

Kentucky Rural Water Association

TRAINING CATALOG

**Customized Training Courses for
Water and Wastewater
Utility Personnel**



Kentucky Rural Water Association

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Bowling Green, KY 42103

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On-site Training for Drinking Water and Wastewater Utilities

Provided By

Kentucky Rural Water Association

Kentucky Rural Water Association (KRWA) is pleased to offer customized on-site training classes for water and wastewater utility personnel. The **Training Catalog** is designed to allow utilities to select from a variety of class offerings that will best suit your training requirements. Courses listed in the catalog offer flexibility for meeting the needs of individual utilities. If you don't see a topic or specific course, please ask. We will work with each utility to deliver quality training classes to your specifications.

- Requesting utility provides the location and set up of tables & chairs to accommodate expected attendance.
- Training date(s) will be decided (for scheduling purposes, please select more than one date).
- Topics can be specific to drinking water, wastewater (or both) or water district commissioners.
- A training course will be developed by KRWA to meet the requirements of the appropriate agency (Kentucky Division of Compliance Assistance, Certification & Licensing or the Kentucky Public Service Commission) for continuing education credit and will submit all necessary information to the agencies involved to obtain approval for the sessions.
- Upon completion of class, KRWA will submit appropriate documentation to the corresponding agency for the reporting of attendees and credits earned.
- If a utility chooses, surrounding systems may be invited to join the training. (If mutually agreed, utilities can work out a cost share. However, the utility making the arrangements for the training session will be responsible for the charges/invoice.)

Fee Schedule for On-site Training (Member Rate)

Number of Days	Hours of Instruction	Cost
One	Six (6)	\$2000
Two	Twelve (12)	\$3000
Three	Eighteen (18)	\$4000



Table of Contents

Drinking Water

Session	Hours	Page
Operations and Maintenance		5
Cross Connection Control	1	5
Drinking Water Disinfection	1 – 3	5
Hydraulic Control Valves	2	5
Troubleshooting and Repair of Pressure Reducing Valves	3	5
Dechlorination	1	5
Distribution System Operation and Maintenance	1	6
Leak Detection/Line Location		6
Water Accountability	2	6
Leak Detection	1 – 3	6
Line Location	1	6
The Use of Spreadsheets to Limit Waterloss	2	6
Recordkeeping		7
Compliance Check	6	7
Monitoring and Reporting	2	7
Public Notification	.5	7
Recordkeeping	2	7
The Bacterial Analysis Report Form	2	7
KPDES Sampling, Monitoring and Laboratory Practices	2	7
Regulatory		8
Operator Responsibilities/Ethics	1	8
Drinking Water Regulations	1 – 3	8
Inspections and Communications	1	8
Groundwater Rule	1	8
Total Coliform Rule: Overview and Paperwork	2	8
Laboratory		9
Basic Water Chemistry		9
Laboratory Instruments	1	9
Jar Test Procedures	3	9



Session	Hours	Page
Safety and Other Topics		9
Confined Space Entry, Trenching/Shoring, Lockout/Tagout	1 – 3	9
Surface and Groundwater Protection	1 - 2	9
Understanding Your Surface Water Source	2	10
Waterborne Pathogens	1 – 2	10
Clean Water and Safe Drinking Water Acts	1	10
Practical GIS/GPS for Utility Management and Operations	1 – 3	10
Electrical Energy Conservation	1	10
Water and Wastewater Math	1 - 6	10
Wastewater		
Operations and Maintenance		11
Line Location	1	11
Phosphorous Control	1	11
Wastewater Treatment Organisms	1	11
Ammonia (Nitrogen) Removal in Wastewater	1	11
Disinfection	1 – 3	11
The Wastewater System	2	11
Fats, Oils, and Greases (FOG)	2	12
Advanced Activated Sludge	3	12
Advanced Mechanical Solids Handling	3	12
Advanced Preliminary and Primary Treatment	3	12
Advanced Trickling Filters and RBCs	3	12
Anaerobic Digestion	2	12
Aerobic Digestion	1	13
Chlorination of Wastewater	2	13
Wastewater Lagoon Microbiology	2	13
Foaming and Bulking in Wastewater Treatment	2	13
Hormones and Antibiotics in Wastewater	2	13
Troubleshooting the Wastewater Treatment Process	1	13
Dechlorination	1	14
Recordkeeping		14
Compliance Check	6	14
Recordkeeping	2	14
Discharge Monitoring Reports	2	14



Session	Hours	Page
Regulatory		14
Operator Responsibility/Ethics	1	14
Wastewater Regulations	1 – 3	14
Inspections and Communications	1	14
KPDES Sampling, Monitoring and Laboratory Practices	2	14
CMOM and Sanitary Sewer Overflows (SSOs)	2	14
Laboratory		15
Basic Water Chemistry	2 – 3	15
Laboratory Instruments	1	15
E-coli Analysis	2	16
Basic Wastewater Laboratory Procedures	2	16
Microscopes as a Tool for Process Control and Troubleshooting at the Treatment Plant	2	16
Safety and Other Topics		16
Confined Space Entry, Trenching/Shoring, Lockout/Tagout	1 – 3	16
Surface and Groundwater Protection	2	16
Clean Water and Safe Drinking Water Acts	1	17
Electrical Energy Conservation	1	17
Water and Wastewater Math	1 – 6	17
Waterborne Pathogens	1	17
Practical GIS/GPS for Utility Management and Operations	1 - 3	17
Managerial/Administrative, Financial and Other		
Management and Administration		18
The Greening of Utilities	1	18
Personnel Policies	1	18
Introduction to Asset Management	1	18
Characteristics of a Successful Water Utility	.5	18
Inspections and Communications	1	18
Internal Controls	.5	19
Are you a troubleshooter	.5	19
Board and Manager	1	19
Boardmanship	1	19
Office Communications and Gossip	2	19
Identity Theft	2	19



Session	Hours	Page
Infrastructure Sustainability	1	20
The Challenge of Being Small	1	20
Effective Government Relations	1	20
Onsite and Wastewater Utility Management	1	20
Organizational Alternatives	1	20
Planning, Budgeting, and Reporting	1	20
The World is Flat	1	20
UMI Human Resources	1	20
What's New in Sewer	.5	20
Nepotism and Conflict of Interest	2	20
Ambition and Motivation	1	20
Managing Generations	1	20
Customer Information Program (KY-American)	.75	20
Resolving Territory Disputes	1	20
What's So Great About Kentucky...Utilities	1	20
Financial		20
Uniform Systems of Accounts	.5	20
Cost-Based Rates	1	20
Compensation System	1	20
Financial Capacity	1	20
Financial Planning	1	20
Rates Across Kentucky	1	20
Kentucky Model Procurement Code	1	21
Accepting Credit and Debit Card Payment	1	21
KIA Funding	1	21
Administering Project Funding	1	21
Emergency Response/Security		
Kentucky Water and Wastewater Agency Response Network (KYWARN)	2	21
Emergency Response Planning	6	21
10 Ways to Increase Your Security	1	21
Elements of a Vulnerability Assessment and Emergency Response Plan	1	21
Other Topics		22
History of Water and Sewer	1	22
Water Bugs	.5 – 1	22
Practical GIS/GPS For Utility Management and Operations	1 - 3	22



Kentucky Rural Water Association Drinking Water Training Catalog

Operations and Maintenance

Cross Connection Control: 1 hour

Cross connection control is crucial to maintaining the safety of drinking water within a distribution system. This session will cover cross connection control methods, devices, and regulations. Also covered will be the use of ordinances and resolutions to ensure that cross connections are limited within a utility.

Drinking Water Disinfection: 1 to 3 hours

There are several methods available for disinfection of drinking water and each method has advantages and disadvantages. This session will cover various methods for disinfecting drinking water including chlorine, chloramines, UV, chlorine dioxide, and ozone. Also covered is a brief history of chlorine. This topic can be configured as a 1 hour overview, or a more detailed session of up to 3 hours in length.

Hydraulic Control Valves: 2 hours

Hydraulic control valves are commonly used in distribution systems to control pressure, flow rates, and storage tank levels. This session will review the various types of hydraulic control valves (i.e.: pressure sustaining valves, pressure reducing valves, and altitude valves), their uses and functions, and maintenance issues.

Troubleshooting and Repair of Pressure Reducing Valves: 3 hours

This session will discuss and explain the application, installation and maintenance of pressure reducing valves. Topics will include the fit and function of pressure reducing valves, pressure differentials and how they affect pressure reducing valves, and the installation and repair of pressure reducing valves.

Dechlorination: 1 hour

Dechlorination has long been used in wastewater but is becoming more of a concern within the drinking water business and water used for flushing and backwashing is getting more attention from regulators. This session will cover the reasons for dechlorination, chemicals used, common techniques, equipment, and methods used for the dechlorination of wastewater and drinking water released to the environment.

**Distribution System Operation and Maintenance: 1 hour**

Of course drinking water distribution systems are a crucial component for the delivery of drinking water to customers. Thus, it goes without saying that the operation and maintenance of distribution systems is also crucial. This session will cover the basic operation and maintenance of some of the critical components of distribution systems, types of pipe, types of valves, repair clamps, hydrants, and other distribution system components.

Leak Detection/Line Location

Water Accountability: 2 hours

Do you know where all the water is going within your distribution system? This session will cover the necessity of accurate metering, adequate metering, and the use of by-pass and monitoring master meters to help account for all of the water usage within a distribution system.

Leak Detection: 1-3 hours

The detection of water leaks is crucial to the efficient operation of a water utility. However finding leaks can be a difficult task. This session goes into detail about how to narrow down the search area when looking for leaks, the equipment used to “listen” for leaks, and the proper use of leak finding equipment. This course can be varied from 1 hour to 3 hours and can be either classroom, hands on, or a combination of both.

Line Location: 1 hour

Water and wastewater utilities frequently have to locate buried lines. Whether a utility is looking for its own lines or trying to avoid another’s, accurate line location is of paramount importance. This session will cover the methods, techniques, and equipment used in line location.

The Use of Spreadsheets to Limit Water loss: 2 hours

The control of water loss is crucial for the financial health of a drinking water utility. The use of spreadsheets to monitor and calculate water loss can increase a utility’s efficiency. This session will cover the use of spreadsheets to accurately monitor water produced/purchased, sold, used, and lost. In addition, the use of spreadsheets to calculate and track water used for flushing and loss due to breaks will also be covered.



Recordkeeping

Compliance Check: 6 hours

Compliance Check is a Kentucky Rural Water Association program designed to help water and wastewater utilities better manage their business, avoid violations, and provide a better product to their customers. This session provides details on the use of spreadsheets for data organization, reporting, public notices, treatment optimization, optimization of distribution and collections systems, and communication with contract laboratories.

Monitoring and Reporting: 2 hours

The two most common types of violations result from monitoring and sampling errors. This session covers the requirements for the sampling and monitoring process. Topics will include sample monitoring plans, sampling schedules, standard operation procedures, MORs, and DMRs. Sampling and reporting procedures for the Total Coliform Rule will also be covered.

Public Notifications: .5 hour

This session covers public notifications and their role in public relations. Topics covered will include mandatory language, delivery methods, and required documentation. This discussion will include Tier 1, Tier 2, and Tier 3 violations, Consumer Confidence Reports, and the use of CCRs for public notices.

Recordkeeping: 2 hours

Water and wastewater utilities have to keep a myriad of records. This session covers the many different types of records that must be kept by utilities, the length of time certain records must be kept, storage methods, chain of custody, electronic backup of files, and the Kentucky Rural Water Association Recordkeeping Package.

The Bacterial Analysis Report Form: 2 hours

The BacT form is one of the most commonly used forms in water treatment. This session will provide a detailed discussion of the form and the correct way to complete it. Also included will be the various abbreviations used, what they mean, and where they are used. Examples of correctly filled out forms and common errors will be discussed.

KPDES Sampling, Monitoring and Laboratory Practices: 2 hours

This session covers KPDES permits and the federal and state laws governing the permits. Topics will include the national pretreatment program, new KPDES permit requirements, sampling techniques, sampling frequency, sample preservation, and sample hold time. Also covered will be transportation of the sample and chain of custody, laboratory quality assurance and control, analysis reports and data handling.



Regulatory

Operator Responsibilities/Ethics: 1 hour

The position of operator requires highly ethical behavior as operators often do not have someone looking over their shoulder watching their every move. This session will cover responsibilities and ethics with respect to properly conducting the duties of an operator and the possible consequences of failing to operate in an ethical manor.

Drinking Water Regulations: 1-3 hours

Drinking water regulations, while not the most exciting topic are extremely important because they are the rules by which water utilities run their operations. Regulations can not only be detailed and difficult to understand, but they change on a regular basis. This session will cover drinking water regulations with emphasis on new or revised regulations. This session can be configured as a 1 hour overview or a more detailed review up to 3 hours in length.

Inspections and Communications: 1 hour

Water and wastewater utilities need to communicate with different agencies on a regular basis. This session will cover the various agencies (EPA, DOW, PSC, etc.) that inspect water and wastewater utilities. Discussion will consist of specific requirements for each agency and ways the utility can prepare for inspections. Details will include agency contact information, timeframes involved, and types of inspections.

Groundwater Rule: 1 hour

This session will provide an overview of the Groundwater Rule including, background of the rule, dates for compliance, applicability, and requirements. Also covered will be an explanation of the C-T calculations, influences on disinfection residual, retention time, and baffling.

Total Coliform Rule, Overview and Paperwork: 2 hours

This session will provide an overview of the Total Coliform Rule and the paperwork involved. Topics covered will include sampling, re-sampling after positive tests, boil water advisories, line break reporting requirements, emergency repairs, sample collection, chain of custody, and the proper use of the bacterial analysis report form.



Laboratory

Basic Water Chemistry : 2-3 hours

Water is the basis of our industry and in many ways is a unique chemical. This session provides training on the basics of water chemistry and how that affects water and wastewater treatment. Topics will include the water cycle, where water exists on earth, and particular attention will be paid to the water molecule itself and how its unique chemical features impact the water treatment process.

Laboratory Instruments: 1 hour

Analytical instruments are crucial to the operation of water and wastewater facilities. Instruments can vary from the simple to the complex and their operation and maintenance must be performed in the proper manner. This session will cover some of the most common types of laboratory instruments, their function, maintenance, and operation.

Jar Test Procedures: 3 hours

Jar testing is a critical tool for analyzing the effectiveness of the water treatment process by detecting potential changes in the treatment plant. This session will demonstrate the jar testing process to process including equipment, procedure, factors affecting results and proper evaluation of test results to optimize performance of the treatment plant. Hands on demonstration will be included.

Safety and Other Topics

Confined Space Entry, Trenching & Shoring, Lockout/Tagout: 1 - 3 hours

The wastewater and drinking water profession has many safety risks associated with it. Confined space entry, trenching and shoring, and lockout/tagout are some of the most important safety concerns for water and wastewater operators. This session provides training on these important subjects, how they are important to workplace safety, and the regulations that govern these operations. This topic can also be divided up into individual classes of 1 hour each.

Surface and Groundwater Protection: 1-2 hours

Protecting our sources of surface and groundwater is a critical element in maintaining clean sources for drinking water and in maintaining the health of our waters. This session provides training on surface and groundwater protection and will cover the unique geology of Kentucky and how it affects ground and surface water. Topics covered will include source water assessments and assessing threats to water quality at the watershed level. This session also includes training on the state requirements for surface and ground water protection plans.



Understanding Your Surface Water Source – Lake and River Dynamics: 2 hours

This session provides training on surface water sources. Lakes and rivers are dynamic and change on a regular basis. Lakes are often thought of as static bodies of water but in many ways lakes are more dynamic than rivers. Of course rivers can change very quickly due to rain events. Each source presents its own challenges to water treatment plant operators. Learn how changes in your surface water source can affect your treatment process.

Waterborne Pathogens: 1-2 hours

Disease causing waterborne pathogens are the primary reason we have a drinking water and wastewater industry in the modern world. Water and wastewater operators are not only responsible for eliminating pathogens that could threaten public health, they face particularly high exposure risks themselves. This session provides training on waterborne pathogens and the risks they pose to water and wastewater operators and the general public. Included in this session is a discussion of several of the most common pathogens and their symptoms and an overview of the most recent Center for Disease Control data on waterborne disease outbreaks around the United States.

Clean Water Act and Safe Drinking Water Acts: 1 hour

The Clean Water Act and the Safe Drinking Water Act are the regulatory foundation of the water and wastewater industry. This session provides an overview of the two acts, their histories, what the acts cover, and how the two acts interact with each other.

Practical GIS/GPS for Utility Management & Operations: 1-3 hours

The maps possessed by many utilities are inadequate for effective operations or don't meet minimum regulatory standards. The use of Global Positioning System receivers (GPS units) to collect location data and the use of Geographic Information Systems to process and display the data (create maps) are well established technologies now. This session will cover the use of GPS and GIS and how it can help utilities create very accurate maps. This session can be configured as a 1 hour overview up to a 3 hour detailed class with outdoor hands-on instruction.

Electrical Energy Conservation: 1 hour

Electrical costs are rising rapidly and future air quality regulations are likely to cause them to increase even further. In addition, electrical costs are one of the largest expenses for a utility. This session will review ways that utilities can reduce their expenses for electricity both by looking at billing structures and also by suggesting ways to run equipment, such as pumps, more efficiently.

Water and Wastewater Math: 1-6 hours

Operator mathematics is not just important for the operator in training, but also for the long serving veteran. This session will cover the mathematics necessary for the proper operation of drinking water and wastewater facilities. Problems will be worked in class so attendees should bring a calculator. This session can be configured as a quick 1 hour review or be extended into a detailed session up to 6 hours in length.



Kentucky Rural Water Association

Wastewater Training Catalog

Operations and Maintenance

Line Location: 1 hour

Water and wastewater utilities frequently have to locate buried lines. Whether a utility is looking for its own lines or trying to avoid another's, accurate line location is of paramount importance. This session will cover the methods, techniques, and equipment used in line location.

Phosphorous Control: 1 hour

At high levels, phosphorous compounds are considered a pollutant in our streams, rivers and lakes. Thus new regulations concerning the discharge of phosphorous from wastewater and water treatment plants are being put in place. This session will cover both biological and chemical processes used to reduce phosphorous levels in the effluent discharged from treatment plants.

Wastewater Treatment Organisms: 1 hour

The wastewater treatment process is dependent upon the actions of biological organisms. This session will cover the organisms, both good and bad, typically found in activated sludge. In addition, this discussion will cover other organisms likely to be seen at wastewater treatment facilities and their potential impacts on those facilities and the treatment process.

Ammonia (Nitrogen) Removal in Wastewater: 1hour

At high levels nitrogen compounds are considered a pollutant in our streams, rivers and lakes. Thus, new regulations concerning the discharge of nitrogen from wastewater and water treatment plants are being put in place. This session will cover both biological and chemical processes used to reduce phosphorous levels in the effluent discharged from treatment plants.

Disinfection: 1 - 3 hours

Wastewater facilities have a several options when considering disinfection technologies. This session will cover chlorine, UV, and ozone applications, the pros and cons of each, and how they can be used at a wastewater plant. This topic can be configured as a 1 hour overview, or a more detailed session of up to 3 hours in length.

The Wastewater System: 2 hours

This session will provide an overview of the entire wastewater process from the service line to the effluent discharge point. Instruction will start by going through the collection system and will concentrate on the many problems that can be found there, what to do about the problem, and the costs associated with repairing or not repairing the problems. Topics will also include the wastewater treatment plant process, the different types available, and their pros and cons.

**Fats, Oil, and Greases (FOG): 2 hours**

Fats, oils, and greases, or FOG, are one of the biggest problems faced by collection systems. FOG is the leading contributor to clogged mains and reduced flow in collection systems. Combating FOG can only be done through a multi-prong approach. This session will cover FOG and will include topics such as what is fog, where does it come from, how can it lead to sanitary sewer overflows, ordinances and definition of terms, and best management practices.

Advanced Activated Sludge: 3 hours

This session will extensively cover the activated sludge process. Included in the session will be definitions of terms, discussion of the different types of activated sludge treatment process, start-up procedures, sludge analysis, mathematics for sludge analysis, and corrective actions for problems with the activated sludge process.

Advanced Mechanical Solids Handling: 3 hours

This session will extensively cover the process and methods of handling solids generated during the wastewater treatment process. Topics will include the sources of sludge, dewatered sludge characteristics and problems, processes for dewatering sludge, characteristics of stable sludge, sludge disposal methods and much more.

Advanced Preliminary and Primary Treatment: 3 hours

This session will extensively cover the various processes and methods for preliminary treatment and primary treatment. Preliminary treatment discussions will include pre-chlorination, grit chambers, bar screens, the impact of flow velocities, and the goals of preliminary treatment. Primary treatment discussions will include the effects on influent quality on the treatment process, the affects of temperature, how a clarifier works, problems that can occur in clarifiers, and solutions to those problems.

Advanced Trickling Filters and RBSs: 3 hours

This session will extensively cover the proper operation of trickling filters and RBCs. Included in this session will be the types of microorganism growth on RBCs and trickling filters, nitrification and denitrification, types of media, start-up procedures, the affects of different levels of D.O., and many other topics.

Anaerobic Digestion: 2 hours

This session will cover the anaerobic digestion process for the treatment of wastewater. Topics will include the purpose of anaerobic digestion, the chemical reactions involved, the affects of temperature, mixing, foaming, gas production, testing, and other topics.

**Aerobic Digestion: 1 hour**

This session will cover the aerobic digestion process for the treatment of wastewater. Topics covered will include an overview of the aerobic process, a detailed description of the process, and a comparison with the anaerobic process. In addition operational considerations such as D.O. levels, pH, temperature, and solids retention time and their affects are discussed.

Chlorination of Wastewater: 2 hours

While alternative methods of disinfection are increasingly being used, chlorination is a very common method. This session will cover the basic ways wastewater is chlorinated. Types of chlorination covered will include gas chlorine, hypochlorites, and tablet chlorination. Also included will be factors affecting chlorination, advantages and disadvantages of chlorine, the chemistry involved, interferences, and applications.

Wastewater Lagoon Microbiology: 2 hours

In areas where enough land is available, lagoons can be a cost effective way to treat wastewater. However, lagoons have some distinctive differences over other wastewater treatment processes. This session will cover the types of microbes found in lagoons, the roles of the different types of microbes, aerobic and anaerobic zones within lagoons, algae and its role, control of algae, pH, lagoon turnover, and other factors.

Foaming and Bulking in Wastewater Treatment: 2 hours

Foaming and bulking are common problems at wastewater treatment plants and can be difficult to correct. This session will cover the causes of foaming and bulking, the role of different microbes in foaming and bulking, the difference between foaming and bulking, diagnosis, the use of microscopes, and the use of the F:M ratio in controlling the wastewater process.

Hormones and Antibiotics in Wastewater: 2 hours

Hormones, antibiotics, and other chemicals act as endocrine disruptors. Endocrine disruptors can have serious affects on organisms affecting their reproductive rates, sex status, thus potentially severely impacting the population of a species. The affects of these chemicals on humans may also be serious and is currently being studied. This session will cover endocrine disruptors, the current state of research, the potential for new regulations, potential treatment methods, and their potential costs.

Troubleshooting the Wastewater Treatment Process: 1 hour

Wastewater treatments plants have much in common, but each individual plant can have it own unique characteristics. This session will cover basic troubleshooting techniques for problems commonly seen at wastewater plants. Topics in the session will include what normal operation looks like and the possible causes and solutions to such problems as young sludge, old sludge, bulking, filamentous growth, denitrification, ashing, pin floc, and other problems.

**Dechlorination: 1 hour**

Dechlorination has long been used in wastewater but is becoming more of a concern within the drinking water business. Water used for flushing and backwashing is getting more attention from regulators. This session will cover the reasons for dechlorination, chemicals used, common techniques, equipment, and methods used for the dechlorination of wastewater and drinking water released to the environment.

Recordkeeping

Compliance Check: 6 hours

Compliance Check is a Kentucky Rural Water Association program designed to help water and wastewater utilities better manage their business, avoid violations, and provide a better product to their customers. This session provides details on the use of spreadsheets for data organization, reporting, public notices, treatment optimization, optimization of distribution and collections systems, and communication with contract laboratories.

Recordkeeping: 2 hours

Water and wastewater utilities have to keep a myriad of records. This session covers the many different types of records that must be kept by utilities, the length of time certain records must be kept, storage methods, chain of custody, electronic backup of files, and the Kentucky Rural Water Association Recordkeeping Package.

Discharge Monitoring Reports: 2 hours

This session will cover the Discharge Monitoring Report or DMR. This presentation will cover a variety of issues concerning the DMR: definitions and formulas necessary to complete the DMR, examples of the preprinted DMR, examples of DMR problems and solutions for completing the form and commonly errors with tips for better results.

Regulatory

Operator Responsibilities/Ethics: 1 hour

The position of operator requires highly ethical behavior as operators often do not have someone looking over their shoulder watching their every move. This session will cover responsibilities and ethics with respect to properly conducting the duties of an operator and the possible consequences of failing to operate in an ethical manor.



Wastewater Regulations: 1-3 hours

Wastewater regulations, while not the most exciting topic are extremely important because they are the rules by which water utilities run their operations. Regulations can not only be detailed and difficult to understand, but they change on a regular basis. This session will cover drinking water regulations with emphasis on new or revised regulations. This session can be configured as a 1 hour overview or a more detailed review up to 3 hours in length.

Inspections and Communications: 1 hour

Water and wastewater utilities need to communicate with different agencies on a regular basis. This session will cover the various agencies (EPA, DOW, PSC, etc.) that inspect water and wastewater utilities. Discussion will consist of specific requirements for each agency and ways the utility can prepare for inspections. Details will include agency contact information, timeframes involved, and types of inspections.

KPDES Sampling, Monitoring and Laboratory Practices: 2 hours

This session covers KPDES permits and the federal and state laws governing the permits. Topics will include the national pretreatment program, new KPDES permit requirements, sampling techniques, sampling frequency, sample preservation, and sample hold time. Also covered will be transportation of the sample and chain of custody, laboratory quality assurance and control, analysis reports and data handling.

CMOM and Sanitary Sewer Overflows (SSOs): 2 hours

Capacity management operation maintenance (CMOM) is a provision of the Clean Water Act that regulates sanitary sewer overflows. CMOM is designed to provide a standard framework for improving operation, maintenance and planning for wastewater collections systems. This session will cover the requirements of CMOM, schedules and dates, and possible penalties.

Laboratory

Basic Water Chemistry: 2-3 hours

Water is the basis of our industry and in many ways is a unique chemical. This session provides training on the basics of water chemistry and how that affects water and wastewater treatment. Topics will include the water cycle, where water exists on earth, and particular attention will be paid to the water molecule itself and how its unique chemical features impact the water treatment process.

Laboratory Instruments: 1 hour

Analytical instruments are crucial to the operation of water and wastewater facilities. Instruments can vary from the simple to the complex and their operation and maintenance must be performed in the proper manner. This session will cover some of the most common types of laboratory instruments, their function, maintenance, and operation.

**E-coli analysis: 2 hours**

This session will cover E-coli analysis for wastewater effluent. Topics covered will include regulatory limits for E-coli in wastewater effluent, proper sampling procedures to minimize contamination, hold times for samples, EPA approved methods and descriptions of each, and finally quality control.

Basic Wastewater Laboratory Practices: 2 hour

This session will cover many of the basic laboratory procedures used for the analysis at wastewater treatment plants. Discussion will cover the equipment used, proper methods, and reasons for analysis. Wastewater analyses covered will include settleable solids, sludge quality, total suspended solids, SVI, pH, ammonia, and others. Also covered will be the use of SOPs and the proper care of glassware.

Microscopes as a Tool for Process Control and Trouble-Shooting at the Treatment Plant: 2 hours

Microscopes are a crucial tool for the process control at a wastewater treatment plant. All too often, however, microscopes are kept in the corner collecting dust. This session will cover the use of microscopes at wastewater treatment plants. Topics will include how to use, maintain, and care for microscopes, how to stain bacteria, basic microorganism identification, and what those microorganisms are telling you.

Safety and Other Topics

Confined Space Entry, Trenching & Shoring, Lockout/Tagout: 1 - 3 hours

The wastewater and drinking water profession has many safety risks associated with it. Confined space entry, trenching and shoring, and lockout/tagout are some of the most important safety concerns for water and wastewater operators. This session provides training on these important subjects, how they are important to workplace safety, and the regulations that govern these operations. This topic can also be divided up into individual classes of 1 hour each.

Surface and Groundwater Protection: 1-2 hours

Protecting our sources of surface and groundwater is a critical element in maintaining clean sources for drinking water and in maintaining the health of our waters. This session provides training on surface and groundwater protection and will cover the unique geology of Kentucky and how it affects ground and surface water. Topics covered will include source water assessments and assessing threats to water quality at the watershed level. This session also includes training on the state requirements for surface and ground water protection plans.

**Clean Water Act and Safe Drinking Water Acts: 1 hour**

The Clean Water Act and the Safe Drinking Water Act are the regulatory foundation of the water and wastewater industry. This session provides an overview of the two acts, their histories, what the acts cover, and how the two acts interact with each other.

Electrical Energy Conservation: 1 hour

Electrical costs are rising rapidly and future air quality regulations are likely to cause them to increase even further. In addition, electrical costs are one of the largest expenses for a utility. This session will review ways that utilities can reduce their expenses for electricity both by looking at billing structures and also by suggesting ways to run equipment, such as pumps, more efficiently.

Water and Wastewater Math: 1-6 hours

Operator mathematics is not just important for the operator in training, but also for the long serving veteran. This session will cover the mathematics necessary for the proper operation of drinking water and wastewater facilities. Problems will be worked in class so attendees should bring a calculator. This session can be configured as a quick 1 hour review or be extended into a detailed session up to 6 hours in length.

Waterborne Pathogens: 1-2 hours

Disease causing waterborne pathogens are the primary reason we have a drinking water and wastewater industry in the modern world. Water and wastewater operators are not only responsible for eliminating pathogens that could threaten public health, they face particularly high exposure risks themselves. This session provides training on waterborne pathogens and the risks they pose to water and wastewater operators and the general public. Included in this session is a discussion of several of the most common pathogens and their symptoms and an overview of the most recent Center for Disease Control data on waterborne disease outbreaks around the United States.

Practical GIS/GPS for Utility Management & Operations: 1-3 hours

The maps possessed by many utilities are inadequate for effective operations or don't meet minimum regulatory standards. The use of Global Positioning System receivers (GPS units) to collect location data and the use of Geographic Information Systems to process and display the data (create maps) are well established technologies now. This session will cover the use of GPS and GIS and how it can help utilities create very accurate maps. This session can be configured as a 1 hour over view up to a 3 hour detailed class with outdoor hands-on instruction.



Kentucky Rural Water Association Managerial/Administrative, Financial, and Other Training

Management and Administration

The Greening of Utilities – 1 hour

Green is the new word we all hear every day. But green can also mean increased savings for a utility. This session will cover what steps utilities have taken to make their operations more “green” and environmentally friendly.

Personnel Policies: 1 hour

Utilities are different in many ways from ordinary businesses. However, certain needs are similar for all businesses and effective personnel policies are important for any industry. This session will cover the basics of developing and implementing good personnel policies.

Introduction to Asset Management: 1 hour

Water and wastewater utilities possess many valuable assets. Treatment plants, distribution and collection systems, buildings, vehicles, and equipment are just some of those assets. All of them have an expected life span before needing to be refurbished or replaced. Managing these assets is critical to ensuring financial viability and regulatory compliance. This session will provide an introduction to asset management, the steps involved, and the regulations that enforce it.

Characteristics of a Successful Water Utility: .5 hour

All water utilities strive for success in the product they provide to their customers, in meeting regulations, and in maintaining financial strength. This session stresses the basic traits successful water utilities have in common such as a sufficient number of staff, an educated staff, good quality control, and financial stability.

Inspections and Communications: 1 hour

Water and wastewater utilities need to communicate with different agencies on a regular basis. This session will cover the various agencies (EPA, DOW, PSC, etc.) that inspect water and wastewater utilities. Discussion will consist of specific requirements for each agency and ways the utility can prepare for inspections. Details will include agency contact information, timeframes involved, and types of inspections.

**Internal Controls: .5 hours**

All offices should have practices in place to ensure the accuracy of their accounting methods. This session will cover the internal controls used to safeguard assets, ensure the accuracy of accounting data, promote operational efficiency, and encourage adhering to managerial policies. Also covered will be internal control procedures, control of cash receipts, control of cash disbursements, and other related topics.

Are you a troubleshooter: .5 hours

Are you a person who naturally looks for problems to solve? Do you want to become a troubleshooter? This session will cover what it takes to be a troubleshooter, the characteristics of a troubleshooter, the tools of a troubleshooter, and other helpful topics for troubleshooting.

Board and Manager: 1 hour

Effective communication is important in any setting, but effective communications between boards and managers is especially critical. This session will cover topics necessary for effective communications between boards and managers. Included will be the roles of both managers and boards, board policies, budgets, personnel policies, and other topics of concern for boards and managers.

Boardmanship: 1 hour

While being in a leadership position, board members do have a defined role within the structure of a utility. This session will detail the roles and duties of the board as a whole, the duties of individual board members, and the duties of board officers. Also covered will be the 'legal standard of care' and the different types of board meetings and their requirements.

Office Communications and Gossip: 2 hours.

Many factors go into good intra office communications and relationships within utility offices. Factors such as age differences, value differences, and different views on life can all affect intra office relationships and communications. This session will go through the generational differences of office employees, differences in morals, differences in how different employees view the value of work, and many other aspects affecting office communications. Further, the issue of gossip within offices will be addressed along with problems it can cause and ways to help deal with it.

Identity Theft: 2 hours

Identity theft is a common problem these days and it can also be a problem for utilities. This session will cover the problem of identity theft, how utilities can help prevent it, and what new laws are in place. Also covered is the Fair and Accurate Credit Transaction Act (FACTA) commonly known as the Red Flag Rule and its impact on utilities.



Infrastructure Sustainability: 1 hour

Funding gaps, aging infrastructure, and growing populations, have all impacted the water and wastewater industry. This session outlines these and other infrastructure problems facing utilities. Further, this session outlines government programs designed to deal with the problem from the beginning at the water source all the way through the water and wastewater system.

The Challenge of Being Small: 1 hour

Most utilities nationwide are considered small by the EPA. While Kentucky has a smaller percentage of small systems, they are still a significant portion of our water and wastewater systems. This session goes through the challenges of being a small system from the challenges of funding to the challenges of new and expensive regulations.

Effective Government Relations: 1 hour

Onsite and Wastewater Utility Management: 1 hour

Organizational Alternatives: 1 hour

Planning, Budgeting, and Reporting: 1 hour

The World is Flat: 1 hour

UMI Human Resources: 1 hour

Utility Organization: 1 hour

Whats New in Sewer: 0.5 hour

Nepotism and Conflict of Interest: 2 hour

Ambition and Motivation: 1 hour

Managing the Generations: 1 hour

Customer Information Program (KY-American): .75 hour

Resolving Service Territory Disputes: 1 hour

What's So Great About Kentucky...Utilities: 1 hour

Financial

Uniform System of Accounts: .5 hours

This session will cover the uniform system of accounts, general instructions and definitions, prescribed list of accounts, and the importance of uniformity and consistency. Also covered will be the legal authorization of the USoA, different classifications of water districts, requirements, and a representative example will be given.

Cost-Based Rates: 1 hour

Compensation System: 1 hour

Financial Capacity: 1 hour

Financial Planning: 1 hour

Rates Across Kentucky: 1 hour



Kentucky Model Procurement Code: 1 hour

Accepting Credit and Debit Card Payment: 1 hour

KIA Funding: 1 hour

Administering Project Funding: 1

Emergency Response/Security

Kentucky Water and Wastewater Agency Response Network (KYWARN): 2 hours

A Water and Wastewater Agency Response Network (WARN) is a network of utilities helping other utilities to respond to and recover from emergencies. The purpose of a WARN is to provide a method whereby water/wastewater utilities that have sustained or anticipate damages from natural or human-caused incidents can provide and receive emergency aid and assistance in the form of personnel, equipment, materials, and other associated services as necessary from other water/wastewater utilities.

Emergency Response Planning: 6 hours

Natural disasters can affect utilities in all parts of the country. Hurricanes, tornadoes, blizzards, ice storms, and earthquakes occur somewhere within the U.S. almost annually. Utilities are as vulnerable as any business to these disasters, but have more responsibilities than most. Emergency response planning is critical maintaining a utility's ability to restore or maintain service during disasters. This session is designed to provide extensive training on Emergency Response and Planning. This session will consist of several training modules including: 1) Emergency Response Equipment; 2) Electrical Safety, Part 1 and Part 2; 3) Electrical Safety for Unqualified Employees Who do Electrical Work; 4) Motor and Pump Controls and Field Setup of Generators.

10 Ways to Increase Your Security: 1 hour

Security has always been an issue for water and wastewater utilities, but attention paid to security has necessarily increased since 9-11. However, some utilities take security more seriously than others. This session provides an overview of 10 easy and common sense ways to increase the security of utility facilities, many of which cost little or no money.

Elements of a Vulnerability Assessment and Emergency Response Plan: 1 hour

This session will cover the various elements of a vulnerability assessment. Topics covered will include the process to complete a vulnerability assessment, the process to complete and emergency response plan, and the various tools available to help utilities complete the process.



Other Topics

History of Water and Sewer: 1 hour

Where did our industry come from and how did we get here? The history of water and sewer goes back thousands of years and involves many interesting twists and turns. This session will give a fun and interesting overview of the history of drinking water and sewer from ancient up to modern times.

Water Bugs: .5 - 1 hours

You know about fish, but have you ever wondered what else lives in the water? This session provides a fun and informative look at the other “critters” that live in the streams and lakes of Kentucky. When possible, live specimens will be obtained for discussion and observation by the attendees. This is a great subject for school programs.

Practical GIS/GPS for Utility Management & Operations: 1-3 hours

The maps possessed by many utilities are inadequate for effective operations or don't meet minimum regulatory standards. The use of Global Positioning System receivers (GPS units) to collect location data and the use of Geographic Information Systems to process and display the data (create maps) are well established technologies now. This session will cover the use of GPS and GIS and how it can help utilities create very accurate maps. This session can be configured as a 1 hour over view up to a 3 hour detailed class with outdoor hands-on instruction.