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Asset Management Plan – The Continuing Saga

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- Operator Training Committee of Ohio
- Water Distribution Systems Workshop

- November 13, 2018
- OEPA Course Number: TBD

Take Home Points

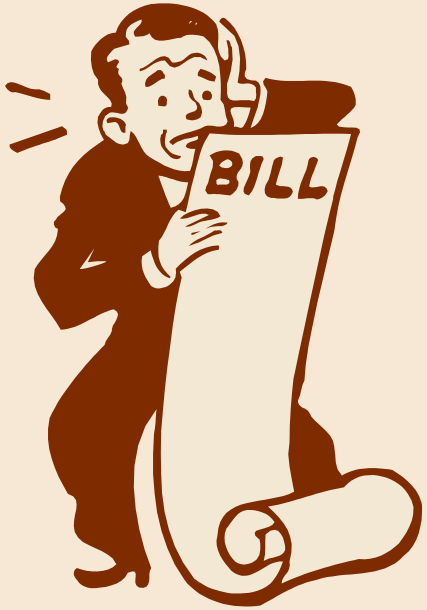
1. Be a good Steward – manage utility
2. Purpose – maximize life of asset at least cost of ownership
3. Break down process into manageable steps
4. It’s a work in process – never complete
5. Can – and should – be utilized for a number of applications going forward

Agenda

1. Introduction & Definitions
2. *Reasonable* Approach
3. Field Observations
4. Written Plan
5. Utilizing the AMP

Introduction

1. Not New - Many states already require
2. Unfunded mandate
3. Ohio SB – July 1, 2017 ORC
4. Due October 1, 2018



Introduction – Definitions

STEWARD: *definition*

a person who manages another's property or financial affairs; one who administers anything as the agent of another or others. a person who has charge of the *household of another*, buying or obtaining food, directing the servants, etc.

Introduction – Definitions

1. Purpose – maximize life of asset at least cost of ownership
2. Collection of documents
3. Components of the AMP

   (A – Managerial, B – Technical,

   C – Financial)

Introduction – Definitions what it is NOT

1. GIS, but a GIS can be part of the PLAN
2. Document to collect dust
3. Ever finished

Introduction – AMP includes the following

1. Requires WRITTEN records and documents
2. Inventory and evaluation of all assets
3. Operation and maintenance programs
4. Emergency preparedness and contingency planning

Introduction – AMP includes the following

1. Stewardship responsibilities
2. Criteria and timelines for infrastructure rehabilitation
3. Capital improvement planning
4. Long-term funding strategy to support AMP implementation

Introduction Example

1. Operations – laws of safe driving, Owner's manual
2. Maintenance – routine maintenance (Owner's manual)
3. Management – licensing, insurances, taxes, conditions assessments, repair decisions
4. Management – determine buy, lease, rent
5. REPEAT

Operation Programs

1. Operational programs (hydrant flushing, valve exercising)
2. Operating instructions for pumps, tanks, specialty equipment
3. Operating programs for wells, treatment equipment
4. Sampling plans and protocols

Maintenance Programs

1. Work orders & customer complaints
2. Equipment maintenance programs (schedules, work tasks)
3. Maintenance records

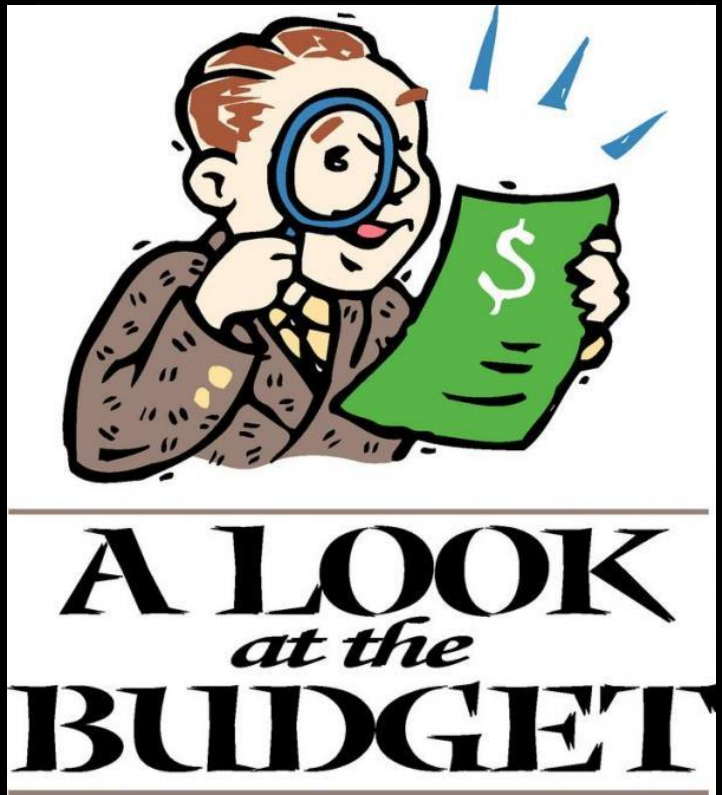
Managerial Programs

1. Emergency/Contingency Plans
2. Standard Operating Procedures
3. Source Water Protection Plans
4. Monitoring programs (quality, corrosion, leaks, energy usage, LOS, etc.)

Managerial Programs

1. Operator Certifications, Org chart, job descriptions, training, succession planning
2. Safety programs
3. Rules, Ordinances, Regulations for Utility
4. IT programs, hardware, software, subscriptions

Financial Plan - Steward



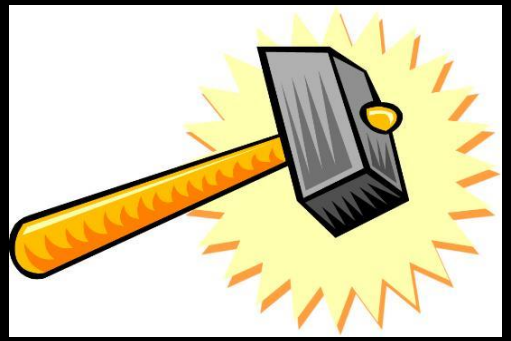
1. 5 Year Capital Improvements Plan
    a. Rehab & replacement plan
2. Rate setting to fund these plans
    a. Budget line items for CIP & R&R plans

Reasonable Approach

1. Develop and perform a GAP Analysis
    a. Comprehensive look at what you need
    b. What do you already have?
    c. What is missing = GAP

Reasonable Approach

1. TOOL – Excel file to track needs (Rule 3745-87-03) vs. available data (what we need)
2. Primary areas to review:
    a. Management
    b. Technical
    c. Financial



Reasonable Approach: Biweekly Meetings

1. Kickoff meeting/technical data in WTP/source water
2. Discuss/gather technical data on Water distribution items
3. Managerial/Financial documents

Reasonable Approach: Meeting Prep

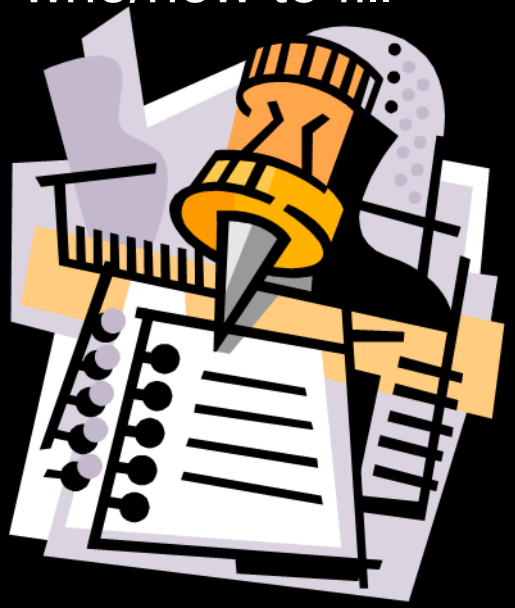
1. Schedule meetings
2. Requested list of documents
3. Ask that the PWS bring these to the meeting, should they posses them

Reasonable Approach: Meeting Follow Up

1. Assess data collected
2. Review completeness
3. Update tracking tool

Reasonable Approach: What After Meeting #3?

1. Assemble an AMP with what we have
2. Identify the Gaps in the AMP
3. Make plan with the Client as to who/how to fill the gaps



Field Observations

1. Identify and list Assets:
    a. Hydrants, valves, meters, pumps
    b. Pumps vs. BPS; WTP vs. individual components
    c. Rolling stock, tools, IT, software

Field Observations – Common GAPS

1. Evaluating Assets:
    a. Assigning condition of assets
    b. Assigning consequence of failure
    c. Assigning likelihood of failure
    d. Rank of assets by Risk (d= b x c)

Field Observations – Smaller PWS's GAP

1. Lacking appropriate staffing, succession planning
2. Lacking sufficient staffing to perform required functions

Observations – Smaller PWS's GAPS

1. Financial data – lack projections & long-term planning
2. Financial data – lack of funding identified, collected, budgeted
3. Documented O & M programs missing
    a. Standard operating procedures
    b. Valve exercising programs
    c. Flushing programs
    d. O&M records

Field observations – Increasing NOVs

1. No written valve exercising program – operational data **OAC 3745-83-01(H)**
2. Written SOPs missing
3. Backflow Prevention program data missing
4. Written Flushing Program missing

Written Plan

1. Harvard Study – 1971
   a. Identify those who have Written financial PLAN – 5 %
   b. 20 years later those who had written goals have most wealth 3% of class = 97% of wealth
   c. Why? – Practicing Stewardship
2. Businesses have written plan

Written Plan

1. We are aging & forgetting – must write down to pass it down
2. Losing institutional knowledge with retirements and turnover
3. To train new staff in best practices
4. To be prepared for emergencies
5. To maximize our investments in an asset (YES – people are assets)

But wait…. There's more!

1. An AMP has been prepared…
2. Ohio law and OEPA Rules are now satisfied…
3. Now what??

Utilizing the AMP

1. Now that AMP is prepared, it can be utilized for many purposes
   A. Master Document for O & M programs
   B. Capital Improvement Planning
   C. Data Tracking & Management
   D. Training Staff
   E. Etc…

Master Doc for O & M Programs

1. Section B4: O & M Programs
   A. SOP's
   B. Maintenance Schedules
   C. Demonstration of Maintenance Log
   D. Flushing and valve exercising programs
2. Use this section to store results for these OR
3. Use this section to refer out to the location of this data
4. Whatever makes most sense for your utility

Capital Improvement Planning (CIP)

- B9: CIP
- B8: Rehab & Replacement Criteria
- B2 & B3: asset inventory & evaluation

1. Update Inventory & perform re-evaluations
2. Use Rehab & Replacement Criteria
3. Implement Criteria to identify CIP projects
4. Repeat Annually

Data Tracking & Management

1. Contingency Plan & emergency preparedness practice drills, results, and updates to the Plan based on drills
2. Financial Data
   A. C1 requires financial projections, including rate evaluations.
   B. Regular review of financial tracking - can be incorporated with updates to rate schedules and CIP

Training Staff

1. All things must come to an end… eventually.
2. To ease transitions, the AMP can be used to train
   A. SOP's, management policies, overview of system & assets, etc.
   B. All included in AMP, all important to be learned right away
3. Bulk up certain sections, to better use for training purposes
   A. For example, section A4f can be expanded to include training documents for staff.
   B. Develop WDS model & use to understand basic hydraulics of your water system & how it works
   C. Cross-train various staff between supply & treatment, storage and booster pumping, to distribution & meter reading

Possibilities are Endless

1. Depending on unique details of system, AMP can be utilized in a number of ways.
2. Can track performance criteria of system
    A. Fire flow data and changes over time
    B. System-wide pressure conditions and changes
    C. Water storage turnover
    D. Water quality changes over time

Possibilities are Endless

1. Can track many System Metrics:
   A. Main breaks over time
   B. Depressurizations annually
   C. # of customer complaints and average time to resolve
   D. Meter reading & tracking non-revenue water
   E. Tracking cost of service changes: $/MG to treat, distribute water, cost per yr. for main breaks, etc.

Resources

- AWWA Standard G200-15 Distribution System Operation and Management
- Final Rule 3745-87-03
- OEPA Guidance Documents
- CT Consultants

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