COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF	)
KENTUCKY RURAL WATER	)
ASSOCIATION FOR ACCREDITATION	) **CASE NO. 2025-00260**
APPROVAL OF COMMISSIONER	)
TRAINING AND CONTINUING	)
EDUCATION CREDIT	)

APPLICATION

Kentucky Rural Water Association ("KRWA" or the "Applicant") applies for an Order from the Public Service Commission accrediting and approving a proposed water district commissioner training program for continuing education credit pursuant to KRS 74.020(6) and (7) and 807 KAR 5:070.

In support of its application, KRWA states:

1. KRWA is a non-profit corporation incorporated in the Commonwealth of Kentucky pursuant to KRS Chapter 273 on March 19, 1979, and is currently in good standing.

2. KRWA's mailing address is: 1151 Old Porter Pike, Bowling Green, Kentucky 42103. Its email address is: j.cole@krwa.org.

3. KRWA was organized to foster professionalism in the water and wastewater industry through non-regulatory training, technical assistance programs, and advocacy. Its membership consists of water districts, water associations, municipalities

with populations of 10,000 persons or less, and other similar entities that provide water and wastewater utility services to rural Kentucky.

4. Pursuant to 807 KAR 5:001, Section 4(8),[1] copies of all orders, pleadings, and other communications related to this proceeding should be directed to:

Damon Talley
Stoll Keenon Ogden PLLC
112 North Lincoln Boulevard
PO Box 150 Hodgenville, Kentucky 42748
Telephone: (270) 358-3187
Fax: (270) 358-9560
damon.talley@skofirm.com

Janet Cole
Kentucky Rural Water Association
1151 Old Porter Pike Bowling Green, KY 42103
Telephone: (270) 843-2291
Fax: (270) 796-8623
j.cole@krwa.org

5. KRWA proposes to sponsor and conduct an in-person only water management training program on September 9, 2025, at the Allen County Water District office located at 330 New Gallatin Road, Scottsville, Kentucky. The program is entitled "Water District Commissioner Training." A copy of the proposed agenda is attached to this Application at Exhibit 1. This program will be conducted in-person.

6. As reflected in Exhibit 1, the proposed training program will include presentations on the following topics:

a. **Working Effectively as a Utility Board**. This presentation equips

[1] On July 31, 2025, KRWA gave notice pursuant to 807 KAR 5:001, Section 8 , of its intent to file this application and of its use of electronic filing procedures.

Members of utility boards with the knowledge and tools necessary to fulfill their governance responsibilities with confidence and clarity. Through structured exploration of policy making, strategic planning, regulatory compliance, financial and management oversight, and system performance monitoring, board members will gain a clear understanding of their role in utility governance. Participants will also develop practical skills in setting agendas, documenting decisions, managing stakeholder participation, and fostering effective board dynamics. Using real-world case studies and actionable frameworks, the presentation promotes a culture of accountability, preparedness, and continuous improvement;

b. **Communications: Day to Day Basics.** This presentation emphasizes the critical role of clear, respectful communication within utility organizations and with the public. It defines communication as both the exchange of information and the building of personal rapport, highlighting that effective communication begins internally—how staff talk to each other and share essential information affects overall service. Ultimately, the presentation encourages organizations to develop a unified communication strategy, practice active listening, and continually reassess their communication plans to adapt to changing needs;

c. **What to Expect During a Rate Study.** This training will provide an overview of what to expect during a utility rate study, including its purpose, regulatory background, and key triggers such as mergers, major capital projects, or financial necessity. Participants will learn how to plan and prepare for a rate study by setting a

timeline, notifying stakeholders, selecting the appropriate type of study, and designating a point of contact. The session will cover the three main types of rate studies—General Rate Case, Alternative Rate Filing (with or without a Cost-of-Service Study)—highlighting their differences in detail, cost, and complexity. Attendees will also review the five phases of the Alternative Rate Filing process: conducting the study, board review, application submission, responding to PSC information requests, and final resolution. The training will emphasize common pitfalls such as missing data, unauthorized spending, or late submissions, and will conclude with a discussion on best practices and the importance of staying in compliance with the Kentucky Public Service Commission's expectations;

d. **Reducing Water Loss Step by Step.** Excessive water loss is one of the most common regulatory problems among PSC-governed water utilities. This session aims to highlight the value of water and equip decision-makers with tools to manage it effectively. Topics will include water accountability, calculation of the value of lost water, and utilizing reports for tracking water usage, such as monthly and annual reports. The discussion will also cover expected system demand and its implications for utilities, data collection, distribution management, and methods for identifying and addressing water loss;

e. **What to expect During a PSC Inspection.** This presentation provides utility professionals with a comprehensive overview of the Kentucky Public Service Commission's (PSC) inspection process. Participants will gain an understanding of how

inspections are scheduled, conducted, and evaluated, as well as the documentation and records required for compliance. The session also covers key areas of concern—particularly excessive water loss—and outlines how utilities can proactively address deficiencies and improve outcomes. Attendees will learn about the PSC's evolving risk-based inspection model, performance metrics, and regulatory expectations. This presentation is essential for utility managers, board members, and staff seeking to maintain compliance, avoid formal actions, and support the utility's financial and operational stability.

7. The proposed training program consists of six hours of instruction 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.**

8. A biographical statement containing the name and relevant qualifications and credentials for each presenter is attached at **Exhibit 2** of this application.

9. The written materials that will be provided are attached at **Exhibit 3**. Should a presenter revise or amend his or her presentation prior to their scheduled session or provide additional written materials for the attendees, KRWA will include a copy of the revised presentation with their sworn statement and report regarding the instruction.

10. Allen County Water District's management staff and commissioners will attend the proposed training.

11. KRWA will retain a record of all water district commissioners attending the proposed training program.

12. Within the Ordered number of days of the proposed training program's completion, KRWA will file with the Public Service Commission a sworn statement:

a. Attesting that the accredited instruction was performed;

b. Describing any changes in the presenters or the proposed program curriculum that occurred after certification; and,

c. Containing the name of each attending commissioner, his or her water district and the number of hours that he or she attended.

13. KRWA will include with the sworn statement documentary evidence of the program's certification by certifying authorities and a copy of any written material given to the attendees that has not been previously provided to the Public Service Commission.

14. KRWA will admit representatives of the Public Service Commission to the proposed training program to permit such representatives to assess the quality of the program's instruction, monitor the program's compliance with the Public Service Commission directives, regulations, or other requirements, or perform any other supervisory functions that the Public Service Commission deems necessary.

WHEREFORE, KRWA requests that the Commission approve and accredit the proposed training program entitled "Water Commissioner Training" for six hours of water district management training.

Dated: August 5, 2025

Respectfully submitted,

Damon R. Talley
Stoll Keenon Odgen PLLC
112 North Lincoln Boulevard
PO Box 150
Hodgenville, Kentucky 42748
Telephone: (270) 358-3187
Fax: (270) 358-9560
damon.talley@skofirm.com

Counsel for Kentucky Rural Water Association and Stoll Keenon Ogden PLLC

CERTIFICATE OF SERVICE

In accordance with 807 KAR 5:001, Section 8, I certify that this document was submitted electronically to the Public Service Commission on August ___, 2025, and that there are currently no parties that the Public Service Commission has excused from participation by electronic means in this proceeding.

Damon R. Talley

Exhibit 1

WATER COMMISSIONER TRAINING

Allen County Water District
330 New Gallatin Road
Scottsville, KY 42164

Presented by
Kentucky Rural Water Association

Tuesday, September 9, 2025

AGENDA

Morning Sessions

8:55 – 9:00 **Welcome and Program Overview**
Jason Pennell, Kentucky Rural Water Association

9:00 – 10:30 **Working Effectively as a Utility Board**
Robert Miller, StraightLine Kentucky, LLC

This presentation equips members of utility boards with the knowledge and tools necessary to fulfill their governance responsibilities with confidence and clarity. Through structured exploration of policy making, strategic planning, regulatory compliance, financial and management oversight, and system performance monitoring, board members will gain a clear understanding of their role in utility governance. Participants will also develop practical skills in setting agendas, documenting decisions, managing stakeholder participation, and fostering effective board dynamics. Using real- world case studies and actionable frameworks, the presentation promotes a culture of accountability, preparedness, and continuous improvement.

10:30 – 10:40 **Break**

10:40 - 12:10 **Communications: Day to Day Basics**
Pete Conrad, Kentucky Rural Water Association

This presentation emphasizes the critical role of clear, respectful communication within utility organizations and with the public. It defines communication as both the exchange of information and the building of personal rapport, highlighting that effective communication begins internally-how staff talk to each other and share essential information affects overall service. Ultimately, the presentation encourages organizations to develop a unified communication strategy, practice active listening, and continually reassess their communication plans to adapt to changing needs.

Afternoon Sessions

1:00 – 2:00 What to Expect During a Rate Study
Daniel Reetzke, Kentucky Rural Water Association

This training will provide an overview of what to expect during a utility rate study, including its purpose, regulatory background, and key triggers such as mergers, major capital projects, or financial necessity. Participants will learn how to plan and prepare for a rate study by setting a timeline, notifying stakeholders, selecting the appropriate type of study, and designating a point of contact. The session will cover the three main types of rate studies-General Rate Case, Alternative Rate Filing (with or without a Cost-of-Service Study) - highlighting their differences in detail, cost, and complexity. Attendees will also review the five phases of the Alternative Rate Filing process: conducting the study, board review, application submission, responding to PSC information requests, and final resolution. The training will emphasize common pitfalls such as missing data, unauthorized spending, or late submissions, and will conclude with a discussion on best practices and the importance of staying in compliance with the Kentucky Public Service Commission's expectations.

2:00 – 2:10 Break

2:10 – 3:10 Reducing Water Loss Step by Step
Matthew R. Curtis, P.E., Bluegrass Engineering

Excessive water loss is one of the most common regulatory problems among PSC-governed water utilities. This session aims to highlight the value of water and equip decision-makers with tools to manage it effectively. Topics will include water accountability, calculation of the value of lost water, and utilizing reports for tracking water usage, such as monthly and annual reports. The discussion will also cover expected system demand and its implications for utilities, data collection, distribution management, and methods for identifying and addressing water loss.

3:10 – 3:20 Break

3:20 – 4:20 - What to Expect During a PSC Inspection
Jason Pennell, Kentucky Rural Water Association

This presentation provides utility professionals with a comprehensive overview of the Kentucky Public Service Commission's (PSC) inspection process. Participants will gain an understanding of how inspections are scheduled, conducted, and evaluated, as well as the documentation and records required for compliance. Discussion will also cover key areas of concern (particularly excessive water loss) and outlines how utilities can proactively address deficiencies and improve outcomes. Attendees will learn about the PSC's evolving risk-based inspection model, performance metrics, and regulatory expectations. This presentation is essential for utility managers, board members, and staff seeking to maintain compliance, avoid formal actions, and support the utility's financial and operational stability.

Exhibit 2

Pete Conrad

Kentucky Rural Water Association

Pete Conrad joined Kentucky Rural Water Association in January, 2024, and has been instrumental in helping systems complete their respective Service Line Inventories. After receiving a degree in History and Political Science from Southern Illinois University-Carbondale, Pete started working as the infrastructure planner at the Green River Area Development District. While working at the ADD, he learned to work on a variety of loans and grants alongside water and sewer systems, their leadership, and engineers. Pete gained not only experience, but a deeper appreciation for the systems he worked with and had the opportunity to become the Superintendent of the Henderson County Water District in 2013. As the Superintendent, he worked with everyone from customers and employees to elected officials and regulatory agencies. He also gained a greater appreciation, and valued the importance of sharing ideas and knowledge across utilities.

MATTHEW CURTIS

Bluegrass Engineering, PLLC

Matthew Curtis has over twenty-one years of professional experience as a consultant in the public utility (water, gas, stormwater, and wastewater) sector. He has been responsible for the development of various projects from the conceptual planning, engineering design reports, and overseeing project completion through the construction phase for all aspects of the projects. Mr. Curtis has design experience and supervised various designers and engineers in the development of plans and specifications for wastewater treatment plants and water storage facilities.

Mr. Curtis is the Managing Member of Bluegrass Engineering, PLLC and oversees the day-to-day operation of the company. He also serves as a Project Manager with Bluegrass Engineering, where his responsibilities include completing contract documents, reviewing schedule and cost of ongoing projects, technical overview of projects, checking completed work under his supervision, and conducting research and investigation for compiling written reports. In addition, he maintains contact with clients during study, design, and construction, and is responsible for follow up after project completion.

Robert K. Miller

StraightLine Kentucky

QUALIFICATIONS

EDUCATION

Bachelors–Management and Finance, University of Louisville, 1979
Masters-Business Administration and Finance, Indiana University 1982

YEARS OF EXPERIENCE: 38+

SPECIALIZATION

Senior Executive in Drinking Water, Wastewater, and Stormwater Industry

PROFESSIONAL AFFILIATIONS

American Water Works

Association QualServe Peer Reviewer

AWWA Business Practices Standards Committee Member Vice-Chair (past)

AWWA Utility Management Standards Committee Member (past)

AWWA Finance, Accounting, and Management Controls Committee Chair (past)

AWWA Management Controls Sub-Committee Chair (past)

AWWA Research Foundation Project Participating Utility Member (past)

National Association of Clean Water Agencies, Utility and Resource Management Committee (past)

Professional Profile

Senior utility executive with over 38 years of experience in the drinking water, wastewater, and stormwater industry, including: executive management, strategic planning, policy development, customer service, information technology, and program management. Advocate for sustainability of water infrastructure and affordability for low-income customers. Education includes a Bachelor and Master degrees in business management and finance.

Qualifications and Experience

StraightLine Kentucky, Louisville, KY

2021 – Present Consultant
Advisor to drinking water, wastewater, and stormwater utility managers, regulatory officials, elected officials, and service providers. Currently serving as the Rate Analyst Manager for Kentucky Rural Water Assn.

City of Jackson, Mississippi

2017 – 2020 Director of Public Works
Executive management of Drinking Water, Wastewater, Stormwater, Solid Waste, Streets, Facilities, Fleet, and Warehouse operations and maintenance.

Sewerage and Water Board of New Orleans, Louisiana

2009 – 2017 Deputy Director / Interim Executive Director
Administrative management of Strategic Planning, Accounting, Budgeting, Purchasing, Customer Service, Human Resources, Information Technology, Risk Management, Fleet Maintenance, Warehouse, Internal Audit, and other operations support services.

Municipal and Financial Services Group, Maryland

2008 – 2009 Senior Manager
Management consultant to water and wastewater utilities focusing on enterprise risk management, internal control, financial analysis, and rate studies.

Louisville Water Company, Kentucky

1991 – 2008 Vice President
Administrative management of Finance, Information Technology, Risk Management, Business Planning, Human Resources, and Board Relations

BIOGRAPHY

Jason Pennell

Kentucky Rural Water Association

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 assistance 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. From 2014-2017, 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.

Daniel Reetzke

Director of Finance & Administration

Kentucky Rural Water Association

Daniel Reetzke is a dedicated Certified Public Accountant (CPA) with a passion for finance and accounting. He graduated from Western Kentucky University, where he earned a degree in Accounting and Finance. After graduation, Daniel began his professional journey at the City of Franklin, where he rose through the ranks from Tax Collector to Assistant Finance Director. In these roles, Daniel played a vital role in the city's financial operations. Following his tenure at the City of Franklin, Daniel transitioned to the Kentucky Rural Water Association, where he assumed the role of Director of Finance & Administration.

Exhibit 3

Working Effectively as a Utility Board

Kentucky Rural Water Association

Robert K. Miller

Helping the Board To…

… Understand Their Role

… Perform Their Role

… Improve Their Performance

Helping the Board Understand Their Role

- Policy Making
- Strategy Setting
- Regulatory Compliance
- Planning
- Financial Oversight
- Management Oversight
- System Oversight
- Decision Making
- Emergency Preparedness

Understand: Policy Making

"Each board must determine if it is a policy-making board or an operating board. They must pick a lane and stay in it."

"A policy is a decision made at leisure in advance to keep from making a mistake in haste later on."

"The keys to success in management are competence, character, and the freedom to act."

Understand: Policy Making

Service Rules and Regulations

- Water Main Extensions
- Turn Offs for Delinquent Accounts
- Resolving Billing Disputes

Personnel Matters

- Compensation
- Vehicle Use
- Paid Time Off
- Discipline

- Purchasing
  - Competitive Pricing
  - Approval Limits
  - Credit Cards

Understand: Strategy Setting

"*If you don't know where you are going, any road will get you there*."

- Water Treatment or Purchase
- Participation in Local Economic Development
- Extension to Distribution System
- Infrastructure Replacement
- Merger with Adjacent System
- Employee Succession Planning

Understand: Regulatory Compliance

Regulatory Duties and Current Status

- Tariff
- Kentucky Public Service Commission
- Kentucky Division of Water

Violations and Remediation Plans

- Awareness
- Communication
- Follow Through to Resolution

Understand: Planning

Infrastructure Planning

- Growth Related
- Service Level Related

Financial Planning

- Ratemaking
- Debt Issuance

Succession Planning

- Board Officer Roles
- Critical Staff Roles

Understand: Financial Oversight

Timely Financial Information

- Income Statement
- Balance Sheet
- Statement of Cash Flows
- Completion of Audit

Relevant Comparisons

- Budget Variance
- Prior Year Variance

Key Metrics

- Days of Cash and Debt Service Coverage
- Collection Rate and Aging of Receivables

Understand: Management Oversight

- Recruitment of Utility Manager
- Establishing Performance Criteria
- Obtaining Independent Measurements of Regulatory Compliance, Customer Satisfaction, and Employee Morale
- Evaluation of Performance
- Determination of Retention and Compensation

Understand: System Oversight

<u>Metric Based</u> with Trend Information and Variance Analysis

- Water Quality and Pressure
- Production, Sales, and Water Loss Volumes
- Key Infrastructure Failures
- Key Infrastructure Out of Service
- Telephone Response Rates
- Service Response Times

Find it. Fix it. Prove it.

Oversight

Understand: Decision-Making

<u>What decisions does the Board want to</u> …

… make on its own?

… be consulted on in advance?

… be notified of?

All other decisions are the responsibility of the utility manager

<u>How will the Board make its decisions</u>?

- By consensus or by majority vote

Understand: Decision Making

<u>What decisions must be made by the Board</u>?

- Approving the board meeting minutes
- Hiring of the utility manager
- Hiring of legal counsel and auditor
- Applying for changes in tariff and rates
- Authorizing borrowings
- Authorizing expenditures

Understand: Emergency Preparedness

Knowing What Can Keep Utility from Fulfilling its Mission:

- Disruption in water supply.
- Disruption in power supply.
- Disruption in treatment process.
- Disruption in transmission and distribution system.
- Disruption in workforce.

Knowing What Will be Done to Restore System

Knowing Who Will Communicate to Customers, Regulators, and Elected Officials

Helping the Board Perform Their Role

- Set Agendas for Meetings
- Provide Meeting Materials
- Presentations and Discussions
- Document Discussions and Decisions
- Follow Through
- Deal with Elected Official Participation
- Deal with Citizen Participation
- Deal with Media Participation

Performance: Setting Meeting Agendas

Establish calendar for the year of meeting dates and pre-scheduled topics:

- Review of Management Performance
- Review of Financial Results and Audit
- Review of System Condition

Discussion between Board Chairman and Manager on Board Initiated Topics

Follow-up Items from Previous Meetings

Perform: Provide Meeting Materials

<u>Establish process for preparing and assembling materials for Board meeting</u>:

- Must contain background information, recommended action, and draft resolution.
- Review for acceptance by Utility Manager
- Delivery format (print or electronic) including summary # days in advance of meeting
- Firm deadline for delivery to Board members
- Online availability to public and media
- Keep for permanent record

Perform: Presentations and Discussions

- Staff presents background, key facts, alternatives considered, and recommendations.
- Presentations may be supplemented by consultants and vendors *with no surprises*.
- Chairman leads discussion by Board Members. Once discussion begins, no further participation by non-members.
- Chairman *may* require that each Board Member gets to speak once before any Board Member speaks twice.
- Chairman determines if Board is ready to vote and calls for motion.
- Once vote is conducted, move to next agenda topic.

Perform: Document Decisions

The Board speaks through its minutes!

- **Create a permanent written record to document exercise of Board authority.**
- **Document alternatives, recommendations, and discussions.**
- **Document vote tallies, especially when not unanimous.**
- **Assume that it will be needed in litigation to defend actions.**
- **Do not retain audio or video records of meeting beyond minutes.**

***Note: Minutes do not need to be read if distributed in writing in advance of the meeting*.**

Perform: Decisions by Consensus or Vote

High Performing Boards Make Decisions by Consensus!

- **Consensus requires understanding.**
- **Understanding takes time and consideration.**
- **Disagreement is a marker along the highway to agreement.**
- **Some decisions require more than one meeting.**

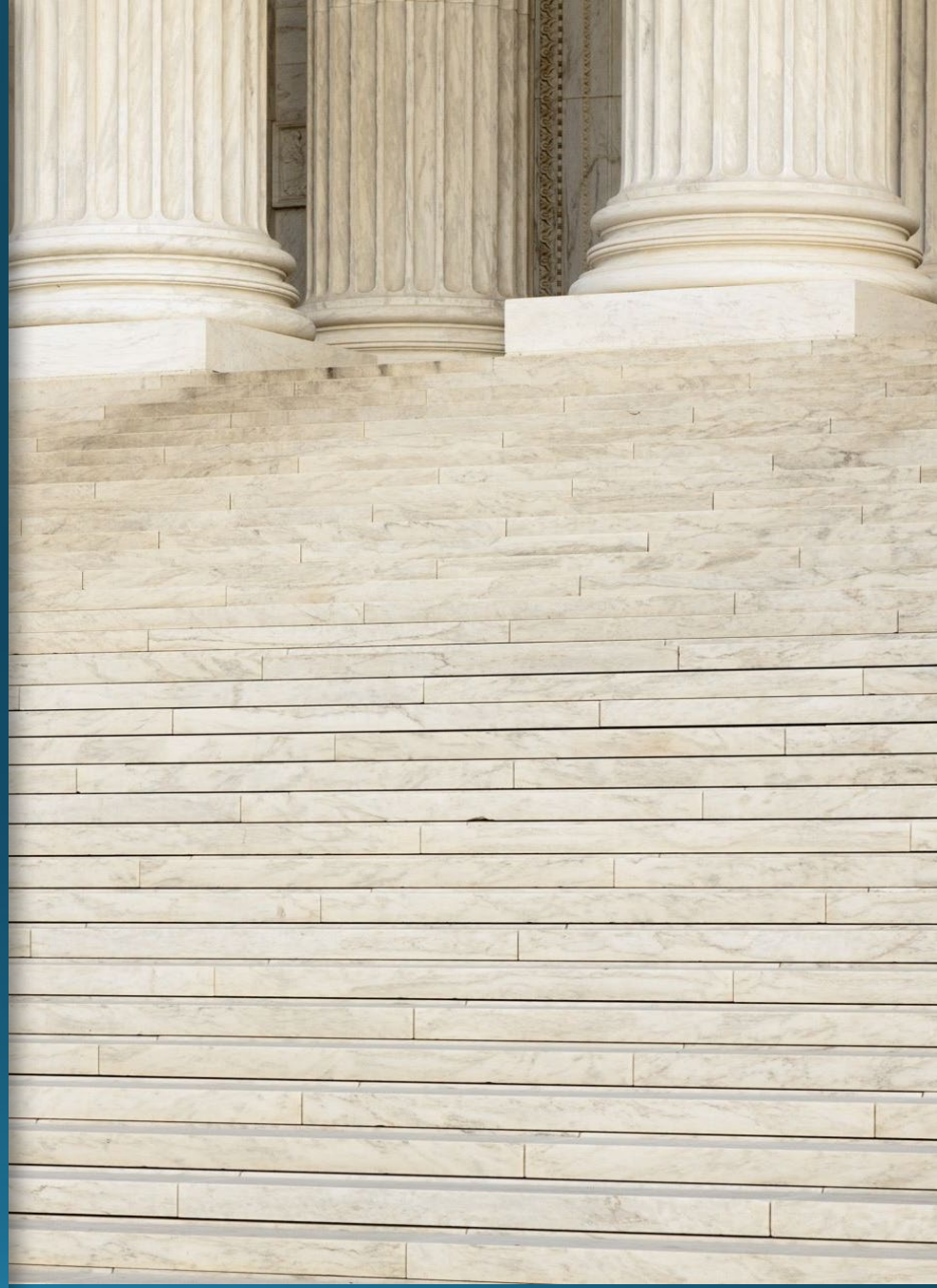
***With all that said, sometimes a decision must be made by a vote*.**

Perform: Follow Through

- Execute Board decisions as soon as practicable.
- Identify unresolved matters and assign for follow through.
- Include time to communicate follow through on unresolved matters at next meeting.
- Work with Chairman to determine if disagreements require fence-mending.

Perform: Elected Official Participation

- Treat attendance by elected officials as honored guests without subordinating the role of the Board or the Utility Manager.
- Allow elected officials to speak at the beginning of the meeting without limit on time.
- Allow elected officials to speak on specific issues after staff presentation but before board consideration.
- Chairman is responsible for ensuring independence of board decisions.



Perform:
Citizen Participation

- Require written sign-in of all attendees.
- Require written indication of request to speak to Board, identifying agenda topic related to their remarks.
- Limit remarks to three minutes.
- Identify staff person to address their concerns.
- Do not engage in back-and-forth between customer and Board.

Perform: Media Participation

- Ensure media receives board materials in advance of meeting, when requested.
- Allow media to create B-roll video footage of meeting room and attendees, but do not allow video recording of meeting proceedings.
- Allow media to speak after the meeting to one spokesperson designated by chairman and record interviews.
- Ensure that media has adequate time to gather necessary information and gain understanding while meeting their deadlines.

Helping the Board Improve Their Performance

- Facilitate Board Member Orientation
- Facilitate Board Calendar
- Track Attendance
- Monitor Terms
- Facilitate Compensation Discussion
- Ensure Time for Board Self-Evaluation
- Deal with Problematic Board Members

Improve: Board Orientation

Orientation by Chairman and Utility Manager

- KY DOW and KY PSC regulatory requirements
- Tariff components
- Delineation of Board and Staff roles
- Procurement process
- Meeting preparation and attendance expectations
- Board decision-making style

Improve: Board Calendar

Establish Rolling Twelve-Month Calendar:

Identify routine items for schedule

- Evaluation of Utility Manager Performance
- Setting annual goals for utility
- Adopting Annual Budget
- Meeting with Auditors to review financial results

Identify targeted dates for non-routine items

- Engineering and Financial Plans due dates
- Procurement due dates

Improve: Track Attendance

Tracking board member attendance:

- Ensures proper compensation

  (if compensation is tied to attendance)
- Provides accountability to Mayor and City Council
- Provides support for Chairman when evaluating Board performance

Improve: Monitor Terms

Mayor:

- Nominates Water Utility Commissioners

City Council:

- Appoints Water District Commissioners
- Sets term of service
- Sets compensation

Board Secretary:

- Tracks terms and expirations

Board Chairman:

- Offers suggestions for consideration
- Reminds Mayor and City Clerk of upcoming vacancies

Improve: Board Compensation

<u>Components of Compensation</u>:

- Community acceptance of compensation amounts
- Role performed on Board
- Amount of training accomplished

Chairman may advise Mayor and City Council on current and proposed compensation amounts

Improve: Board Self-Evaluation

Board members need time to evaluate their own performance (*individually and as a group*) without staff present:

- Attendance
- Preparation
- Participation
- Collegiality

Improve: Problem Board Members

Attributes of Problem Board Members:

- Attempting to Conduct Board business outside of meetings
- Directing staff on operational decisions
- Bullying other Board Members during meetings
- Unduly influencing procurement decisions or water main extensions

Board Chairman must confront and address problem behaviors

Why Should a Board Focus on These Topics?

Why Should a Board Focus on These Topics?

1. It helps the Board perform their role to the best of their capability.

Why Should a Board Focus on These Topics?

1. It helps the Board perform their role to the best of their capability.
2. It helps ensure that the Manager has the necessary freedom to act.

Responsibilities

Utility Board Relationships

- Utility Manager
- Utility Employees
- Outside Attorney
- Outside Engineer
- Outside Auditor

- Mayor / County Judge
- City Council / Fiscal Court
- City Attorney / County Attorney
- City Clerk / County Clerk
- Bondholders
- Utility Customers
- Local Media
- Kentucky Division of Water
- Kentucky Public Service Commission

Roles Require Definition

With Clear Roles

- ✓Clear Authority
- ✓Timely Decisions
- ✓Accountability
- ✓Effective Communications

Without Clear Roles

- ✓Muddled Authority
- ✓Delayed Decisions
- ✓Finger Pointing
- ✓Misunderstandings

City of Monticello Utility Commission Case Study

City of Monticello Utility Commission

- ✓New Mayor and Utility Commission Chairman
- ✓Operating transfer of $50,000/month to City
- ✓Delayed infrastructure Investments
- ✓Less than satisfactory operating results
- ✓Loss of institutional memory with retirement of long-time City Clerk

Project to Implement Best Practices in Utility Governance

- Deliver training on “Working Effectively as a Board”.
- Conduct workshop on governance and accountability decisions.
- Document adopted changes in governance practices.
- Assist with necessary changes in bylaws.

W = *Whose decision is it to make?*

C = *Who needs to be consulted before a decision is made?*

N = *Who must be kept notified of a decision?*

A = *Who must approve a decision?*

D = *Who decides in case of conflict on issues?*

X = *Who has no role in decision?*

City of Monticello Utility Commission Governance Roles
September 2023

Legend

- W= Empowered to decide/act (Multiple W's require consensus or A/D)
- C= Must be consulted before a decision is made or action taken. Advice is significant but not binding.
- N= Must be kept informed of decisions/actions
- X= No Action
- A= Must approve decisions/actions
- D= Decides in case of conflict on issues submitted for resolution

		Utility Commission	Commission Chairman	Commission Secretary	Commission Treasurer	Utility Manager	Utility Employees	Outside Attorney	Outside Engineer	Outside Auditor	Mayor	City Council	City Attorney	City Clerk	Bondholders	Utility Customers	Local Media	Kentucky Division of Water	Kentucky Public Service Commission
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	**Manange Day to Day Operations**	X	X	X	X	W	N	X	X	X	X	X	X	X	X	X	X	X	X
2	**Declare Operational Emergency**	N	A	N	N	W	N	N	N	N	N	N	N	N	X	N	N	N	X
3	**Amend Ordinances 282 and 418**	C	C	C	C	X	X	C	X	N	W	A	C	C	A	N	N	X	X
4	**Confirm Commission Member Qualification**	N	N	C	X	X	X	X	X	X	N	N	N	W	X	X	X	X	X
5	**Monitor Commission Member Terms**	N	N	W	N	N	X	X	X	X	N	N	X	W	X	X	X	X	X
6	**Appoint Commission Members**	N	C	N	N	N	N	N	N	N	W	A	N	C	X	N	N	X	N
7	**Perform Commission Member Orientation**	N	W	N	N	W	X	X	X	X	N	N	X	N	X	X	X	X	X

Case Study Results

- ✓Improved understanding for Commission members.
- ✓Helpful orientation for new Mayor and Chairman.
- ✓Improved meeting agendas.
- ✓City Council support for increases in water rates.

Application

Do-It-Yourself Board Improvement

Step 1: Board Chairman and Utility Manager presents "Working Effectively as a Utility Board" to Board 1 hour

Step 2: Board Chairman and Utility Manager prepares draft matrix of Governance Roles 1.5 to 2 hours

Step 3: Board reviews, modifies, and accepts matrix of Governance Roles 1 hour

Step 4: Modify Board bylaws and procedures, if necessary

Questions?

Communications: Day to Day Basics

PETE CONRAD

KY RURAL WATER ASSOCIATION

Definition of Communications Per Merriam- Webster Dictionary

- **A:** a process by which information is exchanged between individuals through a common system of symbols, signs, or behavior *also* : exchange of information
- **B:** personal rapport – Which is a friendly, harmonious relationship

When Someone says communications, what comes to mind?

- Talking to/Between Individuals
  - In person
  - By phone
  - Texting/Emails
  - Media (Television, Newsprint, News websites)
  - Social Media
  - Employees actions in the community

Tennessee utility admits to error in letters after customers point out discrepancies

by Jakai Spikes | Wed, November 13th 2024 at 3:50 PM

Syracuse officials insist drinking water is clean as residents call for a state of emergency

By Nicole Chavez, CNN

9 minute read · Updated 6:52 AM EST, Sun November 17, 2024

Bethany-Warr Acres plant employee arrested for discharging raw sewage into local creek

by Hadley Waldren | Sat, March 29th 2025 at 12:14 PM

Menzie arrested for improper water treatment and falsifying records (Courtesy: Oklahoma County District Attorney's Office)

APRIL 2025

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FRANKFORT PLANT BOARD

RISING TO THE CHALLENGE: *FLOOD RESPONSE 2025*

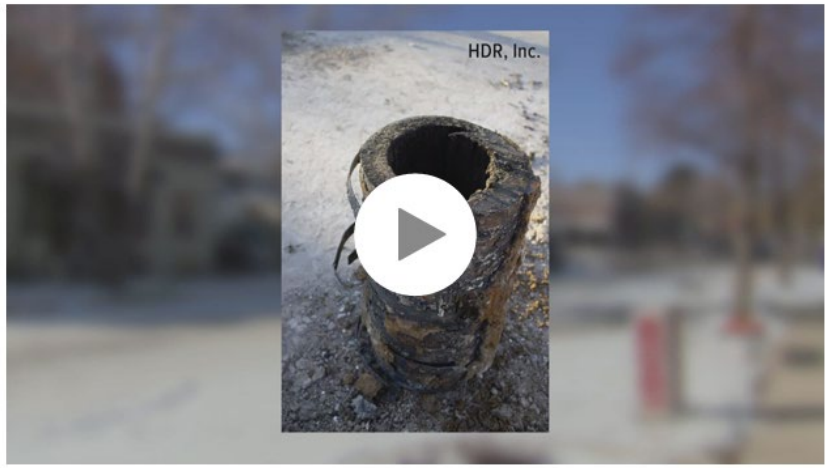
Florida Residents Urged to Stop Drinking Water in One County

Published Dec 31, 2024 at 12:12 PM EST | **Updated** Dec 31, 2024 at 4:54 PM EST

HISTORY

Wood pipe discovered by construction workers in Denver

Construction workers uncovered a wooden pipe dating back to the 1880s on West 25th Avenue.



Author: **Amy Hunter**
Published: **7:22 PM MST January 8, 2025**
Updated: **7:22 PM MST January 8, 2025**

Henderson residents could receive a 'catch-up bill' after water meter underreportings

Adam Kight **Jan 31, 2025** Updated **Jan 31, 2025** 0

NEWS

Henderson County Water District OKs pass-through rate increase for customers

Erin Schmitt erin.schmitt@thegleaner.com
Published 10:12 a.m. CT Feb. 25, 2017

Map Reveals US States With the Worst Drinking Water

Published Jan 10, 2025 at 11:11 AM EST | **Updated** Jan 13, 2025 at 5:14 AM EST

Which States Have the Cleanest Drinking Water?

The state with the fewest violations was Hawaii, with a mere two, followed by Delaware with 117, Kentucky with 139 and Nebraska with 190. The rest of the bottom ten include North Dakota at 233, South

Good communication starts at home, so to say

- I'm not saying this is how you need to be acting with your family, but it can't hurt
- At the same time, how would you like to be talked to at your home?
- The home here I mean is your work home/ utility
- How are you talking to your co-workers, bosses, their bosses, the folks in the front office??
- Are all of you talking? Like really talking???
  - Example: SLI unknown letters went out, does the office know how to respond to customer questions??
  - Example 2: Has anyone ever spoken to the folks in the office about the importance of passing along knowledge of water leaks, or overflowing manholes??

Not all communication is good, but it's also not all bad

- Today's interaction with a customer could be their first, and may be the one that becomes their impression of your system
- How do you/ can you change that impression if it isn't good??
- Watch your language/ how you speak with this individual
- How are you going to deal with a hostile person/customer?
  - In the Office
  - In the Field/ At their house
- How do you want to deal with the media/ social media?

De-escalation can be the key to some of these interactions

- Per Wikipedia, De-escalation refers to the methods and actions taken to decrease the severity of a conflict whether it be physical, verbal or of another nature
- Why does this sound familiar? It's used a lot in Law enforcement, and you are probably doing versions of it today

10 basic steps of De-escalation

- Be non-judgmental
  - Don't dismiss their feelings, stay respectful
- Respect personal space
  - Not only closeness, but if on their property, respect that space
- Be aware of nonverbal cues
  - Yours and the individual you are speaking to
- Keep your emotions in check
  - Remember, you get what you give
- Focus on feelings
  - Find out what is going on with them. How can you help?

10 Steps Continued

- Ignore challenging questions
  - Don't let the other person drag you into something or get off in the weeds
- Set limits
  - If they are getting hostile, set a limit and stick to it
- Be careful of choices/ultimatums
  - Setting these up can be tricky and can go bad
- Silence can be your friend
  - That uncomfortable moment, can work for you and let the other person think some
- Allow time for decisions
  - There's no reason you can't formulate a tentative plan and finalize it later

Don't say this

- Calm down.
- I can't help you.
- I know how you feel.
- Come with me.

Say that instead

- I can see that you are upset
- I want to help, what can I do?
- I understand that you feel…. (bonus- proves you are listening to what they are saying)
- May I speak to you? Or may I speak to you over here? (bonus- helping with personal space)

Avoid this

- Standing rigid directly in front of the person
- Pointing your finger
- Excessive gesturing or pacing
- Faking a smile

Try this Instead

- Keep a relaxed and alert stance off to the side of the person
- Keeping your hands down, open, and visible at all times
- Using slow, deliberate movements
- Maintaining a neutral and attentive facial expression

Active Listening Techniques

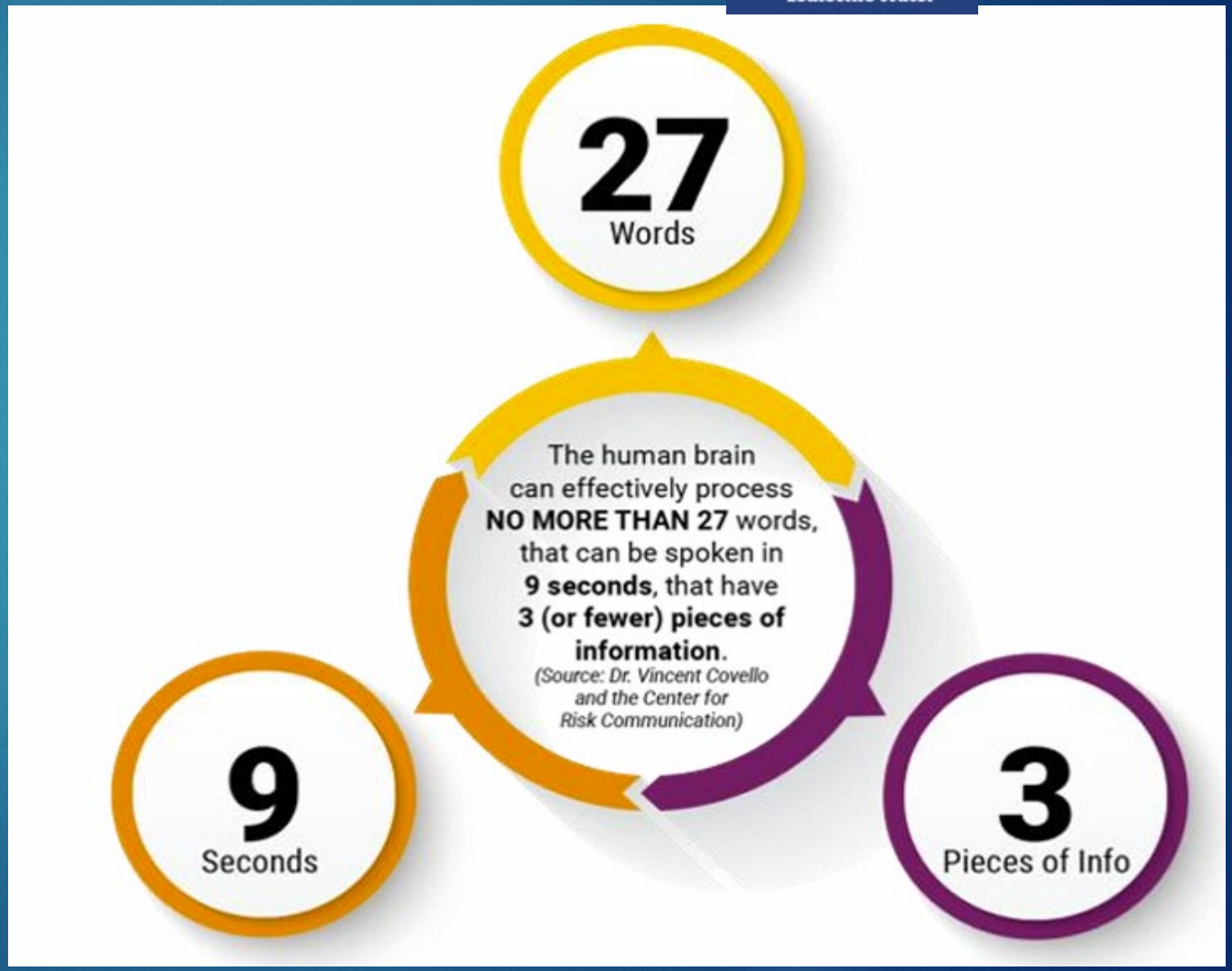
Active Listening Skill	Expected Outcomes
Using open ended questions	Person will give more information
Providing encouragement	Person elaborates on the topic
Paraphrasing statements	Person feels heard and validated
Reflecting on feelings	Person feels more understood
Summarizing interaction	Person sees new meaning in his story

Who is your audience? Who is doing the story telling?

- Who do you want your message to be heard by?
  - Who should be the one telling the story?
- Are you including all your stakeholders?
  - Industrial/ Commercial customers
  - Residential customers
  - Employees
  - Government agencies/ Elected Officials/ Board
  - Local news media/ Social Media
  - Schools/ Health Department

Less is more: 27/9/3 Principal

- The 27/9/3 Principal keeps your communication succinct and clear.
- Just because this comes from Louisville Water doesn't mean it can't work for your system



27/9/3 Principal Example

Is there lead in my drinking water?

- Your drinking water does not contain lead when it leaves the treatment plant
- The risk comes from pipes and plumbing made of lead (maybe add these types of pipes generally haven't been used since the 1950's)
- The water plant balanced the water chemistry to protect the water if it moves through a lead pipe
  - Our water system was started in the 1960's when lead was generally not the material of choice for water lines

Kelley's Colored Circle Model for Communications

Center is what story do you need to get out

- Who's the audience?
- What's the content you want put out?
- What would you consider success?
- How are you getting the story out?
- The process is a circle, it doesn't stop and needs to be reevaluated as you go

Colored Circle Model Role Play

Your System is getting ready to implement a 30% rate increase to pay for a water line replacement project

- Who is the audience?
- What is the important information to get out?
- What is success?
- How are you getting the story out?
- How are you revaluating? What gets changed?

What's some of Today's take aways?

- Communication isn't tough, but you as a system need to work on it some
- Your system needs to have 1 message
- Who is creating that message?
- De-escalation techniques work, don't be afraid to learn/use them
- Active listening is a skill to learn and use
- The 27/9/3 Principal is most likely something new to you, but can be very useful
- Remember Kelley's Colored Circle model, and if nothing else remember that your communication plan/strategy needs to be reviewed and updated, it's not something set in stone

Contact Me

Pete Conrad

P.Conrad@KRWA.org

What to Expect During a Rate Study

Daniel Reetzke, CPA
Presentation prepared by Robert K. Miller

What is a Rate Study?

- ✓ A calculation of a utility's revenues and expenses…
- ✓ Using methods acceptable to the Kentucky Public Service Commission…
- ✓ To support an application to change the utility's tariff…
- ✓ To ensure water service in compliance with state regulations and customer expectations.

Reasons to Have a Rate Study

Ordered by Kentucky Public Service Commission

- ✓ Certificate of Public Convenience and Necessity
- ✓ Purchased Water Adjustment
- ✓ Newly issued or refinanced debt
- ✓ Other reasons determined by Commission

Determined by Board of Directors

- ✓ Financial necessity
- ✓ Other reasons determined by Board of Directors

Getting Started

- ✓ Identify targeted application date and board meeting prior to that date.
- ✓ Notify Staff, Customers, Auditor, Engineer, and Attorney.
- ✓ Determine what type of rate study should be prepared.
- ✓ Determine who will perform rate study.
- ✓ Identify the point of contact for the utility.

What Type of Rate Study is Needed?

? Are you merging two or more systems?

? Have you added or lost a large commercial or industrial customer?

? Are you preparing to adopt a large multi-year capital program?

? Do you simply need to update your rates to reflect changes in costs?

Who Should Perform Rate Study?

- ✓ Staff?
- ✓ Engineer?
- ✓ Auditor?
- ✓ Consultant?

or

- ✓ **Kentucky Rural Water Association**

About Kentucky Rural Water Association

Districts / Associations *may be* eligible for funding from:

- ✓Kentucky Division of Water grant
- ✓Appalachian Regional Commission grant

Types of Rate Studies

General Rate Case

- *Requires an attorney and a cost-of-service study.*
- *Most detailed and fair to all customers.*
- *Most time-consuming and most expensive.*
- *Can be difficult to explain.*
- *Appropriate for system mergers, major changes in customer bases, and to support large capital investments.*
- *Yields different rate increases for different customers.*

Types of Rate Studies

Alternative Rate Filing with Cost-of-Service Study

- *Does not require an attorney.*
- *Detailed and fair to all customers.*
- *Can be difficult to explain.*
- *Less expensive than General Rate Case.*
- *Appropriate when several years since previous Cost-of-Service Study.*
- *Yields different rate increases for different customers.*

Types of Rate Studies

<u>Alternative Rate Filing</u> without Cost-of-Service Study

- *Least detailed, least time-consuming, and least expensive.*
- *Still fair to all customer classes when system has not significantly changed.*
- *More straightforward to explain.*
- *Appropriate for routine update to reflect changes in costs.*
- *Yields equal across-the-board increase.*

Selecting a Point of Contact for Utility

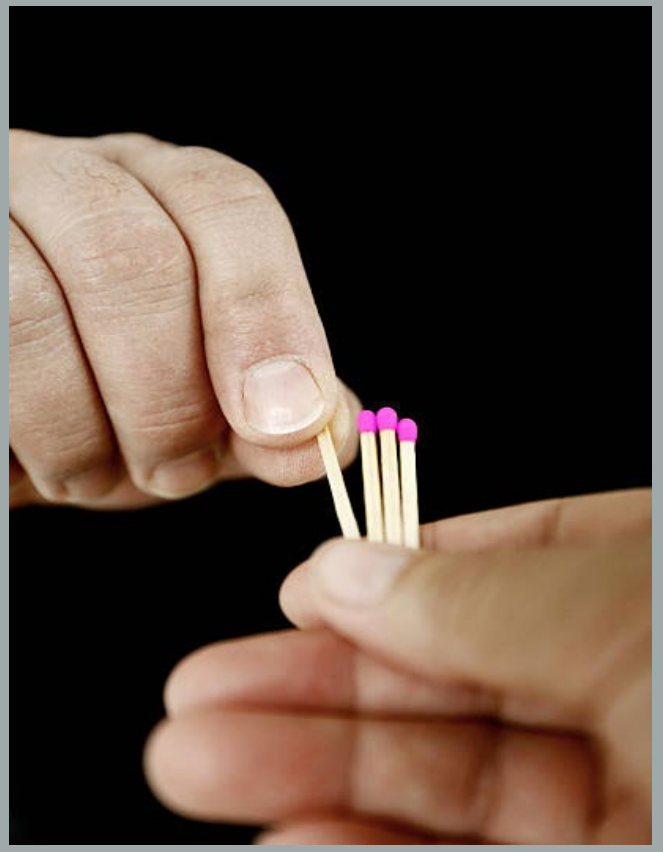
Board Chairman

Board Secretary

Utility Manager

Office Manager

Office Clerk



Alternative Rate Filing Process

- This application is governed by 807 KAR 5:076 Alternative Rate Adjustment Procedure for Small Utilities.
- Available to utilities with gross annual revenue less than $5,000,000 who maintain separate financial records and have filed an annual report with PSC for the immediate past year and the prior two years.

ARF Rate Study Phases

1. Rate Study Phase – 8 to 12 weeks

Adjust for known and measurable changes since most recent annual report filed with KY PSC:

- Adjust reported metered sales to match existing billing records of customers, consumption, and rates.
- Adjust wages and staffing to reflect current employees.
- Adjust for limit to employer-funded portion of medical and dental premiums.
- Adjust depreciation to reflect limits on asset life ranges.
- Compute revenue requirement using Debt Service Coverage Method and Operating Ratio Method.

2. Board Review / Approval Phase – 2 weeks

- Review rate study report findings and recommendations.
- Determine which method for computing Revenue Requirements should be used: Debt Service Coverage method or Operating Ratio method.
- If applicable, determine whether to request a temporary Water Loss Reduction Surcharge.
- Determine whether to request that tariff changes to be implemented immediately or over two or more years.
- Adopt resolution for recommended rates and application.

3. Application Phase – 2 weeks

- Sign Resolution.
- Sign Statement of Disclosure of Related Party Transactions.
- Advertise Customer Notice 3 times.
- File application electronically on PSC website with email copy to the AG office.
- Receive PSC procedural order with schedule.

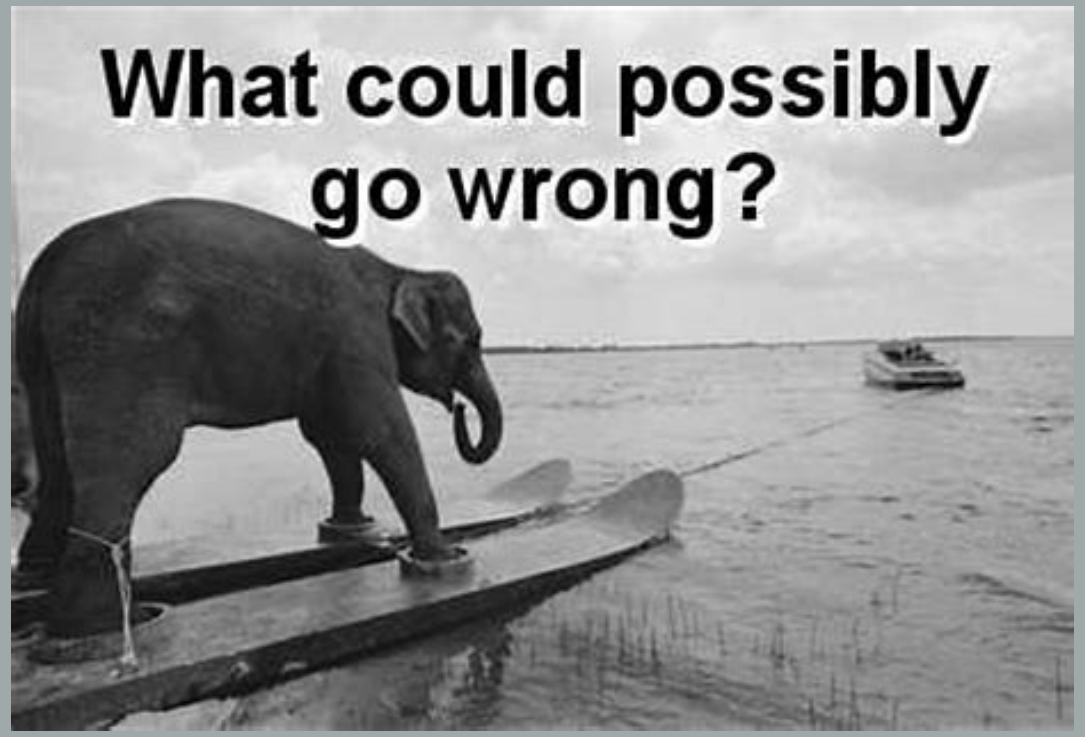
3. Request for Information Phase – 14 weeks

- Most time-consuming information discovery phase.
- Typically two or more iterations of detailed requests from PSC.

4. Wrap-Up Phase – 8 weeks

- PSC Staff releases Report to PSC Commission.
- Utility files response:
  - ✓ *Utility can agree with all Staff conclusions and request rates be approved.*
  - ✓ *Utility can agree with portions of Staff Report, but make exceptions.*
  - ✓ *Utility can ask for a hearing or informal conference.*
- PSC issues Final Order.
- Utility files revised tariff.
- Utility updates billing system with revised rates.

Lessons Learned



- ✓Problems with Annual Report.
- ✓Unable to provide records.
- ✓Debt issued without authorization.
- ✓Commissioners paid more than authorized amounts.
- ✓Conflicts of interests.
- ✓Failure to meet deadlines.
- ✓Waiting too long between rate studies.

Remember:

PSC bats last!

Questions?

Reducing Water Loss
Step by Step Approach

Allen County Water District

Juan Martinez, ACWD

Matt Curtis, Bluegrass Engineering

BLUEGRASS ENGINEERING PLLC

222 East Main Street, Ste. 1 • Georgetown, KY 40324

February 21, 2024

Kentucky Rural Water Association

Management Conference

Bluegrass Engineering, PLLC

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- Located in Georgetown, KY
- Work for 35+ utilities across the Commonwealth of Kentucky

Allen County Water District

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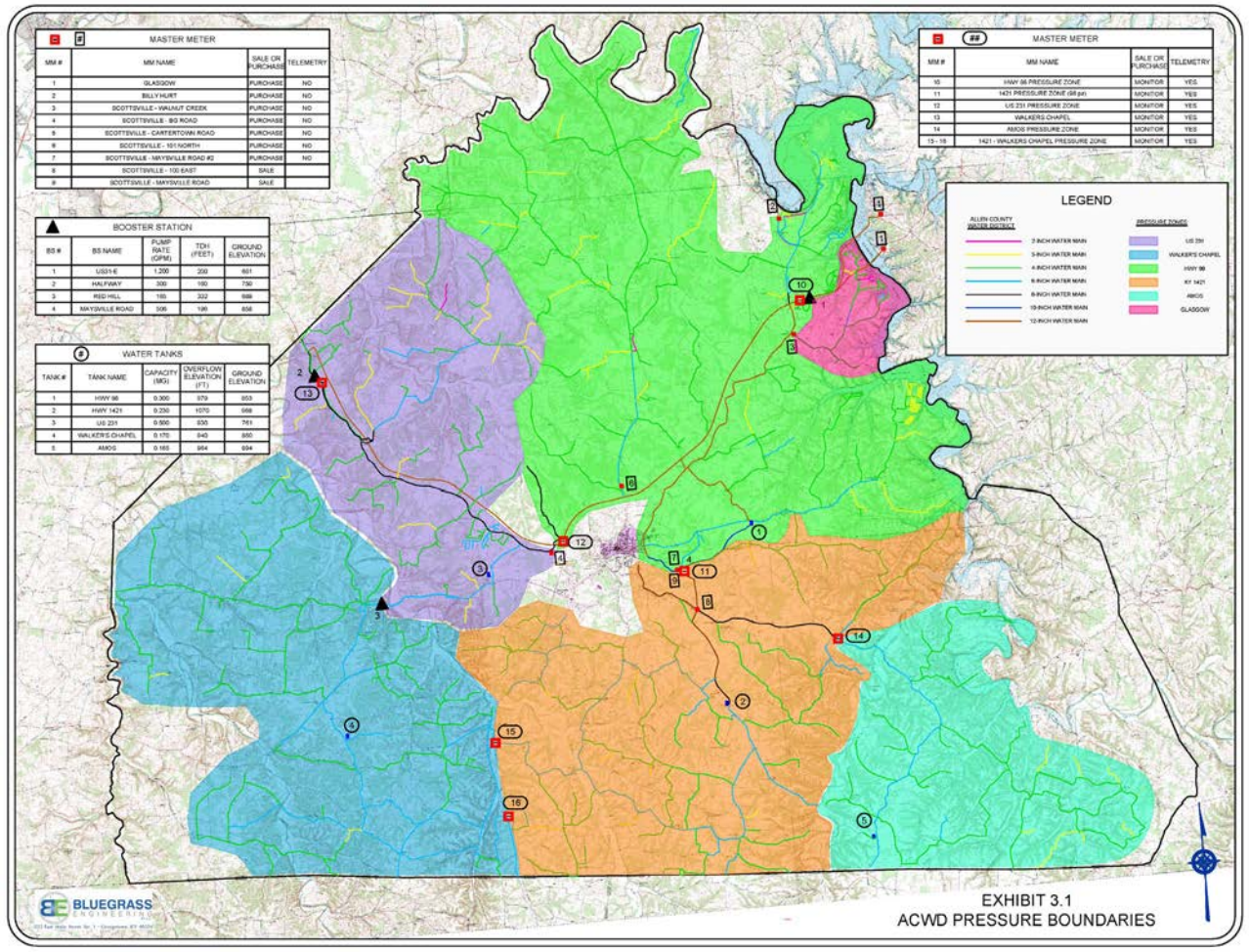
- Purchases water from Glasgow Water Company & City of Scottsville
- ~6,500 total customers
- Historic Water Loss from 20% - 40%
- Operate Six Pressure Zones – Pressures from 35 – 200 psi

Allen County Water District

- System Makeup

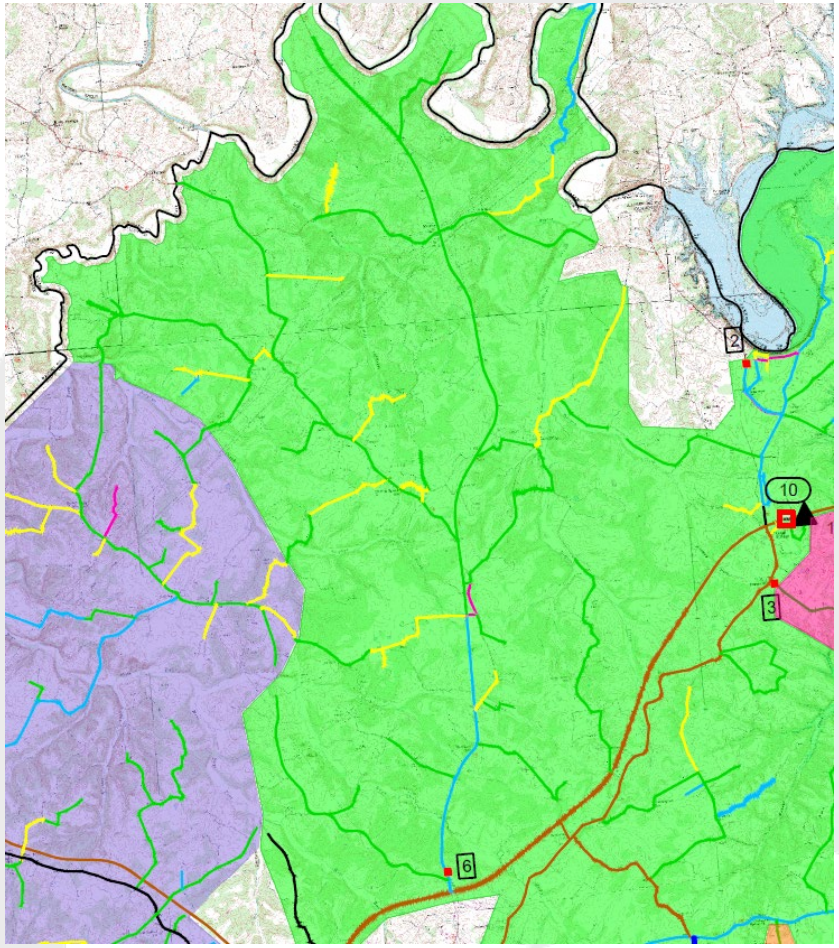


Decade of Installation	Pipe (Linear Feet)	Percentage of Total Pipe
1970	1,323,515	52%
1980	518,761	20%
1990	226,008	9%
2000	416,289	16%
2010	68,632	3%

Diameter of Pipe	Pipe (Linear Feet)	Percentage of Total Pipe Diameter
2-inch or less	33,749	1.3%
3-inch	239,783	9.5%
4-inch	1,473,814	58.1%
6-inch	514,047	20.3%
8-inch	94,047	3.7%
10-inch	17,831	0.7%
12-inch	161,675	6.4%

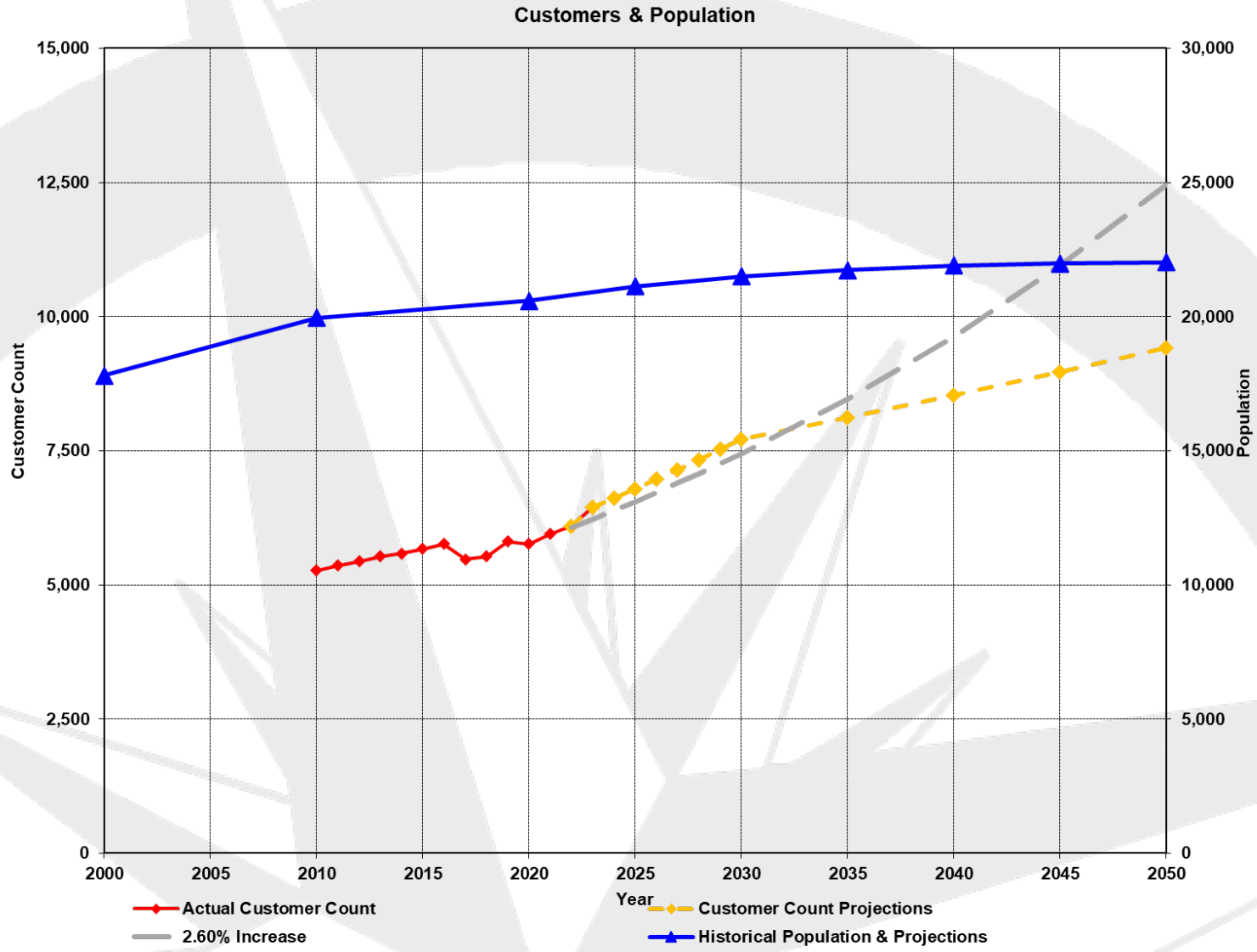
Allen County Water District

- Growth, Growth



- Historically heavy with agricultural customers
- Shifting End Users
- More customer density
- Customer Expectations
- Seasonal Customers

Allen County Water District



Allen County Water District

- ACWD Goals

- Reduce Non-Revenue Water

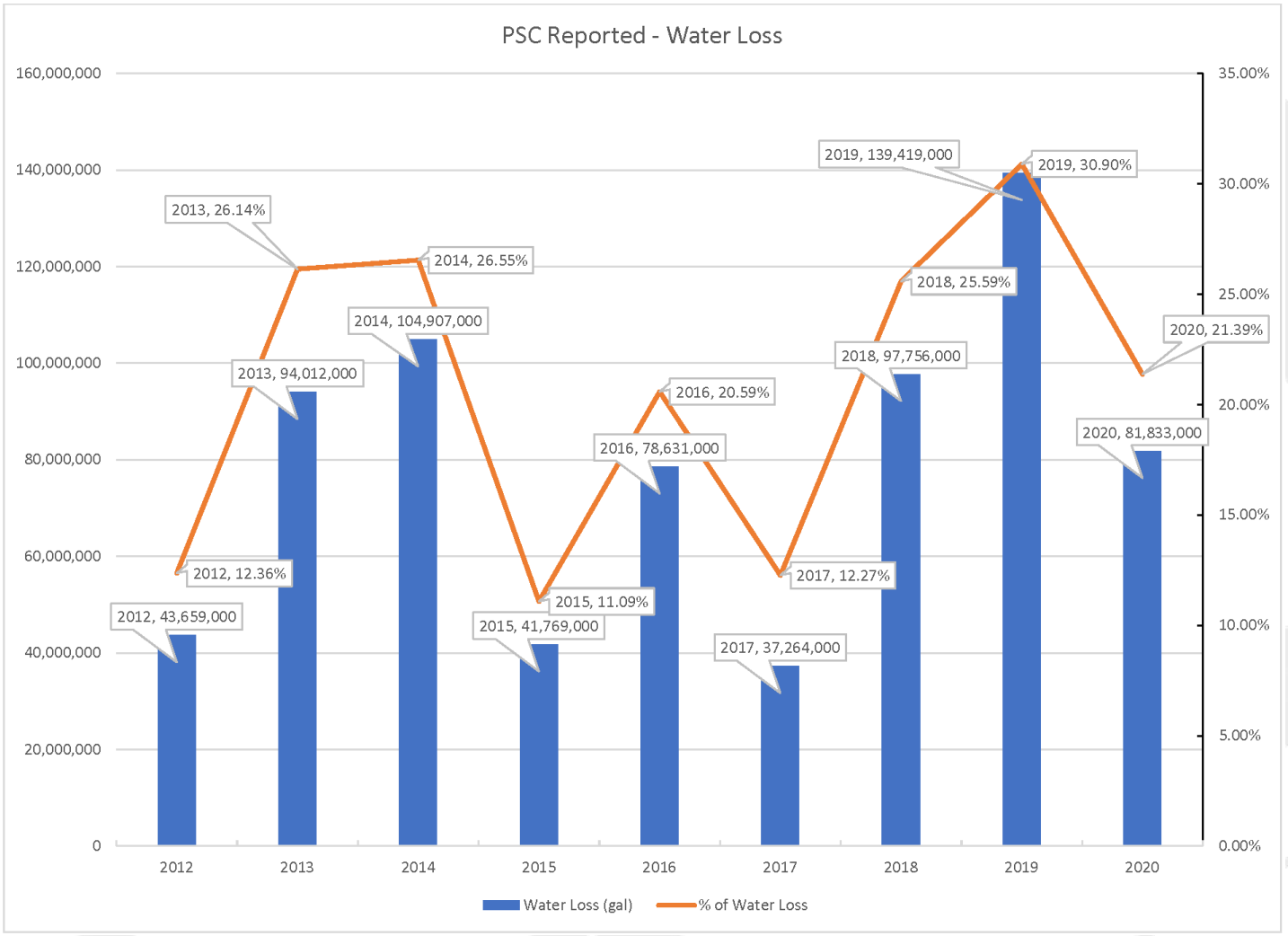
- Maintain less than 15% Water Loss on a 12-month average
    - Would reduce lost revenue by $81,000 annually

- Develop & Implement Water Loss Control Program

- Be Proactive in Finding & Removing Water Loss Sources

Allen County Water District

- ACWD Historic Water Loss



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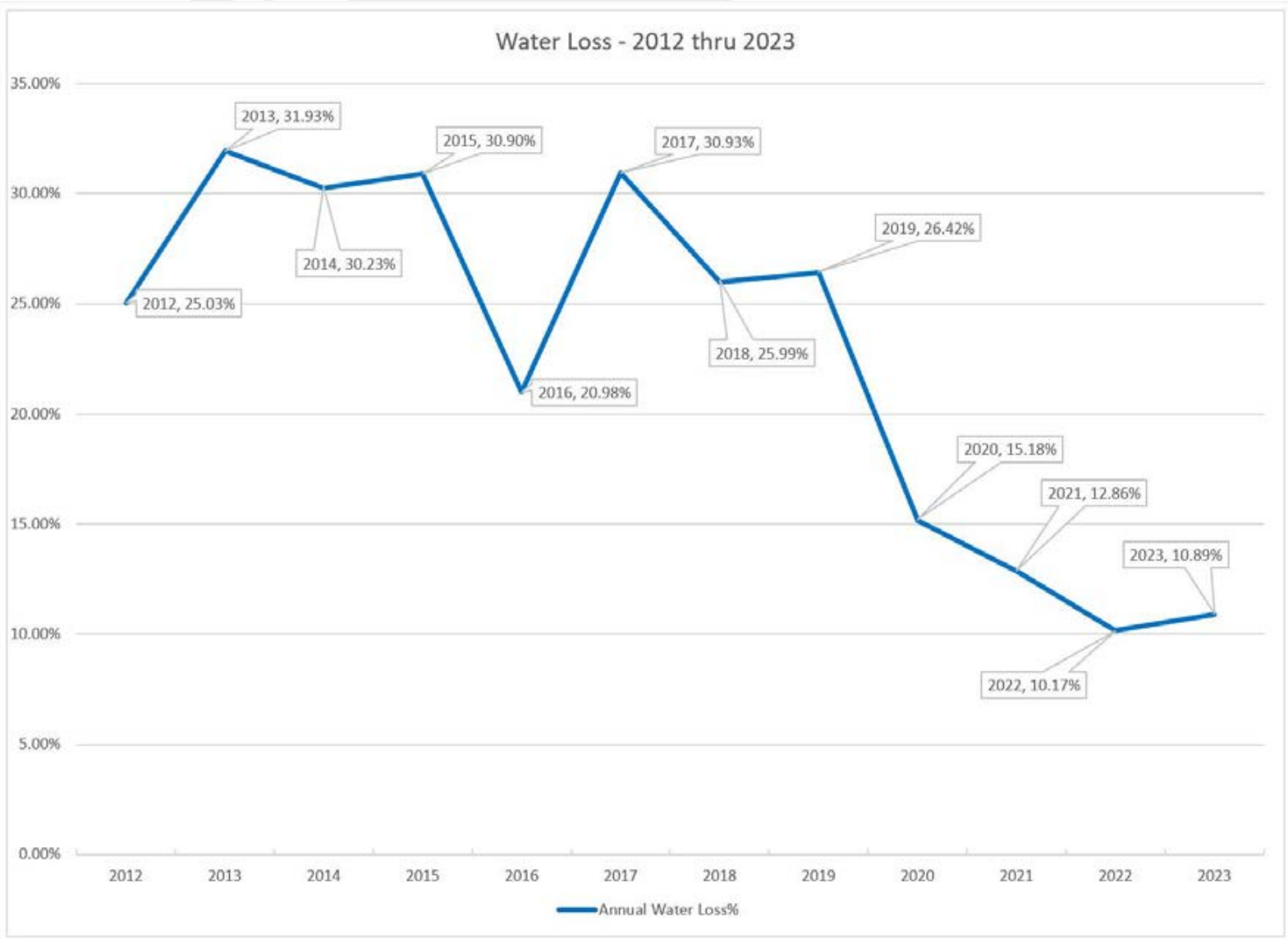

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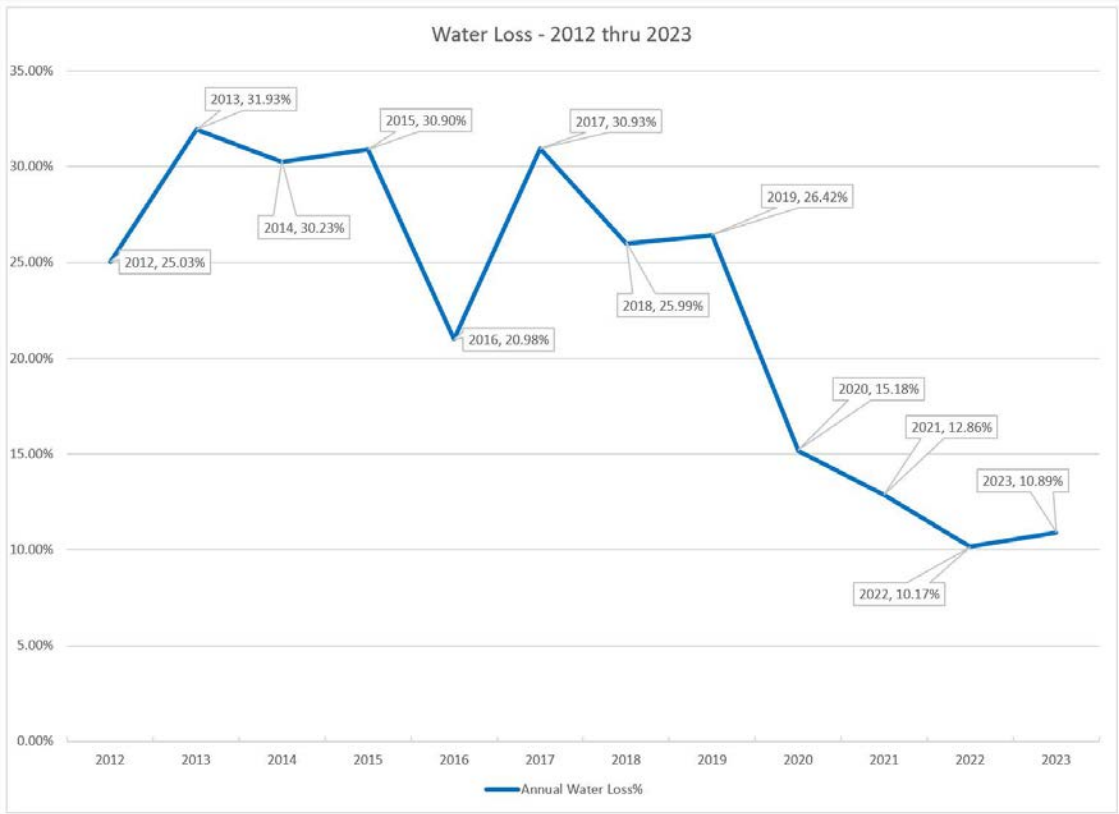
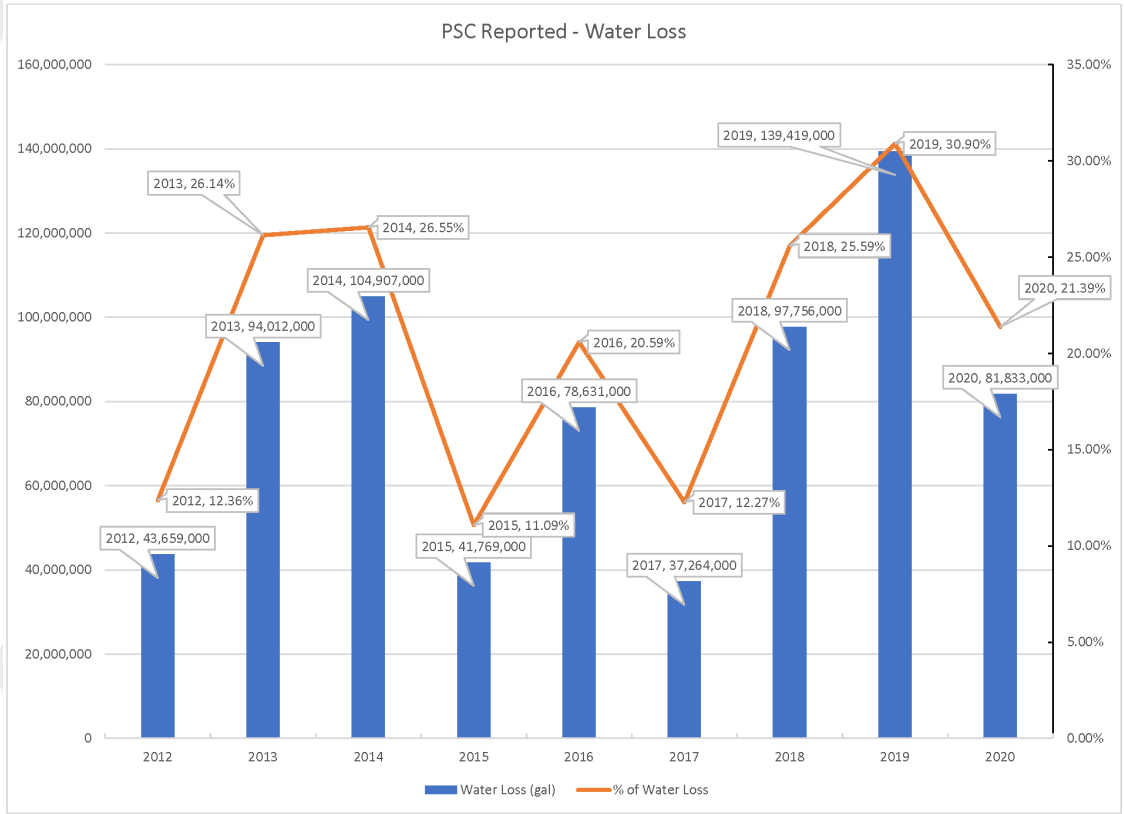




Allen County Water District

Allen County Water District

- ACWD Steps to Water Loss Reduction
  - Review of Existing Data
  - Establish Baseline
  - Improve Data Accuracy
  - Use the Data
  - Be Proactive

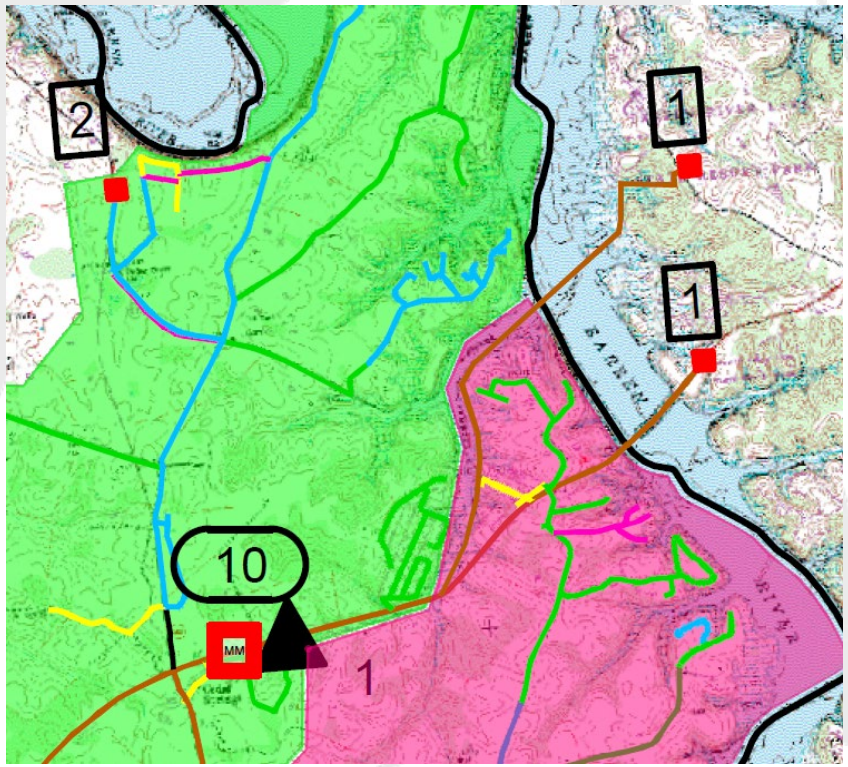
Allen County Water District

- Review of MORs

  - ACWD purchases water from GWC & Scottsville

  - Discrepancies between GWC & ACWD MORs

  - Discrepancies in Water Loss %



Allen County Water District

- Review of System Operations
  - Established Pressure Zone account classifications
    - Review Usage Biannually
  - Established Pressure Zone Metering Locations
    - Read Master Meters Daily
  - Established Spreadsheets for Data Entry
    - Building Historic Baseline

Allen County Water District

- Review of Data
  - Correlating Meter Readings
    - Read at different times of the month
      - GWC reads on 1st of the month
      - Scottsville reads on 20th of the month
      - ACWD reads on the 18th of the month
    - Water Loss on a 12-month rolling average

Allen County Water District

- Water Loss Control Program
  - Formalized SOPs
    - Data Collection
    - Data Monitoring
    - Trigger Limits

Allen County Water District

- Water Meter Accuracy Verification

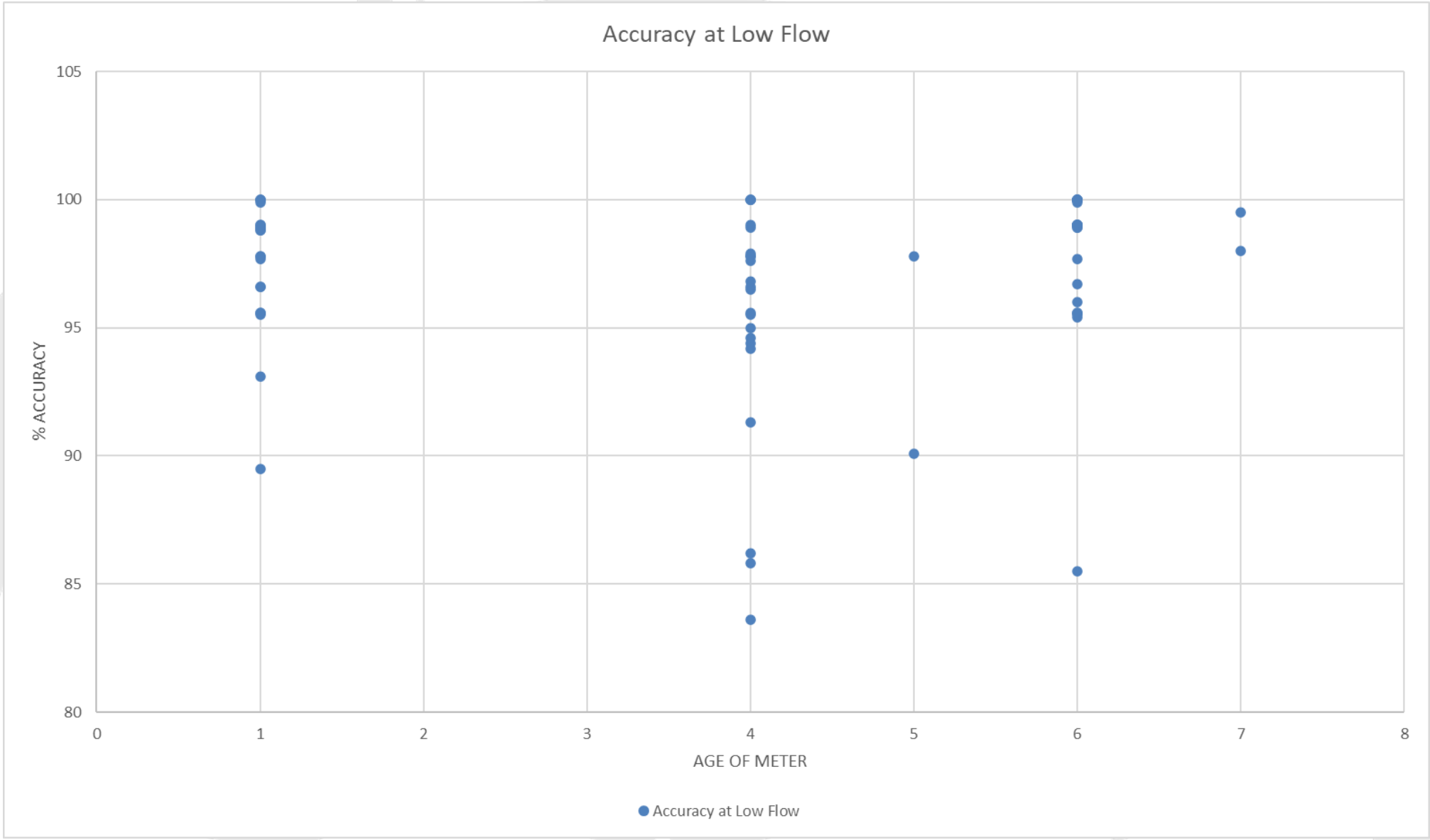
  - No reads increased

  - Randomly pulled meters for testing

Meter Year	Total Number of Meters	Margin of Error (%)		
		10 +/-	15 +/-	20 +/-
2022	537	82	40	23
2025	617	83	40	23
2028				
Totals				

Meter Age	# of Meters Tested	Low Flow (1/4 gpm) Slow/Accurate/Fast	Intermediate Flow (2 gpm) Slow/Accurate/Fast	Maximum Flow (15 gpm) Slow/Accurate/Fast
1-Year	20	50%/50%/0%	30%/70%/0%	0%/70%/30%
4-Year	24	79%/21%/0%	25%/71%/4%	4%/79%/17%
6-Year	26	39%/61%/0%	4%/88%/8%	4%/77%/19%

Allen County Water District



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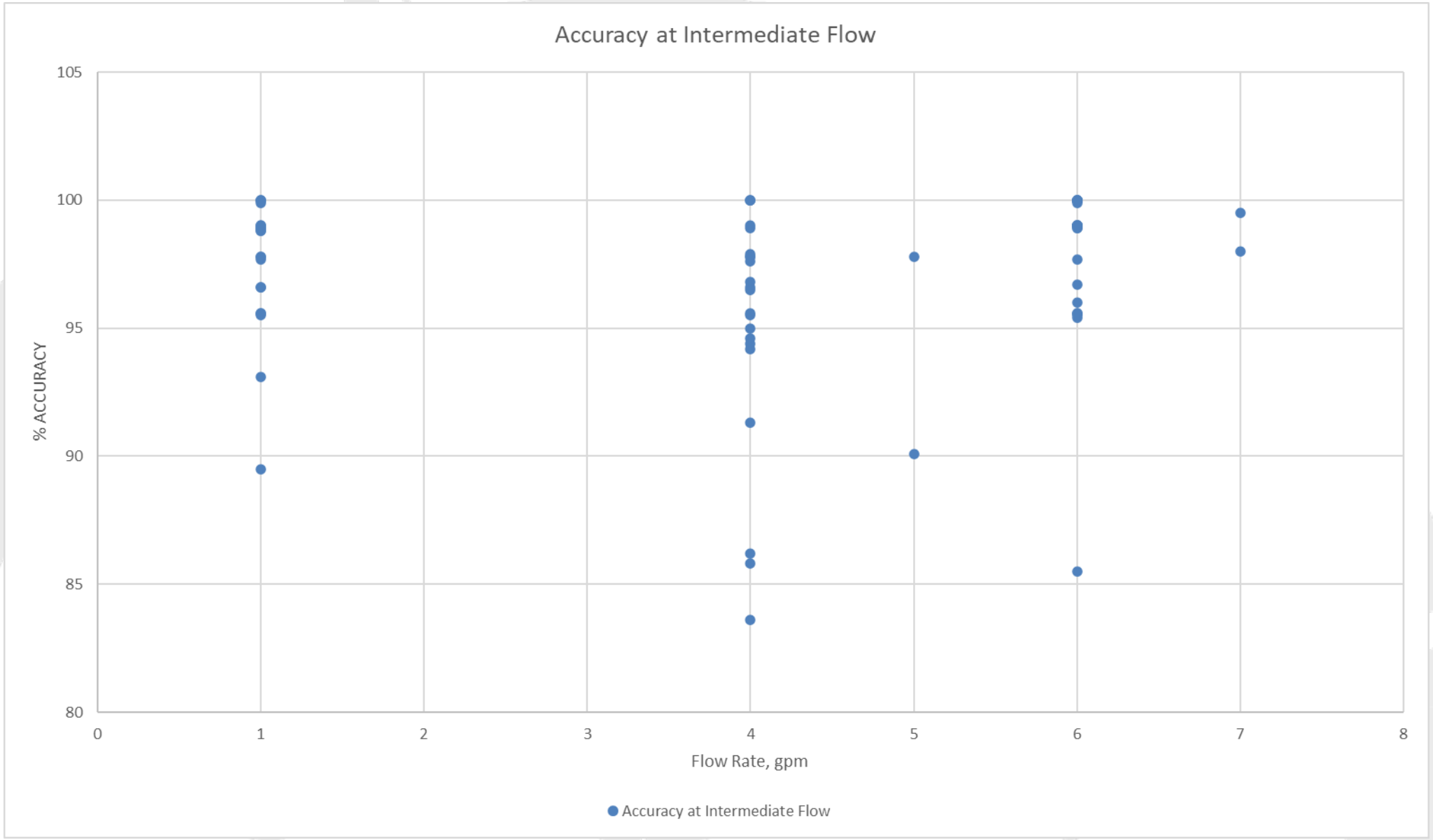

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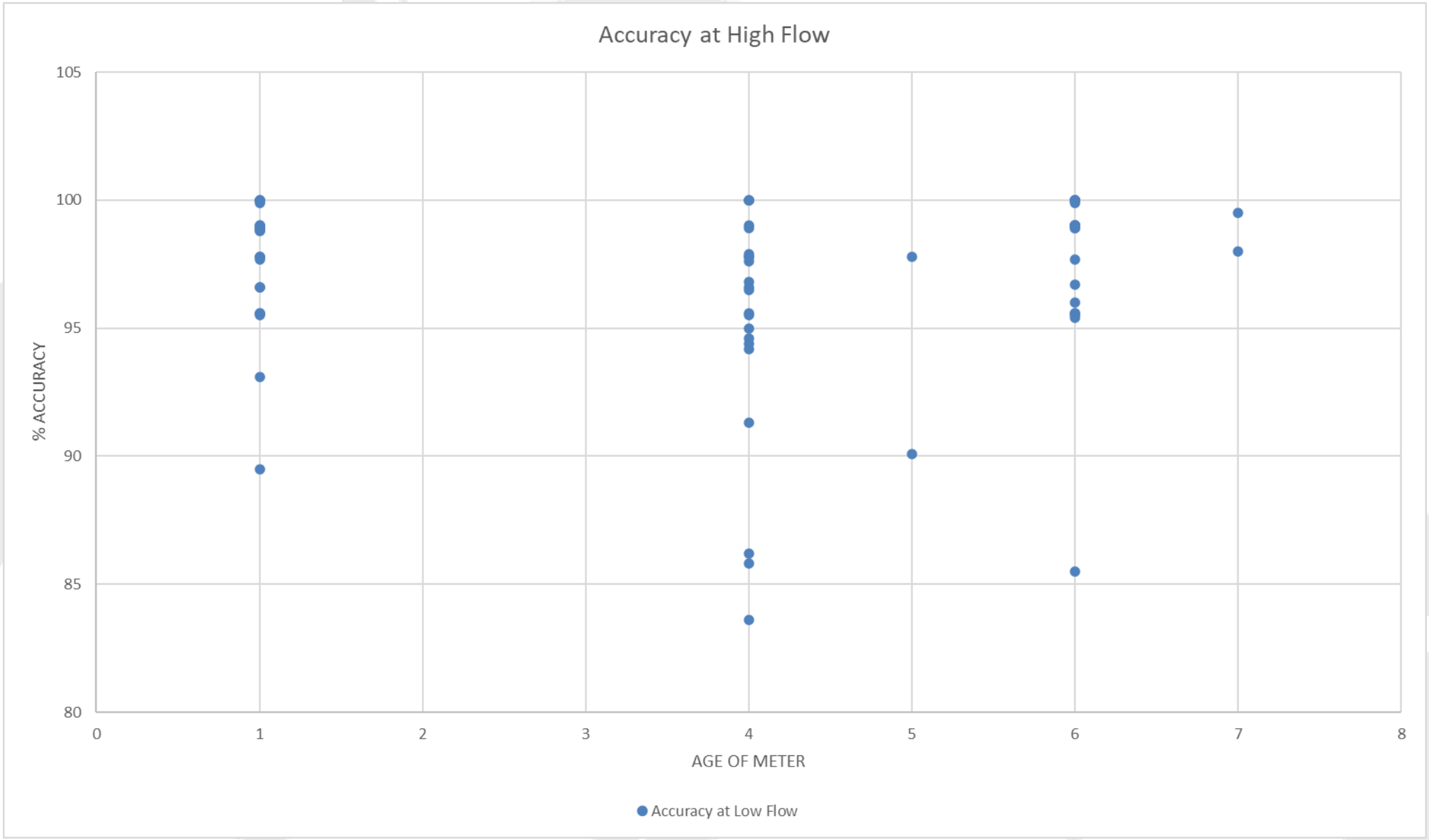


Allen County Water District

- Water Meter Selection
  - Capture low flow at the meter
  - Radio Read System
    - Losing 25 work days to manual
  - Monitoring of water usage

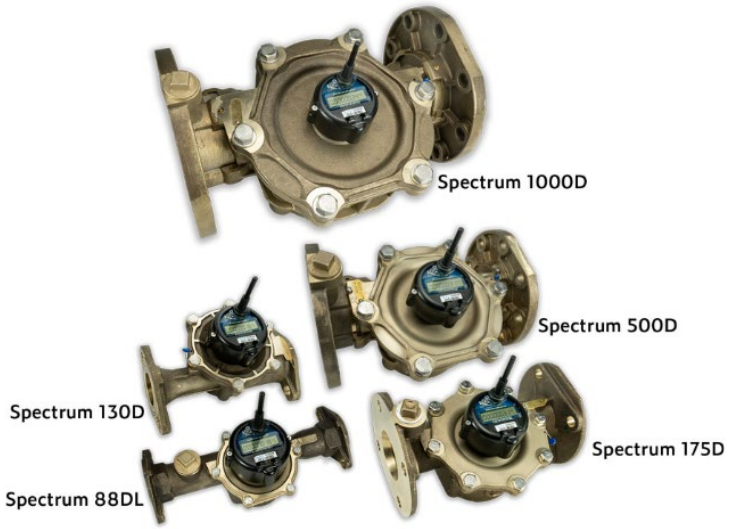
Allen County Water District

- Residential Water Meters
  - Neptune, Sensus, Badger, Diehl, Kamstrup
  - Had to capture low flow
  - Monitoring of water usage for customer relations

Allen County Water District

- Zone Master Meters

  - Utilized several different manufacturers
  - Mag Meters at Booster Stations & Isolation MM
  - e-Flowmeter (insertion flow meter) at Control Valves
  - Smart Meter Technology



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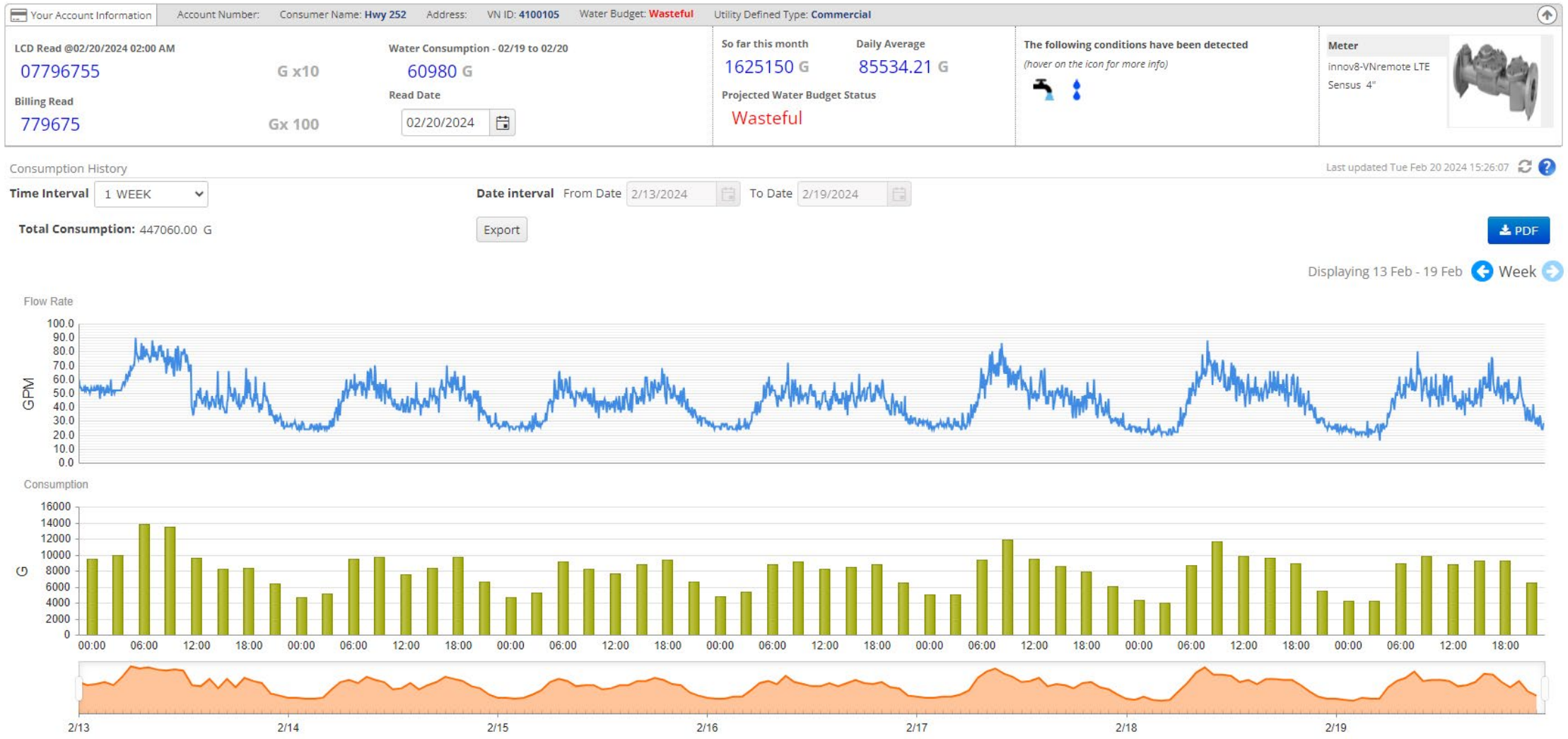

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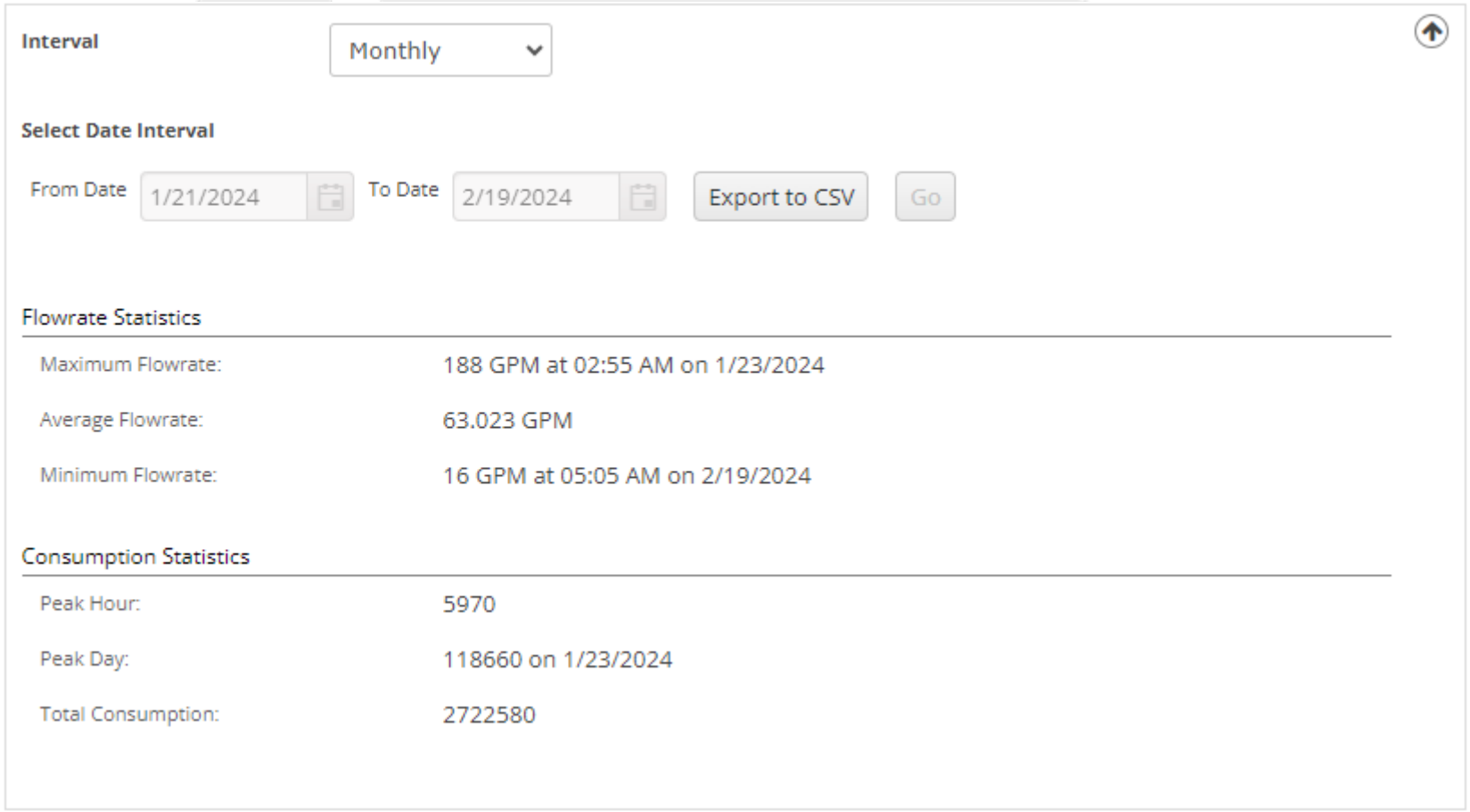

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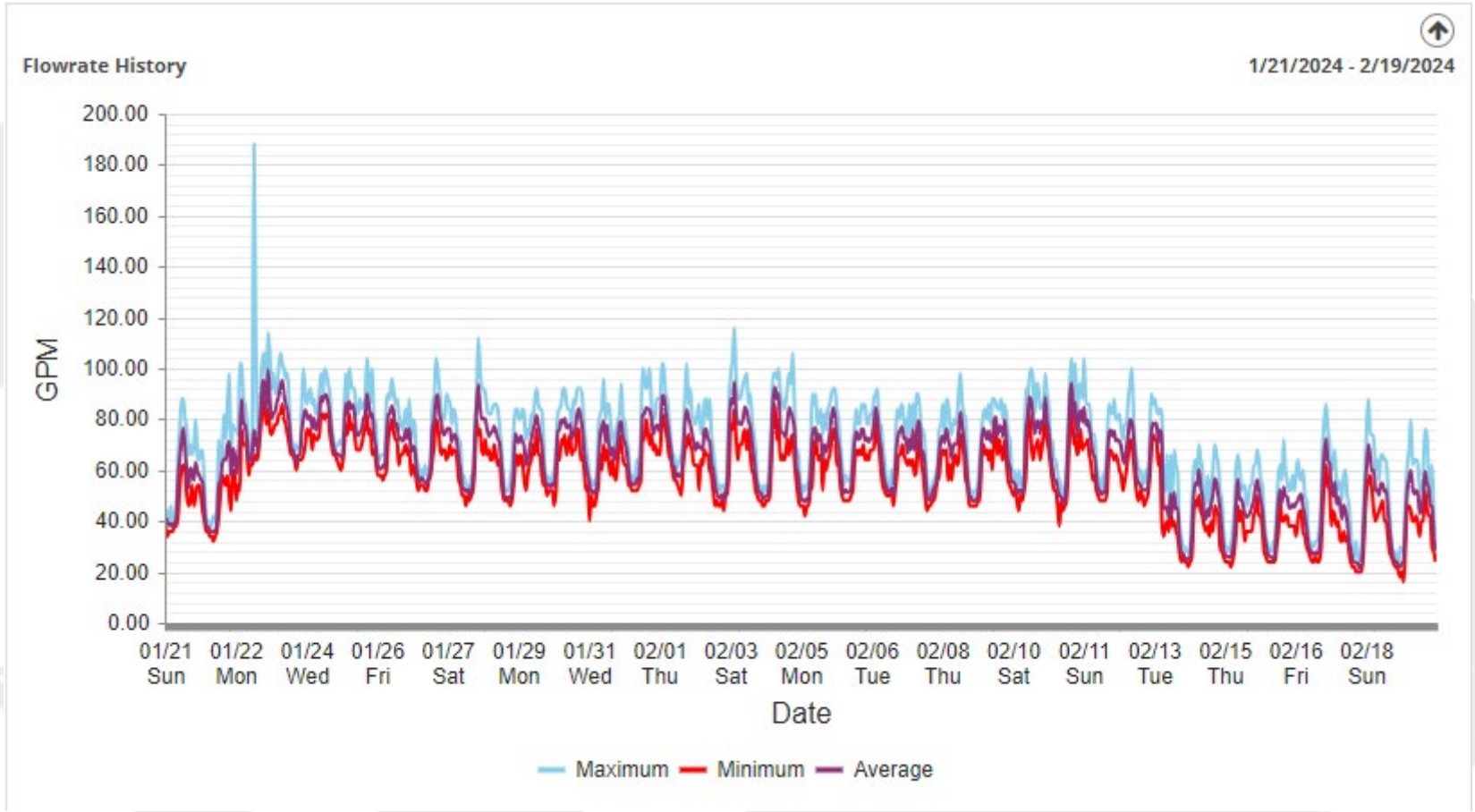
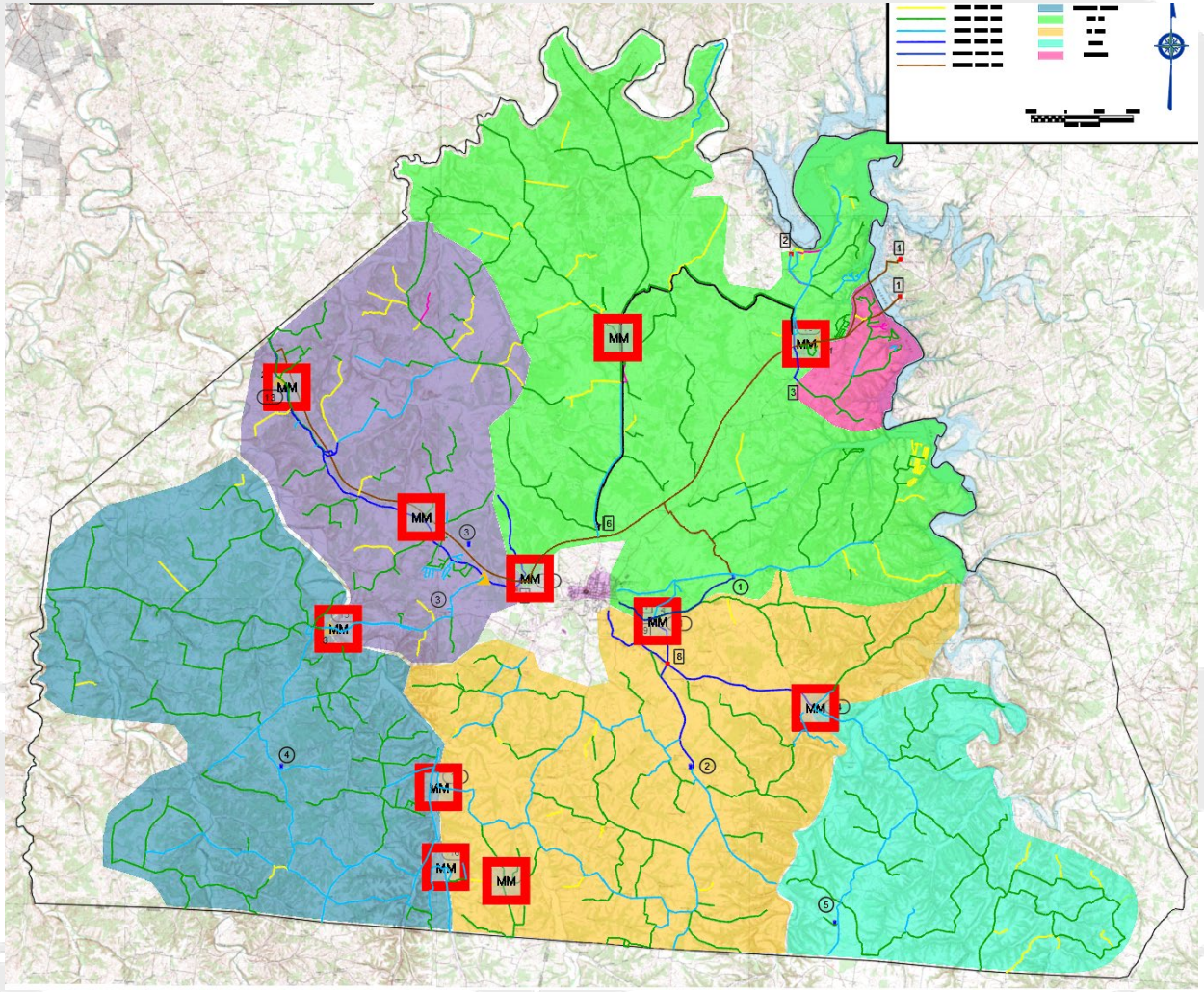


Allen County Water District

- Zone Master Meter Locations



Establishing a Baseline

- What is our water loss?

  - Real or Apparent Water Losses

- What are potential sources of real water loss?
- How can we isolate pressure zones via meters, usage & water loss?

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Allen County Water District

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Allen County Water District

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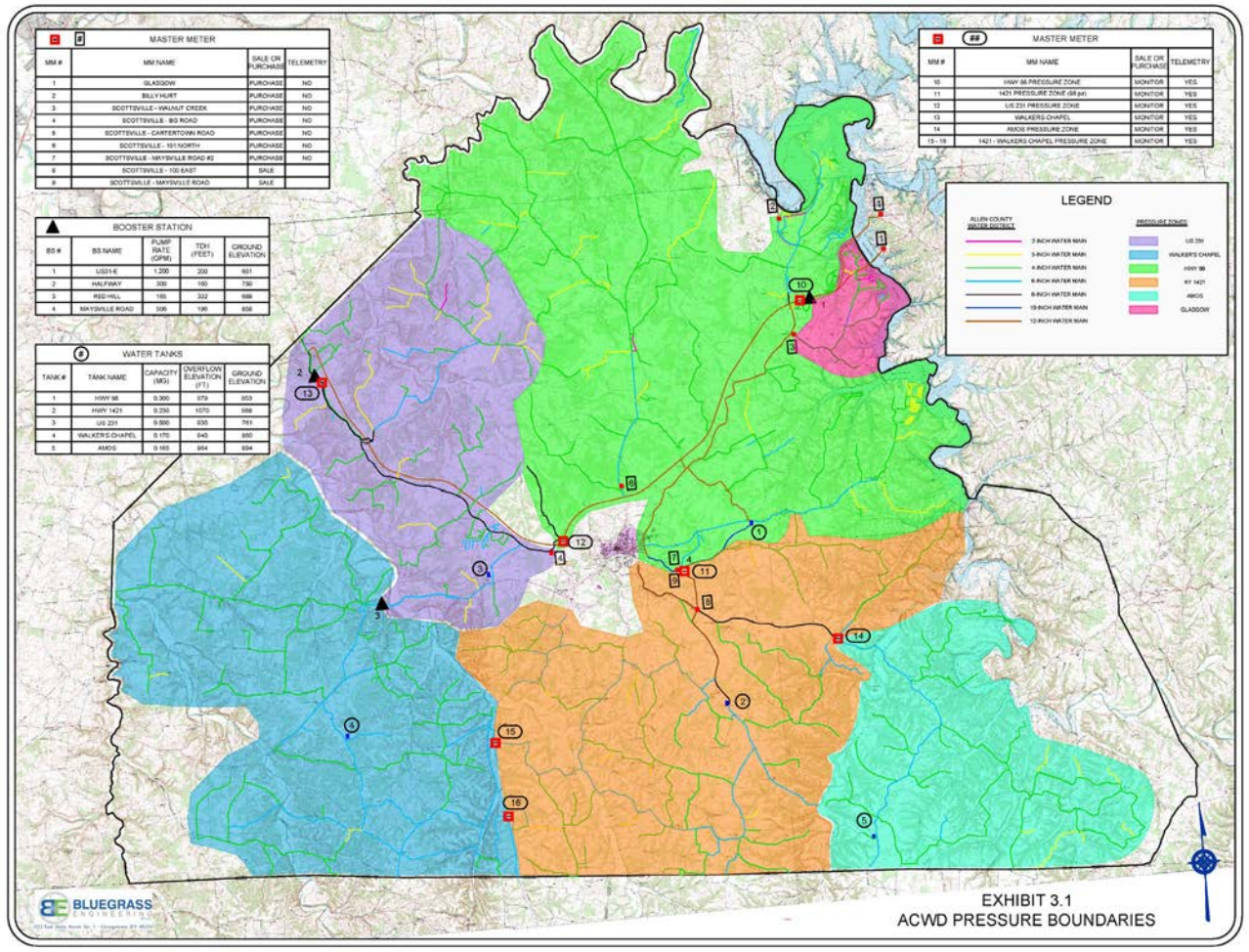

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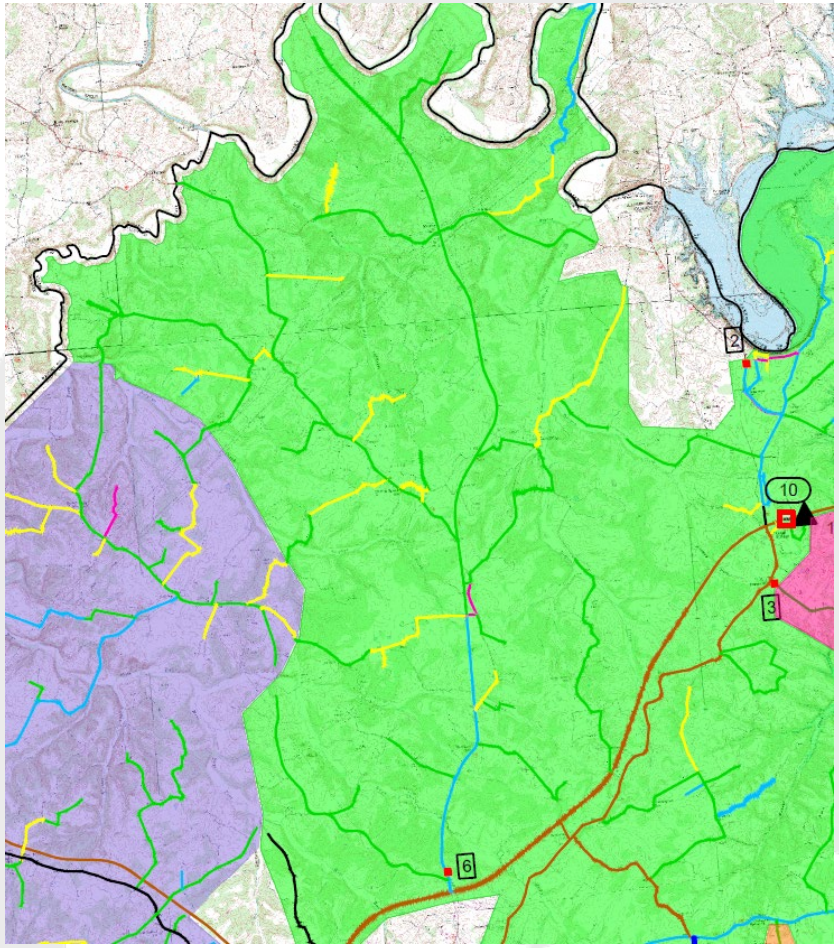

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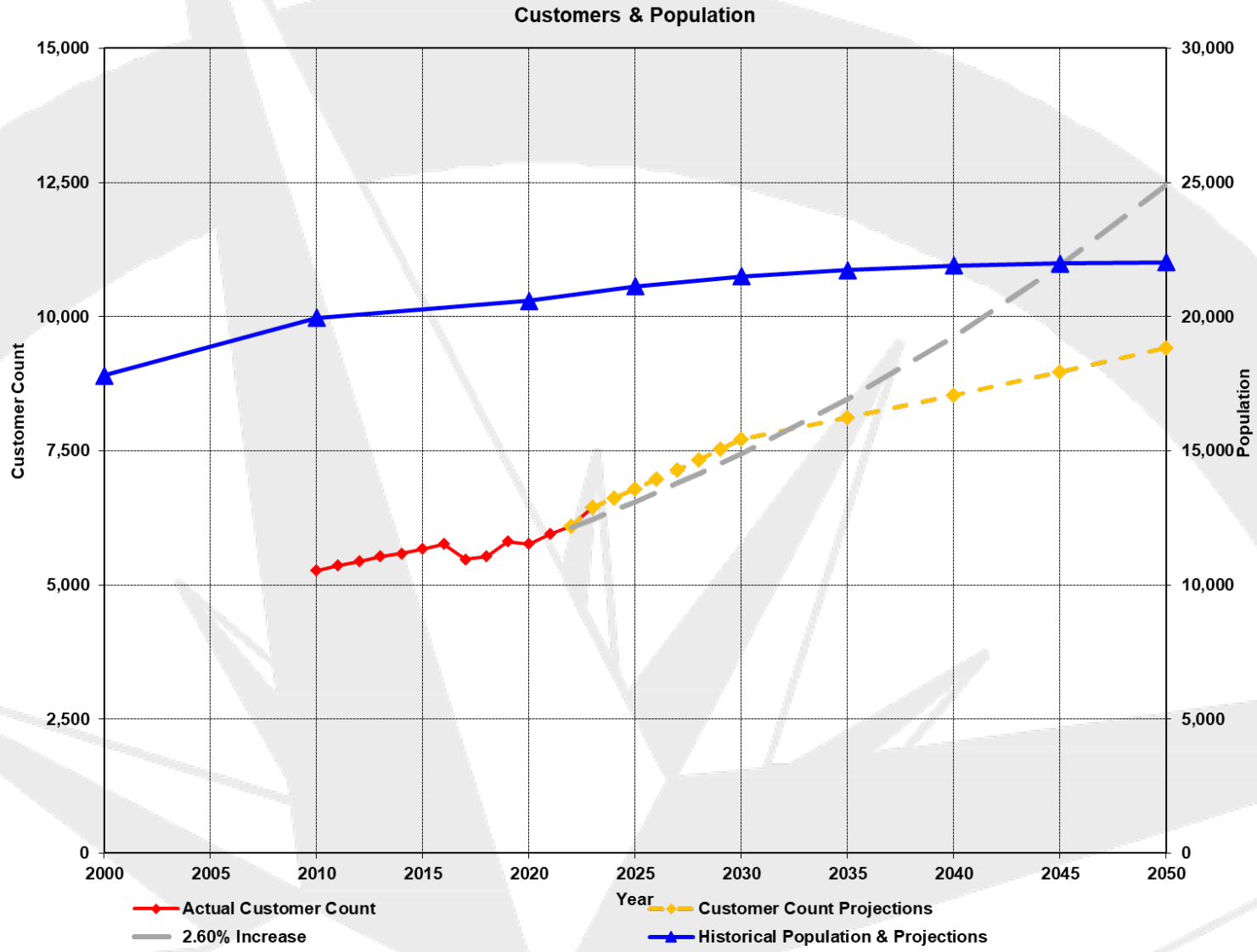

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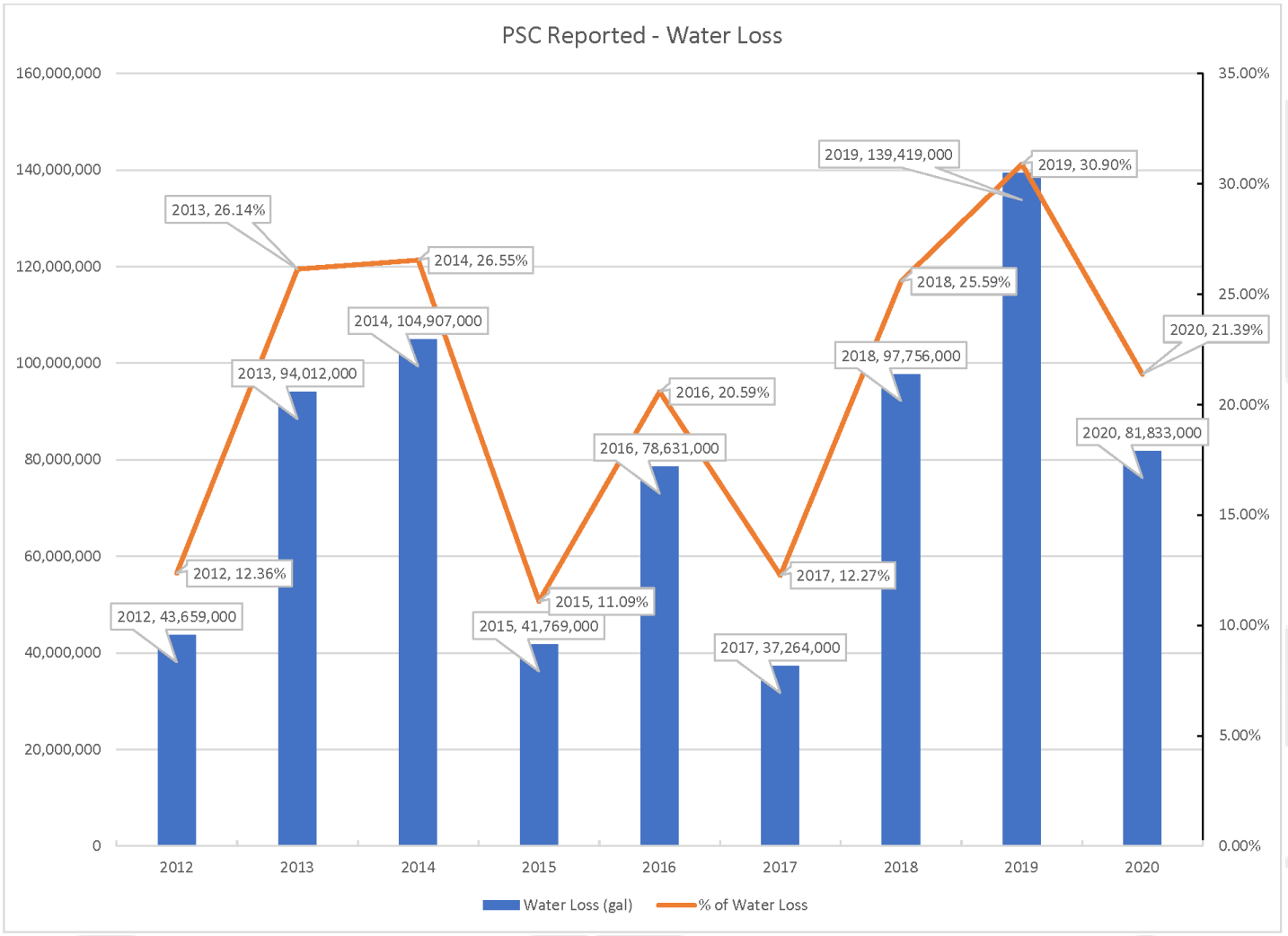
    - Would reduce lost revenue by $81,000 annually

- Develop & Implement Water Loss Control Program

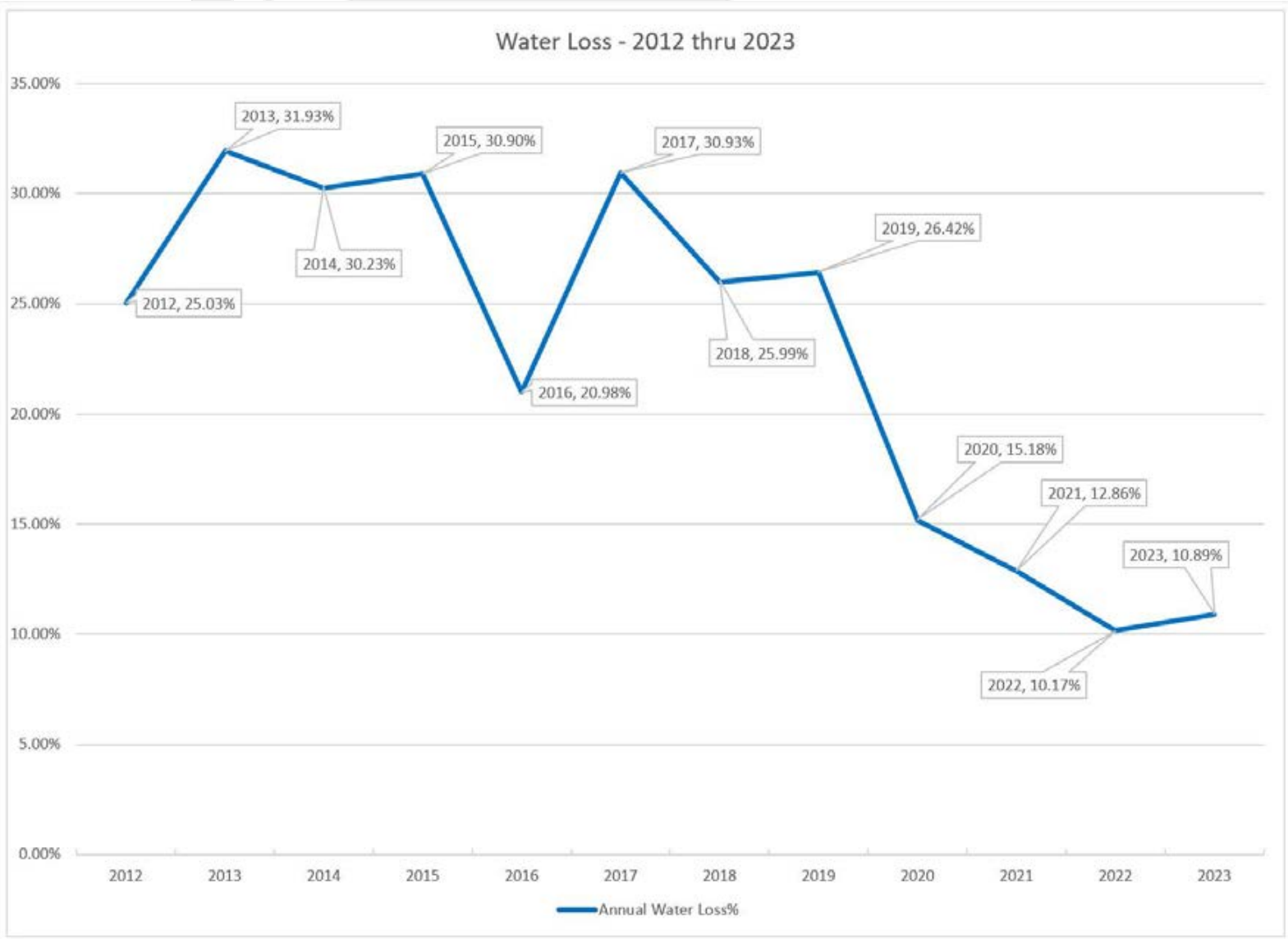
- Be Proactive in Finding & Removing Water Loss Sources

Allen County Water District

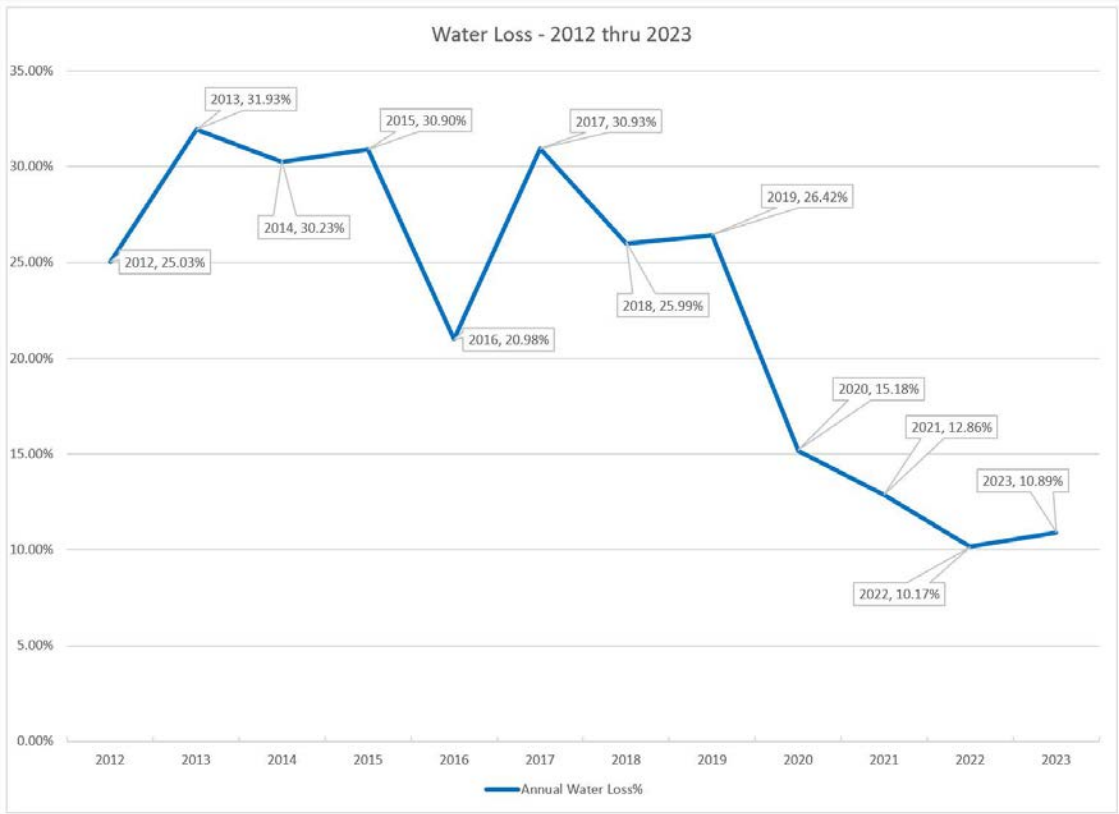
- ACWD Historic Water Loss

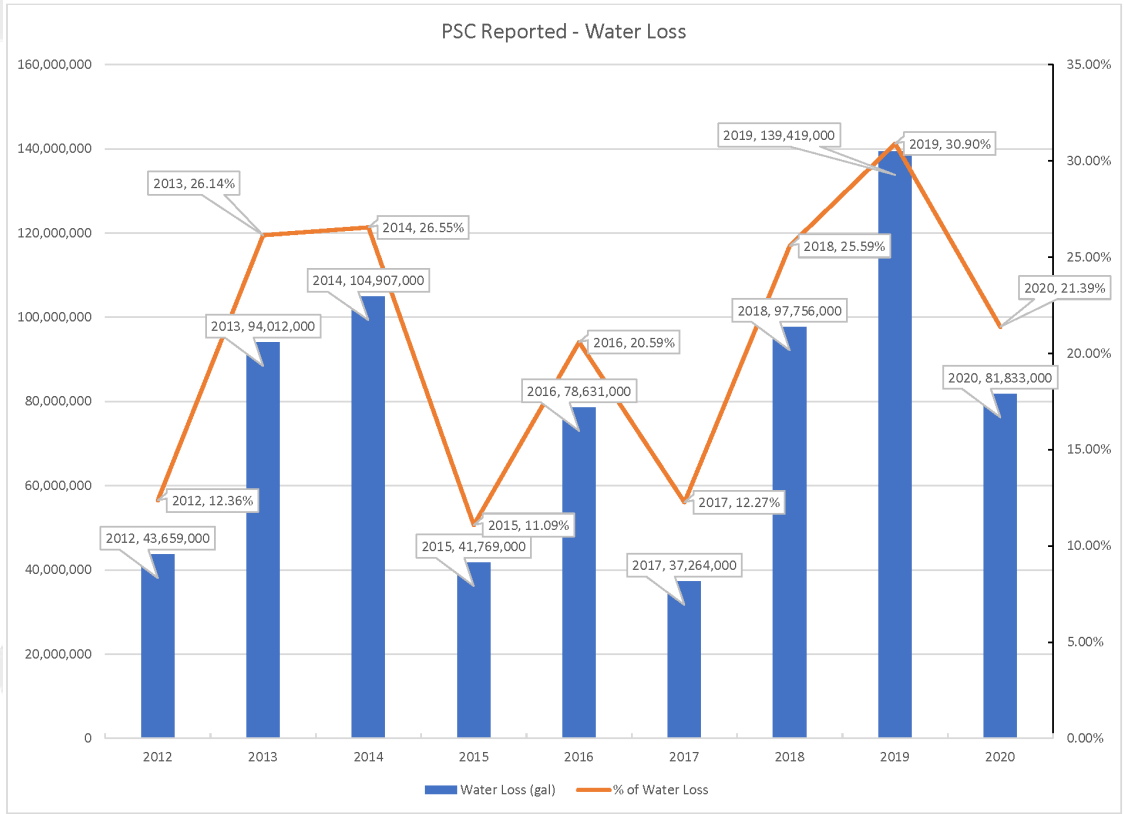


Allen County Water District



Allen County Water District





Allen County Water District

Allen County Water District

- ACWD Steps to Water Loss Reduction
  - Review of Existing Data
  - Establish Baseline
  - Improve Data Accuracy
  - Use the Data
  - Be Proactive

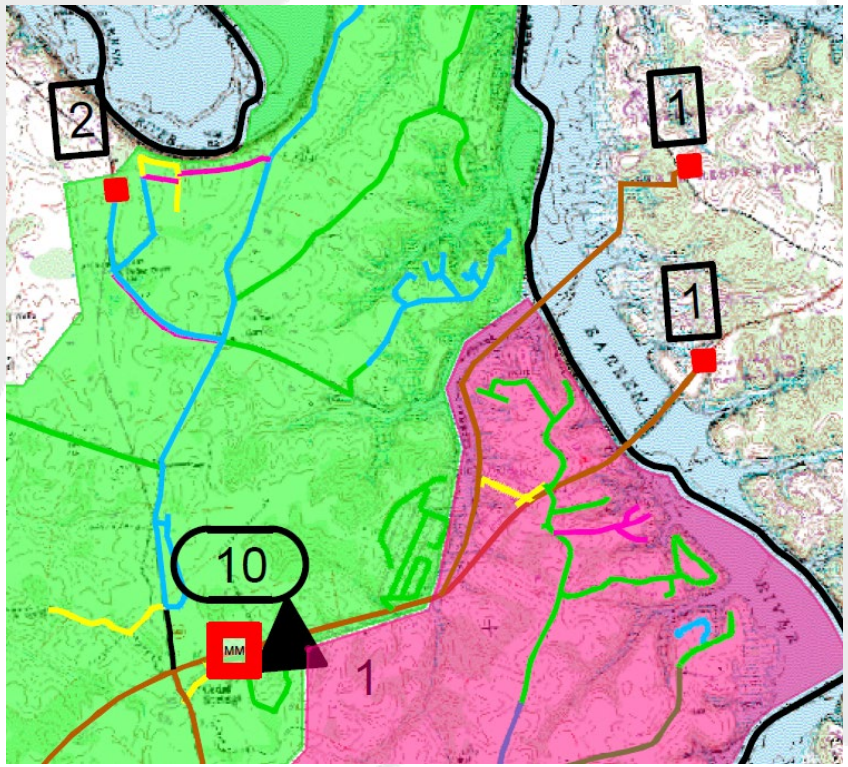
Allen County Water District

- Review of MORs

  - ACWD purchases water from GWC & Scottsville

  - Discrepancies between GWC & ACWD MORs

  - Discrepancies in Water Loss %



Allen County Water District

- Review of System Operations
  - Established Pressure Zone account classifications
    - Review Usage Biannually
  - Established Pressure Zone Metering Locations
    - Read Master Meters Daily
  - Established Spreadsheets for Data Entry
    - Building Historic Baseline

Allen County Water District

- Review of Data
  - Correlating Meter Readings
    - Read at different times of the month
      - GWC reads on 1st of the month
      - Scottsville reads on 20th of the month
      - ACWD reads on the 18th of the month
    - Water Loss on a 12-month rolling average

Allen County Water District

- Water Loss Control Program
  - Formalized SOPs
    - Data Collection
    - Data Monitoring
    - Trigger Limits

Allen County Water District

- Water Meter Accuracy Verification

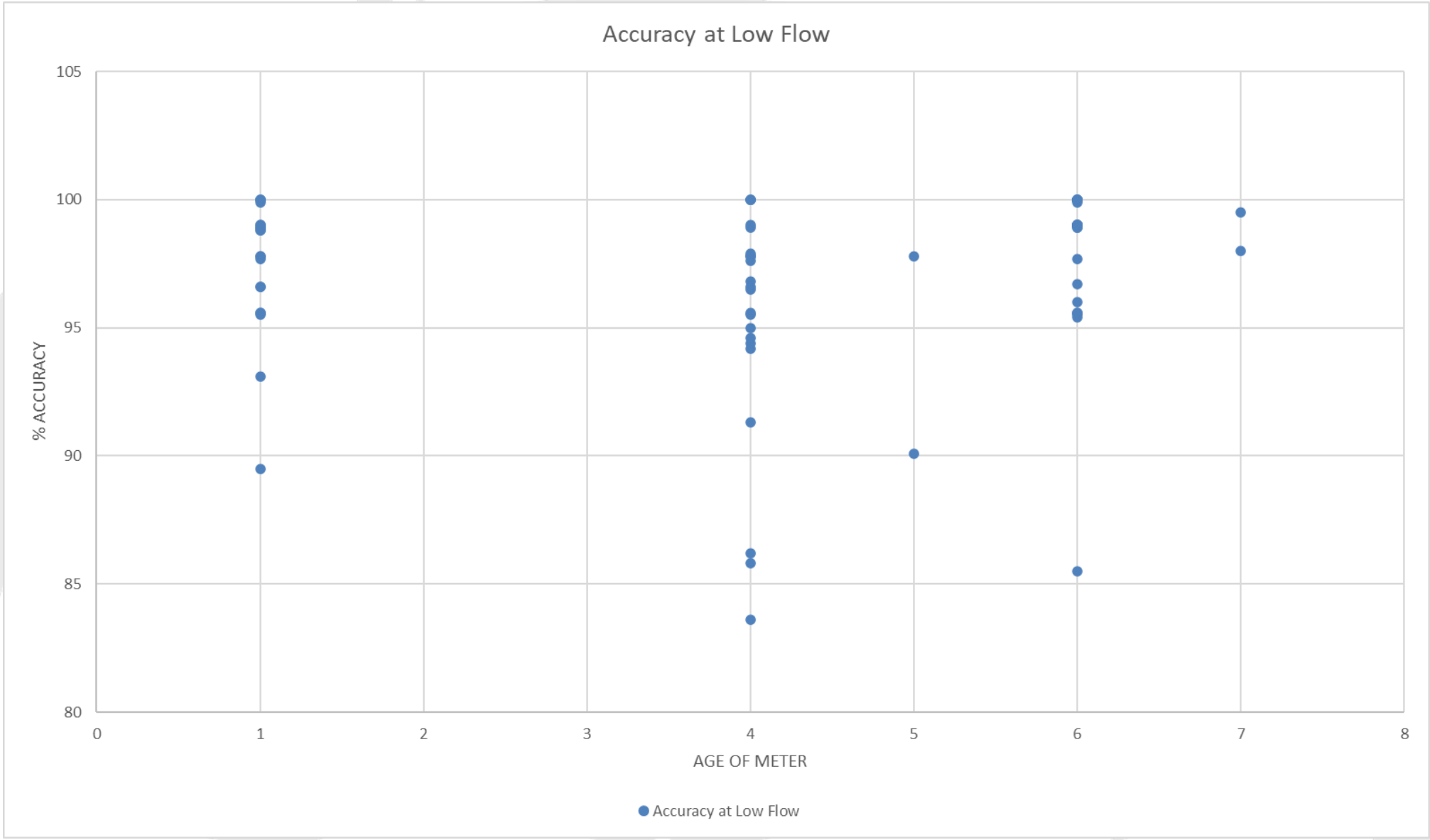
  - No reads increased

  - Randomly pulled meters for testing

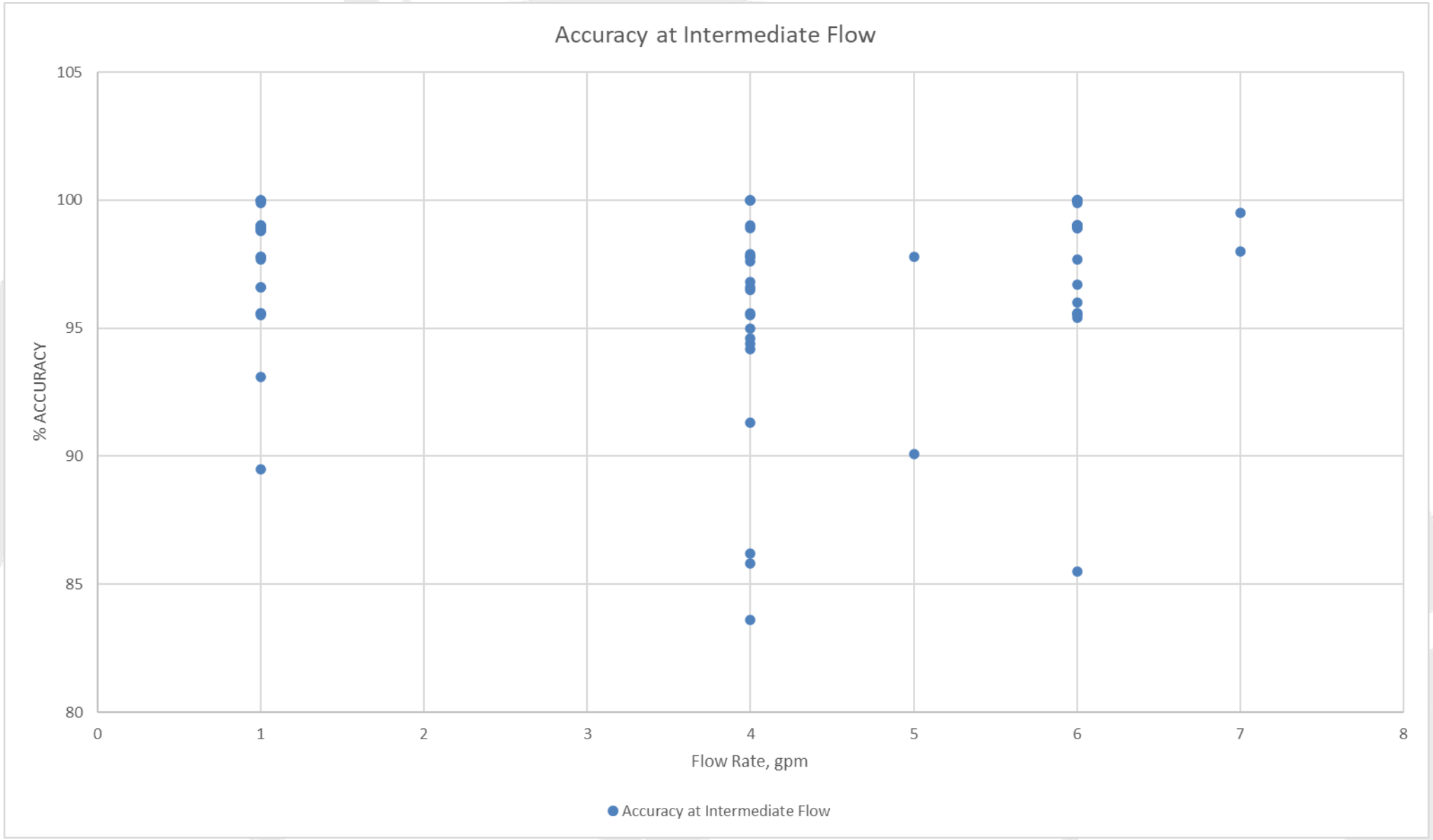
Meter Year	Total Number of Meters	Margin of Error (%)		
		10 +/-	15 +/-	20 +/-
2022	537	82	40	23
2025	617	83	40	23
2028				
Totals				

Meter Age	# of Meters Tested	Low Flow (1/4 gpm) Slow/Accurate/Fast	Intermediate Flow (2 gpm) Slow/Accurate/Fast	Maximum Flow (15 gpm) Slow/Accurate/Fast
1-Year	20	50%/50%/0%	30%/70%/0%	0%/70%/30%
4-Year	24	79%/21%/0%	25%/71%/4%	4%/79%/17%
6-Year	26	39%/61%/0%	4%/88%/8%	4%/77%/19%

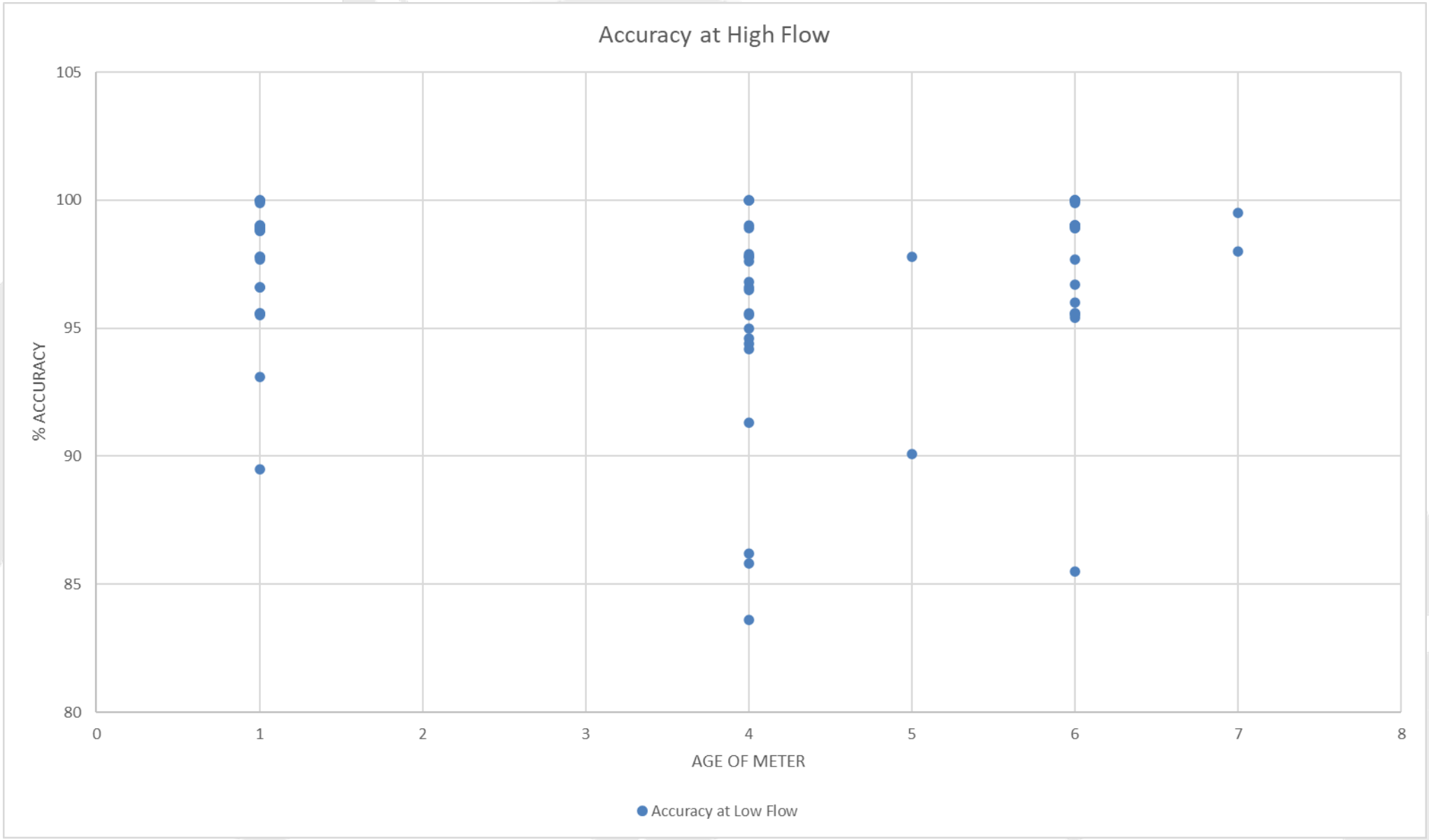
Allen County Water District



Allen County Water District



Allen County Water District



Allen County Water District

- Water Meter Selection
  - Capture low flow at the meter
  - Radio Read System
    - Losing 25 work days to manual
  - Monitoring of water usage

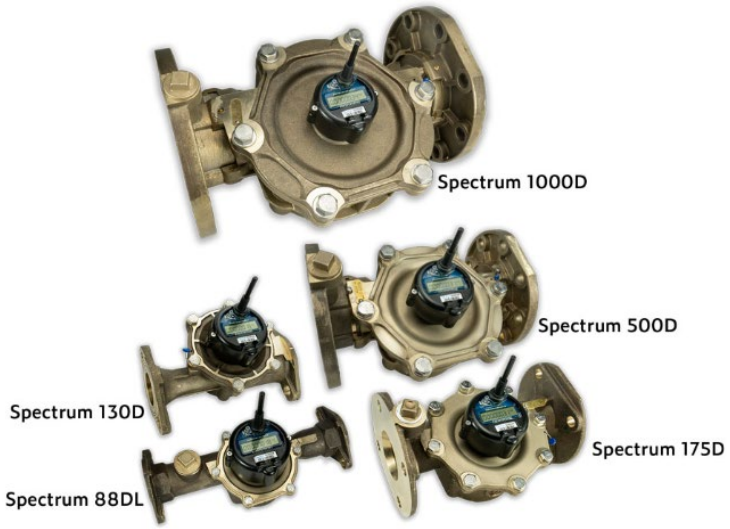
Allen County Water District

- Residential Water Meters
  - Neptune, Sensus, Badger, Diehl, Kamstrup
  - Had to capture low flow
  - Monitoring of water usage for customer relations

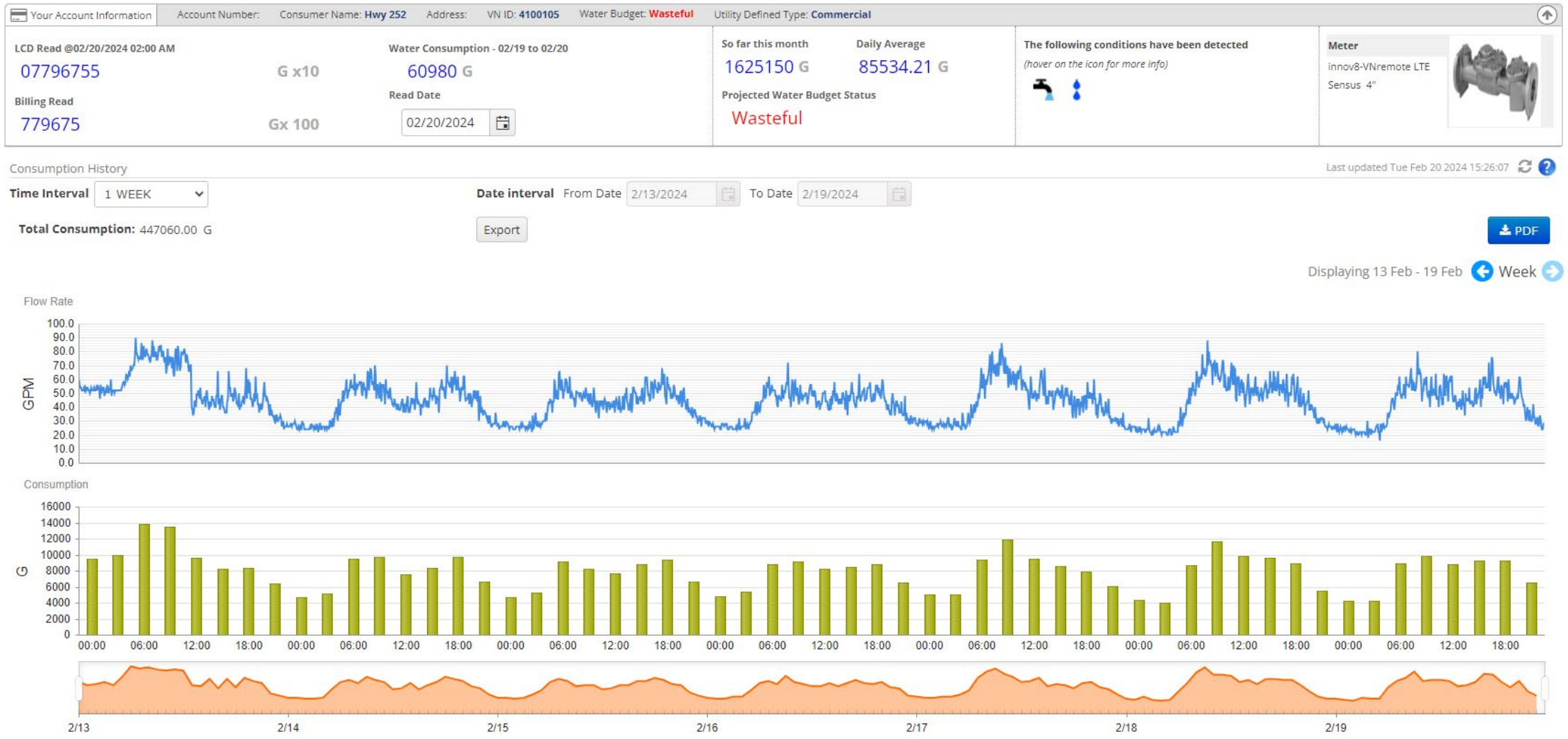
Allen County Water District

- Zone Master Meters

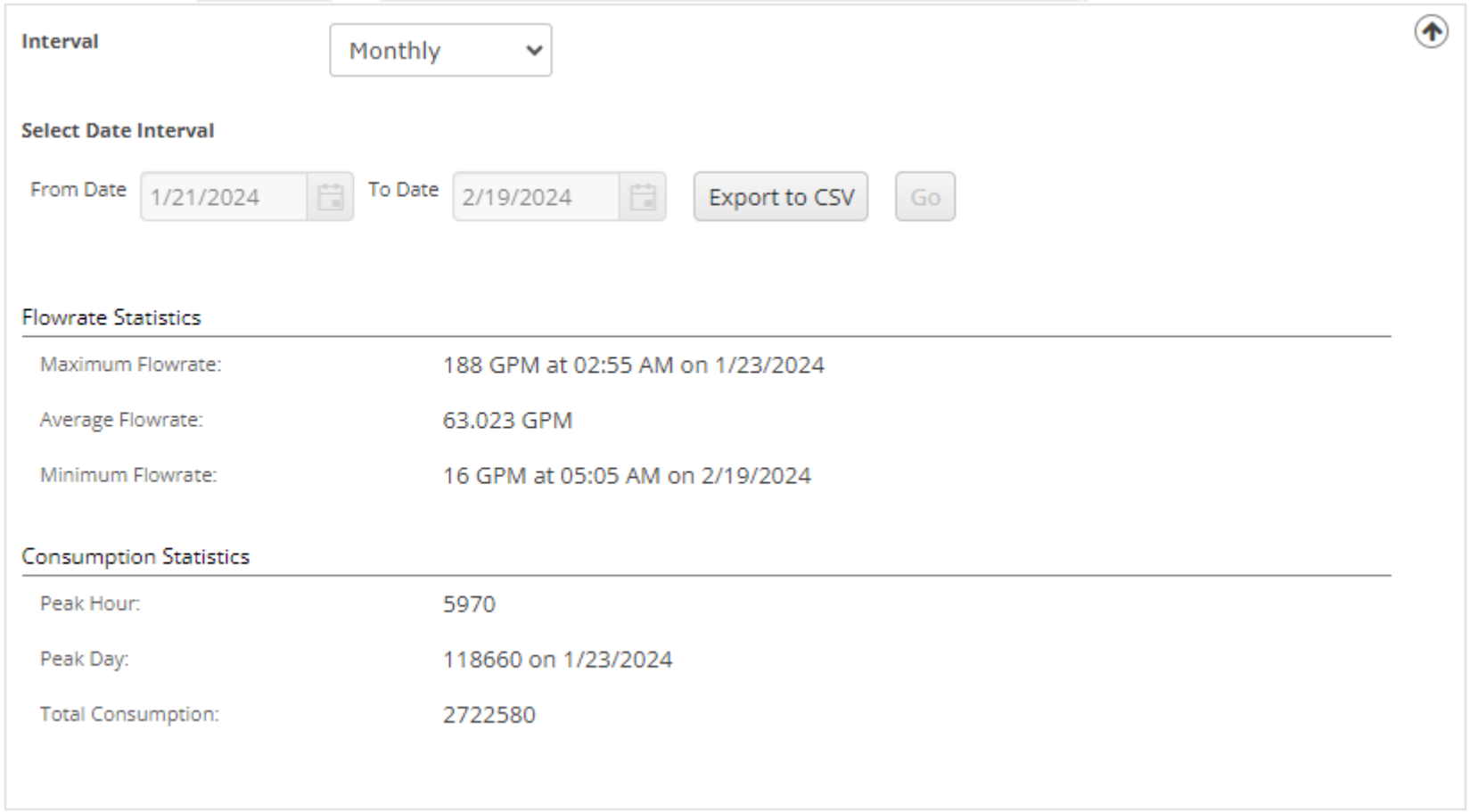
  - Utilized several different manufacturers
  - Mag Meters at Booster Stations & Isolation MM
  - e-Flowmeter (insertion flow meter) at Control Valves
  - Smart Meter Technology



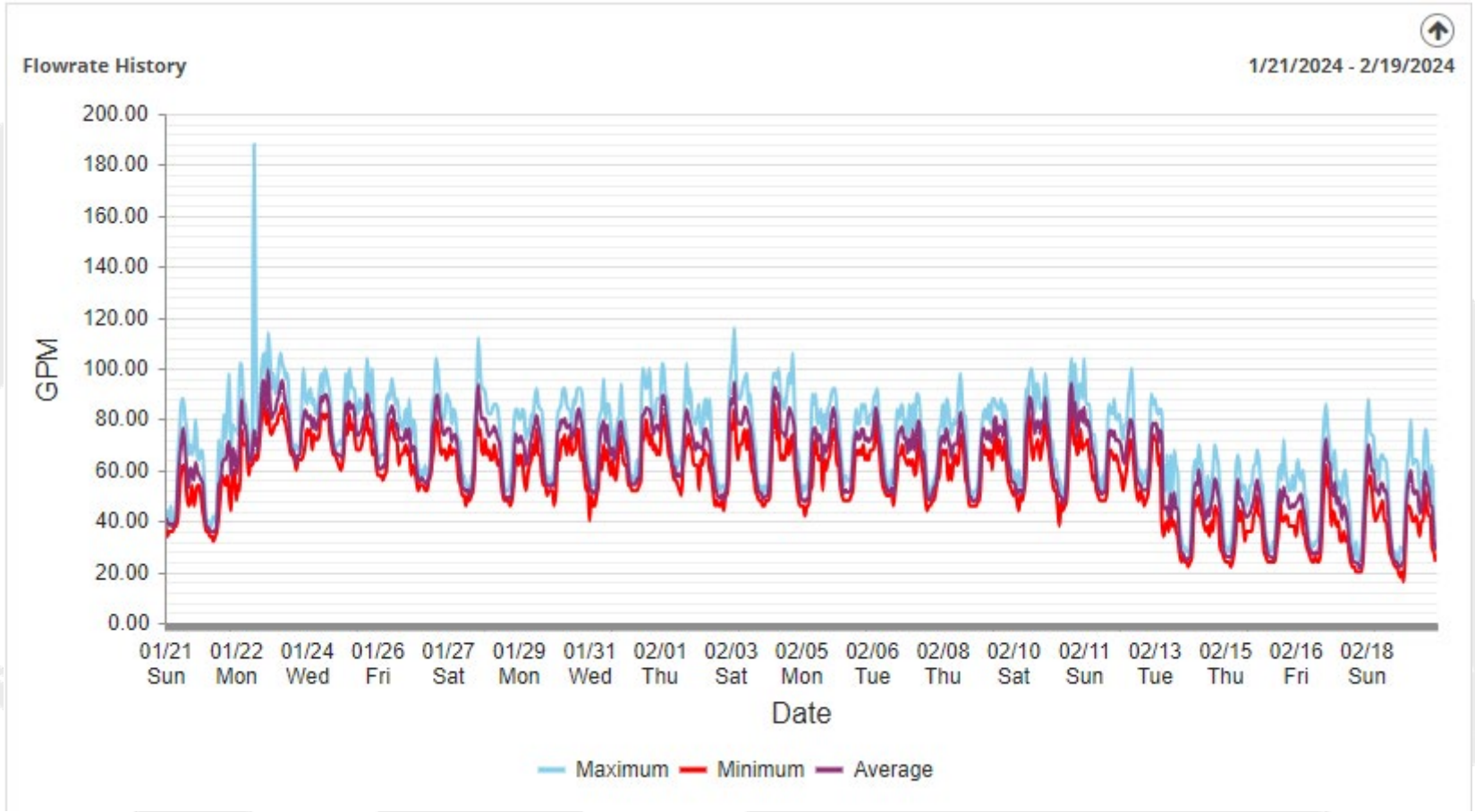
Allen County Water District



Allen County Water District

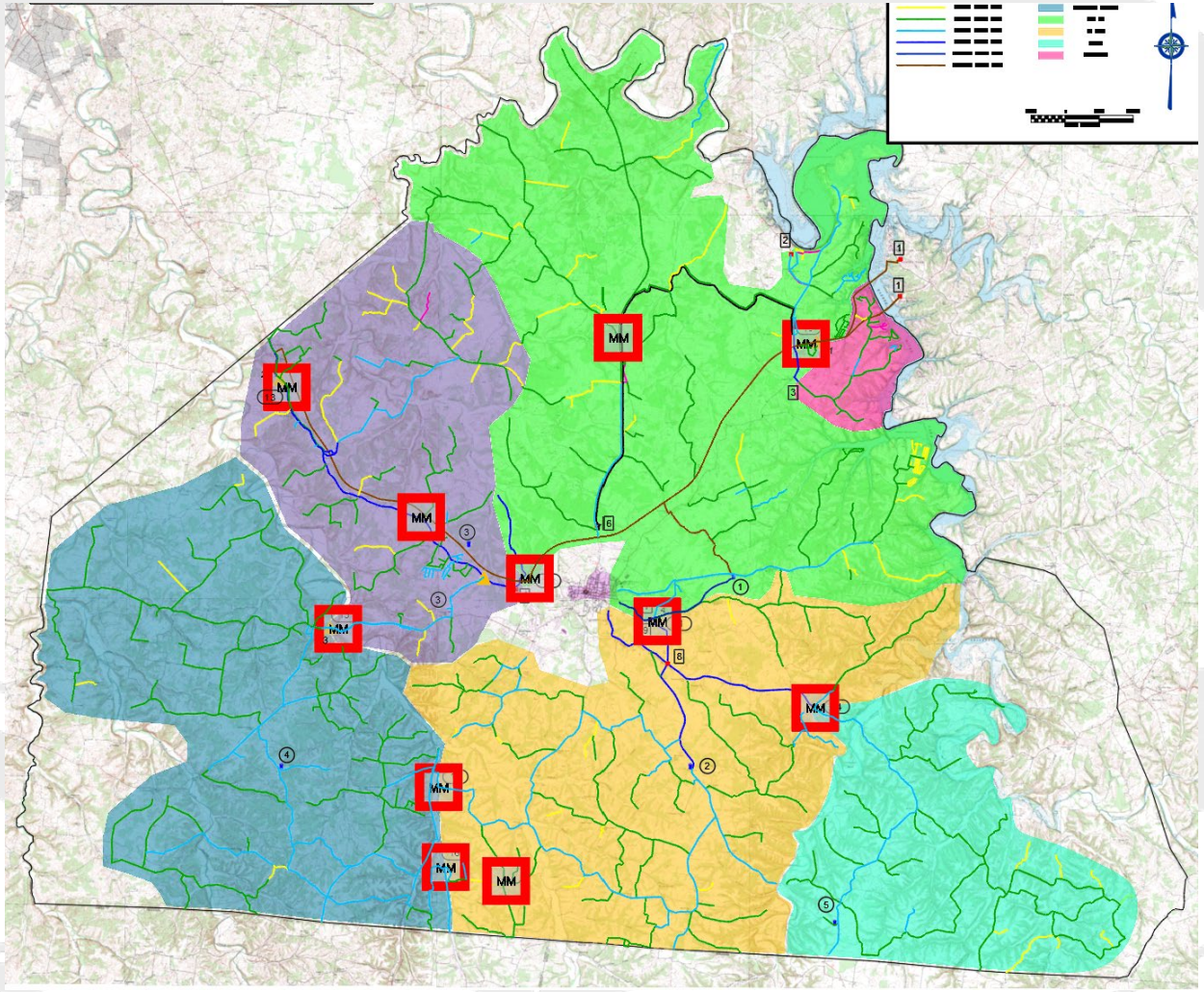


Allen County Water District



Allen County Water District

- Zone Master Meter Locations



Establishing a Baseline

- What is our water loss?

  - Real or Apparent Water Losses

- What are potential sources of real water loss?
- How can we isolate pressure zones via meters, usage & water loss?

Establishing a Baseline

- Real Water Losses
  - Water on the Ground from water mains
  - Service Connections
  - Tank Overflows
- Apparent Water Losses
  - Data Entry Errors
  - Failing Meters
  - Inaccurate Meters
  - Unauthorized Consumption
- How can we isolate pressure zones via meters, usage & water loss?

Establishing a Baseline

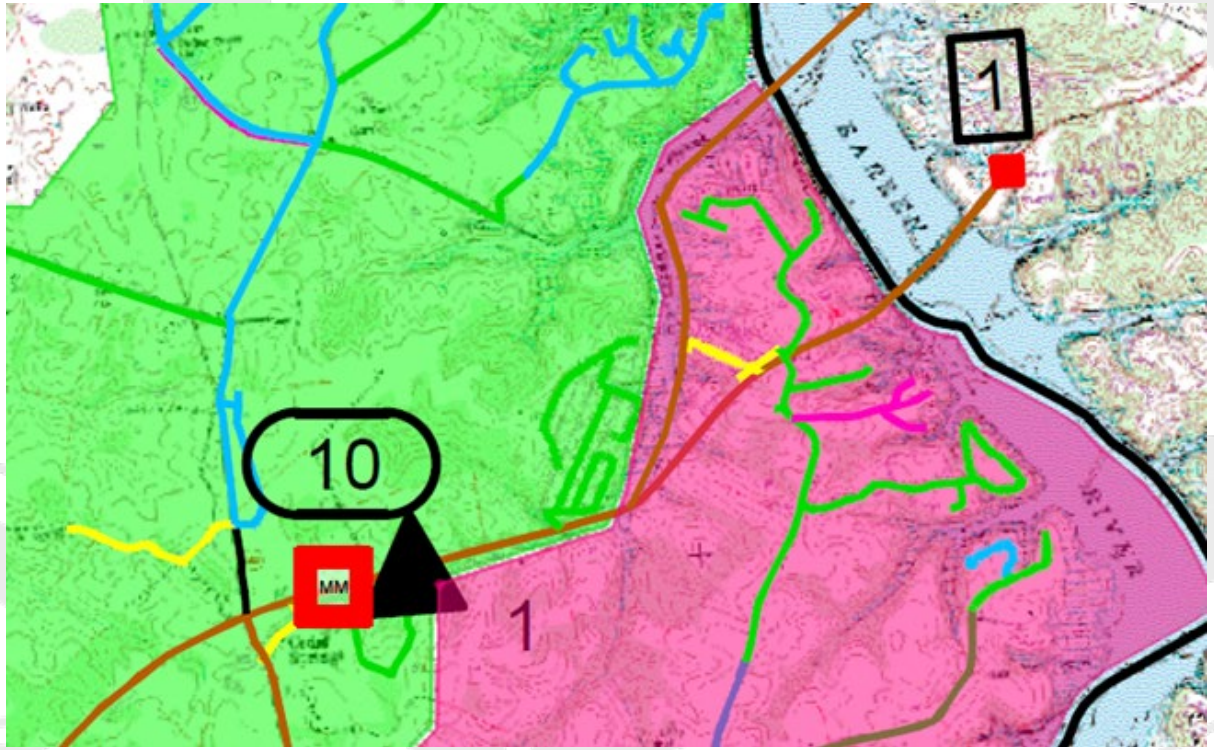
- Real Water Losses
  - Water on the Ground from water mains
  - Service Connections
  - Tank Overflows
- Apparent Water Losses
  - Data Entry Errors
  - Failing Meters
  - Inaccurate Meters
  - Unauthorized Consumption
- How can we isolate pressure zones via meters, usage & water loss?

Real Water Loss

- Identifying Leaks
  - Step Down Valve Isolation
  - Daily Master Meter Readings
  - Tank Levels
  - Verifying SCADA set points
  - Pressure & Flow Monitoring

Real Water Loss

- US 31-E Emergency Water Main Repair
- Gate Valve Replacement at 31-E BPS
- Old Bowling Green Road Water Main



Apparent Water Loss

- Data Entry Errors
  - Radio Read Meters
  - Master Meter Readings
    - Downloaded Data vs hand written
- Failing/Inaccurate Meters
  - The meter is your cash register
  - Get what you pay for
  - Low Flow is water loss
- Unauthorized Consumption
  - Jumpers
  - Fire Hydrant

Improve Data Accuracy

- Smart Meter Technology
  - Radio Read Meters
  - Cellular Meters
  - SCADA
  - Fixed Net
- Monitoring High Users Meters
- Keep your Data

Use the Data

- Data Acquisition
  - Data for Data sake is a waste of time
  - Use data to determine status
  - Adjust Metrics over time
- Monitor Metrics Daily
  - Hot Spots
  - Usage Changes
- 12-Month Running Averages
  - Discrepancies in Meter Reading Schedules
  - Main line breaks happen
  - Seasonal Usages
  - More Accurate Assessment

Be Proactive

- Follow the Data Trends Not Raw Data
- Establish Responsibility for Water Loss
  - Water Loss Team
  - Attainable Water Loss %
  - Low Flow is water loss
- Success of ACWD was empowering the staff
  - Took ownership of water loss

Questions

BLUEGRASS ENGINEERING PLLC

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502.370.6551

What to Expect During an Inspection

Jason Pennell
Kentucky Rural Water Association

Today's Topics

- Division of Inspections
- Inspection Process
- Areas of Concern
- Water Loss

PSC Mission Statement

- 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.

Customer Bill of Rights

As a residential customer of a regulated public utility in Kentucky, you are guaranteed the following rights subject to Kentucky Revised Statutes and the provisions of the Kentucky Public Service Commission Administrative Regulations:

- You have the right to service, provided you (or a member of your household whose debt was accumulated at your address) are not indebted to the utility.
- You have the right to inspect and review the utility's rates and tariffed operating procedures during the utility's normal office hours.
- You have the right to be present at any routine utility inspection of your service conditions.
- You must be provided a separate, distinct disconnect notice alerting you to a possible disconnection of your service if payment is not received.
- You have the right to dispute the reasons for any announced termination of your service.
- You have the right to negotiate a partial payment plan when your service is threatened by disconnection for non-payment.
- You have the right to participate in equal, budget payment plans for your natural gas and electric service.
- You have the right to maintain your utility service for up to thirty (30) days upon presentation of a medical certificate issued by a health official.
- You have the right to prompt (within 24 hours) restoration of your service when the cause for discontinuance of the service has been corrected.
- You have the right to contact the Public Service commission regarding any dispute that you have been unable to resolve with your utility (Call Toll Free 1-800-772-4636).

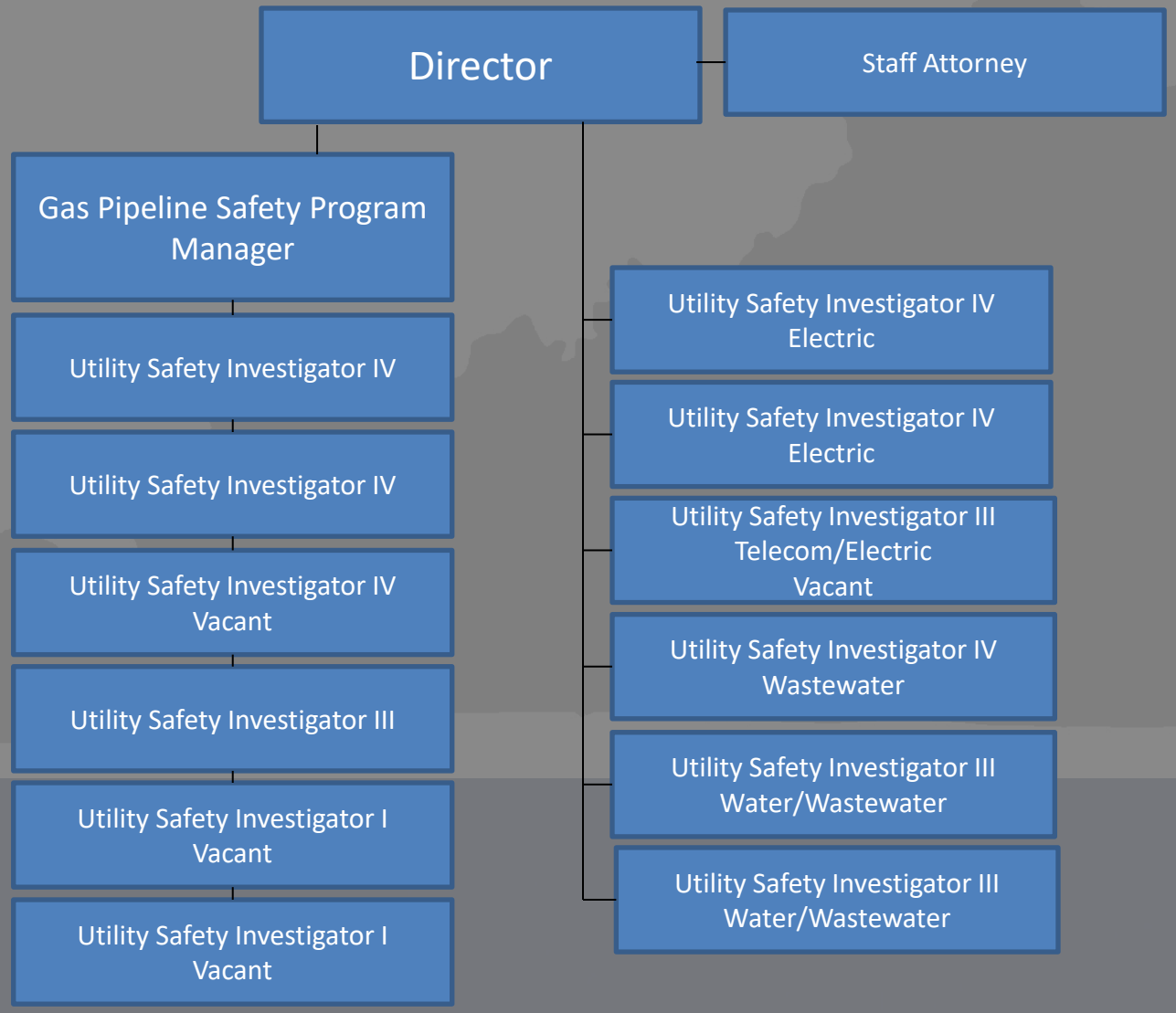
Rural Water

Water and Wastewater Utilities Under PSC Jurisdiction

- Investor-owned utilities
- Water districts
- Water associations
- Municipal water utilities BUT only the wholesale rates for water sold to a utility under full PSC jurisdiction
- Wastewater utilities – No municipalities*

*KRS 278.010(3) excludes “a city” from the definition of a “Utility”

Division Of Inspections



Regulated Water Utilities

- In 2023, the PSC received annual reports from 116 of 138 drinking water utilities throughout the state serving residential, commercial and industrial customers:
  - 5 Investor-Owned – AMB $ 65.97
  - 20 of 20 Water Associations – AMB $ 45.10
  - 104 of 112 Water Districts – AMB $ 51.21
  - 731,206 Customers
- $ 471,384,883 Total Revenues
- 632,349,509,000 gallons sold

* Source - 2023 annual reports submitted to the Kentucky Public Service Commission

Regulated Wastewater Utilities

- In 2023, the PSC received annual reports from 32 of 53 wastewater utilities throughout the state serving residential, commercial and industrial customers
- 36,644 Customers
- Total Revenues $ 26,062,601
  - Residential AMB - $ 44.87
  - Commercial AMB - $ 97.32
  - Industrial AMB - $ 3,214.60

* Source - 2023 annual reports submitted to the Kentucky Public Service Commission

Improving The Inspection Process

- Three investigators for the water and wastewater sectors
- IRS database
- Standard Operating Procedures
- Inspection cycle
- As of January 2019, now scheduled annually
- Risk Assessment (Water Utilities)
- Now collaborating with the Division of Water
  - Drinking Water and Wastewater Advisory Councils
  - Data sharing – Boil Water Advisories

Risk Assessment

- Seven Metrics
  - Number of deficiencies last inspection
  - Unresolved deficiencies
  - Excessive water loss %
  - Management/employee turnover
  - Inspector's subjective knowledge
  - Construction activity
  - Elapsed time since last inspection
- Higher point value will warrant more attention

Inspection Process

- Contact utility to set inspection date(s)
- Utility is provided a document list and inspection checklist
- Internal records review
  - Case history
  - Annual Reports/Water Produced/Purchased/Loss
  - Previous Inspections
- Go through inspections checklist, reviewing utility documentation at office
  - Line break logs
  - Fire Dept. usage
  - Pressure charts
  - Facility self-inspections (plant, tanks, manholes, etc.)

- 807 KAR 5:006, Section 4. Reports. (1) Gross annual operating revenue reports.

  (a) Each utility shall file with the commission its gross operating revenue report on or before March 31

Water Statistics (Ref Page: 30)

	Gallons (Omit 000`s)	Percent
1. Water Produced, Purchased and Distributed		
2. Water Produced	177,761	
3. Water Purchased	373,761	
4. Total Produced and Purchased	551,522	
6. Water Sales:		
7. Residential	304,359	
8. Commercial	23,882	
9. Industrial	1,772	
10. Bulk Loading Stations	2,436	
11. Resale		
12. Other Sales		
13. Total Water Sales	332,449	
15. Other Water Used		
16. Utility/water treatment plant	29,585	
17. Wastewater plant	5,340	
18. System flushing	92,250	
19. Fire department	11,858	
20. Other	4,000	
21. Total Other Water Used	143,033	
23. Water Loss:		
24. Tank Overflows	3,400	
25. Line Breaks	4,070	
26. Line Leaks	55,500	
27. Other	13,070	
28. Total Line Loss	76,040	
Note: Line 13 + Line 21 + Line 28 must equal Line 4		
32. Water Loss Percentage		
33. Line 28 divided by Line 4		13.7873

Quarterly Meter Report

807 KAR 5:006, Section 4(4) Report of meters, customers, and refunds. Each gas, electric, or water utility shall file quarterly either a Quarterly Meter Report-Electric, Quarterly Meter Report, or a Quarterly Meter Report-Electric-Gas-Water, of meter tests, number of customers, and amount of refunds.

QUARTERLY METER REPORT
TO THE KENTUCKY PUBLIC SERVICE COMMISSION

NAME OF UTILITY _____ QUARTER _____
ADDRESS _____ TEST YEAR _____
CITY, STATE, ZIP _____ DATE SUBMITTED _____

CUSTOMER TYPE	METERED	NON-METERED	TOTAL
RESIDENTIAL	0	0	0
COMMERCIAL	0	0	0
INDUSTRIAL	0	0	0
OTHER	0	0	0
TOTALS	0	0	0

STATUS OF METER TEST PROGRAM	QUANTITY
METERS TO BE TESTED THIS YEAR	0
METERS TESTED THIS YEAR (TO DATE)	0
METERS STILL TO TEST THIS YEAR	0

YEARS SINCE METER WAS LAST TESTED	METER TEST RESULTS				METERS TESTED	METERS NOT TESTED
	WITHIN ±2%	> 2% FAST	> 2% SLOW	NR*		
NEW - 5 YEARS	0	0	0	0	0	0
5 - 8 YEARS	0	0	0	0	0	0
9 YEARS	0	0	0	0	0	0
10 YEARS	0	0	0	0	0	0
10+ YEARS	0	0	0	0	0	0
UNKNOWN	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0
PERCENT	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

* Non-Registering

PERIODIC METER TEST PROGRAM	
CASE NUMBER and/or SAMPLE METHOD PLAN	
METERS REMOVED FROM SERVICE AND TESTED THIS QUARTER	0
NEW SERVICE CONNECTIONS (METERS) INSTALLED THIS QUARTER	0
TOTAL METERS TESTED THIS QUARTER	0
UTILITY OR APPROVED AGENCY DOING METER TESTING	
METERS THAT TEST MORE THAN 2% FAST OR 2% SLOW	

NUMBER OF TESTS MADE AT CUSTOMER'S REQUEST	0
NUMBER OF TESTS MADE AT COMMISSION'S REQUEST	0
NUMBER OF METERS ON WHICH REFUNDS WERE MADE	0
TOTAL AMOUNT OF REFUNDS MADE DURING THIS QUARTER	$0.00
NUMBER OF CUSTOMERS BILLED FOR SLOW METERS	0
TOTAL AMOUNT BILLED ON SLOW METERS	$0.00
NUMBER OF CUSTOMERS BILLED FOR NON-REGISTERING METERS	0
TOTAL AMOUNT BILLED ON NON-REGISTERING METERS	$0.00

METER TESTING INFORMATION APPROVED BY:

SIGNED _____
TITLE

CUSTOMER & REFUND INFORMATION APPROVED BY:

SIGNED _____
TITLE

Non-Payment Disconnection/Reconnection Report

807 KAR 5:006, Section 4(5) Report of terminations for nonpayment of bills. Each water, electric, or gas utility shall file either the Water Utility Non-Payment Disconnection/Reconnection Report, Electric Utility Non-Payment Disconnection/ Reconnection Report, or Gas Utility Non-Payment Disconnection/ Reconnection Report, annually to report the number of residential accounts terminated for nonpayment. These reports shall be filed no later than August 15 and shall cover the period ending June 30.

KENTUCKY PUBLIC SERVICE COMMISSION

☐ Electric ☐ Gas ☐ Water

NON-PAYMENT DISCONNECTION/RECONNECTION REPORT

JULY 2024 THROUGH JUNE 2025

Utility Name

Utility ID

Month	July	August	September	October	November	December	January	February	March	April	May	June
Number Terminated												
Highest $ Amt. Terminated												
Lowest $ Amt. Terminated												
Median $ Amt. Terminated												
Average $ Amt. Terminated												
Number Reinstated												

For information regarding this report contact:

Name

Phone

Rural Water

Inspection Process cont.

- Field Review
  - Plant
  - Tanks
  - Pump/lift stations
  - Construction projects
  - Safety/Security
- Exit Interview
- Inspection provided to utility approximately 30 days later

Inspection Process cont.

- Full internal review of inspections by executive staff and the commissioners
- Frequent internal discussion on cited deficiencies
- Utility given 30 days to respond to deficiencies
- Failure to respond or to correct deficiencies will result in initiation of formal action
  - Informal Conference
  - Show Cause Hearing

Areas of Concern

- Water loss*
  - Water Districts – 34.54% or 103 billion gallons
  - Water Associations – 22.16% or 31 billion gallons
  - Investor-Owned – 18.12% or 3 billion gallons
- Abandonment of Utilities
- Infrastructure
- Written documentation of facility inspection procedures and other required records

*Source - 2023 annual report statistics compiled by the Kentucky Public Service Commission

Non-Payment Disconnection/Reconnection

KENTUCKY PUBLIC SERVICE COMMISSION

☐ Electric ☐ Gas ☐ Water

NON-PAYMENT DISCONNECTION/RECONNECTION REPORT

THROUGH

JULY 2024 JUNE 2025

Utility Name

Utility ID

Month	July	August	September	October	November	December	January	February	March	April	May	June
Number Terminated												
Highest $ Amt. Terminated												
Lowest $ Amt. Terminated												
Median $ Amt. Terminated												
Average $ Amt. Terminated												
Number Reinstated												

For information regarding this report contact:

Name

Phone

807 KAR 5:006, Section 4 (5) Form Revised 6/20

ver xlsx1

Rural Water

Quarterly Meter Report

QUARTERLY METER REPORT
TO THE KENTUCKY PUBLIC SERVICE COMMISSION

GENERAL INFORMATION

NAME OF UTILITY	0	QUARTER	FALSE
ADDRESS		TEST YEAR	0
	0		
CITY, STATE, ZIP	, KY	DATE SUBMITTED	January 0, 1900

METER STATISTICS

CUSTOMER TYPE	METERED	NON-METERED	TOTAL
RESIDENTIAL	0	0	0
COMMERCIAL	0	0	0
INDUSTRIAL	0	0	0
OTHER	0	0	0
TOTALS	0	0	0

STATUS OF METER TEST PROGRAM	QUANTITY
METERS TO BE TESTED THIS YEAR	0
METERS TESTED THIS YEAR (TO DATE)	0
METERS STILL TO TEST THIS YEAR	0

METER TESTING

YEARS SINCE METER WAS LAST TESTED	METER TEST RESULTS				METERS TESTED	METERS NOT TESTED
	WITHIN ±2%	> 2% FAST	> 2% SLOW	NR*		
NEW - 5 YEARS	0	0	0	0	0	0
5 - 8 YEARS	0	0	0	0	0	0
9 YEARS	0	0	0	0	0	0
10 YEARS	0	0	0	0	0	0
10+ YEARS	0	0	0	0	0	0
UNKNOWN	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0
PERCENT	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

* Non-Registering

PERIODIC METER TEST PROGRAM	0
CASE NUMBER and/or SAMPLE METHOD PLAN	0
METERS REMOVED FROM SERVICE AND TESTED THIS QUARTER	0
NEW SERVICE CONNECTIONS (METERS) INSTALLED THIS QUARTER	0
TOTAL METERS TESTED THIS QUARTER	0
UTILITY OR APPROVED AGENCY DOING METER TESTING	0
METERS THAT TEST MORE THAN 2% FAST OR 2% SLOW	0

CUSTOMER AND REFUND INFORMATION

NUMBER OF TESTS MADE AT CUSTOMER'S REQUEST	0
NUMBER OF TESTS MADE AT COMMISSION'S REQUEST	0
NUMBER OF METERS ON WHICH REFUNDS WERE MADE	0
TOTAL AMOUNT OF REFUNDS MADE DURING THIS QUARTER	$0.00
NUMBER OF CUSTOMERS BILLED FOR SLOW METERS	0
TOTAL AMOUNT BILLED ON SLOW METERS	$0.00
NUMBER OF CUSTOMERS BILLED FOR NON-REGISTERING METERS	0
TOTAL AMOUNT BILLED ON NON-REGISTERING METERS	$0.00

METER TESTING INFORMATION APPROVED BY:

SIGNED *0*
TITLE *0*

CUSTOMER & REFUND INFORMATION APPROVED BY:

SIGNED *0*
TITLE *0*

GO TO: INSTRUCTIONS | PAGE 1 | PAGE 2 | PAGE 3 | PAGE 4

Rural Water

Water Loss

- Excessive water loss will be a primary focus of PSC interactions with water utilities
  - PSC's position is that excessive water loss poses a threat to the utility's financial and operational stability & viability
  - Point of emphasis at PSC training seminars
  - Water loss exceeding 15% will be cited as a deficiency by water system inspectors
  - Rate cases, purchased water adjustments, CPCNs and water financing cases will all include language on water loss in excess of 15%
  - A utility's inability or continued inaction to reduce water loss will lead to greater PSC attention

Water Loss

- Annual Reports are being reviewed to identify utilities with water loss in excess of 15% (61 systems reported > 15%)
- Deficient utilities will:
  - Be cited with 5:066, Section 7 – Standards of Construction
  - Receive letter copying water commissioners and where applicable, the County Judge Executive/Magistrates

Water Statistics (Ref Page: 30)

Description	Gallons (Omit 000`s)	Percent
1. Water Produced, Purchased and Distributed		
2. Water Produced	141,346	
3. Water Purchased	398,210	
4. Total Produced and Purchased	539,556	
6. Water Sales:		
7. Residential	333,478	
8. Commercial	22,058	
9. Industrial	578	
10. Bulk Loading Stations	740	
11. Wholesale		
12. Public Authorities		
13. Other Sales (explain)		
14. Total Water Sales	356,854	
16. Other Water Used		
17. Utility/water treatment plant	19,000	
18. Wastewater plant	6,849	
19. System flushing	87,935	
20. Fire department		
21. Other Usage (explain)		
22. Total Other Water Used	113,784	
24. Water Loss		
25. Tank Overflows		
26. Line Breaks		
27. Line Leaks	68,918	
28. Excavation Damages		
29. Theft		
30. Other Loss (Explain)		
31. Total Water Loss	68,918	
Note: Line 14 + Line 22 + Line 31 must equal Line 4		
Water Loss Percentage		
Line 31 divided by Line 4		12.7731

Water Loss

"Water loss" means the sum of all water purchased and produced by the utility less the volume of water:

(a) Sold;

(b) Provided to customers without charge as authorized by the utility's tariff; and

(c) Used by the utility to conduct the daily operation and maintenance of its treatment, transmission, and distribution systems.

Water Loss Report Monthly

Basic Costs of Water Production and Distribution **Month:** **Year:**

System Name: **PWSID:**

Total Gallons Treated:

Man-Hours Cost (for hours actually worked at treatment plant)

Employee Name	Hourly Wage	Hourly Fringe	Hours Worked	Monthly Cost

This report does not include analytical and other water system operational or maintenance costs. For determining customer and wholesale rates consider a cost of service study.

Total Man-Hours Cost

Chemical Cost

Chemical Name	Units (lbs or gals)	Cost per Unit	Monthly Cost
			$0.00
			$0.00
			$0.00
			$0.00
			$0.00

Chemical Name	Units (lbs or gals)	Cost per Unit	Monthly Cost
			$0.00
			$0.00
			$0.00
			$0.00
			$0.00

Total Chemical Cost: **$0.00**

Electrical Cost

Treatment Facility:	
Low Service (if separate):	
High Service (if separate):	
Gas for heating:	

Total Electrical Cost:

Total Heating Cost:

Additional Distribution Cost

Booster Pump Station Name	Gallons Pumped	Electricity	chemical (lbs or gals)	cost per lb or gal	chemical cost	Station Cost	Cost of Production plus Distribution Per Thousand

Total Production Cost for Month:
Total Disrtibution Cost for Month: $0.00
Total: $0.00

Production Cost Per Thousand Gallons:
Average Production + Distribution:

Rural Water

Water Loss Monthly-Excavation and Breaks

Monthly Excavation Break Report

0 (name of Water System)

0 (PWSID)

Month 0
Year 0

Area Calculator

diameter in inches
Hole =
Area = 0.000 sq. in.

length (in) width (in)
Crack =
Area = 0 sq. in.

Insert the approximate dimensions of the hole or crack to determine the area of the break. Insert the area in the spreadsheet below.

Reference width - paper (0.004) dime (0.045)

Date	Excavation Break Location	Excavator	Minutes	Hole or Crack?	Area of hole or crack	Normal PSI	GPM	Gallons Lost During Break

Monthly Main Line Repair Report

0 (Water System)

0 (PWSID)

Month 0
Year 0

Area Calculator

diameter in inches
Hole=
Area= 0.000 sq. in.

length (in) width (in)
Crack=
Area= 0 sq. in.

Insert the approximate dimensions of the hole or crack to determine the area of the break. Insert the area in the spreadsheet below. **Reference width - paper (0.004) dime (0.045)**

Date of Repair	Location of Leak or Line Break	Days Line Leaked?	Hole or Crack?	Area of hole or crack	Normal PSI	GPM	Calculated Loss for Month	Estimated Loss for Month

Rural Water

Water Loss-Line Break Log

Monthly Line Break Log (water system) **0**

Month **0**
Year **0**

PWSID **0**

Date	Location	Time Found	Population Affected	Time for Repair	Disinfectant Residuals			Bact Samples		
					Date	Time	Result	Date	Time	Result

Water Loss-Flushing

DBP Maintenance Flushing (Hydrants and Tanks)

0	(name of Water System)	Month	0
		Year	0
0	(PWSID)		
		unit conversion factor	29.83
	Formula: GPM = 29.83 $cd^2\sqrt{p}$	coefficient value	0.95

Date	Indicate Water Storage Tank Name or Hydrant Location and/or Number	Total Minutes Operated	Nozzle size (typically 2.5 or 4.5)	Pitot Pressure	GPM	Gallons Flowed	Estimated or Metered Flow

Monthly Hydrant Flushing Report (Flushing for other than DBP maintenance)

0	(name of Water System)	Month	0
		Year	0
0	(PWSID)		
		unit conversion factor	29.83
	Formula: GPM = 29.83 $cd^2\sqrt{p}$	coefficient value	0.95

Date	Hydrant Location and/or Number	Reason Operated	Total Minutes Operated	Nozzle size (typically 2.5 or 4.5)	Pitot Pressure	GPM	Gallons Flowed	Estimated Flow if Pitot not used

Rural Water

Water Loss-Fire Department

Fire Department - Water Usage Report Form

KRS 278.170(3) 807 KAR 5:095 Section 9

Any city, county, urban-county, charter county, fire protection district, or volunteer fire protection district ("User") may withdraw water from the utility's water distribution system for the purpose of fighting fires or training firefighters at no charge on the condition that it maintains estimates of the amount of water used for fire protection and training during the calendar month and reports the amount of this water usage to the utility no later than the 15th day of the following calendar month.

Any city, county, urban-county, charter county, fire protection district, or volunteer fire protection district that withdraws water from the utility's water distribution system for fire protection or training purposes and fails to submit the required report on water usage in a timely manner shall be assessed the cost of this water.

A non-reporting user's usage shall be presumed to be 0.3 percent of the utility's total water sales for the calendar month.

(name of Fire Department)

(name of Water System)

Month

Year

unit conversion factor 29.83

coefficient value 0.95

Date	Hydrant Location and/or Number	Reason Operated	Total Minutes Operated	Nozzle size (typically 2.5 or 4.5)	Pitot Pressure	GPM	Gallons Flowed	Estimated Flow if Pitot not used

Monthly Water Loss Report

PUBLIC SERVICE COMMISSION

Monthly Water Loss Report

Water Utility:	0	**PWSID:**	0
For the Month of:	0	**Year:**	0

LINE #	ITEM	GALLONS (Omit 000's)
1	**WATER PRODUCED AND PURCHASED**	
2	Water Produced	0
3	Water Purchased	0
4	**TOTAL PRODUCED AND PURCHASED**	**0**
5		
6	**WATER SALES**	
7	Residential	0
8	Commercial	0
9	Industrial	0
10	Bulk Loading Stations	0
11	Wholesale	0
12	Public Authorities	0
13	Other Sales (explain) 0	0
14	**TOTAL WATER SALES**	**0**
15		
16	**OTHER WATER USED**	
17	Utility and/or Water Treatment Plant	0
18	Wastewater Plant	0
19	System Flushing	0
20	Fire Department	0
21	Other Usage (explain) 0	0
22	**TOTAL OTHER WATER USED**	**0**
23		
24	**WATER LOSS**	
25	Tank Overflows	0
26	Line Breaks	0
27	Line Leaks	0
28	Excavation Damages	0
29	Theft	0
30	Other Loss (explain) Unknown Loss	0
31	**TOTAL LINE LOSS**	**0**
32		
33	Note: Line 14 + Line 22 + Line 31 Must Equal Line 4	
34		
35	**WATER LOSS PERCENTAGE**	
36	**(Line 31 Divided by Line 4)**	**#DIV/0!**

Rural Water

Monthly Water Loss Report-Managment

Board and Management
Monthly Water Use Report

Water Utility:	0		**PWSID:**	0
For the Month of:	0		**Year:**	0
Billing Period:		to		

1	**PRODUCTION COST PER THOUSAND**	(insert cost)	
2	**PURCHASE COST PER THOUSAND**	(insert cost)	

	WATER PRODUCED or PURCHASED	**GALLONS**
3	Water Produced	
4	Water Purchased	
5	**TOTAL PRODUCED AND PURCHASED**	0
6	**TOTAL COST**	

	WATER SOLD	
7	Residential	
8	Commercial	
9	Industrial	
10	Bulk Loading Stations	
11	Wholesale (other water systems, special contracts, etc.)	
12	Public Authorities (fire departments, public pools, parks, etc.)	
13	Other Sales (explain)	
14	**TOTAL WATER SOLD**	0
15	**TOTAL WATER NOT SOLD**	0

	BREAKDOWN OF WATER USAGE	
16	Water Treatment Plant	
17	Wastewater Treatment Plant	
18	System Flushing (routine and complaint flushing)	0
19	DBP Flushing (forced tank overflows and hydrant flushing)	0
20	Fire Department (documented for firefighting and training)	0
21	Other Usage (explain)	
22	**TOTAL USAGE**	0

	BREAKDOWN OF WATER LOST	
23	Tank Overflows (other than for DBP maintenance)	
24	Main Line Breaks (long term leakage during current month)	0
25	Service Line Breaks (repaired during current month)	0
26	Line Leaks (calculated line leakage, meter inaccuracies, etc.)	
27	Excavation Damage Loss (short term leakage)	0
28	Theft (documented)	
29	**TOTAL DOCUMENTED WATER LOST**	**0**
30	**COST OF DOCUMENTED WATER LOST**	

	"UNKNOWN LOSS" FLOW RATE AND COST:		
31		"Unknown Loss"	0
32		% "Unknown Loss"	
33	(insert billing period dates at top of page)	Number of Days in Period	0
34		"Unknown Loss" per Day (Gallons per Day)	#DIV/0!
35		"Unknown Loss" per Minute (GPM)	#DIV/0!
36		"Unknown Loss" Cost for Month	
37	**WATER LOSS PERCENTAGE FOR PSC RATEMAKING PURPOSES**		

Rural Water

807 KAR 5:095

Section 9. A utility that permits a fire department to withdraw water from its water distribution system for fire protection and training purposes at no charge or at reduced rates shall:

(1) Require a fire department to submit quarterly reports demonstrating its water usage for the quarter; and

(2) State in its tariff the penalty to be assessed for failure to submit the reports required by subsection (1) of this section.

Fire Department

Fire Department - Water Usage Report Form

KRS 278.170(3) 807 KAR 5:095 Section 9

Any city, county, urban-county, charter county, fire protection district, or volunteer fire protection district ("User") may withdraw water from the utility's water distribution system for the purpose of fighting fires or training firefighters at no charge on the condition that it maintains estimates of the amount of water used for fire protection and training during the calendar month and reports the amount of this water usage to the utility no later than the 15th day of the following calendar month.

Any city, county, urban-county, charter county, fire protection district, or volunteer fire protection district that withdraws water from the utility's water distribution system for fire protection or training purposes and fails to submit the required report on water usage in a timely manner shall be assessed the cost of this water.

A non-reporting user's usage shall be presumed to be 0.3 percent of the utility's total water sales for the calendar month.

(name of Fire Department)

(name of Water System)

Month

Year

unit conversion factor 29.83

coefficient value 0.95

Date	Hydrant Location and/or Number	Reason Operated	Total Minutes Operated	Nozzle size (typically 2.5 or 4.5)	Pitot Pressure	GPM	Gallons Flowed	Estimated Flow if Pitot not used

Commission Orders

- The Commission is placing greater emphasis on monitoring utilities that consistently exceed the fifteen (15) percent water loss threshold and strongly encourages *Subject Utility* to pursue reasonable actions to reduce its water loss. Failure by *Subject utility* to make significant progress towards reducing water loss may cause the Commission to pursue additional action with the utility.

Water Loss Spread Sheet

Basic Costs of Water Production and Distribution — **Month:** _____ **Year:** _____

System Name: _____ **PWSID:** _____

Total Gallons Treated: _____

Man-Hours Cost (for hours actually worked at treatment plant)

Employee Name	Hourly Wage	Hourly Fringe	Hours Worked	Monthly Cost

This report does not include analytical and other water system operational or maintenance costs. For determining customer and wholesale rates consider a cost of service study.

Total Man-Hours Cost _____

Chemical Cost

Chemical Name	Units (lbs or gals)	Cost per Unit	Monthly Cost
			$0.00
			$0.00
			$0.00
			$0.00
			$0.00

Chemical Name	Units (lbs or gals)	Cost per Unit	Monthly Cost
			$0.00
			$0.00
			$0.00
			$0.00
			$0.00

Total Chemical Cost: $0.00

Electrical Cost

Treatment Facility:	
Low Service (if separate):	
High Service (if separate):	
Gas for heating:	

Total Electrical Cost: _____

Total Heating Cost: _____

Additional Distribution Cost

Booster Pump Station Name	Gallons Pumped	Electricity	chemical (lbs or gals)	cost per lb or gal	chemical cost	Station Cost	Cost of Production plus Distribution Per Thousand

Total Production Cost for Month: _____

Total Disrtibution Cost for Month: $0.00

Total: $0.00

Production Cost Per Thousand Gallons: _____

Average Production + Distribution: _____

Rural Water

Water Loss-Line Repair

Monthly Main Line Repair Report

0
(Water System)
0
(PWSID)

Month 0
Year 0

diameter in inches

Hole=
Area= 0.000 sq. in.

length (in) width (in)

Crack=
Area= 0 sq. in.

Area Calculator

Insert the approximate dimensions of the hole or crack to determine the area of the break. Insert the area in the spreadsheet below. **Reference width - paper (0.004) dime (0.045)**

Date of Repair	Location of Leak or Line Break	Days Line Leaked?	Hole or Crack?	Area of hole or crack	Normal PSI	GPM	Calculated Loss for Month	Estimated Loss for Month

Total Gallons Lost Due to Main Line Breaks 0

Rural Water

Wate Loss-Line Repair

Monthly Service Line Repair Report

0	
(Water System)	
0	
(PWSID)	
Month	0
Year	0

Area Calculator

diameter in inches

Hole= Area= 0.000 sq. in.

length (in) width (in)

Crack= Area= 0 sq. in.

Insert the approximate dimensions of the hole or crack to determine the area of the break. Insert the area in the spreadsheet below. **Reference**

width - paper (0.004) dime (0.045)

Date of Repair	Location of Leak or Line Break	Days Line Leaked?	Hole or Crack?	Area of hole or crack	Normal PSI	GPM	Calculated Loss for Month	Estimated Loss for Month

Total Gallons Lost Due to Service Line Breaks 0

Rural Water

Monthly Line Break Log

(water system) 0

Month 0
Year 0

PWSID 0

Date	Location	Time Found	Population Affected	Time for Repair	Disinfectant Residuals			Bact Samples		
					Date	Time	Result	Date	Time	Result

Rural Water

Water Loss-Flushing

Monthly Hydrant Flushing Report **(Flushing for other than DBP maintenance)**

0	(name of Water System)	**Month**	0
		Year	0
0	(PWSID)		
		unit conversion factor	29.83
	Formula: GPM = 29.83 $cd^2\sqrt{p}$	**coefficient value**	0.95

Date	Hydrant Location and/or Number	Reason Operated	Total Minutes Operated	Nozzle size (typically 2.5 or 4.5)	Pitot Pressure	GPM	Gallons Flowed	Estimated Flow if Pitot not used

Total Gallons for Month 0

 Kentucky Rural Water Association

Rural Water

Water Loss- Fire Department

Fire Department - Water Usage Report Form

KRS 278.170(3) 807 KAR 5:095 Section 9

Any city, county, urban-county, charter county, fire protection district, or volunteer fire protection district ("User") may withdraw water from the utility's water distribution system for the purpose of fighting fires or training firefighters at no charge on the condition that it maintains estimates of the amount of water used for fire protection and training during the calendar month and reports the amount of this water usage to the utility no later than the 15th day of the following calendar month.

Any city, county, urban-county, charter county, fire protection district, or volunteer fire protection district that withdraws water from the utility's water distribution system for fire protection or training purposes and fails to submit the required report on water usage in a timely manner shall be assessed the cost of this water.

A non-reporting user's usage shall be presumed to be 0.3 percent of the utility's total water sales for the calendar month.

(name of Fire Department)

(name of Water System)

Month

Year

unit conversion factor 29.83

coefficient value 0.95

Date	Hydrant Location and/or Number	Reason Operated	Total Minutes Operated	Nozzle size (typically 2.5 or 4.5)	Pitot Pressure	GPM	Gallons Flowed	Estimated Flow if Pitot not used

Total Gallons for Month 0

Rural Water

Water Loss-Board Report

Board and Management
Monthly Water Use Report

Water Utility:	0	PWSID:	0
For the Month of:	0	Year:	0
Billing Period:		to	

1	PRODUCTION COST PER THOUSAND	(insert cost)	
2	PURCHASE COST PER THOUSAND	(insert cost)	

	WATER PRODUCED or PURCHASED	GALLONS
3	Water Produced	
4	Water Purchased	
5	TOTAL PRODUCED AND PURCHASED	0
6	TOTAL COST	

	WATER SOLD	
7	Residential	
8	Commercial	
9	Industrial	
10	Bulk Loading Stations	
11	Wholesale (other water systems, special contracts, etc.)	
12	Public Authorities (fire departments, public pools, parks, etc.)	
13	Other Sales (explain)	
14	TOTAL WATER SOLD	0
15	TOTAL WATER NOT SOLD	0

	BREAKDOWN OF WATER USAGE	
16	Water Treatment Plant	
17	Wastewater Treatment Plant	
18	System Flushing (routine and complaint flushing)	0
19	DBP Flushing (forced tank overflows and hydrant flushing)	0
20	Fire Department (documented for firefighting and training)	0
21	Other Usage (explain)	
22	TOTAL USAGE	0

	BREAKDOWN OF WATER LOST	
23	Tank Overflows (other than for DBP maintenance)	
24	Main Line Breaks (long term leakage during current month)	0
25	Service Line Breaks (repaired during current month)	0
26	Line Leaks (calculated line leakage, meter inaccuracies, etc.)	
27	Excavation Damage Loss (short term leakage)	0
28	Theft (documented)	
29	TOTAL DOCUMENTED WATER LOST	0
30	COST OF DOCUMENTED WATER LOST	

	"UNKNOWN LOSS" FLOW RATE AND COST:		
31		"Unknown Loss"	0
32		% "Unknown Loss"	
33	(insert billing period dates at top of page)	Number of Days in Period	0
34		"Unknown Loss" per Day (Gallons per Day)	#DIV/0!
35		"Unknown Loss" per Minute (GPM)	#DIV/0!
36		"Unknown Loss" Cost for Month	
37	WATER LOSS PERCENTAGE FOR PSC RATEMAKING PURPOSES		

Rural Water

Water Loss Report

PUBLIC SERVICE COMMISSION

Monthly Water Loss Report

Water Utility: 0 **PWSID:** 0

For the Month of: 0 **Year:** 0

LINE #	ITEM	GALLONS (Omit 000's)
1	**WATER PRODUCED AND PURCHASED**	
2	Water Produced	0
3	Water Purchased	0
4	**TOTAL PRODUCED AND PURCHASED**	**0**
5		
6	**WATER SALES**	
7	Residential	0
8	Commercial	0
9	Industrial	0
10	Bulk Loading Stations	0
11	Wholesale	0
12	Public Authorities	0
13	Other Sales (explain) 0	0
14	**TOTAL WATER SALES**	**0**
15		
16	**OTHER WATER USED**	
17	Utility and/or Water Treatment Plant	0
18	Wastewater Plant	0
19	System Flushing	0
20	Fire Department	0
21	Other Usage (explain) 0	0
22	**TOTAL OTHER WATER USED**	**0**
23		
24	**WATER LOSS**	
25	Tank Overflows	0
26	Line Breaks	0
27	Line Leaks	0
28	Excavation Damages	0
29	Theft	0
30	Other Loss (explain) Unknown Loss	0
31	**TOTAL LINE LOSS**	**0**
32		
33	Note: Line 14 + Line 22 + Line 31 Must Equal Line 4	
34		
35	**WATER LOSS PERCENTAGE**	
36	**(Line 31 Divided by Line 4)**	**#DIV/0!**

Rural Water

Suggestions

- Ensure accurate reporting
- Review and document water loss reduction efforts
- PSC will consider utility requests for surcharges to assist in financing water loss reduction efforts

Deviation

- In special cases for good cause shown the commission may permit deviations from these rules and regulation.
  - Storage requirements
  - Periodic Meter Tests
  - Inspection of Systems

Contact Information

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