

Financial Capacity Development



The utility has financial resources to supply safe drinking water in short and long term.

- **Short Term** – pay staff, utilities, repairs, leases, contractors, debt, etc.
- **Long Term** – finance expansion of facilities, major equipment replacements, retain staff, ensure adequate water supplies, etc.

Part 3 – Financial Capacity Overview

Indicators of Financial Capacity

Adequate and Protected Financial Resources

- Budgets
- Rates & Revenue
- Financial Controls
- Audits
- Credit access

Planning for the Expenses of the Future

- Capital Improvements
- Expenditures
- Revenue meets expenses
- Reserves
- Regulatory changes

Fiduciary Duty

A system's financial capacity is critical to the health & well-being of individuals and the community

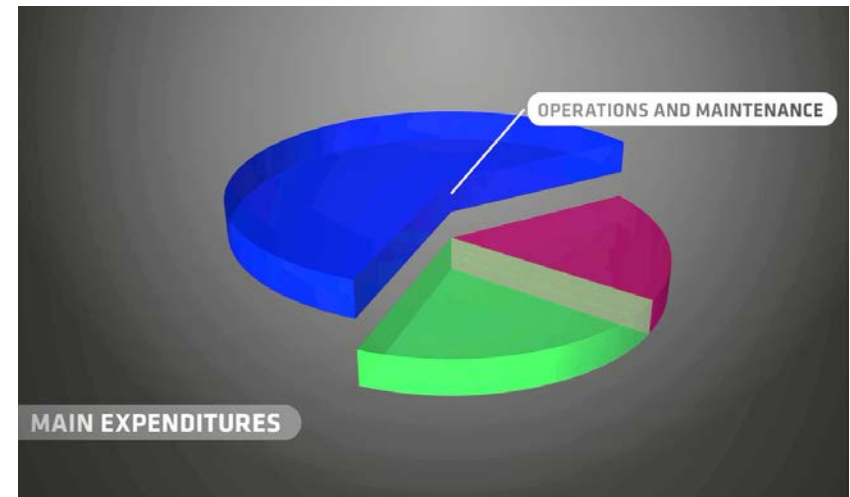
Board members are fiduciaries

Always act for the benefit of customers/public



Budgets & Budgeting

- Yearly Plan
- Looks to the past
- Projects the future
- Determines priorities
- Staff does legwork
 - Board's role is review & approval





Budgeting Tips for Water Utilities

Remember

- **Water use** (and revenue) change from year to year
- Suppliers have good knowledge of future costs
- Keep an eye on events of significant users

Always

- Use several past years
- Include major changes
- Include periodic events
- **Budget based on necessary expenditures**
 - Not projected revenue

Financial Reserves





Financial Reserves

Operational

- 3-6 months expenditures
- Smooths cash flow
- Allows for rainy days
- Allows to absorb higher than expected costs or show fall in revenue

CRITICAL



Financial Reserves

Repair/Replacement

- Based on schedule
- Varies year-to-year
- Savings account for high priced items that are too cheap for debt
 - High Service Pumps
 - Tower maintenance
 - Well servicing



Financial Reserves

Debt Services

- Required by lender
- Reduces interest costs

Emergency

- Covers unexpected costs
- Minimum of current cost of most expensive capital item not in inventory



Capital Improvement Planning

*What makes something a
capital improvement vs.
a regular maintenance or
repair?*

Maintenance & Repair





Capital improvement

Reasons for Capital Improvement Planning

- Meeting regulatory requirements
- Proactive – not reactive
- Inform future decision makers
- Establishes priorities for public review
- Funding institutions see system thinks long-term
- Not binding, unlike annual budgets



Tips for Capital Improvement Planning

- Set arbitrary minimum price for asset
- Stay realistic
- Five year minimum
- Justify need
- Coordinate with other projects
- Look at broad options
- Detail funding options
- Discuss openly





Capital Improvement Reserves

- Necessary to pay upfront costs
 - Engineering, land, surveys, legal, etc.
- Informed by Capital Improvement Plan
- Use reduces debt burden
- Reserve fund most likely to have large swings in value
- Best practice – transfer most depreciation expense to this fund

Rates & Revenue Sufficiency

Cornerstone of a well-run water utility

Critical to measure and know all costs & expenses

System expenses should be covered by rates and fees

True cost of service should be reflected





Income – Revenue

Impacted by

Number of customers

Minimum monthly fees

Water Demand

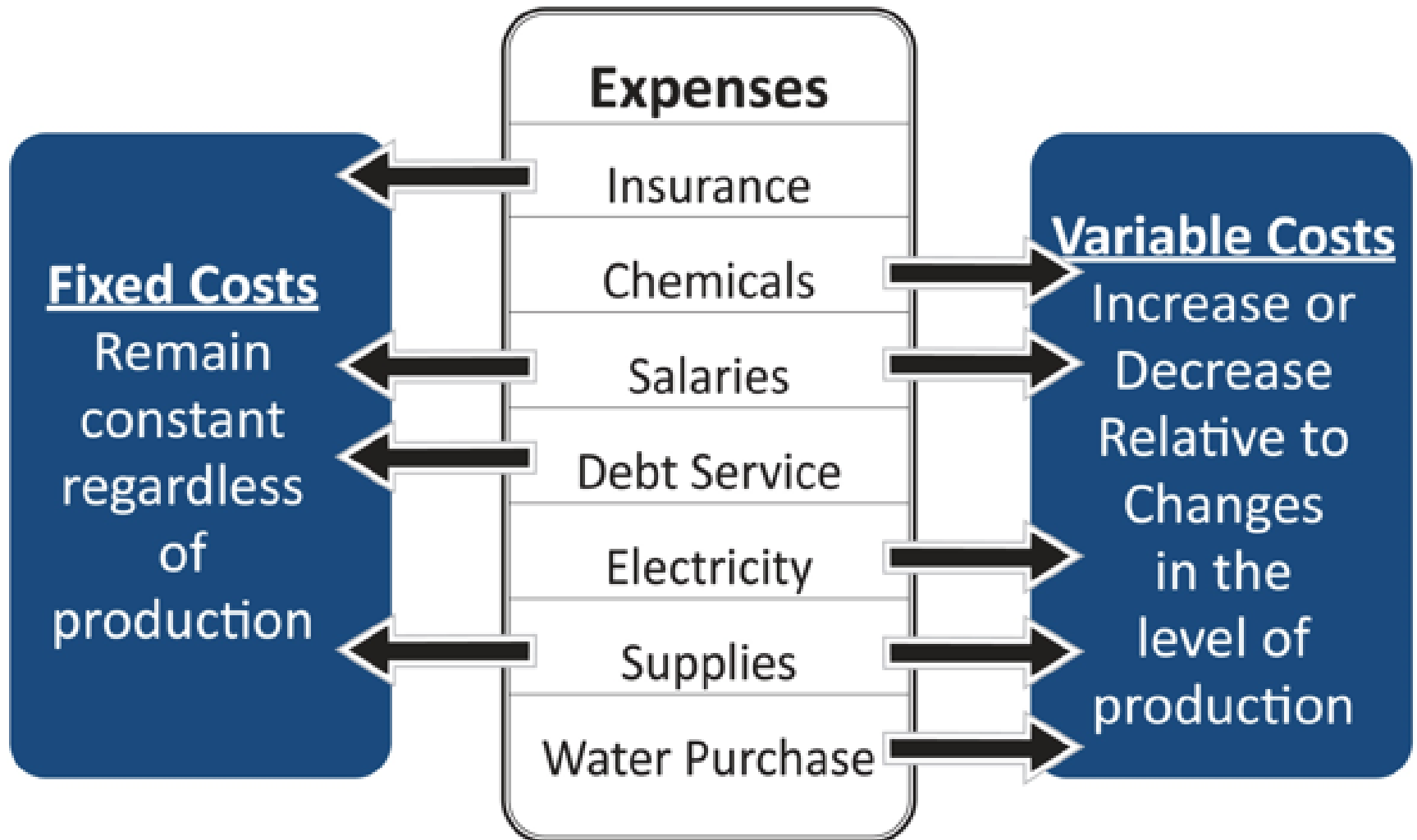
Weather

Population growth/decline

Business growth/decline

Conservation measures

Expenses – Operating Costs



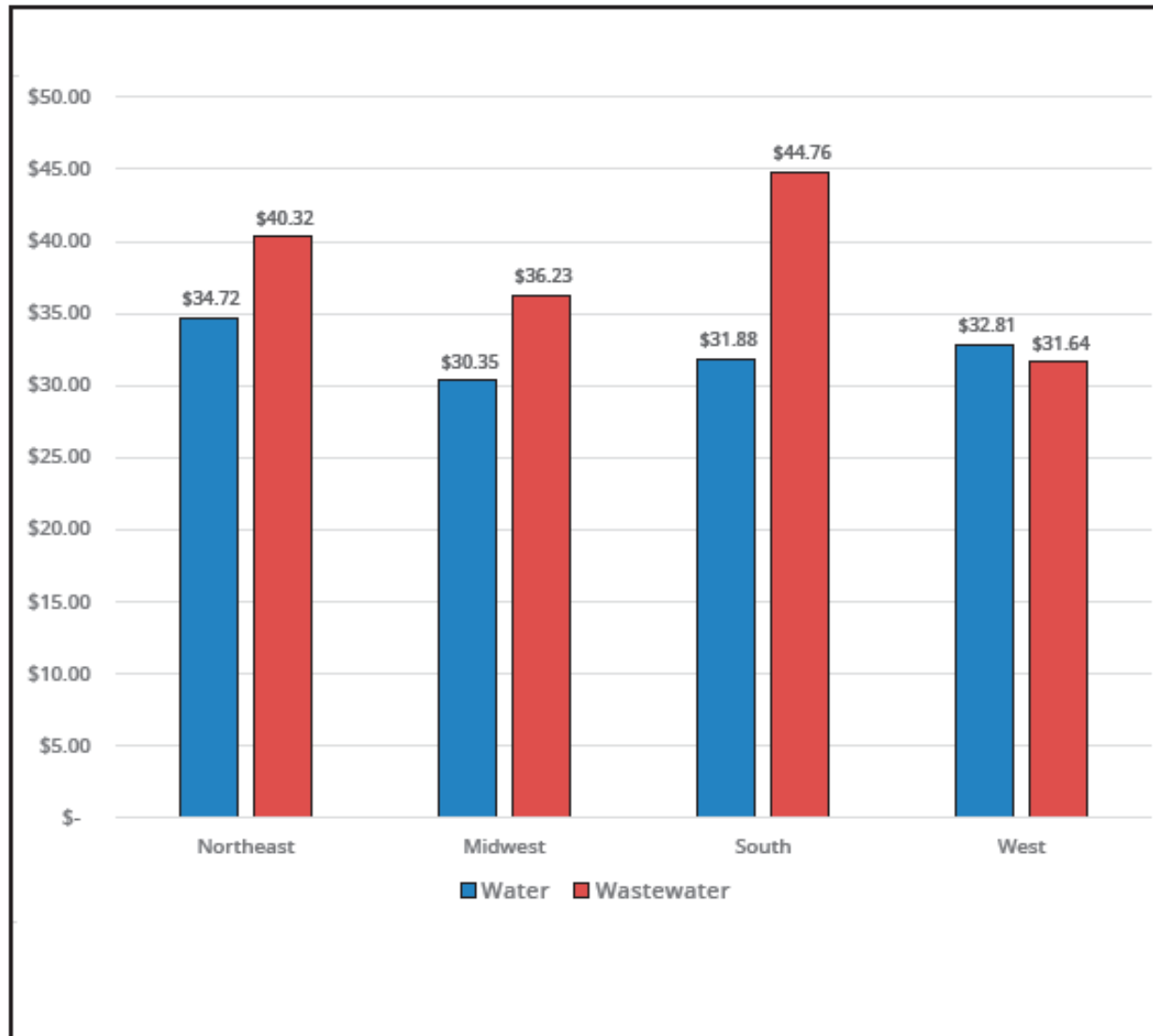


Current Financial Position

Current revenue from all sources minus current expenses (including debt and reserve requirements)

- Current expenses exceed current revenues
 - Means a rate adjustment is needed
- Expenses equal revenues
 - If reserves are not adequate, a rate adjustment may be needed
- Revenues exceed expenses
 - Check for adequacy of current reserves

Median Monthly Charges by Region





Rates & Rate Setting

Should Be

Simple to

Understand

Implement

Change when
necessary

Based on expenses

Set over several years

Cover full costs

Depreciation

Transfers to reserves

Should Not Be

Frozen in time

Based upon short-term
political desires

Super-complicated

Based upon neighbors

A large source of
subsidies to other
operations



Comparing Water Rates

Prudent Valley

- ▶ Maintains
- ▶ Replaces
- ▶ Trains
- ▶ Plans
- ▶ Renews
- ▶ Manages
- ▶ Sustains
- ▶ Higher Rates Now, Lower Overall Costs

Dawdlerville

- ▶ Fixes Only
- ▶ Delays
- ▶ Ignores
- ▶ Violates
- ▶ Gets by
- ▶ Runs out
- ▶ Neglects
- ▶ Lower Rates Now, Higher Costs Overall

Alternatives to Rate Increases



Contracted Operations



Reduce Costs



Special Fees



Rate Setting Goals

Cover full cost of service

Meet other goals
i.e. water conservation, economic development, etc.

Simple to administer & understand

Be fair and affordable

Rates study regularly (3-5 yrs)

Educate, be transparent & honest

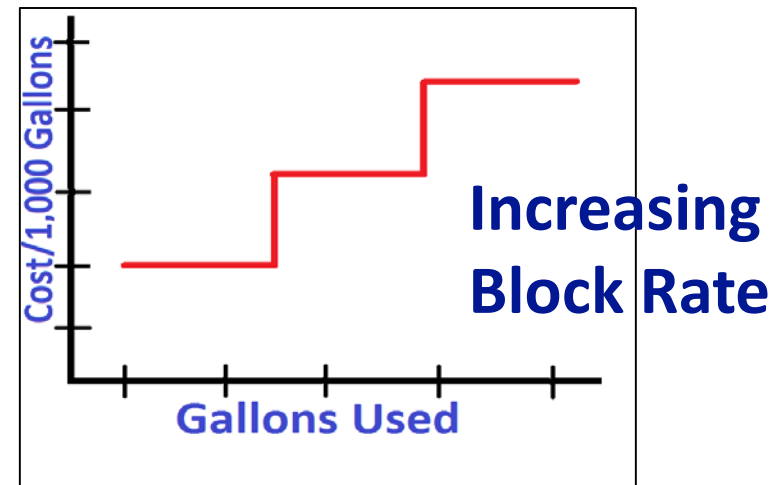
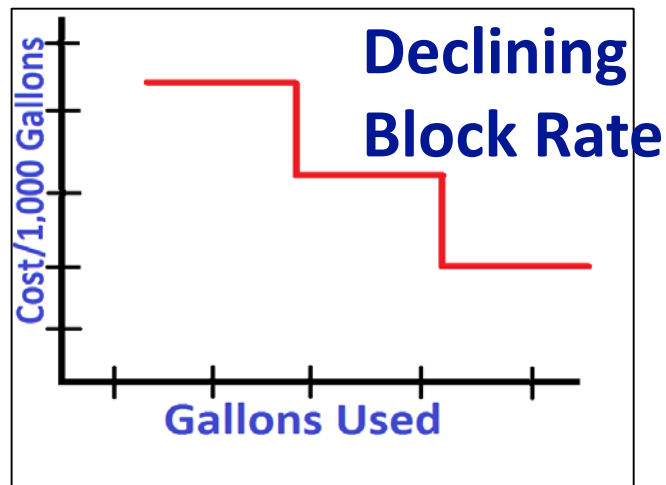
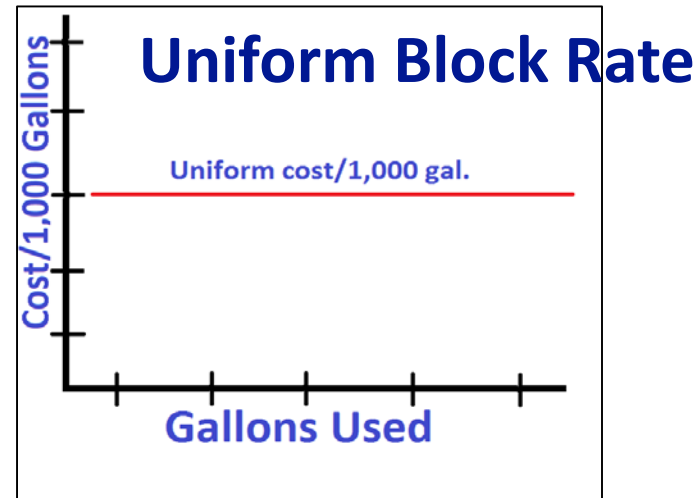
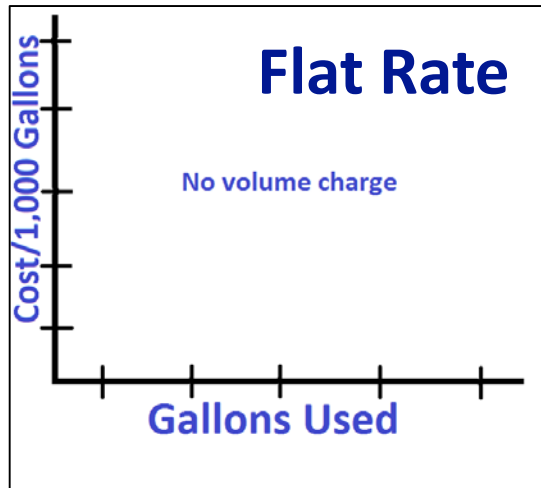


Let's Discuss



Let's Discuss Rate Structures

What are the benefits and drawbacks of each?



Flat Rate

Very seldom used

Fixed cost/month

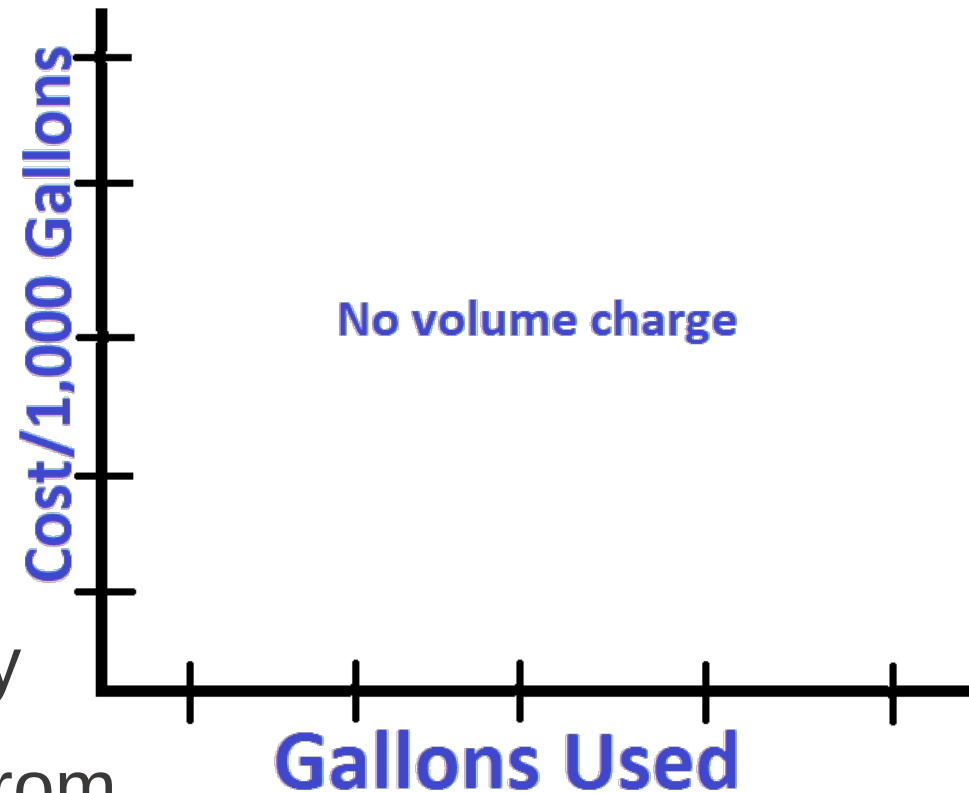
No per gallon charge

Simple

Assured revenue recovery

Revenues disconnected from expenses

Promotes high (wasteful) use



Uniform Block Rate

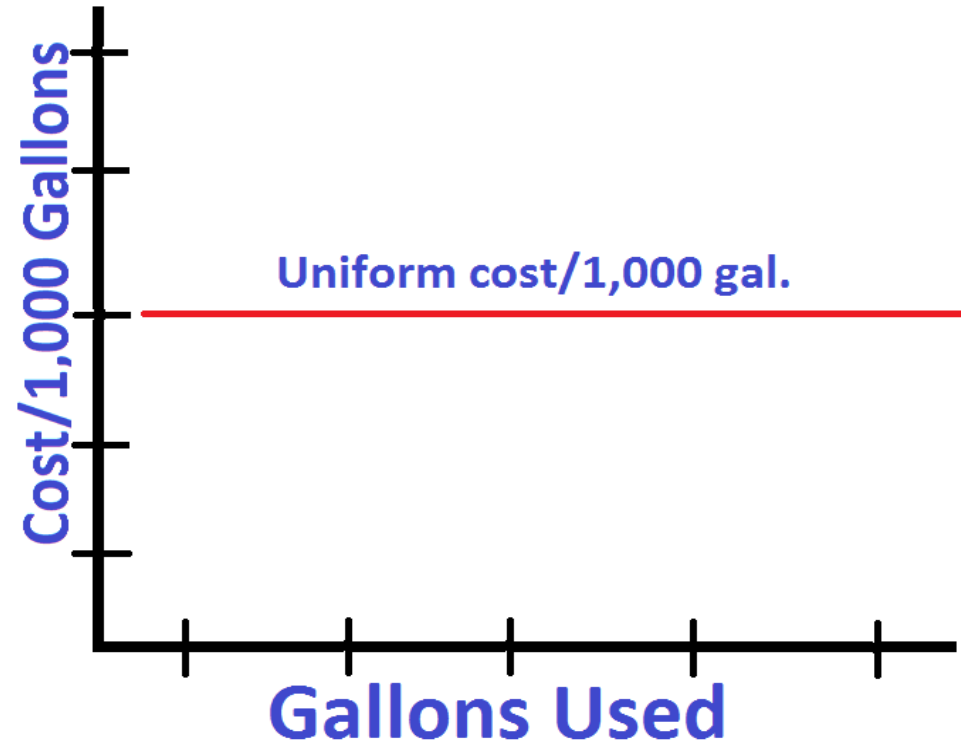
Basic rate + step charge

More complex

Revenue more based on use

Revenues more connected to some expenses

Customers pay for use



Declining Block Rate

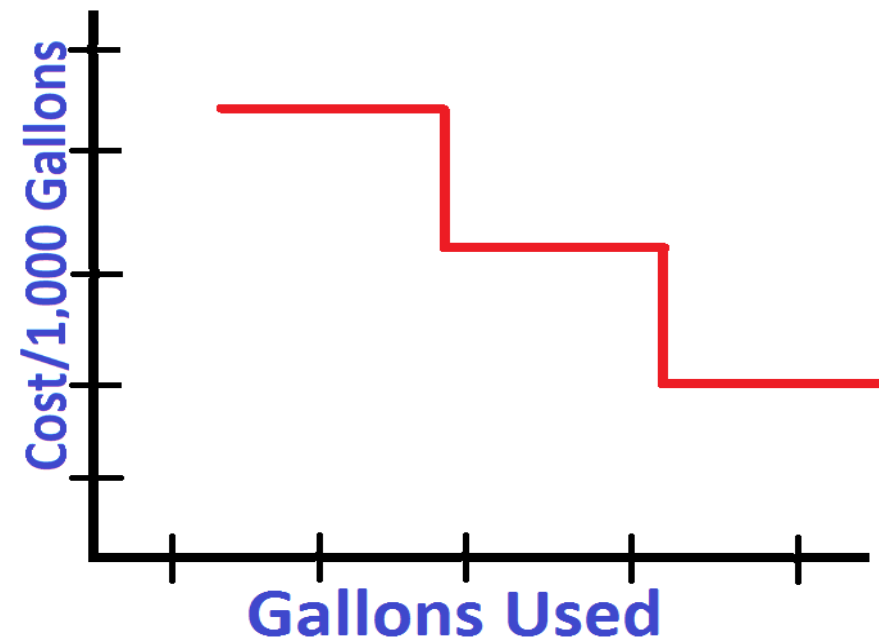
Basic Rate + Multiple
Declining Step Charges

More complex

Less average revenue per
1,000 gallons as usage
grows

Revenues connected to
variable expenses

Can be used for economic
development



Inclining Block Rate

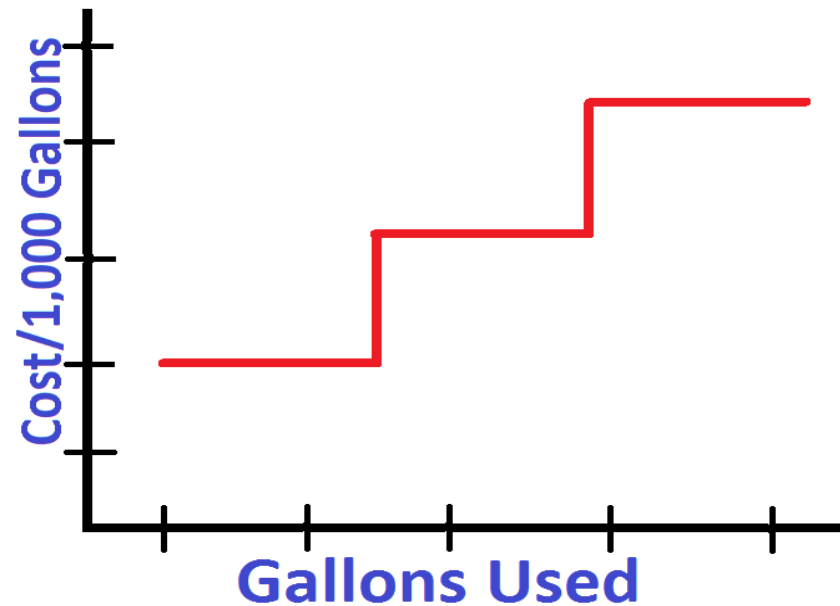
Basic Rate + Multiple
Increasing Step Charges

More complex

More average revenue
per 1,000 gallons as
usage grows

Revenues connected to
variable expenses

Can be used to encourage
conservation





Rates Exercise



Financial Controls

Boards adopt ordinances and policies to safeguard system funds

Protect

- Safeguards against theft and fraud
- Separation of duties & bonding

Purchase

- Rules for purchasing day-to-day items
- Rules for purchasing high dollar items
- Rules for hiring of services



Audits

- Examine whether financial statements are accurate & complete
- Independent
 - Not an employee or employee's relation
- Required for most systems:
 - State law
 - Debt covenants





Access to Credit Markets

Why Debt Finance?

- Credit is essential for most systems for large capital projects
- In Kansas, most small systems rely on mix of loans & grants
- Larger systems rely on bond issuance

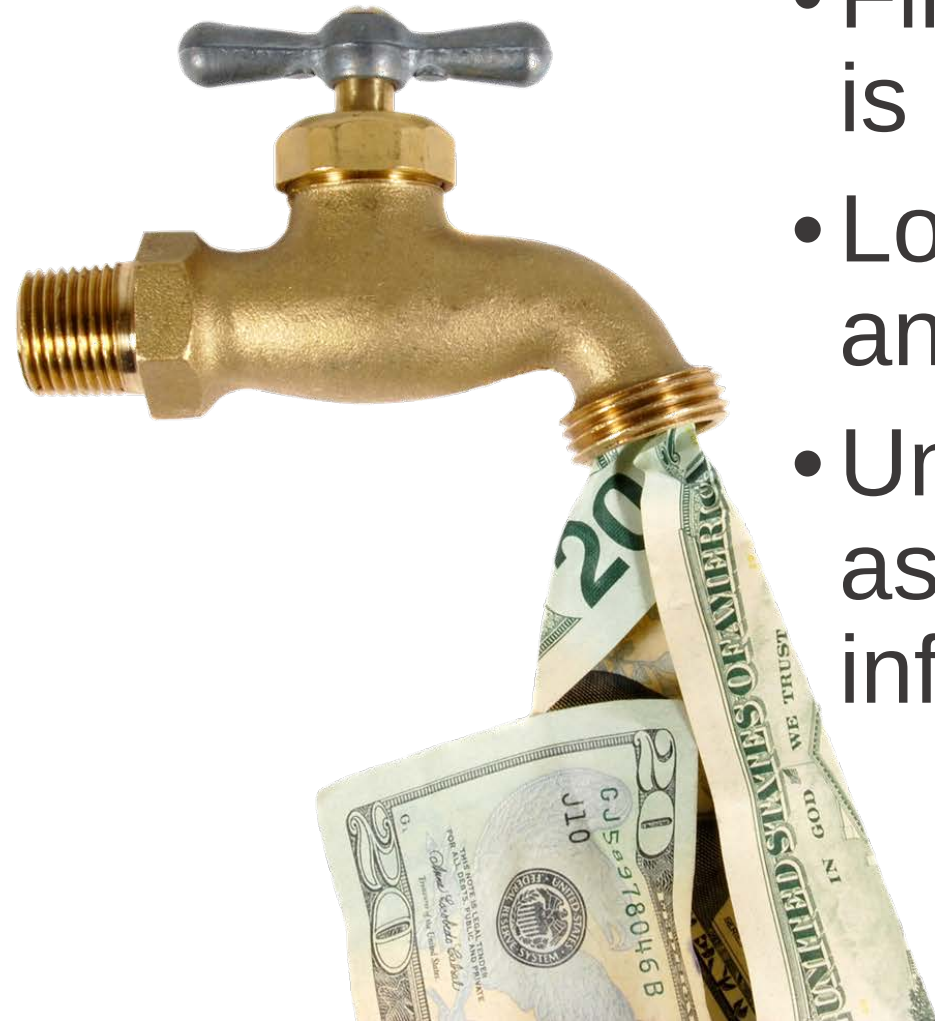
What Needs to be Done?

- Proper financial management necessary before & after debt issuance
- Debt covenants must be followed
- Rates increases often required



Final Thoughts

- Financial management is continuous
- Long term, short term and credit access
- Understand finances, ask questions & make informed decisions





What financial capacity practices is your utility really good at?

- A. Budgeting**
- B. Capital Improvement Planning**
- C. Rate Setting**
- D. Revenue Sufficiency**
- E. Using Reserves Effectively**
- F. Financial Controls**
- G. Audit Process**
- H. Using Credit Effectively**





What financial capacity practices does your utility need to work on?

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Meeting Technical Capacity

Understand Regulations

Utility Sustainability
Programs

Operate and Maintain
Assets

Secure Water Quantity

Understand Treatment and
Process

Maintain Good Records

Protect Water Sources and
Infrastructure

Proper Certification and
Training

Types of Water Systems

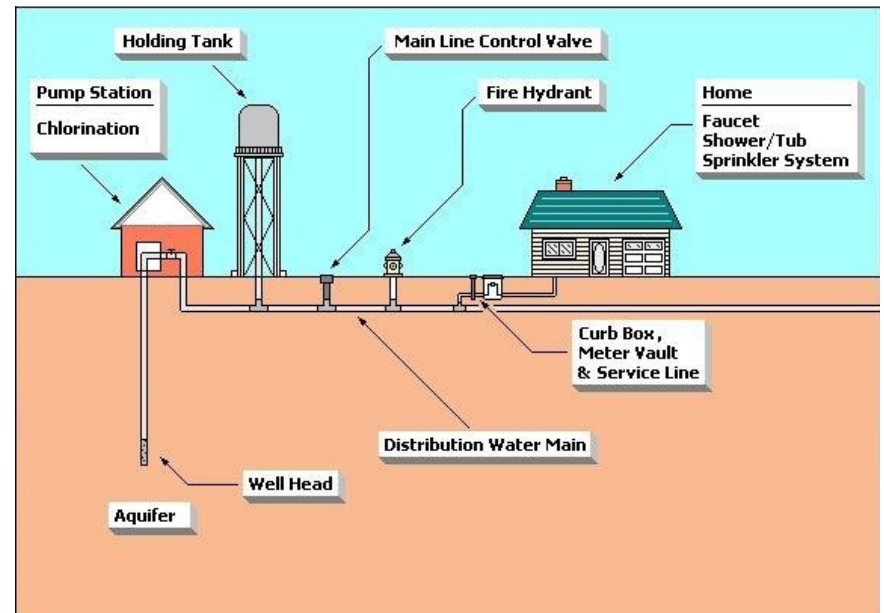
Groundwater System
GWUDI

Surface Water System
River, lake, reservoir

Purchase Water System

All have Distribution System

Understand Your System





Role of System Operator

Valuable members of utility

Maintain system

jack of all trades *especially in small systems*
repairs, maintenance, testing,
trouble shooting

Understanding of the entire
treatment process

Understand and comply with
regulations





Role of the Board = Support

Board Does Not Manage Day-To-Day

Fund Maintenance

Fund Education and Training

Acknowledgement

- Above and Beyond
- Certification

Customer Complaints

Tools, Equipment, Software

Safety Equipment

Appropriate Salary





Operation & Maintenance Plans

Maintain Assets

Operations

- Activities to keep water flowing

Maintenance

- Routine
- Preventative
- Predictive
- Not emergency

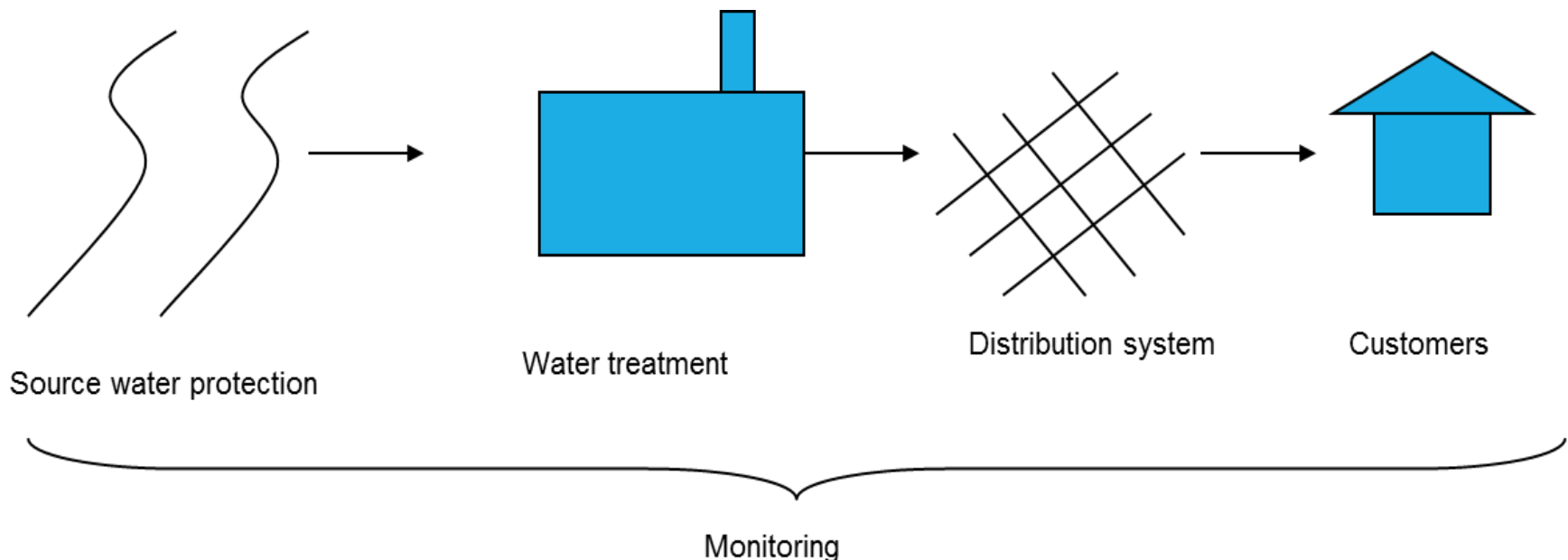
Consequence of Failure ↑	Maintenance Important 30% of budget	Maintenance Extremely Important 45% of budget
	Maintenance Less Important 5% of budget	Maintenance Important 20% of budget
	Probability of Failure →	

Multiple Barrier Approach

Source Barrier – Keep contamination out

Treatment Barrier – Inactivate or remove it

Distribution Barrier – Prevent it from re-entering





Source Water Protection Program

It is much less expensive to prevent contamination of source water than it is to treat it after

In 2004 all active public water supply systems completed a Source Water Assessment (SWA) per the 1996 amendments to the Safe Drinking Water Act

Identify all potential sources of contamination and susceptibility



Source Barrier

Protecting drinking water sources usually requires the combined efforts of many partners such as public water systems, state agencies, communities, resource managers and the public



Treatment Barrier

Disinfection

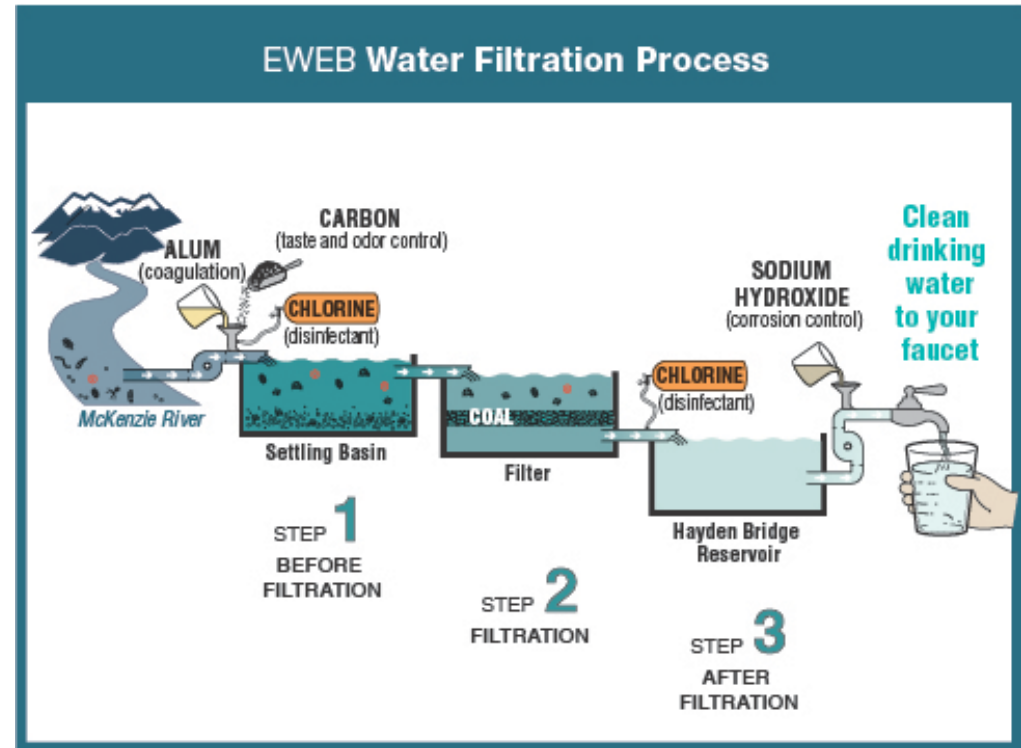
Chlorine, Chloramines,
Chlorine dioxide, Ozone,
Ultraviolet

Filtration

Surface and GWUDI
required by regulations

Additional Treatment

Corrosion inhibitors
Lead and copper
reduction



Distribution Barrier

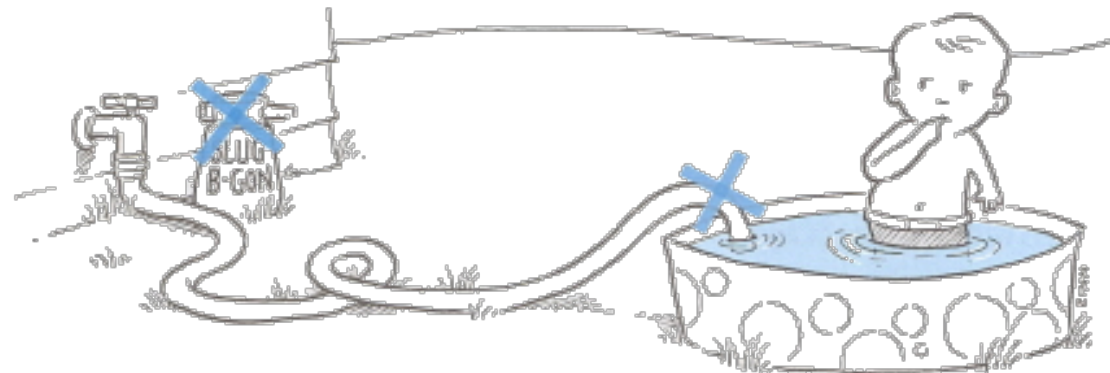
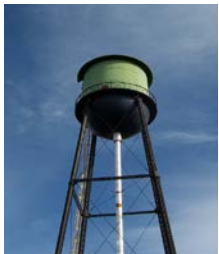
Chlorine Residuals

Minimum Pressure

Maintain Water Storage

Cross-Connection Control

- serious public health hazard



Prevent Water Backflow

Additional Barriers

Regulatory Oversight

Security Measures

- Bioterrorism Act 2002
- Vulnerability, Response Planning

Staff Expertise



Operator Certification

TDEQ administers mandatory water and wastewater operator certification program

By law, it is the responsibility of water supply system **owners** to operate the water system with an appropriately certified operator

Operating without a certified operator is considered an **unlawful act**





Utility Sustainability Programs

Water Loss Control

- Protect water resources
 - Prolong resource
 - Water Conservation
- Minimize disruptions to customers

Energy Efficiency

- Reduced energy cost
- Interrelated to water loss
 - Saving water saves the energy

Increase revenues

Water Loss Control

Non-Revenue Water

- Unaccounted for Water

Unbilled authorized uses

Unauthorized water uses

Data handling errors

Water leaking from the system

- real water losses



Water Loss Control



Water Meters

System cash register

- Slow meters – reduced revenue

Must be accurate

Encourage conservation

- “No way we used that much water”

Demand and customer data planning

- Is your infrastructure adequate?



Regulatory Compliance

Safe Drinking Water Act of 1974

Water System Definition

EPA - “a system for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such a system has at least **fifteen** service connections or regularly serves at least **twenty-five individuals**.





Regulatory Compliance

Types of Public Water Supply System

- **Community:** Year-round residential customers
 - Towns, mobile home parks, rural water districts, subdivisions
- **Transient Non-Community:** Different non-residential customers every day
 - Motels, parks, airports, campgrounds, truck stops
- **Non-Transient Non-Community:** Same non-residential customers
 - Schools, daycare facilities, industrial or manufacturing facilities





National Drinking Water Regulations

National Primary Drinking Water Regulations

- **Legally enforceable** standards that apply to public water systems
- Primary standards **protect public health** by limiting the levels of contaminants in drinking water.

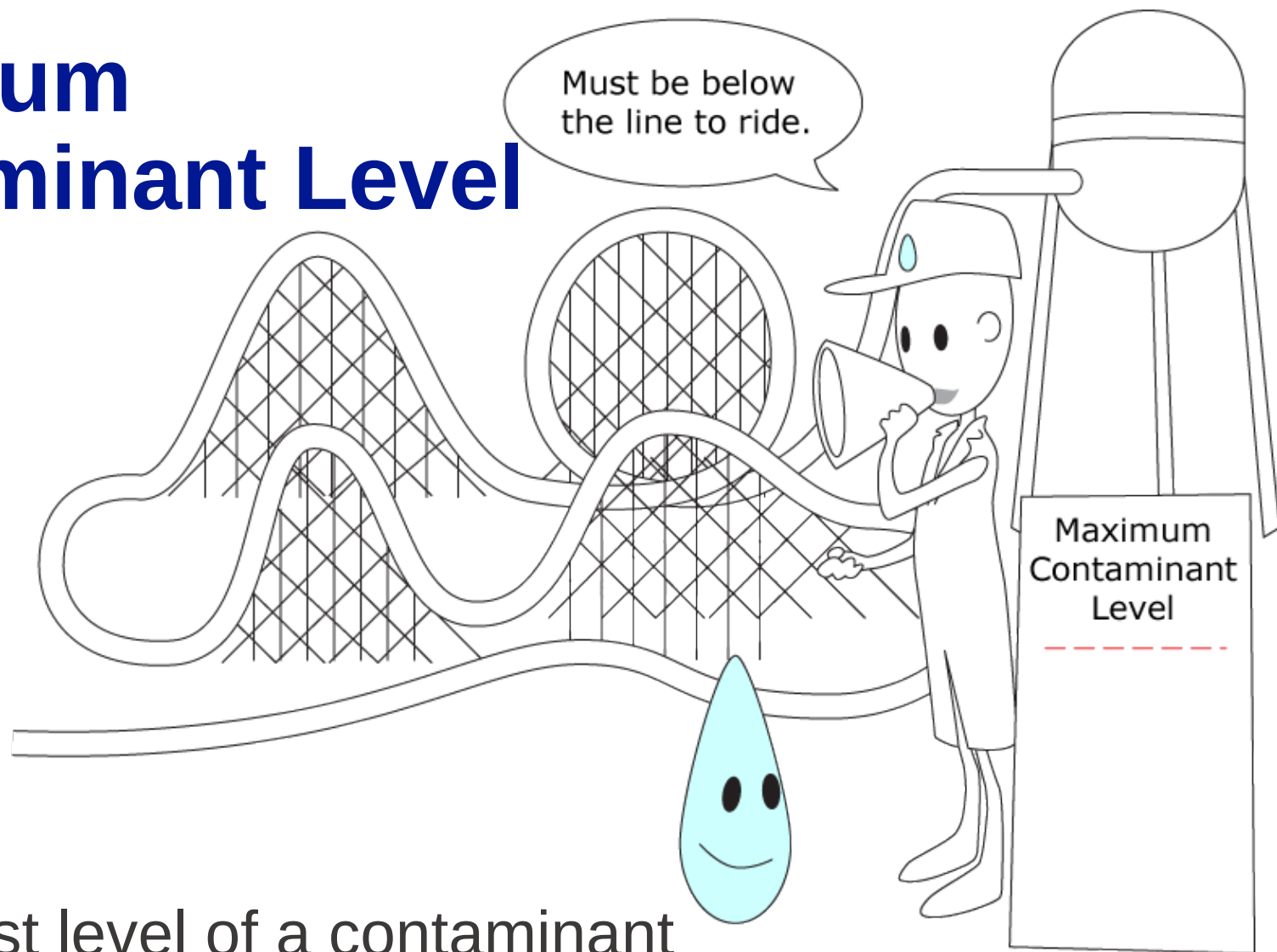
National Secondary Drinking Water Regulations

- **Non-enforceable** guidelines regulating contaminants that may cause cosmetic effects or aesthetic effects in drinking water.
- EPA **recommends** secondary standards to water systems but does not require systems to comply.

Numerous Amendments

Maximum Contaminant Level (MCL)

Bacteria
Turbidity
pH
Organics
Alkalinity
Metals
Calcium
Chloride
Chlorine
Sulfate
Nitrate
Nitrite
Color



The highest level of a contaminant allowed in water that would still potable

Monitoring and Reporting

What monitoring and reporting is required?

- Code of Federal Regulations (40 C.F.R. part 141)
- State Regulations

Each water system is required to take certain samples and keep the records

- Based on type of system and population





Record Keeping

All water systems must keep records (3 -12 years)

- ✓ 3 years – corrective action for violations
- ✓ 5 years – microbiological analyses
- ✓ 10 years – chemical analyses
- ✓ 12 years – lead and copper results

Records can help improve
operation and
maintenance of system



Public Notification



Tier 1	Tier 2	Tier 3
Potential for serious & immediate health effects	Potential for adverse health effects, but no immediate risk	No direct impact on human health
24 hrs notice	Within 30 days	Within 12 months



What technical capacity practices is your utility really good at?

- A. Asset Management**
- B. Operation & Maintenance Plans**
- C. Pollution Barriers**
- D. Water Loss Control**
- E. Energy Efficiency**
- F. Operator Certification/Training**
- G. Monitoring & Reporting**
- H. Record Keeping**
- I. Accurate Meters**





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Board Responsibility



Staff Responsibility



Decisions affecting long-term priorities such as mission, institutional direction, values, priority & principals

Decisions affecting who are the organization's primary clientele, types of services, delivery systems that focus on the relationship of programs and departments to overall mission

Decisions about planning, budgeting, financing, marketing, and personnel. Budget approval process, setting rates and fees.

Decisions about day to day practices, participation in community activities, selection of contractors, interlocal agreements.

Decisions affecting procedures used to handle routine transactions and normal form, process, method and application of policies.

Decisions and regulations that guide or prescribe everyday conduct

In Summary

Boards set strategic direction, overall vision, major goals

Management defines roles and responsibilities, conducts planning, reviews whether goals are met

Operational staff carries out day to day tasks to keep system running, ensures compliance with regulations and makes necessary adjustments

Questions





Smart Management for
Small Water Systems

**Thank you for participating today, and we
hope to see you at a future workshop!**

www.efcnetwork.org



American Water Works
Association