Asset Management Update: Where are we now?

Ohio EPA Division of Drinking and Ground Waters

Overview

- Senate Bill 2
- Rule Making
- Sanitary Survey Questions
- Metrics
- Resources
- AMP & Needs Survey

Image courtesy of the Capitol Square Review and Advisory Board

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Drinking Water Issues In Senate Bill 2

- Asset Management required at **all** public water systems
- Expanded escrow and added financial assurance flexibility
- Set up receivership process

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Asset Management Provisions

- Components:
  - Inventory and evaluation of all assets
  - Operation and maintenance programs
  - Emergency preparedness and contingency planning program
  - Criteria and timelines for infrastructure rehabilitation and replacement
  - Approved capacity projections and capital improvement planning
  - Long-term funding strategy to support asset management program implementation

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Asset Management Rules

- Effective November 2018
- Written asset management programs required by October 1, 2018
- Systems do no submit AMP
- Prioritizing systems receiving loans, under enforcement and those with capability issues

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Sanitary Survey-Communities

Are any of the following missing in the distribution system maps?

- Date map was last updated
- Line sizes
- Valves
- Hydrants

The asset inventory is up to date?

Are any of the following missing from the asset inventory condition assessments?

- Asset name
- Known purchase or installation date, or estimated age of asset if different.
- Status of asset (e.g., in use, available for use, needs repaired, etc.) as identified by the water system.
- Condition (e.g., excellent, good, fair, poor, needs replacement)

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Sanitary Survey-Communities

The rate structure has been evaluated in the last three years?

Are any of the following missing from the operating plan?

Table of organization of critical water system personnel with job descriptions
Daily operating procedures

The water system monitors their demand trends and does capacity projections?

The water system has identified criteria to determine rehabilitation/replacement for water system components?

The water system has in place timelines for rehabilitation/replacement for water system components?

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Metrics-Community

- Operating ratio.
- Operating cost to produce water per service connection.
- Breaks per ten miles of distribution pipe.
- Non-revenue water (percentage loss).
- Maintenance tasks per year (planned vs. unplanned) on vertical assets.
- One additional customer service metric to be tracked shall be determined by the water

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Operating Ratio =

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Operating Ratio

- A utility's operating ratio is its operating expenses divided by operating revenue or net sales, taking into account expansion or debt repayment.

- Operating ratio = Total O&M costs/Total operating revenue

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Operating cost to produce water

Service connection

=

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of

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Operating cost to produce water per service connection

- Operations and maintenance costs for potable water service can be compared between utilities once normalized by water production to give a unit cost or on the basis of number of accounts served or miles of distribution pipeline. Depreciation is not included in the total operations and maintenance cost.

- Total O&M cost of water ($/connection)= Total O&M cost/Number of residential connections + number of nonresidential connnections

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$$\frac{\text{Breaks}}{\text{10 miles of pipe}} = \frac{\text{\# of } \quad \text{  }}{\text{Total miles of } \quad \text{  }}$$

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Breaks per ten miles of distribution pipe

- This indicator quantifies the condition of a water distribution system, expressed as the annual number of breaks per 10 miles of distribution piping. A break means a physical damage to a pipe, valve, hydrant, or other appurtenance that results in an abrupt loss of water.

- Breaks/10 ft of pipe=Total number of breaks x 10/Total miles of distribution system piping

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Table 1. IWA/AWWA Water Balance (All data in volume for the period of reference, typically one year)

System Input Volume (corrected for known errors)	Authorized Consumption	Billed Authorized Consumption	Billed Metered Consumption (including water exported)	Revenue Water
			Billed Unmetered Consumption	
		Unbilled Authorized Consumption	Unbilled Metered Consumption	Non-Revenue Water (NRW)
			Unbilled Unmetered Consumption	
	Water Losses	Apparent Losses	Unauthorized Consumption	
			Customer Metering Inaccuracies	
			Systematic Data Handling Errors	
		Real Losses	Leakage on Transmission and Distribution Mains	
			Leakage and Overflows at Utility's Storage Tanks	
			Leakage on Service Connections up to point of Customer metering	

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Benefits of Metering

- Reduces the amount of water used due to accurate billing
- Less demand = more system capacity
- More revenue, since high water users pay their fair share
- Helps the system determine how much water is being lost

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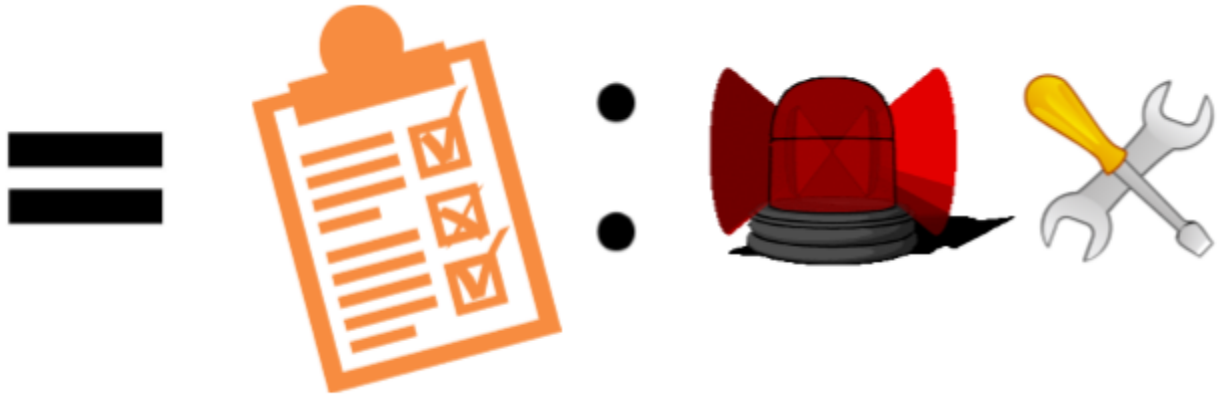
Maintenance tasks per year on vertical assets (planned vs unplanned)



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Maintenance task per year (planned vs unplanned) on vertical assets

- Quantify a utility's efforts regarding planned (proactive) and unplanned (reactive) maintenance. Vertical assets examples include plants and pump stations.

- Number of planned maintenance tasks: Number of unplanned maintenance tasks

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Customer Service Metric

- Service complaints
- Call center indicators
- Residential service charges
- Customer cost per account ($/account)
- Billing accuracy (errors/10,000 billings)
- Per capita consumption (gal/person/day)
- Service affordability
- Delinquency rate
- Low-income billing assistance rate
- Stakeholder outreach index
- Customer service contact
- Water service disruptions

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Metrics

- Metrics will be reported by water systems on 2020 LTOs
- Water systems will be reporting the metrics yearly
- Metrics will be used to establish trends.

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Implementation Plan

At the time of sanitary surveys, inspectors will initially be asking to see some basic components, such as asset inventory, maps, etc.

Submission of the written asset management program will only be upon the Director's request.

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Implementation

- SOP's are being developed for AM implementation
- AM is not a one size fits all
  - Each system's program should have the items required by rule, but the layout or how the information is conveyed may be different
- Training will continue to be available for water systems and OEPA staff

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Resources

- Asset Management Webpage
- https://epa.ohio.gov/ddagw/pws#113435168-asset-management
- Background and Basics
- Rules
- Resources (links to OEPA, USEPA, AWWA, RCAP, EFCN)
- Templates and Guidance

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Asset Management and Needs Survey

- The next Needs Survey will start in 2020
- USEPA specifically wants to know how many lead service lines are out there
- Asset management requires maps
- Lead service line maps have to be updated by March, 2021
- Asset management requires capital improvement plans, makes it easier to respond to Needs Survey

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What Can Asset Management Do for You?

- Can help raise capital to improve infrastructure
- Operation and maintenance on a frequency that makes sense to get the maximum life of the assets
- Better response to emergencies (contingency plan)

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What Can Asset Management Do for You?

- Allows a system to plan ahead for future improvements and adjust rates gradually to meet future financial needs
- Allows a system to adequately address the health, safety and welfare of their customers
- Sets aside reserves to replace critical infrastructure in emergencies

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What Can Asset Management Do for You?

- Establishes real costs of infrastructure if replacement needed, adequate insured $$$
- Make staying in compliance easier
- Save the system money!

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Questions?

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