the Highway
4. Empowers Others	4. No Support
5. Knows the Work	5. Selfish Attitude
6. Integrity	6. Wants the Glory
7. Trustworthy	7. Causes Conflict
8. Good Attitude	8. Goes behind our backs



"A true leader has the confidence to stand alone, the courage to make tough decisions, and the compassion to listen to the needs of others. He does not set out to be a leader, but becomes one by the equality of his actions and the integrity of his intent." --Douglas MacArthur

10 LEADERSHIP QUALITIES

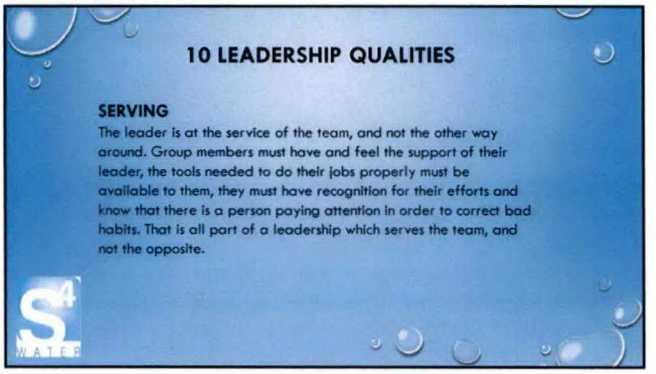
VISION

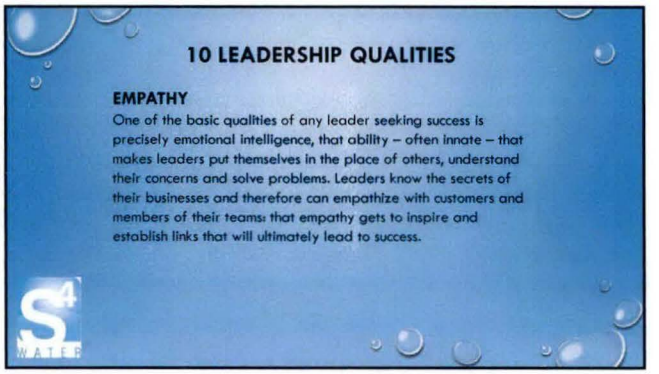
Leading means having a vision and sharing it with others. Only when you get to inspire others, it is possible to share a common goal towards which to direct the efforts and dedication of the entire team.

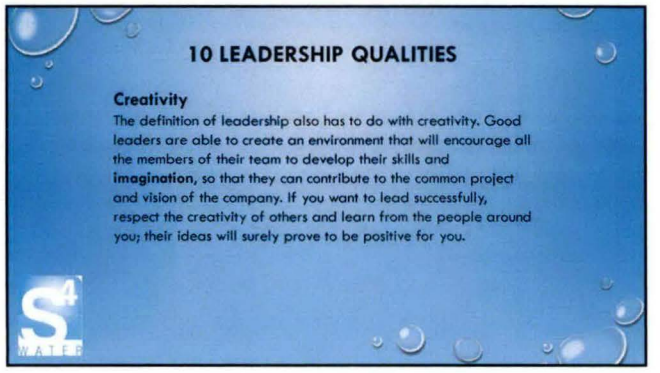
10 LEADERSHIP QUALITIES

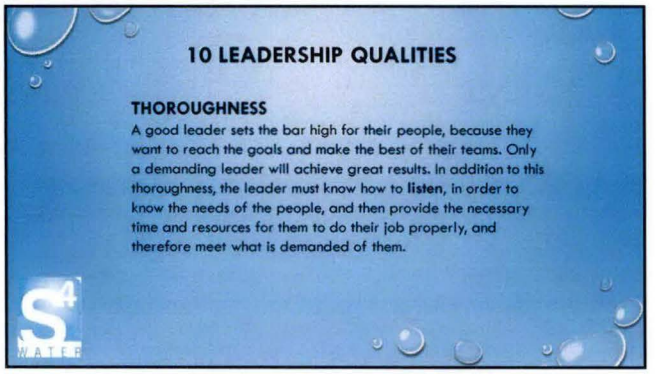
MOTIVATION

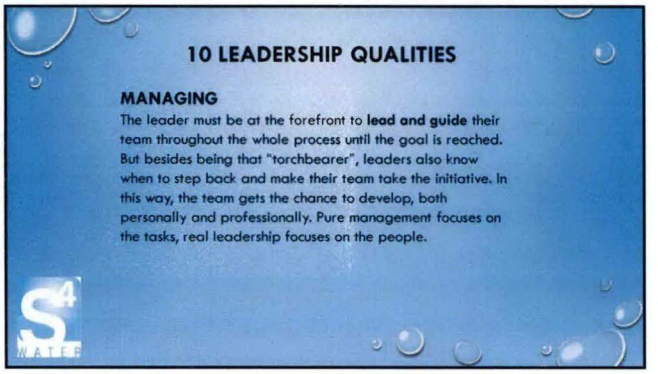
The leader knows how to motivate better than anyone else; it is one of their main functions as people managers. Through motivation, the leader channels the energy and professional potential of their coworkers, in order to achieve the objectives.

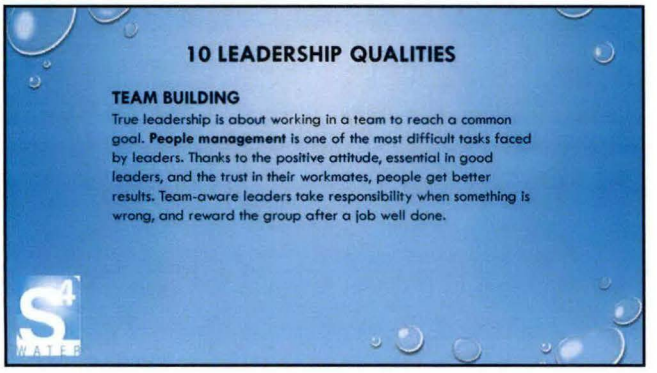

10 LEADERSHIP QUALITIES
SERVING
The leader is at the service of the team, and not the other way around. Group members must have and feel the support of their leader, the tools needed to do their jobs properly must be available to them, they must have recognition for their efforts and know that there is a person paying attention in order to correct bad habits. That is all part of a leadership which serves the team, and not the opposite.

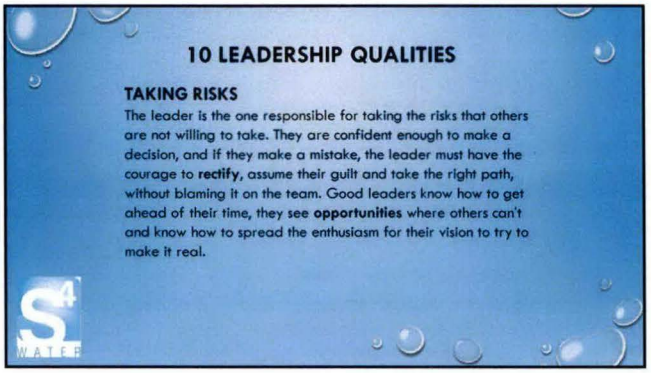

10 LEADERSHIP QUALITIES
EMPATHY
One of the basic qualities of any leader seeking success is precisely emotional intelligence, that ability – often innate – that makes leaders put themselves in the place of others, understand their concerns and solve problems. Leaders know the secrets of their businesses and therefore can empathize with customers and members of their teams: that empathy gets to inspire and establish links that will ultimately lead to success.

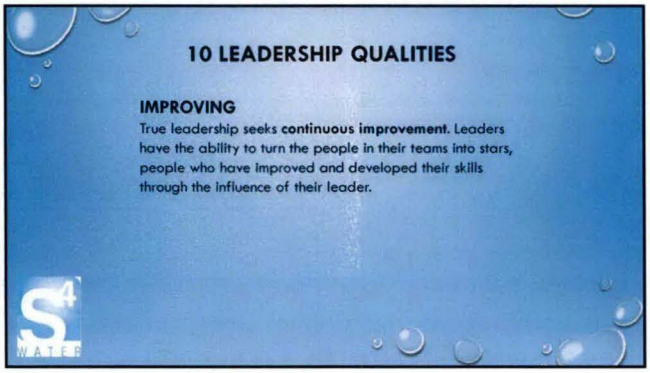

10 LEADERSHIP QUALITIES
Creativity
The definition of leadership also has to do with creativity. Good leaders are able to create an environment that will encourage all the members of their team to develop their skills and **imagination**, so that they can contribute to the common project and vision of the company. If you want to lead successfully, respect the creativity of others and learn from the people around you; their ideas will surely prove to be positive for you.

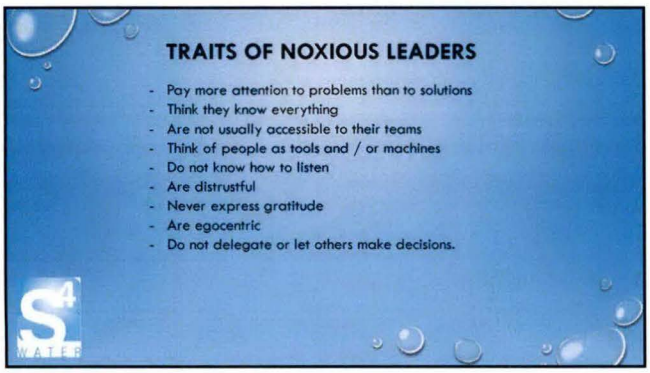

10 LEADERSHIP QUALITIES
THOROUGHNESS
A good leader sets the bar high for their people, because they want to reach the goals and make the best of their teams. Only a demanding leader will achieve great results. In addition to this thoroughness, the leader must know how to **listen**, in order to know the needs of the people, and then provide the necessary time and resources for them to do their job properly, and therefore meet what is demanded of them.


10 LEADERSHIP QUALITIES
MANAGING
The leader must be at the forefront to **lead and guide** their team throughout the whole process until the goal is reached. But besides being that "torchbearer", leaders also know when to step back and make their team take the initiative. In this way, the team gets the chance to develop, both personally and professionally. Pure management focuses on the tasks, real leadership focuses on the people.


10 LEADERSHIP QUALITIES
TEAM BUILDING
True leadership is about working in a team to reach a common goal. **People management** is one of the most difficult tasks faced by leaders. Thanks to the positive attitude, essential in good leaders, and the trust in their workmates, people get better results. Team-aware leaders take responsibility when something is wrong, and reward the group after a job well done.


10 LEADERSHIP QUALITIES
TAKING RISKS
The leader is the one responsible for taking the risks that others are not willing to take. They are confident enough to make a decision, and if they make a mistake, the leader must have the courage to rectify, assume their guilt and take the right path, without blaming it on the team. Good leaders know how to get ahead of their time, they see opportunities where others can't and know how to spread the enthusiasm for their vision to try to make it real.


10 LEADERSHIP QUALITIES
IMPROVING
True leadership seeks continuous improvement. Leaders have the ability to turn the people in their teams into stars, people who have improved and developed their skills through the influence of their leader.


TRAITS OF NOXIOUS LEADERS
- Pay more attention to problems than to solutions
- Think they know everything
- Are not usually accessible to their teams
- Think of people as tools and / or machines
- Do not know how to listen
- Are distrustful
- Never express gratitude
- Are egocentric
- Do not delegate or let others make decisions.

LEADERSHIP STATISTICS

- 10,000 baby boomers are retiring each day
- 48% of the workforce will be millennials by 2020
- 67% of millennials are looking for a new job
- And of those who stay, 91% plan to stay at their current job fewer than 3 years
- 84% of organizations anticipate a shortfall of leaders in the next 5 years
- 83% of organizations say it is important to develop leaders at all levels
- But only 5% have fully implemented development at all levels

LEADERSHIP STATISTICS

- And 25% of organizations say less than 10% of critical leadership positions have ready and willing successors
- Not surprisingly, 58% of organizations top priority is closing leadership skill gaps
- And 43% of organizations top priority is closing gaps across all leader levels
- Only 18% of organizations say their leaders are "very effective" at meeting business goals
- Only 19% of organizations say they are "very effective" at developing leaders
- 71% of organizations do not feel their leaders are able to lead their organization into the future.

IMPROVING UTILITY LEADERSHIP DEVELOPMENT

- BUILD A TEAM ATMOSPHERE
- TRAIN INDIVIDUALS WITH YOUR UTILITY'S VISION IN MIND
- HAVE A WRITTEN PLAN OF EXECUTION
- MILESTONE DATES AND OBJECTIVES
- UTILIZE STANDARD OPERATING PROCEDURES
- LIST IMPROVEMENTS AND ACKNOWLEDGE FAILURES


QUESTIONS OR COMMENTS?
THANK YOU!

Managing Generational Differences in a Utility's Workforce

KRWA
2019 Management Conference
February20, 2019

1 1

Bond . . . James Bond

2

http://www.007james.com/articles/who_played_james_bond_part_2.php

1962-1967
Sean Connery

1995-2002
Pierce Brosnan

1973-1985
Roger Moore

2006-2012
Daniel Craig

3

Roy W. Mundy II, P.E.
- Senior Regional Engineer
- McWane Ductile
- (859) 361-8585
- roy.mundy@mcwaneductile.com

McWane Ductile

4

Five Surveys Were Conducted

- Spring 2009: 15 companies in Central KY – 1,000 mix audience
- Spring 2011: 100 Graduate and undergraduate students at Midway College
- Fall 2012: 200 Utility Company in Central, KY
- Fall 2013: 50 Surgery Nurses in Lexington, KY
- Winter 2013: 800 Restaurant workers in KY, TN & GA

Today's Take-aways

- What generations are and how they evolve
- Causes of today's generation gap
- Management strategies for multi-generational workplace:
  - Motivation
  - Technology
  - Knowledge Management

6

AWWA 2014 State of the Water Industry Report

- **"Overall, how prepared do you think the water sector is to address issues related to talent attraction and retention in the next five years?"**
  - Only 1 percent indicated that the water industry was fully prepared to address issues related to talent attraction and retention in the next five years
  - 15 percent thought the industry not at all prepared
  - 35 percent thought it was only slightly prepared.

2014 AWWA State of the WATER INDUSTRY Report

7

AWWA 2014 State of the Water Industry Report

- **"Overall, how prepared do you think the water sector is to cope with any expected retirements in the next five years?"**
  - Only 1 percent of 2014 SOTWI respondents indicated that the water industry was fully prepared to cope with any expected retirements in the next five years while
  - 12 percent thought the industry not at all prepared and
  - 30 percent thought it was only slightly prepared. (AWWA, 2014)

2014 AWWA State of the WATER INDUSTRY Report

8

Possible Financial Impact on Operations

- **Operational costs** directly affect the bottom line through a wide variety of forces, including:
  - Lost revenue due to extended outages
  - Penalties from regulatory agencies, higher maintenance costs; and
  - Increased frequencies of forced outages and accidents caused by human error as highly experienced operators retire (since human error rates would be expected to significantly decrease with experience). Bruffy & Juliano (2007)

9

Possible Financial Impact on Productivity

- **Productivity costs** are being incurred over a wide variety of areas, including:
  - Increases in the duration of planned outages as new hires gradually build the expertise and efficiency that the current workforce has; and
  - Work time lost in recovery from injuries is expected to be much greater for older workers. Bruffy & Juliano (2007)

10

Possible Impact on the Future

- **Lost or delayed opportunities** to take costs out of the business are the opportunity costs of the aging workforce, including:
  - Executing performance programs that end up costing more than budgeted and which extend planned ROI time frames
  - Internal resources may be limited and act to prevent the performance program from ever beginning. Bruffy & Juliano (2007)

11

Generations Ketter & Taylor (2009)

Life Cycle Effect: The biological impact of aging and the changing roles that people play as they grow older

Cohort Effect: Unique historical circumstances that impact cohort as adolescence and young adulthood that imprint itself, producing differences that persist even as the cohort ages.

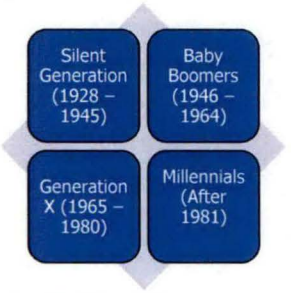
Period Effect: The major events that are likely to have a simultaneous impact all age groups, but have the greatest impact among the young because values and habits are less fixed than those of other age groups.

The Generation Gap

The term Generation Gap was used mostly to describe conflicts between parents and children. Today, the "Gap" has more of a presence in the workplace, where employees from different generations are finding it difficult to work side by side because their experiences, goals and expectations are different

Kogan, M. (2001)

Four Distinct Generations



Key Findings

Consistent pattern of generational differences in relations in the workplace

However, there is also overlap between the generations in terms of support for basic issues like job security, career advancement, and a secure retirement

Baby Boomers Traits

- More work focused than family focused
- Loyal to the current organization & important that organization is loyal to them
- Like to communicate in person
- Company funded retirement is important
- Comprehensive health insurance is important

- ***Key: Hard work and are team players***

Gen X Traits

- Enjoy attending company events
- Competition among co-workers is a strong motivator
- Prefer group projects to individual projects
- Believe teams are more effective that individuals
- Having a strong voice in decision-making

- ***Key: Life balance and respect for individuality***

Millenials Traits

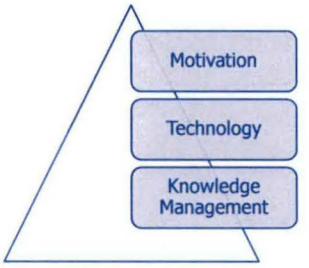
- Close supervision improve my performance
- Job security is my top priority
- Special recognition is a strong motivator
- Teams are more effective then individual efforts
- Tangible awards (trophies, plaques, and parking spaces) strong motivators

- ***Key: Making a difference in the world and respecting diversity***

Significant Impacts on the Workplace

19

Focus on Three Areas in a Multigenerational Workplace



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Motivation

	Baby Boomers	Generation X	Generation Y
Work ethic & values	☐ Workaholics ☐ Working efficiently ☐ Crusading causes ☐ Personal fulfillment ☐ Desire for quality ☐ Questioning Authority	☐ Eliminate the task ☐ Self-reliance ☐ Want structure and direction ☐ Skeptical	☐ Asking what is next ☐ Multitasking ☐ Tenacity ☐ Entrepreneurial ☐ Tolerant ☐ Goal oriented
Leadership style	☐ Consensual ☐ Collegial	☐ Believe everyone is the same ☐ Challenging others ☐ Asking why	☐ Will be better determined as this generation gets older
Interactive style	☐ Team player ☐ Loves to have meetings	☐ Entrepreneurial	☐ Participative

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Motivation

	Baby Boomers	Generation X	Generation Y
Work and family life	☐ No balance ☐ Work to live	☐ Balance	☐ Balance
Feedback and rewards	☐ Don't appreciate feedback ☐ Money ☐ Title recognition	☐ "Sorry to interrupt, but how am I doing?" ☐ Believes freedom is the best reward	☐ "Whenever I want it, at the push of a button." ☐ Meaning work
Messages that motivate	☐ "You are valued." ☐ "You are needed."	☐ "Do it your way." ☐ "Forget the rules."	☐ "You will work with other bright, creative people."

22

Technology

- Pew Research notes that today's young are history's first generation of digital natives.
- The online world isn't something they've had to adapt to — it's all they've ever known, and it's their indispensable platform for social interactions and information acquisition.
- Take advantage of your millennial employee's computer, cell phone, and electronic literacy

23

Technology

- **So how can businesses take advantage of the tech-skills that younger workers bring?**
  - One effective strategy is reciprocal mentoring. Reciprocal mentoring takes that concept a step further by creating a two-way conversation.
  - As the mentor teaches the newcomer valuable business information, the young person can help their older colleague master the techniques of new technology, including how to avoid the embarrassing "newbie" mistakes that inhibit a lot of inexperienced users from participating in online activities.

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Knowledge Transfer

- Personal dynamics and communication between source and receiver can make or break the transfer of knowledge, especially between generations.
  - Identify where it is most vulnerable
  - Evaluate current processes and practices for transferring critical knowledge to determine how its culture, systems, and processes enable knowledge loss

Bridging the Gaps: How to Transfer Knowledge in Today's Multigenerational Workplace. (2008, July 1).

25

Knowledge is a Strategic Business Issue

- Define losing knowledge as a strategic business issue, and articulate changing workforce threats to the management team—don't assume they get it
- Northeast Utilities developed a five-year corporate development program and funding plan. One of its components is the business case for retaining critical knowledge: to ensure that operational performance does not suffer as a result of known workforce transitions.

Bridging the Gaps: How to Transfer Knowledge in Today's Multigenerational Workplace. (2008, July 1).

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Knowledge Transfer Process Steps

27

Channels for Knowledge Transfer

- **Telling**: meetings, teleconferences, mentoring
- **Showing**: on-the-job training, mentoring
- **Background Prep**: reports, guides, manuals
- **Decision-Making**: persuasive documents, evidence (documents, statistics, cores, lab results, cuttings, gas analysis, etc.)
- **Sharing**: e-mail, list-serves & feeds, texting
- **Training**: workshops, classes, webinars, presentations

Bridging the Gaps: How to Transfer Knowledge in Today's Multigenerational Workplace. (2008, July 1).

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Essentials for Knowledge Transfer

- Create awareness in older employees of the benefits they stand to gain, such as recognition.
- Build the human element into the process. After all, you can't force people with knowledge to share it, and you certainly can't force people who need someone else's knowledge to use it.
- Reciprocity and recognition are the foundation for changing the way we transfer knowledge.
- Emerging knowledge transfer methods such as reverse mentoring provide opportunities for behavior change in both the source and receiver.

Bridging the Gaps: How to Transfer Knowledge in Today's Multigenerational Workplace. (2008, July 1).

29

Knowledge Transfer

- Focus on the receiver, not just the source. Younger employees should be involved in deciding how they want to receive knowledge.

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Recommendations to Gen X and Baby Boomers

- Start listening and stop assuming
- Be present on college and high school campuses. Don't wait until millennials show up for an interview
- Start viewing millennials as strategic business investments
- Scrap "do as I say, not as I do"
- Learn to tap into millennials potential

Hain, R. (2013, July 30)

31

Recommendations to Millennials

- Having perspective is important
- Be patient
- Look at relationships and communication differently
- Convey respect while pursuing your goals
- Pursue mentors and advocates

Hain, R. (2013, July 30)

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Generation Z

-- (1995-2001)-Present
-- Will outnumber Millennials in 2019
-- Anticipate being happier and more optimistic than Millennials
-- Knows the digital world even more intimately
-- Grew up with "War on Terror" and Global Recession

Hain, R. (2013, July 30)

33

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Rural Water

Complete Utility Locating System

Copperhead INDUSTRIES

Copperhead INDUSTRIES

Underground Utility Line Locators and Tracer Wire Training:

Locating Equipment, Theories and Procedures
Tracer Wire Specification, Products & Procedures

MIKE MOORE
NORTH AMERICAN MARKET MANAGER, WATER & SEWER

Who is Mike Moore?

10+ years working with Copperhead as North American Market Manager for Water & Sewer division.

- 20+ years in Welding Robotic Design for Caterpillar, Bob Cat, John Deere, Artic Cat and others.
- WASDA board member
- Fire Fighter/ Paramedic
- Army Veteran- Desert Shield/ Desert Storm

Industry damages

$1.5 billion

Societal costs associated with underground facility damages in the U.S.

$0.41
of every dollar of construction spending is spent on damages

379,000
Number of U.S. damages in 2016

23%
of damages are due to "locating practices not sufficient"

Damages by market:

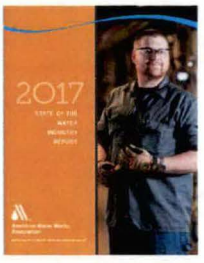
$513 mill – Gas
$391 mill – Telecom
$21 mill – Water
$4 mil – Sewer

Source: DIRT Report for 2016, Common Ground Alliance

Changes Coming to Kentucky's Call-Before-You-Dig Law PSC to investigate and enforce when natural gas and hazardous liquid pipelines are damaged by excavators who did not call to have lines marked

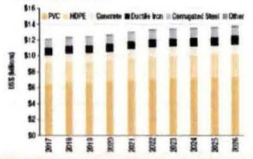
FRANKFORT, Ky. Beginning July 14, 2018 the Kentucky Public Service Commission (PSC) will investigate excavation damage to natural gas or hazardous liquid lines to determine whether it was caused by violations of Kentucky's call-before-you-dig law. Under a change to the law that takes effect July 14, 2018 the PSC will be able to impose financial penalties if violations are uncovered. PSC Chairman Michael Schmitt said that the stepped-up enforcement of the call-before-you-dig statutes and regulations reflects a greater emphasis nationally and at the state level on pipeline safety.

Water market insights



Bluefield forecasts that **new and replaced pipe and hardware infrastructure** will make up more than 57% of municipal utilities total capital spend through 2026. New spending on pipes is showing a strong preference for plastic pipes, largely because of cost.

Figure 4: U.S. Municipal Water & Sewer Pipe Investments by Material Type



Copperhead Industries/ Innovations also represents and operates Vivax-Metrotech line tracing equipment

Typical line tracing kit components


Transmitter


Connective Leads


Receiver


Inductive Clamp


Ground Stake

Typical locator kit

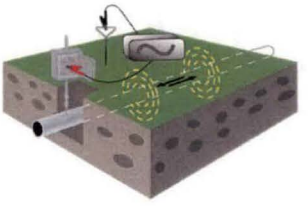
Optional Bluetooth communication for GPS data collection

Signals used for locating

- **Passive Locating** – Signal passively exists from a variety of sources and can be located using only the receiver

Signals used for locating

- **Active Locating** – Signal produced by transmitter and located *using the receiver*

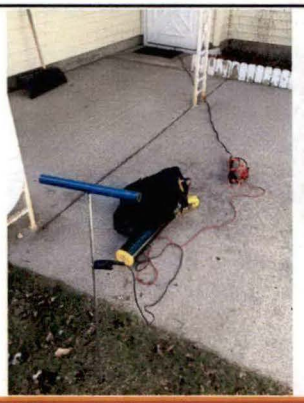


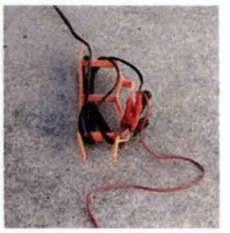
3 Ways to Apply Active Locating Signal

Direct connection – one cable to the target line, the other to ground

Clamp – induces a signal onto a cable, or pipe, without making a direct connection

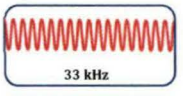
Induction – induces a signal onto a cable or pipe, by placing the transmitter on the surface over the target line



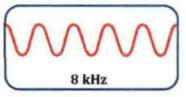


~~Inductive Clamp~~

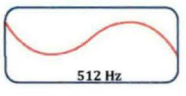
Active Signal Frequency



- **High frequency (32.8 kHz)**
  - Direct connection, clamp & induction
  - Shortest distance
  - Highest distortion and/or bleed-off



- **Medium frequency (8.19 kHz)**
  - Direct connection & clamp
  - Reasonable distance
  - Increased distortion and/or bleed-off



- **Low frequency (512 Hz)**
  - Direct connection
  - Longest distance
  - Lowest distortion and/or bleed-off

The Locating Signal

Produced by the flow of the alternating current (AC) which creates an electromagnetic field that radiates from the line and is known as the signal.

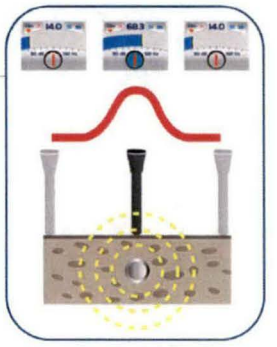
Detecting The Locating Signal

- The locator receiver contains sensors, known as **antennas**, that detect the electromagnetic field/signal.
- The signal induces a "response" in the antennas by electromagnetic induction.

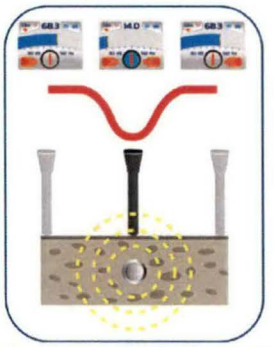
Locating Modes

"Peak" mode

- provides a maximum response over the line



Locating Modes

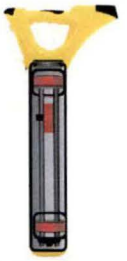


"Null mode"

- provides a minimum response over the line

The Response to the Signal

- Two additional modes are often used for specific applications
  - "Broad Peak" mode is useful when locating very deep lines- operates like peak mode.
  - "Sonde" mode for locating Sonde Transmitters.



The Locating Signal, Line vs. Sonde

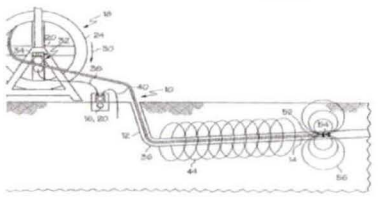
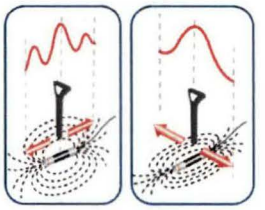


FIG. 1

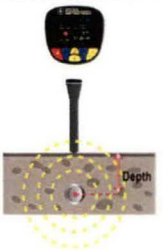
Radio Frequency Sonde Transmitters

Locating in Sonde Mode

- The Sonde signal gives three peaks in line with the path of the Sonde
- And a single peak across the line of the Sonde



Measuring Depth



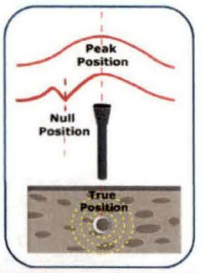
- Depth & signal current can also be measured
- Depth is measured to the center of the signal – in the case of a large pipe this is considerably different than the top of the pipe
- Some locators provide "continuous" depth – this is only accurate when directly over the line

Identifying A Distorted Field

Using "Peak" & "Null" or "Peak with Arrows" mode

- On a clean undistorted field the "Peak" and "Null" locate responses will match.
- If distortion is present, the peak and null locate response will no longer match.

Typically, the greater the distortion, the further apart these locate responses will be.



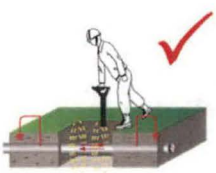
Identifying A Distorted Field

Using Depth Measurement to identify a vertical distorted field

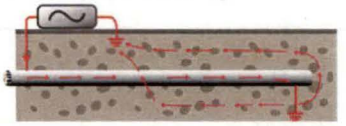
- Locate the line & measure depth with the locator resting on the ground
- Lift the receiver off the ground by a known distance, say 1ft

The depth reading should have increase by the distance you raised the receiver. *If significantly different distortion exists.*

Locators do ***NOT*** locate buried cables or pipes. They ***DETECT*** electromagnetic ***SIGNALS*** radiating from conductive cables or pipes.



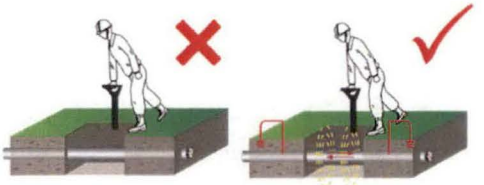
The Theory of Locating



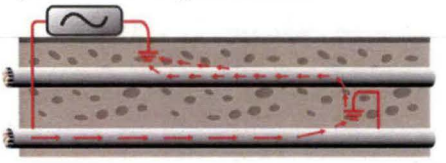
- Signals are created by the current flowing from the transmitter, along the conductor and back to the transmitter, ***but only when a ground, or complete circuit exists.***
- The current typically uses the earth/moist soils to complete the circuit, from where the signal goes to ground back to the ground rod at the transmitter.

The Locating Signal

If there isn't any *AC CURRENT FLOWING*, there will not be a *LOCATING SIGNAL*.



Optional SD "Signal Direction"



Signals may use other pipes and cables to return to the transmitter because they represent a lower resistance than the ground.

How did the Tracer Wire Specification come to be?

- When designing a water or sewer system, how seriously is the design or specification of tracer wire taken? *Unfortunately, not nearly as much as the rest of the system.*
- Most city/utility specifications call out the fire hydrant specifications down to the thread count on the nozzles, water pressure and color, but tracer wire has been taken far too lightly with very broad specifications.

Evolution of the specification process

Specifications written to cover the "Complete Tracer Wire System", including:

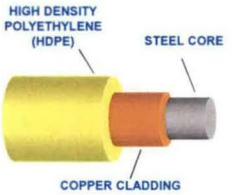
- Wire type, open cut, directional drilling or pipe bursting
- Proper connections, splice or service
- Access points or test stations
- Grounding of all dead ends
- Procedures for installation & testing

What should be specified?

- Wire Size or Gauge (AWG)
  - ***Myth:*** The bigger the wire the stronger the signal
  - ***Fact:*** Larger diameter wire is specified for strength, not signal carrying abilities
- Breakage is the common failure during installation

What should be specified?

- Specification includes 3 different applications:
  - Open trench/direct bury
    - High Strength (HS)
  - Directional boring
    - SoloShot Extra High Strength (EHS)
  - Pipe bursting
    - SoloShot Xtreme (PBX)



Open Cut

Direction Drilling/Boring

Pipe Bursting

What should be specified?

Jacket Color

- Color is simple, follow the APWA uniform color code, without exception, just like the paint used for marking

What should be specified?

- Wire Type - Copper Clad Steel (CCS)
  - CCS works so well, there's no need for stranded or solid copper.
  - High Strength CCS was introduced to the market in 2004 specifically for tracer wire applications.
  - Benefits include:
    - 2X the strength of solid copper
    - Equal conductivity to solid copper
    - As low as 25-50% of the price of copper

Copper Clad Steel History

- CCS was first produced in Rankin, PA in 1915.
- Through the years, it has been used in various markets. Telecommunications, CATV, telephone, and utility grounding applications are a few of the industrial applications.
- Commercially this product is used in various goods such as antenna wire, chain link fencing, trolley cable, ground rods and mats, vacuum cleaner hoses, electronic pins and connectors, guy strand, detonation wire (TNT), and it is even used in revetment mats to stop erosion on riverbanks.

What should be specified?

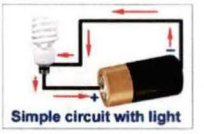
Wire Insulation type

- Many different jackets or coatings exist
- For direct burial use only:
  - High Density Polyethylene (HDPE) or
  - High Molecular Weight Polyethylene (HMWPE)
- Nylon or THHN (Nylon/PVC) is most common at big-box stores and is not designed for direct burial

What should be specified?

- Placement of the wire in regards to pipe
  - The tracer wire should be placed in the same orientation to all installed pipe.
  - Install the tracer wire on the bottom half of the pipe, between 3 & 9 o'clock.
  - Be consistent (east or west side)

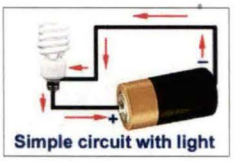
What's makes us same?

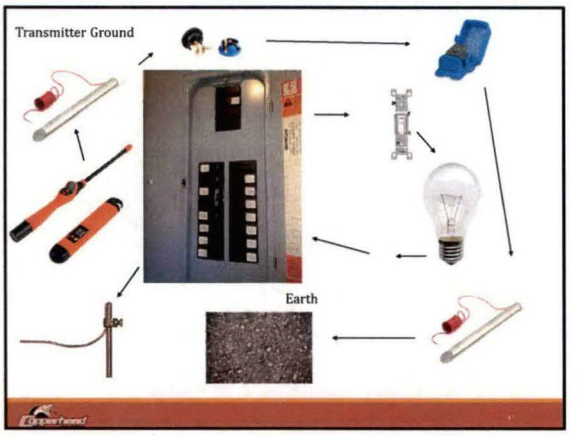


What should be specified?

Termination method for tracer wire access & grounding

- The best tracer wire system is no different then the building electrical wiring we're sitting in now
- Proper grounding/terminating of the wire will ensure the quality of the signal
- Use termination/access boxes to bring the tracer wire above ground
- Ensure proper signal strength by:
  - Grounding all dead ends of the wire by using a 1.5# grounding anode





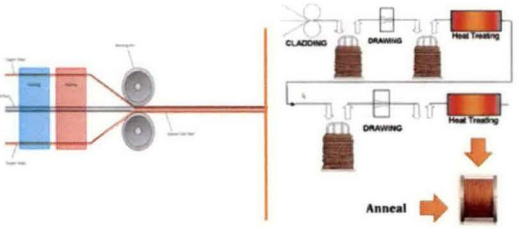
CCS Advantages

- More durable, longer lasting performance
- Twice the breaking strength of solid copper
- Reduced material cost
- More stable, longer term pricing
- Reduced threat of theft due to lack of after-market value
- Lighter weight, resulting in reduced shipping and handling costs
- Fewer breaks during installation, fewer breaks over time

1055 High-Strength Steel

Highly Conductive Oxygen Free Copper

CCS cladding process

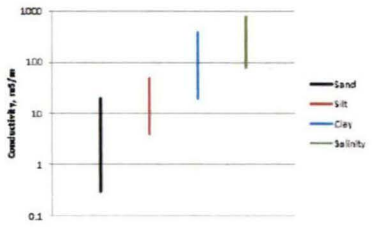


Corrosion

SwRI

- Testing at Copperweld has been monitored by a comprehensive five-year corrosion study by Southwest Research Institute in San Antonio, Texas and the collected results audited by CC Technologies.
- Based on the test results, Copperhead wire will meets and exceed utility requirements for tracer wire. The copper cladding remains completely functional with minimal corrosion.
- It should be noted that the force required to expose the steel in CCS far exceeds the force required to completely sever solid copper wire.

Soil Conductivity



What should be specified?

- Proper Connections
  - Even if you have the best tracer wire in the ground, it's only as good as the connections.
  - Connectors:
    - Protect from moisture and corrosion
    - Are essential for proper conductivity and longevity
  - Specified moisture displacement connectors:
    - **3-way connectors**
    - **Mainline to Lateral connectors**

Specified - SnakeBite™ Locking Connector

Note: All connectors will be clear and no longer color coded

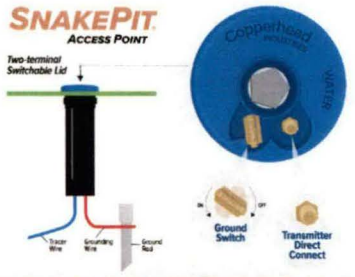
Specified – Mainline-to-Service Connector

SnakePit® Access Points – at grade

SnakePit® Access Point Lid

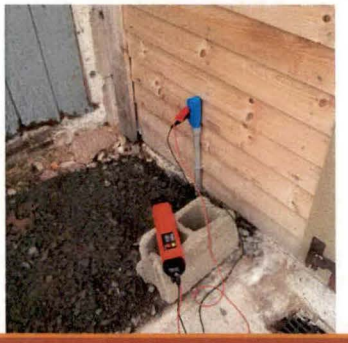
NEW LOCATING JUST GOT EASIER

You can now switch tracer wire "ground" off and on from the top of the SnakePit® Access Point – **No Need to Remove the Lid**

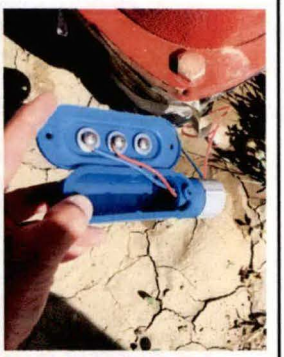


Cobra™ Access Points - above grade

Cobra™ Access Point -to building



Why Cobra works well up North



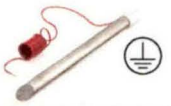
Failure to Properly Ground

- Locate signal can be applied at any service. Current will not want to flow up other services if the dead-end of the tracer wire does not provide a good path to ground.
- There are two main methods for locating these other services;
  - Move the transmitter to each service, or

  add a jumper wire at the dead-ends to give the signal a path to ground

Grounding Anodes

- Attach (1.5#) Magnesium grounding anode to the tracer wire will properly ground it.
- Connect the anode to the tracer wire at all dead-ends, but with grade level access.
- When disconnected from the tracer wire, the ground wire provides an excellent ground for the locating transmitter.



What should be specified?

- **Important Step**: Testing of a new system
  - Make sure the contractor, engineer/inspector and city operator performs a locate in common company
    - At the time that rough grade has been established
    - Prior to final acceptance of the project
  - Conductivity testing is not allowed

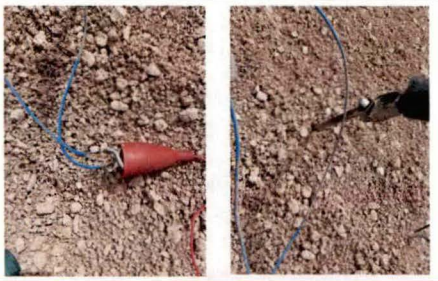
Never again access a tracer wire within the roadway

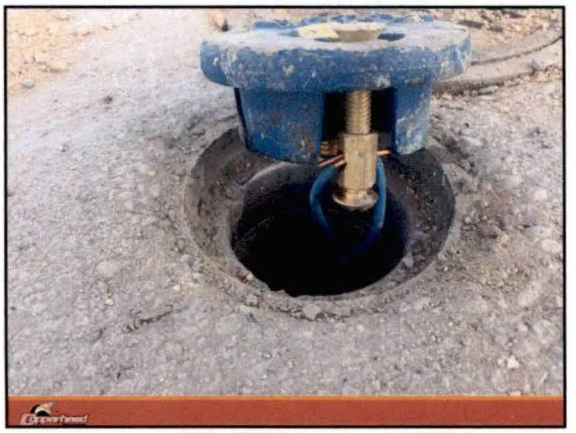
Trace wire installations gone bad

Trace wire installations gone bad

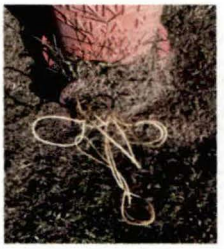
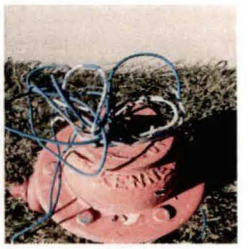
Trace wire installations gone bad

Trace wire installations gone bad





Trace wire installations gone bad

Trace wire installations gone bad


Trace wire installations gone bad


Trace wire installations gone bad

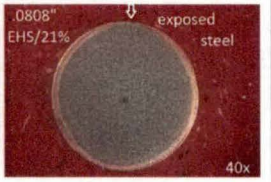
Another project that was supposed to be following the Tracer Wire Specification

Other items for discussion

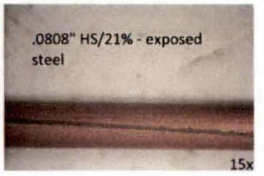
Proper attachment of wire to pulling head

Results of not being properly attached to bursting head

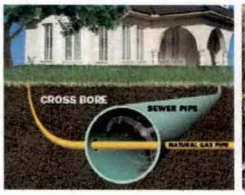
Bad cladding of CCS



Bad cladding results in corrosion and lost signal



Directional drill cross bore



This can be prevented

I didn't do it...

Mike Moore
North American Market Manager, Water & Sewer
Copperhead Industries
m.moore@copperheadwire.com
612-802-9130

The Embezzlement Nightmare:

How to Keep It Out of Your Office

Presenter: Robert Mohon

The Neil Group

* TheNeilGroup

- Write
- Remind
- Train

The Neil Group

Likely errors:

Abuse of authority

Financial abuse

Financial errors

The Neil Group

Separation of Duties

The Neil Group

- Reconcile
- Check Writer vs Signer
- Adjustments

The Neil Group

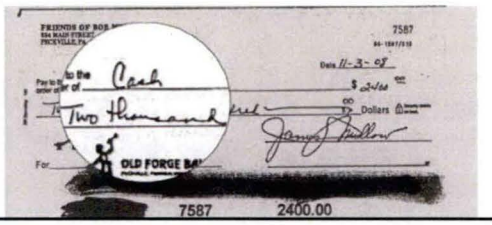
- Payroll
- Cancelled
- Transfers
- Reconciled items
- Statements

RECONCILED

RECONCILED
May 29 2008

The Neil Group

- "Cash" – Jo Max, Petty Cashier
- Bank accounts
- Safe



Fraud

- 20%
- 20%
- 60%
- FTOs

The Neil Group

Check Signers

- 2 signers
- Blank checks
- Inventory
- No one person

The Neil Group

- Open mail – List cash
- For Deposit Only

The Neil Group

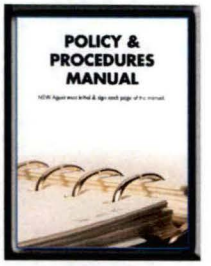
Cash Handling

- Compare
- Deposit
- Post

The Neil Group

Have a Procedure Manual

- Payments
- Invoices
- Applications
- Disconnects



Why do this? Vac/Disc

The Neil Group

Asset Protection

- List
- Insurance
- Backups
- Passwords
  - –All systems

The Neil Group

Personnel

- Authority
- Know Your People
- Mand. Vacations
- Rotation
- Workaholics

The Neil Group

Personnel

- Prescreen
- Annual PE
- Best Asset

The Neil Group

- Write
- Remind
- Train

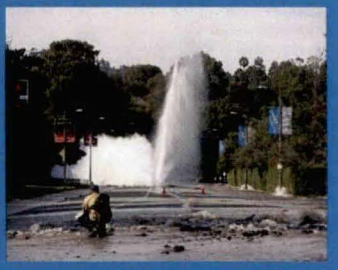
The Neil Group

WATER LOSS REPORTING

Presented at the KRWA 2019 Management Conference

Paul Nesbitt
nesbitt engineering, inc.

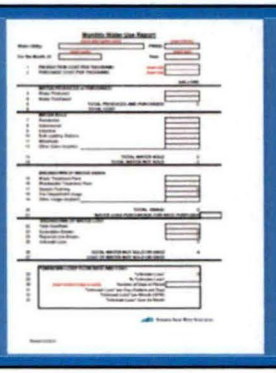
20 Million Gallons



Water Loss

Atlanta 31.9%
Cleveland 28.7%
Philadelphia 26.5%
Pittsburgh 26.0%
Denver 5.0%
Los Angeles 5.3%
Phoenix 6.6%
San Francisco ... 8.8%

- Ways to Report
- Government regulations



Water Loss
KRWA Spreadsheet

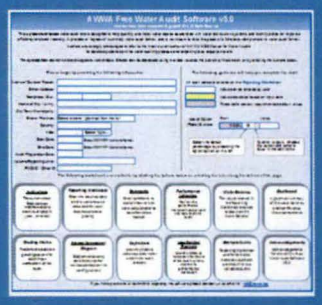
Water Produced/Purchased

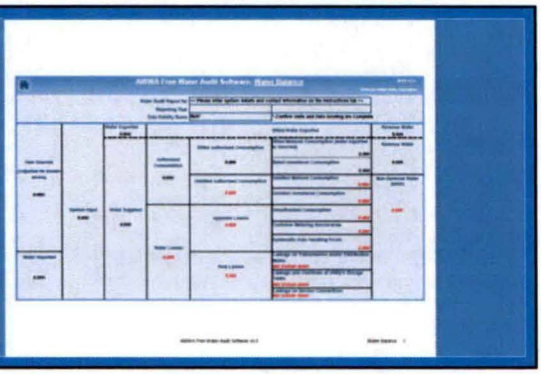
Water Sold
Water Usage
Water Lost
Unknown Loss

Kentucky Public Service Commission

15% Loss (807 KAR 5:066 Section 6)

25% Loss will mean monthly reporting





Water Loss
AWWA Audit Software

Water Produced/Purchased

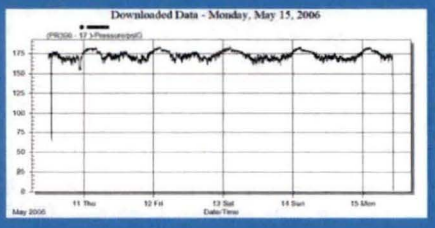
Authorized Consumption
Water Losses

Water Loss
AWWA Audit Software

Water Losses

Real Losses
Apparent Losses

Age of the Pipe



Pressure

Mapping/ Location

Valves

Meters

Maintenance Funding

Replacement

Maintenance

Flow Metering

Meter Replacement

Annual Rate Increase

Funding Depreciation

Salaries

Water Line Replacement Program

- Better Water Quality
- Fire Flow Increased
- New Fire Hydrants
- New Meters
- Lower Maintenance Costs

Conclusion

Questions

TEAM InsertValve Presents

"Repairs Without Shutdown"

KRWA Management Conference
Sloan Convention Center
Bowling Green, KY
February 21, 2019

TEAM Industrial Services

Safety First!

Valve Insertion Safety

Challenges Maintaining System Integrity???

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Leaking Hydrants $$$

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Hydrant Replacements

TEAM Industrial Services 11

Line Breaks

Natural disasters

Sinkholes

Aging Infrastructure

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Flushing ???

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Clogged Meters

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Loss of Fire Protection

Limited Isolation Points???

Litigation

What is
MY
CASE
Worth?

Methods of Repair

- Shutdown
- Hot Tap
- Single Linestop
- Double Linestop
- Double Linestop with bypass
- Traditional "Linestop style" valve Insertion
- "Resilient wedge" Valve Insertion

Traditional Methods of Repair - Shutdown

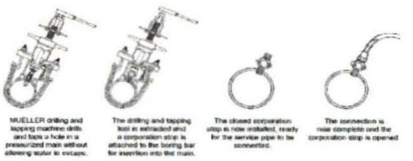
Traditional Methods of Repair - Shutdown

Shutdown

- Considerations
  - May seem less costly at first glance
  - Labor cost for crew
  - Customer inconvenience
  - Loss of revenue (water sales)
  - Time lost locating and turning valves for shutdown
  - Contamination. Boil orders, advertising, hanging tags, etc.
  - Bac-t testing. Cost of testing, additional labor and equip. rental
  - **Potential litigation cost due to contamination

The beginning of Under-pressure repairs

In 1871, Hieronymus Mueller, founder of the MUELLER Co., invented and patented the first machine for drilling, tapping and inserting corporation stops in mains under pressure. This invention revolutionized the method of making main to service connections under pressure and also established what has proven to be the most successful principle for machines of this type.



MUELLER drilling and tapping machine drills and taps a hole in a pressurized main without allowing water to escape.

The drilling and tapping tool is retracted and a corporation stop is attached to the boring bar for insertion into the main.

The closed corporation stop is now installed, ready for the service pipe to be connected.

The connection is now complete and the corporation stop is opened

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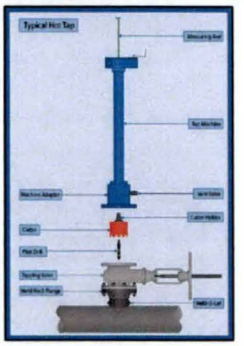
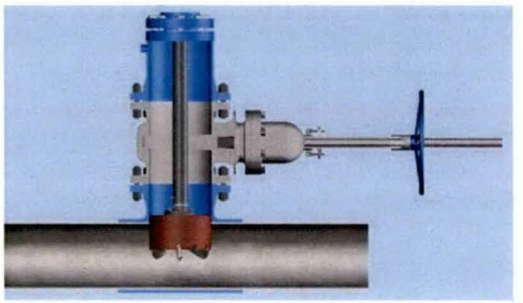
What is a Hot Tap?

- Use of an under pressure drilling machine to cut a hole in an operating pipe or pipeline for a new tie in from the original pipe.
- Cut a hole in the operating pipe or pipeline for a line stop operation.
- This process is done without any product leakage or loss.



TEAM Industrial Services 27

Hot tap



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Hot tap

29

Hot Tap Coupon

TEAM Industrial Services

30

Pilot Drill Function

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31

Typical Hot Tap Capabilities

- Hot taps – ½" thru 93"

Machines

- Air, hydraulic and electric drive
- Boring bar machines
- Rail machines

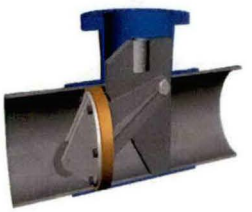
Material capabilities

- ductile iron
- cast iron
- PVC
- asbestos cement (Transite)
- PCCP (pre-stressed concrete cylinder pipe)
- carbon steel
- stainless steel
- Copper

- Temperatures from cryogenic to 1,350° F / 732° C
- Pressure from vacuum to 4,300 psig / 296 bar

TEAM Industrial Services 32

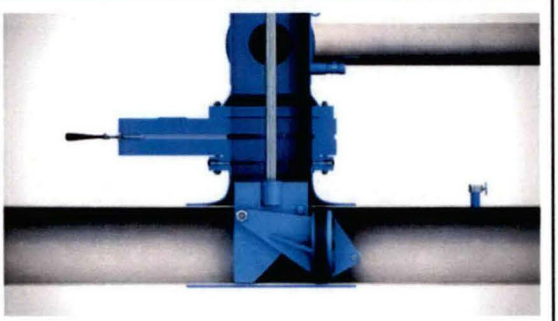
What is a Linestop?



Line stopping is a mechanical means of temporarily stopping flow and holding line pressure in an operating pipe or pipeline.

TEAM Industrial Services 33

Linestops



TEAM Industrial Services 34

Linestop Video

TEAM Industrial Services 35

Typical Linestop Capabilities

- Linestops – 1" thru 84"
  - Bullet Style (rubber paddle)
  - Pivoting Head
  - Folding Head

  Material capabilities

  - ductile iron
  - cast iron
  - PVC
  - asbestos cement (Transite)
  - PCCP (pre-stressed concrete cylinder pipe)
  - carbon steel
  - stainless steel
  - Copper
- Pressured piping systems to 1,480 psig (100 Bar)
- Piping systems with temperatures from -25° F (-32° C) to 550° F (288° C)

TEAM Industrial Services 36

Traditional Methods of Repair – Single Linestop

TEAM Industrial Services 37

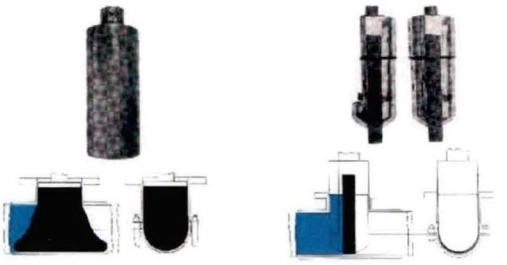
Traditional Methods of Repair – Linestop w/ Bypass

Size on Size and Reduced Branch Outlets Available

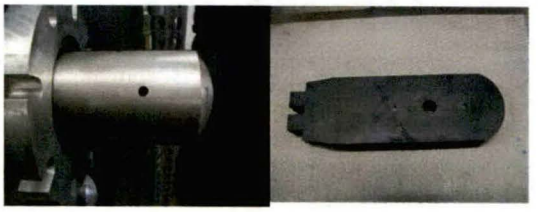
- Eliminate downtime utilizing on stream bypass operation

Traditional Methods of Repair – Linestop w/ Bypass

Bullet Style Linestop

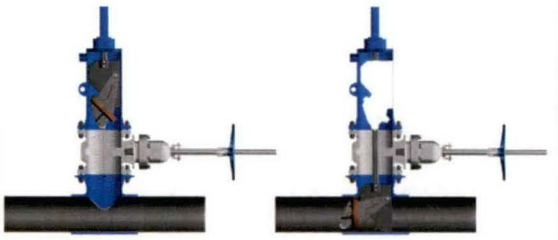


Paddle Style Linestop



TEAM Industrial Services 41

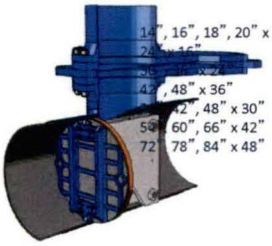
Pivoting Head Linestop



TEAM Industrial Services 42

Folding Head Linestop

Folding Head 14" to 84" capabilities

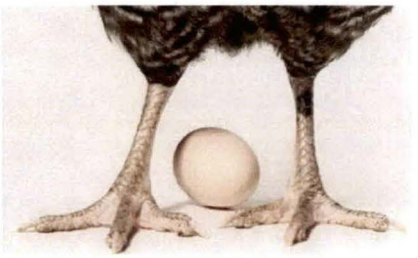


Size Ranges

14", 16", 18", 20" x 12"
[illegible], 48" x 36"
[illegible]42", 48" x 30"
50[illegible] 60", 66" x 42"
72" 78", 84" x 48"

TEAM Industrial Services 43

Where did valve insertion come from???



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Where did valve insertion come from???

- Valve insertion was originally derived from Linestop technology.

TEAM Industrial Services 45

Linestop Style Valve Insertion – "Cut Hole"

Bullet Style

TEAM Industrial Services 46

Linestop Style Valve Insertion – "Cut Hole"

Bullet style

TEAM Industrial Services 47

Linestop Style Valve Insertion – "Milled Slot"

Paddle Style

TEAM Industrial Services 48

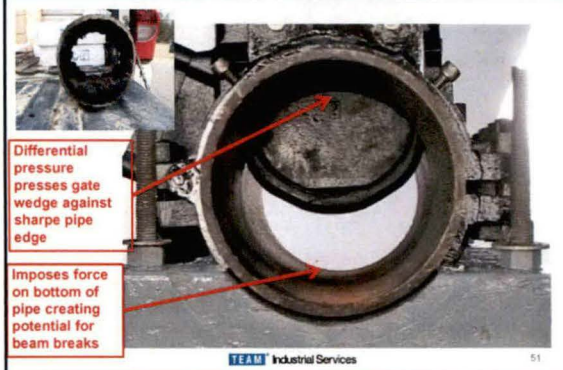
Linestop Valve Insertion Seals On Cut Edge of The Pipe

TEAM Industrial Services 49

Linestop Valve Insertion Seals On The Carrier Pipe

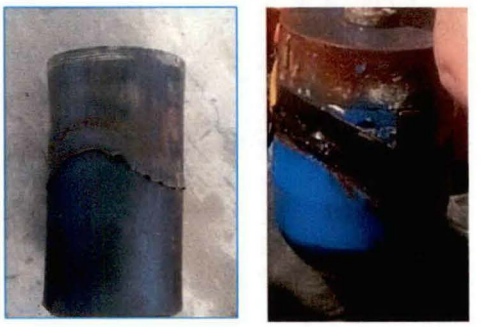
TEAM Industrial Services 50

Linestop style valve insertion seats on the pipe



TEAM Industrial Services 51

Valve Insertion Cut hole



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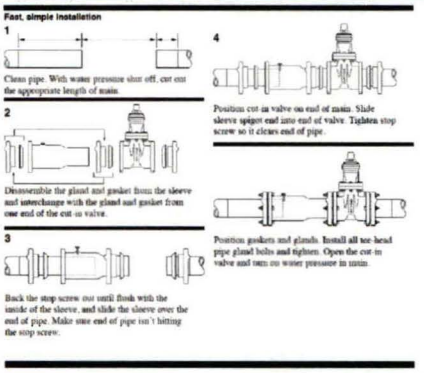
Conventional Valve Attached Using Megalugs



62

"Resilient Wedge" Valve Insertion

What if you could take a standard AWWA Resilient Wedge Gate Valve and cut it in half at the pipe centerline then put it back together around the pipe? And somehow it could work like it did before it was cut.

That would eliminate the sealing issues!

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"Resilient Wedge" Valve Insertion

TEAM Industrial Services

64

"Resilient Wedge" Valve Insertion

TEAM Industrial Services 65

Valve Insertion - Disc Comparison

TEAM Industrial Services 66

TEAM InsertValve Capabilities

- Valve Insertion – 4" thru 12"

Material capabilities

- ductile iron
- cast iron
- PVC
- asbestos cement (Transite)
- carbon steel
- stainless steel

- Pressured piping systems to 250 psig (depending on type)

TEAM Industrial Services 67

2014 American Iron and Steel Requirement

The Consolidated Appropriations Act of 2014 includes an "American Iron and Steel (AIS)" requirement that requires Clean Water State Revolving Fund (CWSRF) and Drinking Water State Revolving Fund (DWSRF) assistance recipients to use iron and steel products that are produced in the United States for projects for the construction, alteration, maintenance, or repair of a public water system or treatment works if the project is funded through an assistance agreement executed beginning January 17, 2014 (enactment of the Act), through the end of Fiscal Year 2014.

The TEAM InsertValve is made in the USA and allows you to remain compliant with this requirement.

Source: http://water.epa.gov/grants_funding/aisrequirement.cfm

TEAM Industrial Services

NSF/ANSI Standard 61 Certified

If you manufacture, sell or distribute water treatment or distribution products in North America, your products are required to comply with NSF/ANSI Standard 61: Drinking Water System Components – Health Effects by most governmental agencies that regulate drinking water supplies.

Developed by a team of scientists, industry experts and key industry stakeholders, NSF/ANSI 61 sets health effects criteria for many water system components.

Certified WATER QUALITY

Certification to NSF/ANSI Standard 61 ensures that your product meets regulatory requirements for the U.S. and Canada, and it can often meet or fulfill the testing requirements for many other countries as well. Market leaders strive to attain NSF certification as a mark of distinction that provides their customers with assurance that their product is safe for use in drinking water.

NSF/ANSI 61 testing covers all products with drinking water contact from source to tap, and determines what contaminants may migrate or leach from your product into drinking water. It also confirms if they are below the maximum levels allowed to be considered safe.

Source: http://www.nsf.org/services/by-industry/water-wastewater/municipal-water-treatment/nsf-ansi-standard-61/

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Resilient Wedge

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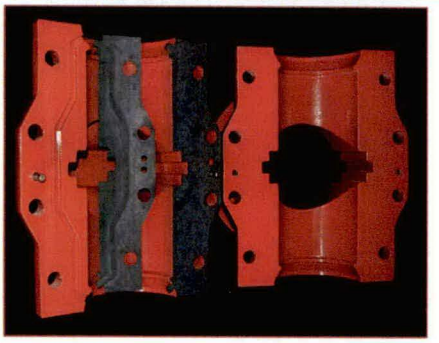
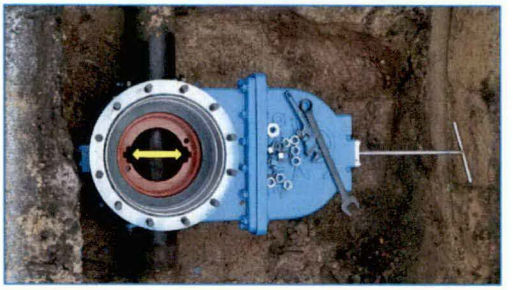
Full ductile Iron Body



Track System for Gate Wedge



MJ Connection Attached Using Megalugs

Under Pressure Capital Improvement Connection (CIC)

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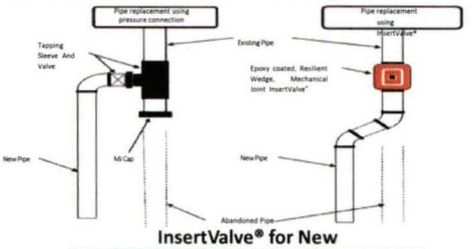

InsertValve® for New Construction

A Real Valve, inserted under full line pressure

- No dead ends
- No 90 degree bends
- Maintains pipe integrity
- No flanges – All MJ fittings
- Better flow characteristics
- Smalle trench – Single excavation
- May eliminate need for shutdown

Traditional Line Relocation

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Traditional Line Relocation

PERFORM HOT TAPS & LINE STOPS.
REMOVE THE EXISTING DOWNSTREAM PIPE.
CUT & CAP.
REMOVE LINE STOP EQUIPMENT.

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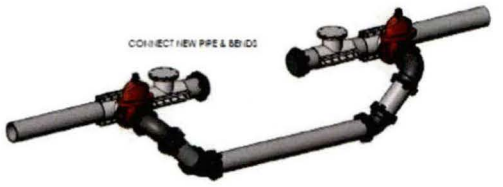
Traditional Line Relocation

CONNECT NEW PIPE & BENDS



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Line Relocation with InsertValve

ATTACH INSERTVALVE BODIES W/ PIPE RESTRAINTS AT THE DETERMINED LOCATION PRIOR TO THE HOT TAPPING PROCEDURE.

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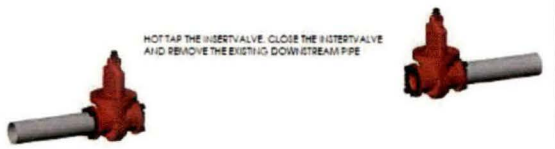
Line Relocation with InsertValve



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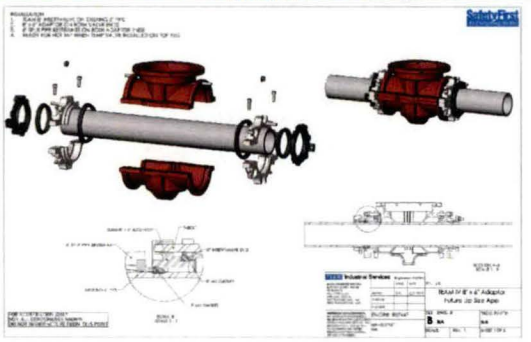
Line Relocation with InsertValve

TEAM Industrial Services 82

InsertValve – Line



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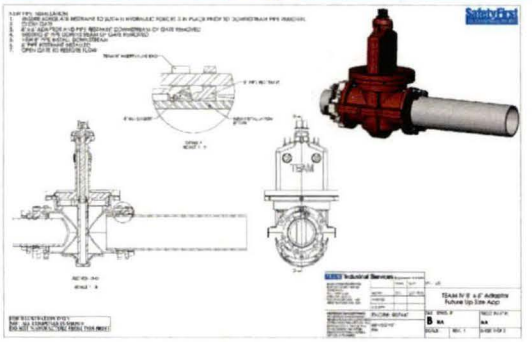
InsertValve – Line Housing



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InsertValve – Line Housing

TEAM Industrial Services

TEAM Industrial Services 85

Three way intersection

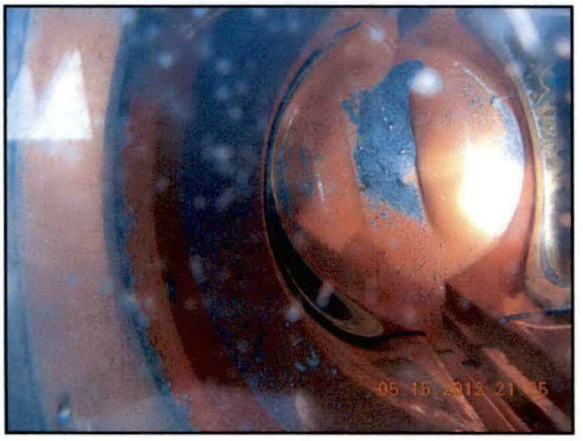
TEAM Industrial Services 86

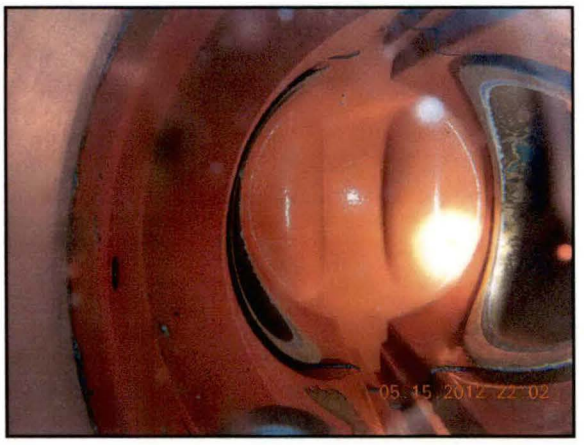
TEAM Industrial Services 87

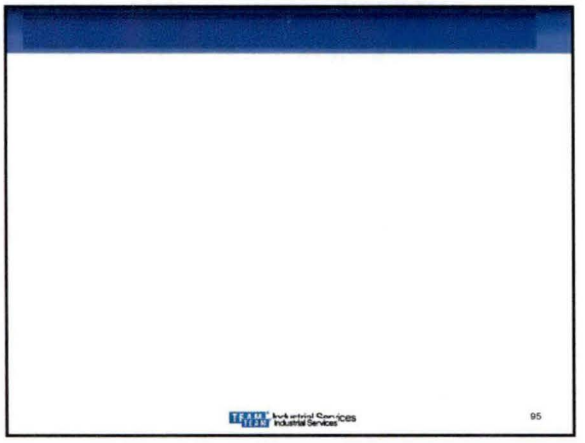
Questions???

Thank You for your time and attention!

TEAM Industrial Services 92




05 15 2012 22 02


TEAM Industrial Services
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Tips and Tricks for Maintaining Regulatory Compliance

2019 Management Conference
February 21, 2019

Sampling Cycles

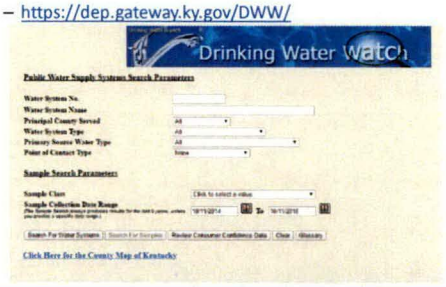
- EPA divides your sampling requirements into:
  - 9 year cycles
  - 3 year periods
- We are currently in the last year of the 2nd 3 year period of the 9 year cycle. Thanks, EPA, for keeping things simple!
- 2011-2019 cycle: 2011-13/2014-16/2017-19

Sampling Cycle Notes

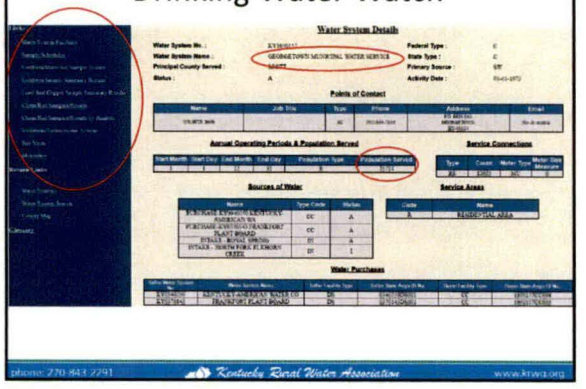
- Asbestos: Only required in the first 3 year period of a 9 year cycle (2020-22). If you do not have asbestos-cement line in your distribution system, request a waiver by 12/31/2019.
- Nitrite: Also only required in the first 3 year period of a 9 year cycle (2020-22).

Compliance Schedules

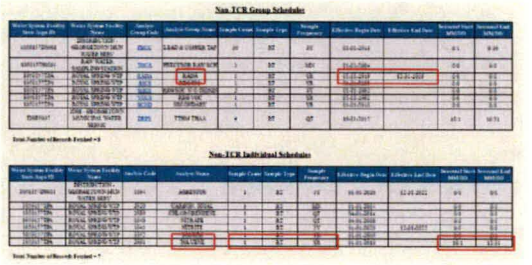
- Drinking Water Watch
  - https://dep.gateway.ky.gov/DWW/



Drinking Water Watch



Sample Schedules



Violations and Enforcement Actions

Group Violations

Violation No.	Status	Violation Type	Violation Name	Analyte Group Code	Analyte Group Name	Water System Facility State Asgn ID	Water System Facility Name

Total Number of Records Fetched = 0

Individual Violations

[illegible]

System Facilities

Water System Facilities

Water System No. :	[illegible]	Federal Type :	C
Water System Name :	GEORGETOWN MUNICIPAL WATER SERVICE	State Type :	C
Principal County Served :	SCOTT	Primary Source :	SW
Status :	A	Activity Date :	[illegible]

State Asgn ID No.	Facility Name	Type	Activity Status
[illegible]	PURCHASE-KY0370143 FRANKFORT PLANT BOARD	CC	A
[illegible]	PURCHASE-KY0340250 KENTUCKY-AMERICAN WA	CC	A
[illegible]	DISTRIBUTION - GEORGETOWN MUN WATER SERV	DS	A
[illegible]	IDSE - GEORGETOWN MUNICIPAL WATER SERVIC	DS	A
[illegible]	INTAKE - ROYAL SPRING	IN	A
[illegible]	RAW WATER SAMPLING STATION	SS	A
1050117TPA	ROYAL SPRING WTP	TP	A
[illegible]	INTAKE - NORTH FORK ELKHORN CREEK	IN	I

System Facilities-Distribution

198	705 S. Broadway	DS
199	121 Darby Dr	DS
200	131 Darby Dr	DS
201	101 Mary Lynn Dr	DS
202	100 Farmers Bank Sq	DS
203	111 Darby Dr	DS
204	LAKESIDE BP	MR
205	135 LLOYD RD	DS
206	3374 MAIN ST	DS
207	3233 MAIN ST	DS
208	131 SPRINGVIEW DR	DS
209	MAIN ST	DS
210	3376 MAIN ST	DS
211	3390 MAIN ST	DS
212	3345 MAIN ST	DS

Remember!

- All data are due to DOW by the 10th of the month following the end of the compliance period
- Maintain a good, communicative relationship with your contract laboratory and with your Drinking Water Compliance and Technical Assistance Staff
- Remain in contact with KRWA—your circuit rider, Compliance Check staff, UOP-DOW partners

Population Served

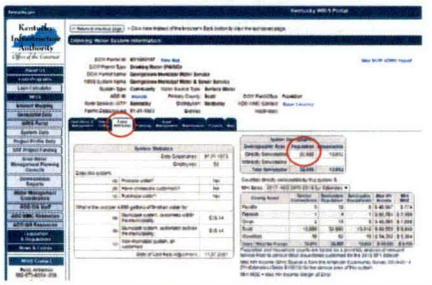
- Four ways to calculate Population:
  - DOW Multiplier
  - WRIS
  - Census
  - Any "mutually agreed upon" method

Population Served

- Georgetown Example:
  - 12,025 meters
  - DOW Calculated Population of 35,714
    - This is wrong! This uses the old multiplier of 2.97
    - 401 KAR 8:200 changed in 2014 – new multiplier is 2.69
  - DOW Calculated Population should be 32,348

Population Served

- WRIS: https://wris.ky.gov/portal/SysData.aspx



Population Served

- Census Data:
  http://quickfacts.census.gov/qfd/maps/kentucky_map.html

Population Served

Census PPH: 2.61 x 12,025 meters = Population served of 31,385

Population Comparison

- Georgetown:
  - DOW: 35,714
  - DOW NEW: 32,348
  - WRIS: 32,988
  - Census: 31,385
- Another System:
  - DOW: 10,226
  - DOW NEW: 9,262
  - WRIS: 8,310
  - Census: 8,298

- Reduce Bact from 10 to 9
- Reduce Lead and Copper from 30 to 20
- Reduce Stage 2 sites from 4 to 2
- Drop system out of mandatory participation in UCMR4

Records

How do you store your records?

Record Storage

- Paper
  - Filing boxes
  - Engineering flat-file drawers
- Electronic
  - Hard-drive, on-site or off-site
    - Backup system like Carbonite
  - The "cloud"
    - Gmail, Dropbox
  - Conventional Naming System
    - My favorite: "YYYYMMDD Type" (20161116 Bact)

Record Retention

- Lab reports: Anywhere from 3-12 years
  - Lab only has to keep records for 5 years!
- CCR: 3 years
- Sanitary Surveys: 10 years
- Maps: PERMANENT
- Operation and Maintenance Manual: PERMANENT
- Enforcement Records: PERMANENT

Records

- EPA's Record-Keeping Rules Quick Reference Guide:
  - https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=2000ZZB2.txt

RTCR

- No more Public Notice for positive samples not resulting in an MCL exceedance
- Systems taking fewer than 5 monthly Routine samples no longer have to worry about increasing to a minimum of 5 samples the month following a positive

RTCR

- Level 1 Assessment triggered by:
  - More than 1 TC+ if system collects fewer than 40 Routine samples
  - More than 5% TC+ if system collects 40 or more Routine samples per month
  - If the PWS fails to pull all required Repeat samples after a TC+
- Level 1 Assessment conducted by the PWS. Due to Division of Water within 30 days of learning of the trigger. Email Rodney.Ripberger@ky.gov AND send in a hardcopy via certified mail.

RTCR

- Level 2 Assessment triggered by:
  - Two Level 1 triggers in a rolling 12 month period
  - Violation of the MCL for *E. coli* (Tier 1 PN):
    - TC+ RT followed by an EC+ RP
    - EC+ RT followed by a TC+ RP
    - Failing to take all Repeats following an EC+ RT
    - Failing to test for EC after any TC+ RP
  - Conducted by the State or a party approved by the State
  - Must be conducted within 30 days of the trigger—Contact Rodney Ripberger ASAP when you trigger a Level 2 Assessment!

Lead and Copper

- You must designate your sampling locations for use with Lead and Copper compliance monitoring with a specific Tier Level. These must be given to DOW. Just because you have a location code for a point does NOT mean it is Lead and Copper approved!
- Pull all the Tier 1 sites you have FIRST before moving on to Tier 2 and Tier 3 sites.

Lead and Copper

- If you have any lead service lines, 50% of your samples must come from sites served by those lead lines. If you do not have enough sites served by that lead line to constitute 50% of your samples, you must still sample at all of those sites on the lead service line.

Stage 2 DBPs

- Instead of System-wide average, compliance is now determined as a locational running annual average (LRAA).
- MOST systems—pull during 1st, 2nd, 3rd or 4th FULL week of the month. Count the Mondays.
- Purchasers have to monitor now.
  - If you are a purchaser and are having TTHM/HAA5 issues, take samples at your master meter along with the compliance samples.

Stage 2 DBPs

- The Operational Evaluation Level Report is a prediction of what the system LRAA will be next quarter.
- The OEL uses the previous two quarters of data along with the current quarter. The current quarter is used twice in order to have 4 quarters of data to average.
- If the OEL exceeds .080mg/L for TTHMs or 0.060mg/L for HAA5, both pages of the OEL must be filled in and submitted within 90 days.

Public Notices

- You must use the mandatory standard language as written!
- You cannot include any language that diminishes or nullifies the purpose of the notice.
- PNs must remain posted until the violation is resolved, or at least seven days.

Public Notices

- If you have a Tier 3 PN that you are including in the Consumer Confidence Report (CCR), you must submit a separate Certification Page for the PN in addition to the CCR Certification.
- If a portion of your system is hydraulically separate from the rest, you may PN to just the affected portion of your system but you must obtain written permission from DOW FIRST.

PN Documents

- Public Notice Templates:
  - http://www.krwa.org/downloads/
- Certification and Posting Forms:
  - http://water.ky.gov/DrinkingWater/Pages/Forms.aspx

Documentation

- When submitting compliance documents, mail them in using Certified Mail.
- Conduct as much business as possible via email.
- If you call DOW/your lab—follow up the phone call with an email. Summarize the conversation to "ensure you are both on the same page."

Legal Documents

- Any time you sign off on a document that is being submitted for compliance purposes, you are attesting that the information on that document is true.
- Signing off on something you know to be not truthful is fraud. This is a FELONY.

Lab Certification

- Anyone with a KPDES permit has to have a certified lab perform ALL analyses for all permitted parameters.
- This includes Field Analyses (TRC, pH, Temperature, DO, Conductivity, Turbidity)
- If you are a Drinking Water Treatment Plant with a Backwash permit, you need certification OR you have to sub it out to a lab.

Wastewater Sampling

- DMR Weeks are: 1-7, 8-14, 15-21, 22-28
  - Weekly sampling performed 29-31 does NOT count toward weekly average, but will count toward monthly average
  - Your inspector is supposed to check your DMR calculations

E. coli Samples

- Bottles like this one must be filled beyond the 100mL line!
- The major ribbing around the bottle is NOT the fill line.
- You are required to analyze 100-102.5 mL in order to report Colony Forming Units or Most Probable Number per 100mL

Division of Water

Division of Water, CTAB
300 Sower Boulevard, 3rd Floor
Frankfort, KY 40601

502-564-3410

DOW Contacts-DW Compliance ???

- Joe Uliasz – Compliance Supervisor Joseph.Uliasz@ky.gov
- Todd Ritter – Lead/Copper, Chemicals, Secondary, Inventory Todd.Ritter@ky.gov
- Rodney Ripberger – RTCR, GWR, PN/CCR Rodney.Ripberger@ky.gov
- Kellee Husband – DBPs, LT2 KelleeM.Husband@ky.gov
- Tiffany Ogunsanya – MOR, Enforcement Referral Tiffany.Ogunsanya@ky.gov
- New Person??? – Eventually PN/CCR ???

DOW Contacts- DW Tech. Assistants

- Gabe Tanner – Frankfort and Louisville
- New Person??? – Florence and Morehead
- Eric Sutton – Now a Rule Manager, advisor to to Joe Uliasz (DWCTAS Supervisor)
- David Messer – London and Hazard
- CJ Bailey – Columbia and Bowling Green
- Jackie Logsdon – Madisonville and Paducah

DOW Contacts – Wastewater

- Laboratory Certification: Patrick Garrity or Kevin Stewart
- Wastewater Discharge/KPDES Permits: Sara Beard
- Plans/Extensions: Jory Becker
- Whole Effluent Toxicity: Lynne Brosius
- Regional Offices for Inspectors

Contact Info

Arianna Lageman
Cell: 859-630-0075
a.lageman@krwa.org

DRINKING WATER ENFORCEMENT

2019 Management Conference
February 21, 2019

ERP/ETT

- ERP – Enforcement Response Policy
- ETT – Enforcement Targeting Tool

- Focus on RTC (return to compliance)
- Looks at all violations incurred by system
- Policy & tool identify priority systems for enforcement response, provide a model to escalate responses to violations; define timely and appropriate actions and clarify what constitutes a formal action.

Enforcement Targeting Formula

- Calculates a score for each water system based on open ended violations over the past 5 years but does not include those that have RTC or on the 'path to compliance' through a specified enforcement actions.
- Formula only considers violations for Federally-regulated contaminants.
- In Kentucky it is the agreed order through the Division of Enforcement.

Enforcement Targeting Formula

- Factors:
  - Violation severity factor
    - 10 points for each health-based violation
    - 5 points for other health –based violations and Total Coliform Rule (TCR) repeat monitoring violation and for each Nitrate monitoring and reporting violation.
    - 1 point for other monitoring and reporting violations or any other violation
  - Number of years system violations have not been addressed from 0 to 5.

ETT Formula Examples

Violations (S)	Years since first unaddressed violation (n)	Score (ΣS)+n	
2 acute turbidity exceedances	0 (occurred in current year)	(10+10)+0	=20
2 non-acute TCR MCL violations	1 (1 in previous year)	(5+5) +1	=11
11 monthly TCR monitoring violations	0 (all in current year)	(1+1+1+1+1+1+1+1+1+1+1) +0	=11
6 quarterly TCR monitoring violations, 1 annual nitrate monitoring violation	1 (first violations occurred in previous year)	((1+1+1+1+1+1)+5) + 1	=12
Failure to monitor annual VOC, SOC, IOC, Stage 1 DBP and 2 TCR MCL	2 (chemical violations occurred 2 years ago)	((1+1+1+1)+5+5) + 2	=16

Next Step of Enforcement

- Once a system hits 11 points, Kentucky Division of Water refers the system to Division of Enforcement (DENF) for formal action.
- DENF will require an administrative conference to discuss the violations (will go back to the last agreed order or all violations even if they have been returned to compliance within last 5 years).

Next Step of Enforcement

- Penalty and content of a draft agreed order will be discussed. OR a Demand Letter will be issued.
- Penalty and number of days in draft agreed order is a negation process similar to purchasing a house or vehicle.
- Each violation will be discussed and required follow-up actions.

Next Step of Enforcement

Stage 2 Agreed Order requires

- System to determine where DBPs are forming in water plant.
  - Consider Step 2 alternative Total Organic Carbon (TOC) removal process.
  - If DBPs are formed in the plant, optimize coagulation process (including pH adjustment) to remove additional TOC.

Next Step of Enforcement

Stage 2 requires

- Evaluate the pre-disinfection practices; determine if the point of pre-chlorination can be moved and still maintain adequate concentration contact time (CT inactivation)

Next Step of Enforcement

Stage 2 requires

- System to determine where DBPs are forming in distribution system by conducting DBP monitoring in distribution system and at the master meter/plant tap. A monitoring schedule and initial data collection are being required to be submitted to DENF within a specified number of days after execution of the Agreed Order.

Next Step of Enforcement

Stage 2 requires

- Look at
  - If booster chlorination is practice, evaluate if it contributes to DBPs
  - Evaluate tank turnover and system hydraulics to decrease water age
  - Consider benefits of a DBP PBT or a system hydraulic analysis

Next Step of Enforcement

Stage 2 requires

- Develop a corrective action plan detailing steps taken and that will be taken to return system to and maintain compliance.
- CAP shall include timeline for completing corrective actions and date anticipating to return to compliance for 4 consecutive quarters.
- CAP will be submitted within a specified number of days after execution of the Agreed Order and will be reviewed by DOW.

Next Step of Enforcement

Stage 2 requires

- Quarterly reports will be required to be submitted.
- Must include updates for items contained in corrective action plan.

Penalties

- Most likely you will be have a civil penalty of no less than 4 figures if treatment facility. Purchasing systems have not been assessed a civil penalty.
- Stipulated penalties will be assessed for when a system fails to comply with any part of the agreed order.

General Information

- Administrative conference held in Frankfort or via telephone
- If you take an attorney, you must let DENF know ahead of time so that they have at least one attorney there as well.
  - Otherwise you will make a trip to Frankfort for nothing or attorney asked to not attend.

Drinking Water Watch

Use this website to check your systems information such as contact information, population, sampling schedules, sample results, violations, etc…

https://dep.gateway.ky.gov/DWW/

Questions?

Arianna Lageman
Kentucky Rural Water Association
a.lageman@krwa.org
Office 270.843.2291

Electrical Energy Reduction in Utilities

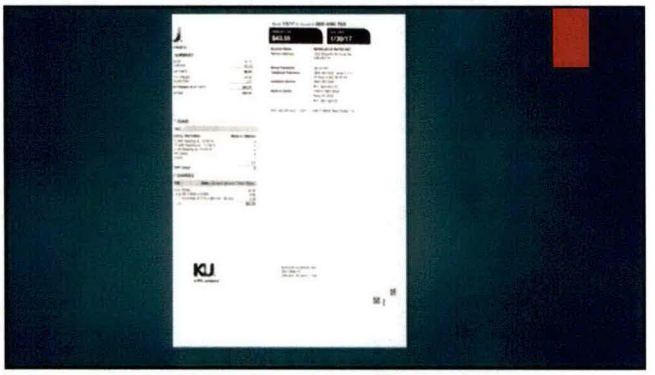
2019 MANAGEMENT CONFERENCE
JASON PENNELL, KENTUCKY RURAL WATER ASSOCIATION

Energy Assessment Program

- Pilot program started in 2014 and showed a savings of 10-20% on average.
- Kentucky started in 2016 and has found a potential of approximately $790,000 in savings after 60 assessments.

Site Visit

- Perform a bill audit
  - Compare bill readings with meter readings.
  - Compare bill meter # with actual meter #.
  - Review usage history.
- Review tariffs.
- Review the daily operation of the water plant/wastewater plant/distribution system/collection system.



What is a VFD?

- Variable Frequency Drive
- Adjustable Frequency Drive
- Variable Speed Drive
- Adjustable Speed Drive

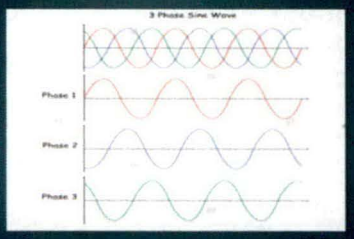
What Does a VFD Do?

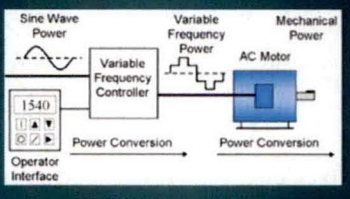
- A controller that drives an electric motor by varying the frequency and voltage supplied.
- Is adjustable to fit the need of the system.
  - VFD can ramp down the frequency and voltage when full speed is not needed.

Basic Principle of a VFD

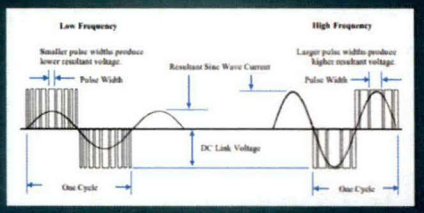
- Change the AC voltage to a DC voltage.
- Artificially recreate an AC voltage to the desired frequency.
  - The DC voltage is chopped into small pulses approximating an ideal sine wave.

Three Phase Sine Wave

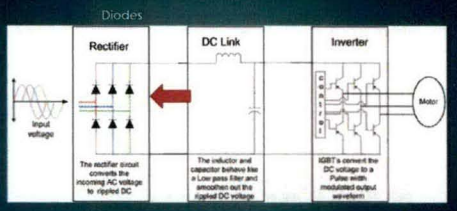




VFD Sine Wave



VFD Schematic



Why Use a VFD?

- Allows a system to match the load requirement versus running at full speed all the time.
- Longer motor life/less maintenance.
- Eliminates throttling valves.
- Eliminate water hammers.
- By operating at the most efficient horsepower it allows for reduction in energy costs.

Cube Law for Centrifugal Pumps

- 10% speed reduction
- 27% cost savings

.9 x .9 x .9 = .729

Now using 73% energy.

LED Lighting

- Pros
  - LED can save between 45 and 65 percent in energy costs.
  - Lasts on average 50,000 hours compared to 20,000 hours.
  - Environmentally-friendly
- Cons
  - Large initial investment.
  - Many manufactures and options to choose from.

Temperature Control

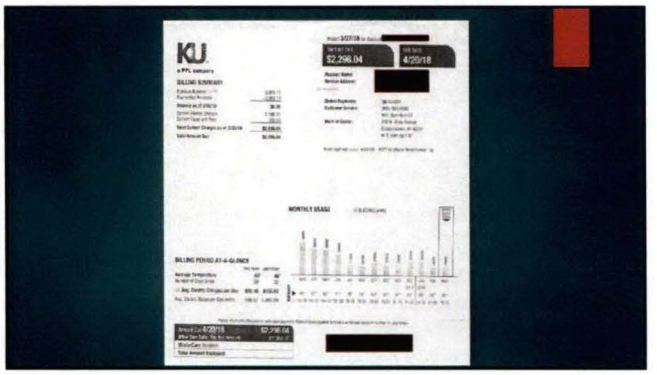
- Inexpensive
- Turns on at 38 degrees F and turns off at 50 degrees F

Smart and Programmable Thermostats

- Turn the thermostat up or down 7 to 8 degrees 8 hours per day to save as much as 10% per year.
- Programmable thermostat will turn on the heating or air conditioning at times you schedule.
  - Can store multiple daily settings.
  - Can manually override if needed.

Occupancy Sensor Controls

- Detect indoor activity.
- Saves energy by turning lights off when occupant has left the room.
- Simple installation.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4/20/18
BILLING SUMMARY
MONTHLY USAGE
BILLING PERIOD AT-A-GLANCE

ETHICS AND RESPONSIBILITIES
for
WATER/WASTEWATER UTILITY BOARD MEMBERS and OPERATORS

Kentucky Rural Water Association

Introduction

- This presentation is designed to help you better understand your roles and responsibilities in delivering safe potable drinking water, and protecting the health and welfare of the public through proper operation and maintenance of the water and wastewater system.

Utility Mission

- Protect the public health and safety
- Protect the environment
- Comply with federal and state regulations
- Serve large and small customers
- Tool to shape, facilitate, or encourage growth
- Maintain infrastructure in good operating condition

Board Member Basic Legal and Financial Responsibilities

- Fiduciary Responsibility
- Ethical Responsibilities
- Customer Relations
- Safe Drinking Water and Responsible Wastewater Management
- Laws, Rules and Regulations
- Strategic Planning, Operational Policies, and Procedures
- Board Conducts Business as a Quorum
- Records, Minutes and Notices

Fiduciary Responsibility

- To exercise rights and powers for and on behalf of others with diligence and care
- To ensure that your water/wastewater system receives, records and spends funds in accordance with modern accounting, purchasing and record-keeping standards
- To assure that system revenue covers operations plus debt service plus reserves

Ethical Responsibilities

- A public office is a public trust. The public has the right to secure and sustain trust against abuse, the board and each board member are expected to use the highest level of integrity in all matters dealing with the decision-making process
- Board members shall not gain financially or otherwise from their service on the board

Customer and Customer Relations

- Your system exists to serve the public, and there are three major groups of players to do this and each with very different roles
  - Board or governing Body
  - Manager and Executive
  - Utility Staff/Employees

Safe Drinking Water and Responsible Wastewater Management

- All board decisions must ensure that the water system will supply adequate and safe drinking water along with handling wastewater services

Laws, Rules and Regulations

- The Board ensures compliance with all applicable federal, state and local laws and ordinances

Strategic Planning, Operational Policies and Procedures

- The Board conducts strategic planning, sets policy, and sees that the system follows the operational policies and procedures

Board Conducts Business as a Quorum

- A quorum is the minimal number of officers and members of a Board, usually a majority, who must be present for valid transactions of business

Records, Minutes and Notices

- The Board is responsible to see that all decision making is conducted in open meetings and complies with Kentucky Statutes

System Operation

- Keep all system components (i.e. source, treatment, storage, distribution and collection) functioning efficiently and effectively.

General Responsibilities

- Monitor chemical feed and other system components.
- Monitor effectiveness of treatment.
- Prepare and maintain records of meter readings, tests, equipment, chemical use, correspondence, and customer complaint log.
- Develop a maintenance plan for the treatment plants, distribution system and wastewater collection system.

General Responsibilities cont.

- Regularly read meters and gauges, making adjustments as needed.
- Periodically flush distribution system using hydrants and blow-off valves.
- Conduct SSES on wastewater collection system.
- Conduct preventative and routine maintenance on facilities and equipment.

General Responsibilities cont.

- Periodically assess efficiency of system components.
- Conduct frequent system and security inspections.
- Update system maps when a significant change to the distribution system or wastewater collection system has been made.

General Responsibilities cont.

- Make all process control/system integrity decisions necessary to maintain the quality and quantity of water delivered to your customers.
- Attend training to meet state primacy agency's continuing education requirements.
- Create and follow Standard Operating Procedures (SOPs).

Regulatory Compliance

- Comply with all relevant regulations, water and wastewater, to protect your customer's health.

General Responsibilities

- Develop and maintain a sampling plan, designed to protect the system, that covers all monitoring requirements.
- Collect or oversee collection of samples.
- Conduct routine inspections of water sources and watersheds to identify potential sources of contamination.

General Responsibilities cont.

- Address any problems quickly and ensure that all required follow-up steps are taken (e.g. additional sampling, public notification, sanitary survey or other compliance inspection).
- File all required reports and maintain records.
- Resolve any compliance problems, in consultation with regulators, and gather information on upcoming regulations.
- Increase awareness of tools, reference materials, and other state and federal resources.

Communication

- Maintain a positive relationship with customers, and the system decision makers and keep them informed of your efforts to provide high quality service of water and wastewater.

General Responsibilities

- Report analytical results to regulators as required.
- Participate in the development and delivery of Consumer Confidence Reports (CCRs).
- Maintain, respond to, resolve, and keep a record of customer complaints.
- Communicate with the owner, manager, or board about technical and financial needs of your system (this includes training for recertification).

General Responsibilities cont.

- Records should be kept of any communication with decision makers.
- Inform the state of the results of technical improvements and their impact on the system.
- Inform the owner, manager, or board of any key findings from routine inspections and scheduled maintenance.

General Responsibilities cont.

- Provide input for planning and preparing for equipment replacement.
- Develop and maintain a plan for monitoring system process controls and meet all related goals, in consultation with the system owner, manager, or board.

Security

- Protect your system against natural disasters and vandalism.

General Responsibilities

- Develop a plan to protect your facilities in case of an emergency, including updating your policies and procedures manual with security related information.
- Inspect critical facilities and components, including door locks and fencing as part of your daily inspections.
- Store chemicals in locked areas with proper safety equipment.

General Responsibilities cont.

- Maintain a list of written contacts for use in an emergency and make sure you know whom to contact in the event of an emergency.
- Exercise valves on a routine basis and make sure there are enough valves, in appropriate locations, to isolate parts of the system in the event of contamination
- Attend security related training when available.
- Educate other staff on emergency procedures and keep contact information up to date.
- Emergency Response Plans.

Role of the Supervisor

- Encourage and Correct
  - Acknowledge the good choices
    - Should be the norm
  - Address the bad choices

Role of the Supervisor

- Provide Training/Resources
  - Ensure that employees know the standards
  - Ensure that employees understand the application of the standards

Responsibility of a Supervisor

- Promote Ethical Environments
- How?

THE ETHICAL PUBLIC WORKS Supervisor

- Honesty
- Responsibility
- Loyalty
- Trustworthiness
- Compassion
- Competence
- Dedication
- Courage
- Professionalism
- Respect

401 KAR 11:020

- Standards of Professional Conduct for Certified Operators

401 KAR 11:020

- A certified operator shall, during the performance of operational duties, protect the safety, health, and welfare of the public and the environment.
- A certified operator shall use reasonable care and judgment in the performance of operational duties.

401 KAR 11:020 cont.

- If a certified operator's judgment is overruled by an employer under circumstances in which the safety, health, and welfare of the public or the environment are endangered, the certified operator shall inform the employer of the possible consequences.
- A certified operator shall be objective, truthful, and complete in applications, reports, statements, or testimony provided to the cabinet

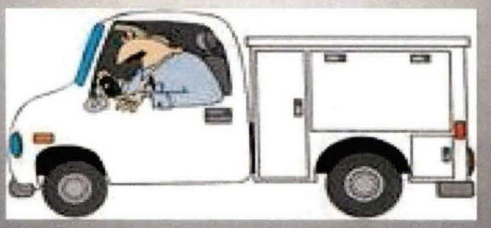
401 KAR 11:020 cont.

- A certified operator shall ensure the integrity of the samples that the operator collects, prepares, or analyzes so that results will be a true representation of water quality.
- Proof of certification. While on duty, a certified operator shall carry the cabinet issued wallet card showing the operator's current certification status.

401 KAR 11:020 cont.

- Maintenance of Records. If information related to the operator's employment or mailing address changes from that provided in the application for certification, the certified operator shall provide written notification to the cabinet within 30 days.

- **SO, WHAT IS YOUR ROLE AND RESPONSIBILITY TO YOUR UTILITY**



WORK ETHICS
(Learning Goals)

- The importance of developing a strong work ethic and how the work ethic you develop will impact your future as an employee.

What is Work Ethics

- Definition: A standard of conduct and values for job performance.

Expectations for Employees

- What does an employer want?
- What are the traits of a winning employee

Top 10 Work Ethics

- Attendance
- Character
- Teamwork
- Appearance
- Attitude
- Productivity
- Organizational Skills
- Communication
- Cooperation
- Respect

Work Ethics - Attendance

- Be on time…Don't be absent
- Limit Absences – Be at work every day possible; Plan your absences; Don't abuse leave time
- Come to work on time – Be punctual every day

Work Ethics - Character

- Be Honest – Honesty is the single most important factor having a direct bearing on the final success of an individual or utility
- Be Dependable – Complete assigned tasks correctly and promptly
- Be Loyal – Speak positively about the company, supervisors and fellow employees
- Be Willing to Learn – Look to improve your skills

Work Ethics- Teamwork

- Working toward a goal requires cooperation and respect
- Be a Team Player – The ability to get along with others – including those you don't necessarily like
- Leadership Abilities – The ability to be led and/or to become a leader

Teamwork cont.

- Be a Contributing Member – The ability to carry your own weight and help others who are struggling
- Accept Compromise – Recognize when to speak up with an idea and when to compromise by blending ideas together

Work Ethics - Appearance

- Dress Appropriately – Dress for success, Set your best foot forward
- Personal Hygiene - _____
- Good Manners – Hand shake, Demeanor, Eye Contact

- **Remember that the first impression of who you are can last a lifetime**

Work Ethics - Attitude

- Have a Good Attitude – Listen to suggestions, Be Positive
- Accept Responsibility for One's Work – If you make a mistake, admit it

Work Ethics - Productivity

- Do the work correctly
- Quality and timeliness are prized
- Get along with co-workers – cooperation is the key to productivity
- Help out whenever asked, Do "extras" without being asked
- Take pride in your work, Do things the best you know how

Work Ethics – Organizational Skills

- Written Communications – Being able to correctly write reports and memos
- Verbal Communications – Being able to communicate one on one or to a group

Work Ethics – Cooperation

- Follow company rules and policies, learn and follow expectations
- Get along with co-workers, cooperation is the key to productivity
- Appreciate privileges and don't abuse them, privileges are favors and benefits

Work Ethics - Respect

- Work Hard –Work to the best of your ability
- Carry Out Orders – Do what's asked the first time
- Show Respect – Accept and acknowledge an individual's talents and knowledge
- Be Sensitive to Racial and Cultural Difference

Why People Lose Their Jobs

- They Get Laid Off – Job loss not their fault
- They Get Fired – Job lost because of their actions

Common Reasons Why Employees are Fired - Attendance

- Being late or absent from work – shows lack of responsibility, can hinder productivity

Reasons Employees are Fired - Character

- Being Dishonest – Trust, once lost, is hard to regain
- Being Unreliable – Dependability is an employee asset
- Abusing Drugs or Alcohol – Can create health and/or safety issues

Reasons Employees are Fired – Teamwork

- Bossing others around – giving orders is the boss's job
- Not Carrying Your Weight – Not doing your part, relying on others to do your job for you

Reasons Employees are Fired – Appearance

- Dress Code –This can be a safety issue as well as a disregard for rules
- **Remember that you are a representative of your utility, how you dress and act can reflect either positive or negative on the utility**

Reasons Employees are Fired – Attitude

- Being Troublemakers – Stirring up dissent among others, Causing arguments and problems
- Being rude and using abusive language
- Inappropriate behavior is inexcusable

Reasons Employees are Fired – Productivity

- Failing to do the task/job properly (costly errors hurt business as well as your image)
- Being Lazy – It is a form of theft
- Being Careless – Can lead to accidents/profit loss

Reasons Employees are Fired – Organizational Skills

- Loosing tools and materials, unable to locate items
- Lacking of time management, not meeting deadlines
- Unprepared – Not ready for meetings or presentations and even everyday tasks

Reasons Employees are Fired – Communication

- Failure to Communicate (written and/or verbal) – Unable to properly express one's thoughts and ideas
- Unable to interpret instructions and directions

Reasons Employees are Fired – Cooperation

- Not getting along with others
- Failing to follow rules and policies
- Not following instructions "Doing your own thing"

Reasons Employees are Fired – Respect

- Being Disrespectful – Argumentative and confrontational
- Making fun of, harassing, or discriminating against others (could bring on legal issues)

Reasons Employees are Fired – Other

- Being dissatisfied all the time
- Theft
- Incompetence – Lack of ability to perform assigned tasks

Positive Actions to Take if You're Fired

- Correct your faults, move forward
- Don't repeat your mistakes, learn from them
- Think positively about your next job

ETHICS

- The discipline dealing with what is good and bad and with moral duty and obligation.
- A set of moral principles and/or values.

MORALS

- Of or relating to principles of right and wrong in behavior.
- Expressing or teaching a conception of right behavior.

BELIEFS

- Society's opinion of:
  - Right and wrong
  - Moral and immoral
  - Good and bad
  - Happy and Unhappy

Unconscious Bias

- Psychological Studies
  - Our desires powerfully influence the way we interpret information.
  - Even if we try to be objective and impartial.
  - Most of us think;
    - We are better than the average driver.
    - Our kids are smarter than the average.
    - We are not too drunk to drive.

VALUES

- Honesty (truthfulness, openness)
- Integrity (convictions, courage)
- Objectivity (independence, fairness, equality)
- Promise Keeping (fulfilling commitments)
- Fidelity (loyalty, confidentiality)
- Caring (compassion, kindness)
- Respect (dignity)
- Accountability (responsibility)
- Excellence (quality of work)
- Citizenship (respect of law, social consciousness)
- Character

ETHICS

- Our individual feelings of moral duty and moral obligation that guide how we actually behave and act
- Our own guidelines and rules to help us make decisions of right and wrong while we strive for what the ancient Greeks called "eudaimonia" or happiness and flourishing in our life and our work.

ACTIONS

- Our response or decision made when faced with an ethical dilemma
- Our actions can be
  - Intellectual
  - Emotional
  - Physical

Our Own Ethics Orientation

Whatever our level of moral development, we have all developed our own individual ethical orientation or tendencies we follow when faced with making decisions that involve ethical dilemmas.

What is your ethical orientation?

Your Ethical Orientation

1. Which is worse?
   a. Hurting someone's feelings by telling the truth

   or

   b. Telling a lie and protecting their feelings

Your Ethical Orientation

2. Which is the worse mistake?
   a. To make exceptions too freely

   or

   b. To apply rules too rigidly

Your Ethical Orientation

3. Which is it worse to be?
   a. Unmerciful

   or

   b. Unfair

Your Ethical Orientation

4. Which is worse?
   a. Stealing something valuable from someone for no good reason

   or

   b. Breaking a promise to a friend for no good reason

Your Ethical Orientation

5. Which is better to be?
   a. Just and fair

   or

   b. Sympathetic and feeling

Your Ethical Orientation

6. Which is worse?
   a. Not helping someone in trouble

   or

   b. Being unfair to someone by playing favorites

Your Ethical Orientation

7. In making a decision, on which do you rely more?

   a. Hard facts

   or

   b. Personal feelings and intuition

Your Ethical Orientation

8. Your boss or superior orders you to do something that is hurtful to someone. If you carry out the order, have you actually done anything wrong?

   a. Yes

   or

   b. No

Your Ethical Orientation

9. Which is more important in determining whether an action is right or wrong?

   a. Whether anyone actually gets hurt

   or

   b. Whether a rule, law, commandment moral principle is broken

Ethical Orientation- What's is Yours?

- **Ethics of Justice** (J orientation)
  - Based on equal application of moral principles and laws or policies with little flexibility or exceptions
  - Generally more common of men than women
- **Ethics of Care** (C orientation)
  - Based on sense of responsibility to reduce harm and suffering with considerable flexibility for individual cases
  - Generally more common of women than men

(Based on Ethical Orientation Questionnaire developed by the Center for Ethics and Business at Loyola Marymount University)

Ethics – What's in it for me?

- A more accurate understanding of the world around you
- Greater control over your behavior
- A stronger personality
- A greater likelihood of a happy and healthy life

Points Learned

- Conscience be your guide
- Honesty
- Feelings and Beliefs
- Think through situation first
- Concerns for results to society
- Education
- Expectations
- Work when you're alone like you would as if you are being watched

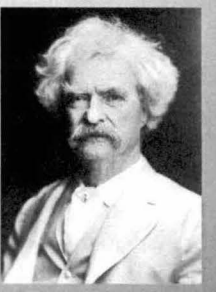
THE ETHICAL PUBLIC WORKS Supervisor

- Honesty
- Responsibility
- Loyalty
- Trustworthiness
- Compassion
- Competence
- Dedication
- Courage
- Professionalism
- Respect

"It takes a lifetime to build a good reputation, but you can lose it in a minute"

"When in doubt, tell the truth."

Mark Twain



Serving the Public Interest

- *Civil servants and public officials are expected to maintain and strengthen the public's trust and confidence in government, by demonstrating the highest standards of professional competence, efficiency and effectiveness, upholding the Constitution and the laws, and seeking to advance the public good at all times.*

AS A PUBLIC OFFICIAL YOU SHOULD BEHAVE ETHICALLY BECAUSE:

- The public trusts that you will act in the public interest, not your personal one.
  - Is there a lot of trust (mistrust) today?
- You have a virtual monopoly over the infrastructure that supports the public's well being
- Why else are you in the public sector if not to do the right thing? It's certainly not for the money.

Closing Thought

No regrets, live your life so the preacher won't have to lie at your funeral.

EXHIBIT 4

EXHIBIT 4

MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

January 3, 2019

Kentucky Rural Water Assoc KRWA
Attn: Janet Cole
1151 Old Porter Pike
Bowling Green, Kentucky 42103

Agency Interest Number: 108571

RE: Operator Certification Training Approval for Continuing Education Hours

To Whom It May Concern:

Your training request has been received by the Division of Compliance Assistance, Certification and Licensing Branch. Course approvals are reviewed and approved based on core content outlined by the cabinet and the Kentucky Board of Certification of Wastewater System Operators and the Kentucky Board of Certification of Drinking Water Treatment and Distribution System Operators. The core content lists can be located on our website, dca.ky.gov/certification.

Your request was reviewed by the Kentucky Board of Certification of Wastewater System Operators and/or the Kentucky Board of Certification of Water Treatment and Distribution System Operators at their most recent board business meeting. This letter serves as notification of the board and/or cabinet determination for continuing education credit.

Course Title	Date	Hours & Type Approved	DCA Event ID#	Comments
2019 Management Conference	02/20/2019	WW 10.0 Hours approved DW 12.0 Hours approved	19349	One time Approval
Northeast Regional and Western Regional Meetings	01/18/2019	WW 2.0 Hours approved	19360	One time Approval
Continuing Education for Operators – Carrollton	01/29/2019	WW 12.0 Hours approved DW 12.0 Hours approved	19348	One time Approval

Upon completion of the approved training, the provider shall submit to the cabinet a completed Continuing Education Activity Report form. This form can be located on the program's website at dca.ky.gov/certification. The program will no longer accept rosters that are not submitted on the cabinet's Continuing Education Activity Report form or electronically through the cabinet's website. If a continuing education activity report was attached to the training approval request, please be aware that the operators will only receive credit for the number of hours approved by the board(s).

If you have any questions or need additional information, please contact the Division of Compliance Assistance, Certification and Licensing Branch at (502) 564-0323.

Sincerely,

Veronica Roland

Veronica Roland
Certification and Licensing Branch