Welcome and Introductions

• Training agenda and objectives
• Local logistics
• Introductions
• Assessment notebook overview
Major Changes for the 2015 DWINSA

• **Challenge:** Maintain Assessment credibility, fairness and completeness with significant resource limitations for survey review

• **Changes for 2015:**
  - Panel approach (with 25% “refresh”)
    • Less time anticipated to update and review 2011 responses
  - Removed some types of projects
    • Types of need with significant review burden but insignificant contribution to state and total national need
  - Allotting technical assistance and review time to states
    • Limited compared to previous DWINSAs

Outline of Training

• **Day 1**
  – Policy Framework and Background
  – Survey Instrument
  – Survey Policies
  – Source to Tap Review
    • Mini-Workshops
  – Core Criteria for Documentation of Need
  – Documentation Examples
    • Workshop

• **Day 2**
  – Revisit Issues from Day 1
  – 2015 Survey Instrument
  – Updating 2011 Projects
    • Workshop
  – EPA/Contractor Role
    • Allotting Tech. Assistance and Review Hours
  – Efficient and Effective State Efforts
  – Assessment Timeline
  – Website
  – Next Steps and Wrap-Up
Policy Framework and Background

1996 SDWA Amendments

• Established the Drinking Water State Revolving Fund (DWSRF)
• Directs EPA to conduct drinking water infrastructure needs assessment

“[EPA] shall conduct an assessment of water system capital improvement needs of all eligible public water systems in the United States and submit a report to Congress containing the results of the assessment within 180 days after the date of enactment of the SDWA Amendments of 1996 and every 4 years thereafter.”
(SDWA Section 1452 (h))
1996 SDWA Amendments

- Allotment of DWSRF capitalization grant dollars to states
  “...funds made available to carry out this section shall be allotted to states ...in accordance with ... a formula that allocates to each state the proportional share of the state needs identified in the most recent survey conducted pursuant to [this Act] except that the minimum proportionate share provided to each state shall be [1 percent].” (SDWA Section 1452 (a) (1) (D) (ii))

DWINSA Mission Statement

To assess the capital improvement needs of DWSRF eligible public water systems in the United States and Indian country for drinking water infrastructure construction, rehabilitation, and replacement for the 20-year period 2015-2034. Needs are limited to those documented at the individual project level as necessary to facilitate compliance with national primary drinking water regulations or otherwise significantly further the public health protection objectives of the Safe Drinking Water Act based on sound drinking water engineering practices.
Goals of the Assessment

• Produce an accurate assessment of the nation’s and each state’s drinking water system capital improvement needs
  – Bottom-up approach
  – Rigorous documentation requirements
  – Reflects cost-efficient investment strategies
  – 20-year time horizon
  – Statistically valid at state and national level
  – Credibility and consistency

Additional Goals

• Some additional benefits and ancillary goals of the survey:
  – Identify key issues and trends within water industry
    • Supported by the panel approach
  – Facilitates keeping a “finger on the pulse of the industry”
2015 DWINSA Components

- Raw data collection
  - Census of large systems
  - Statistical sample of medium systems (fully-participating states)
- Ensuring complete and accurate system-level data
  - Physical description of need by system
    - Needs identified by system
    - Needs identified by state (modeled needs)
  - Cost estimates for each project
    - Independent cost estimate or modeled cost

2015 DWINSA Components, cont.

- Small systems and not-for-profit non-community
  - No data collection in 2015
  - Use 2007 and 1999 data, respectively
- American Indian and Alaska Native Village systems
  - No data collection in 2015
  - Use 2011 data
5 Categories of Need

- **Source**
  - Wells, surface water intakes, springs

- **Treatment**
  - Complete plants and components

- **Storage**
  - Finished water tanks and reservoirs
  - No raw water reservoirs

- **Transmission and Distribution**
  - Include appurtenances

- **Other**
  - Emergency power generators
  - Computer and automation costs

Needs Report

- For the Report to Congress, need may be reported by
  - System size and type
    - Large, medium, small, American Indian, Alaska Native Village, not-for-profit noncommunity
  - Current v. Future
  - Regulatory v. Non-regulatory
  - Category of need
  - New v. Rehabilitation v. Replacement v. Expand/Upgrade
Green and Climate-Readiness Needs

- EPA will assess needs related to “green” infrastructure or “climate readiness” needs
- The 2011 survey included codes for systems to identify green and climate-readiness needs
  - Very little information obtained
- In 2015 EPA will assess these needs based on project types
  - Type of need and N/R/E/H
- States are encouraged to ask their systems if they have green-infrastructure or climate resiliency-related needs
  - E.g., construct a berm to protect a pump station: code as “Other” type of need and provide a documented cost
  - Include info on the green or climate aspect in the project description

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20-year Need by Project Type

- **1995 Projects**
  - $227.3 B
- **1999 Projects**
  - $224.8 B
- **2003 Projects**
  - $375.9 B
- **2007 Projects**
  - $379.7 B
- **2011 Projects**
  - $384.2 B

Legend:
- Transmission & Distribution
- Storage
- Treatment
- Source
- Other
## Historic Allocation

**DISTRIBUTION OF DRINKING WATER SRF APPROPRIATION**


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Survey and Assessment Data Flow

Step 1: EPA E-mails Survey Package to States

Step 2: States Send Survey Package to Systems

Step 3: System Completes or Updates Questionnaire

Step 4: System Returns Questionnaire and Documentation to State

Step 5: State Reviews Questionnaires and Documentation and Forwards them to EPA

Step 6: EPA Analyzes Questionnaires and Enters Data

Step 7: State Checks Data and Provides Modifications as Needed

States will be provided with 2011 approved projects for systems in both surveys

State resolves questions concerning data and documentation with systems

EPA resolves questions about unclear projects with the state
Statistical Methods & the Modified Panel Approach

Data Quality Objectives

• National
  – Estimate national need
  – Confidence level of 95%
  – Precision target of ±10%

• Fully-Participating States
  – Confidence level of 95%
  – Precision target of ±10%

• Partially Participating (Opt-out) States
  – Opt-out of medium system data collection
  – No DQO for each state
## 2015 State Survey Statistical Approach

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<th>Large Systems</th>
<th>Medium Systems</th>
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<td>3,301-100,000</td>
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<td>2007 findings adjusted to 2015$</td>
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<td><strong>Sample</strong></td>
<td>Census (sampled with certainty)</td>
<td>State sample in fully-participating states (modified panel approach)</td>
<td>National sample</td>
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<td><strong>Data Quality Objective</strong></td>
<td>For Each Fully-Participating State 95% +/- 10% Overall</td>
<td>95% +/- 25% Nationally</td>
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<td><strong>Systems Sampled (preliminary)</strong></td>
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## State Survey Strata

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<td>&gt;100K</td>
<td>Census – All Systems Receive Questionnaire</td>
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<td>≤100</td>
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System Populations for DWINSA

- Retail and wholesale population (includes consecutive systems)
  - May double count populations but not used for any other purposes
- Does not include emergency or intermittent/insignificant demand
- Assists in assigning most appropriate stratum based on all consumers served

Census – Large Systems

- All systems serving populations >100,000 receive the questionnaire
  - Including 1% “opt out” states
- Confidence level of 100%
- Non-responders are assumed to have zero need
State Statistical Samples – Medium Systems

• Sample for each fully-participating state
• Statistics determine how many systems are needed to achieve precision target
• Precision target for state is 95% +/- 10%
• Modified panel approach
  ~75% of systems from 2011 reselected for 2015
• 1-percent states may opt-out of medium system survey
  ~ 15 states

“Refreshing” the Medium Sample

• EPA will refresh 25% of the medium system sample
• Steps:
  1. States verify/correct 2014 SDWIS frame
     • Source and population of each system
     • Systems may move to different strata than were in for 2011 DWINS
  2. Recalculate sample size based on updated inventory
Steps of “Refreshing,” cont’d.

3. Select all large systems (>100,000 people)
   • Including systems that moved from medium strata in 2011 to large in 2015
4. Return 25% of medium systems to “pool”
5. Select random sample of systems to fill each stratum
   • Systems returned to pool have equal chance to be reselected
   • May also include smalls from 2011 that became medium

Opt-Out States

• Systems >100,000 will be surveyed
• Medium system need will be estimated based on data from participating states
  – Need for each strata based on participating states
  – Need by strata applied to states’ system inventory
  – Approach does not meet state-specific data quality objectives
  – Report to Congress will report needs of these states as one
  – Contributes to total national need
Small System Need

- 2007 findings will be adjusted to 2015 dollars
  - May also be adjusted by revised cost models
- Needs collected in 2007 are used to calculate an average small system need per stratum
- Each state’s small system need is calculated by multiplying the average need per stratum by number of systems in state’s inventory

Calculating Fully Participating State Need

- Large + Medium + Small for each state
- Total of large systems
  - Sum of system need
  - Systems in census have weight of 1
    - No adjustment for non-response
- Total of medium systems
  - Sum of system need * weight
  - Weight is adjusted for non-response
- State’s share of national small system estimate
  - Sum of average need for stratum * number of systems in stratum
  - Also includes not-for-profit noncommunity need from 1999
Total National Need

- Total National Need Includes:
  - Large, Medium, Small, and Not-for-profit Noncommunity Needs for
    - Fully-participating states
    - One-percent opt-out states
    - American Indian
    - Alaska Native Village
  - Cost of proposed or recently promulgated regulations
    - Proposed Radon Rule

Survey Instrument Walk-Through
Survey E-Packet

- Cover letter from EPA
- Letter from state (optional)
- Questionnaire
  - One Excel file for each system in survey
  - System information prepopulated for cover page
  - For systems that were in 2011 survey, project table will be prepopulated with projects from 2011
- Lists of Codes
- Instructions - for completing survey
- Instructions - for updating 2011 survey data

The next slides are not provided in the participants’ binders. Participants are asked to take the survey instrument from the front pocket of the binder and follow along as the speaker walks through the material
List 1 – Types of Need

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<td>M2-M8</td>
<td>Other Distribution Needs</td>
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<td>T10-T24</td>
<td>Complete Treatment Plants</td>
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<td>Storage</td>
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<td>Treatment Components</td>
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<td>Pumps</td>
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<td>X</td>
<td>Transmission Pipe</td>
<td>W</td>
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Documentation Codes 20 & 21

- Code 20 (2007 DWINSA documentation)
  - No longer applicable but may appear in 2011 DWINSA data
  - If project included in 2011 and is still needed
    - Provide validation statement (discussed later)
    - Cadmus cannot access 2007 documentation
- Code 21 (2011 DWINSA documentation)
  - New in 2015
  - Use when the project relies on new documentation submitted in 2011 and documentation is still applicable
    - Provide validation statement
Questionnaire

- Cover Page
- Back Page
- Project Table
- Inventory Tables
- Documentation Template

Project Table

- Table to record projects
  - Source, Treatment, Storage, and Pumping Projects
    - 1000’s projects
  - Transmission and Distribution Projects
    - 2000’s projects
  - Meters, Service Lines, Backflow Prevention Devices/Assemblies, Valves, etc.
    - 3000’s projects
Inventory Tables

- Help system consider entire inventory
- Not required to be completed
  - Total length of pipe in the system should be entered/corrected on the front page
# Project Table

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<tr>
<th>Project Number</th>
<th>Project Name</th>
<th>Type of Need</th>
<th>Reason for Need</th>
<th>N.E.R.H (New Expand Replace Rehab)</th>
<th>G or F (Current Future)</th>
<th>Regulation</th>
<th>Design Capacity (MG, MGD, or kW)</th>
<th>Diameter (inches)</th>
<th>Length (feet)</th>
<th>Number Needed</th>
<th>Cost Estimate</th>
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Design Parameters

- Each type of need has specific design parameters
  - See Type of Need Dictionary
- Required information if no cost is provided
- Requested if cost is provided
  - Used to build cost models
- Length required for all pipe projects if any pipe projects have survey-generated documentation
  - Used to determine conformance with 10% pipe replacement/rehab policy (explained later)
### Design Parameter
Source, Treatment, Storage, Pumping Projects

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<tr>
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**Meters, Services, Backflow, Valves**

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Documentation Template

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Survey Policies
Every Project Must Meet Allowability Criteria and Documentation Policies

Survey Policies

• Allowability
• Documentation of Need
• Documentation of Cost
  – Existing cost estimate
  – Data to model cost
Allowability

Allowable Projects

• Must be:
  – Capital improvement needs
  – Eligible for DWSRF funding
  – In furtherance of public health goals of the SDWA
    • Violation or regulatory requirement is not necessary
  – Reflects most cost-efficient investment strategies
    • Assumed where commitment is documented
  – Within the Assessment timeframe
Allowable vs. Eligible

• Allowable:
  – Projects that can be included in the Assessment and contribute to individual state needs

• Eligible
  – Projects that can be funded through the DWSRF

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<th>DWSRF Eligible</th>
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<tr>
<td>Acquisition of Systems</td>
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<tr>
<td>Refinancing Loans</td>
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<td>Source Water Protection Needs</td>
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<td>Set-Aside Only</td>
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<td>Non-PWSs</td>
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<td>Growth</td>
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<tr>
<td>Studies</td>
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Unallowable Projects

• Not considered to be capital needs:
  – Operation and maintenance costs
    • Sample collection or analysis fees
    • Employee wages and salaries
    • Other administrative costs
  – Acquisition of most vehicles and tools
  – Projects solely for conducting studies
  – Water rights or fee payments

Unallowable Projects

• Not eligible for SRF funding:
  – Substantial portion accommodates future growth
  – Substantial portion for fire protection
  – For source water protection
    • Funded through set-asides
  – Raw water reservoir or dam-related need
Unallowable Projects

• Not in furtherance of the public health goals of the SDWA:
  – Solely for improving appearance
  – Infrastructure demolition
  – Land acquisition not required for a project
  – Non-essential buildings and parking
  – Connecting existing homes that already have an adequate drinking water supply

Unallowable Projects

• Outside of the Assessment’s 20-year Timeframe
  – Construction cannot have started before January 1, 2015
    • Can be funded, but “dirt” cannot be moved
  – Project cannot be needed after December 31, 2034
Other Unallowable Projects

• Acquisition of existing infrastructure
• Projects driven solely by a non-water related issue
  – Highway relocation
• Projects that are not the responsibility of the water system
  – Service lines
  – Extension paid by developer

No Duplication of Need

• Multiple projects meeting same need
• Projects with subordinate components
• Recurring need
• More than one system reports the same shared need
No Duplication of Need

• Proposed or Recently Promulgated SDWA Regulations
  – EPA does not collect system data on needs for proposed or recently promulgated regulations in the survey
  • EA costs are added to the total national need
  – For 2015, only the Proposed Radon Rule falls into this category

Documentation of Need
Documentation of Need

• Must provide enough information to verify the project meets allowability criteria
• Must be dated and be less than 4 years old
• If documentation is older than 4 years, must have a signed statement that the project is...
  – Of the same scope, has not begun construction before 1/1/15, and is still a valid need
  – Validation statements will be discussed more later

Types of Documentation

• Survey-generated
• Independent

Survey-generated documentation can be used to supplement independent documentation
Survey-Generated Documentation

• Generated specifically for the survey, or in anticipation of the survey
• Prepared by the system or the state or a representative of the system or state

Independent Documentation

• Generated through a process independent of the Assessment
• Must be system and project specific
• Independent documents might not demonstrate the project is allowable
  – Additional information may be necessary to determine allowability
Independent Documentation

- Intended Use Plan/State Priority List
- Sanitary Survey or CPE Report
- Monitoring Results
- Cost of Previous Construction
- Grant or Loan Application Form
- Capital Improvement Plan (CIP) or Master Plan
- Facilities Plan or Preliminary Engineering Report
- Engineer’s Estimate or Bid Tabulation
- Other Independent document

Documentation of Need - Requirements

- Two-tiered documentation approach:
  - All forms of documentation accepted
  - Weight of evidence documentation
    - For certain infrastructure in this category, independent documentation also required
- Requirement depends on:
  - Type of need
  - New/Replace/Rehabilitation/Expansion
    [refer to the Type of Need Dictionary and the Documentation Summary Table]
All Forms of Documentation Accepted

- Documentation requirement can be met through a simple statement of need or by independent documentation
- Generally accepted for projects assumed to be required by a system every 20-year survey period
- Project types
  - Most rehabs
  - Some replacements
  - Very few new infrastructure projects
Weight of Evidence: Defined

• When the adequacy of documentation of need and allowability will be determined based on a high level of system-specific and project-specific detail such as:
  – Age, condition, time since last rehabilitation
  – Specific reason for project need

Weight of Evidence: Purpose

• Allows alternatives to requiring ‘hard’ documentation for many project types
• Provides opportunity to consider unique projects on a case-by-case basis
Pipe Rehab/Replacement

• Projects based on independent documentation
  – Accepted if allowable
• Projects based on survey-generated documentation
  – Can not cause system’s total pipe rehab/replacement to exceed a total of 10 percent over 20 years
  – Must have total pipe length in system and pipe length for all projects

New Pipe Projects

• Water main extensions
  – Generally assumed to be for growth unless adequate evidence otherwise
    • To connect homes that do not currently have an adequate supply (quality or quantity)
    • Looping primarily to address distribution system inadequacies
  – Weight of evidence “bar” is quite high
Documentation Issues? Possible Alternatives

- If inadequate WOE, include as much of the project as possible based on the documentation available
- For example, if inadequate WOE for...
  - Well rehab... change to well pump replacement project instead
  - Tank replacement... change to tank rehab
  - Complete plant expansion... change to plant rehab

Assigning Costs
Assigning Costs

• To contribute to the state and national need, each project must have a cost assigned
  – System provides cost estimate
    • Independent documentation required
    • EPA adjusts cost to 2015 dollars
  – System provides “modeling parameters”
    • Information for EPA to model cost
    • EPA can model most, but not all, project types

Documented Cost Estimate

• Cost estimates must include the date prepared (month and year) and identify (cover page) the independent cost document
  – Not more than 10 years old (prior to Jan.1, 2005)
  – Older costs are deleted and the cost is modeled
• EPA will adjust all costs to January 2015 $$
• Inflationary multipliers for future projects are not accepted
Cost Components

- Estimates should include all aspects necessary for project construction
  - Design
  - Engineering
  - Labor
  - Materials
  - Contingencies

Unallowable Cost Components

- Loan origination fees
- Finance charges
- Bond issuance fees or costs
- Loan interest payments
Cost Documentation

- CIP
- Master Plan
- Facilities plan
- Bid tabulation
- Engineer’s estimate
- Grant or loan application form
- Cost of system-specific previous comparable construction

EPA Models Cost

- Cost models derived from documented costs
- Projects used to build models vary
  - See Type of Need Dictionary
- Cost models take into account construction cost indices
- Projects to be modeled must have design parameters
Design Parameters

• Pipe
  – Length and diameter

• Treatment
  – Capacity in MGD

• Storage
  – Capacity in MG

• Source
  – Capacity in MGD

• Appurtenances
  – Diameter and number needed

• Generator
  – Kilowatt

• Unit costs
  – Lead service lines

Projects That Can Not Be Modeled

• Off-stream raw water storage
• Unique system components
Projects With and Without Documented Costs*

- 1995 Projects: 53% with costs, 47% without costs
- 1999 Projects: 33% with costs, 67% without costs
- 2003 Projects: 18% with costs, 82% without costs
- 2007 Projects: 21% with costs, 79% without costs
- 2011 Projects: 15% with costs, 85% without costs

*Medium and Large Systems Only

Conventional Filtration Plant

- Conventional Filter Plant or Lime Softening
- New
- Modeled New
- Rehabilitation
- Modeled Rehabilitation
- Expansion
- Modeled Expansion

97 98
New Ground Level Finished Water Storage

2015 Models

• Please submit both the modeling parameters and the cost *whenever possible*
• EPA may consider updating some of the cost models
  – Some cost models updated in 2011
  – Some may be updated in 2015
Completing a Survey: Source to Tap

Source
Applicable Codes: Sources

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>Well</td>
</tr>
<tr>
<td>R2</td>
<td>Well Pump</td>
</tr>
<tr>
<td>R3</td>
<td>Well House</td>
</tr>
<tr>
<td>R4</td>
<td>Eliminate Well Pit</td>
</tr>
<tr>
<td>R5</td>
<td>Abandon Well</td>
</tr>
<tr>
<td>R6</td>
<td>Aquifer Storage and Recovery Well</td>
</tr>
<tr>
<td>R7</td>
<td>Surface Water Intake</td>
</tr>
<tr>
<td>R8</td>
<td>Raw Water Pump</td>
</tr>
<tr>
<td>R9</td>
<td>Off-Stream Raw Water Storage*</td>
</tr>
<tr>
<td>R10</td>
<td>Spring Collector</td>
</tr>
<tr>
<td>R11</td>
<td>De-stratification</td>
</tr>
</tbody>
</table>

Source Projects

- **Allowable projects**
  - New sources due to inability to meet current user demand
  - Replacement or rehabilitation of existing sources
    - Reached end of useful life
    - Poor condition creates sanitary risk
- **Unallowable projects**
  - Raw water reservoirs
  - Source water protection
  - New sources for future growth
  - Insignificant types of need removed for 2015 DWINSA
    - Well houses, eliminate well pits, abandon well, de-stratification
Example Source Project:

- A system’s master plan, dated March 2014, includes the construction of a new 2.0 MGD surface water intake. This is needed to replace one that has been damaged from ice flows. The estimated cost is $1.4 million.
### Applicable Codes: Disinfection

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>Chlorination</td>
<td>T6</td>
<td>Ultraviolet Disinfection</td>
</tr>
<tr>
<td>T2</td>
<td>Chloramination</td>
<td>T7</td>
<td>Contact Basin for CT</td>
</tr>
<tr>
<td>T3</td>
<td>Chlorine Dioxide</td>
<td>T8</td>
<td>Dechlorination of Treated Water</td>
</tr>
<tr>
<td>T4</td>
<td>Ozonation</td>
<td>T9</td>
<td>Chlorine Gas Scrubber</td>
</tr>
<tr>
<td>T5</td>
<td>Mixed Oxidant Type Equipment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Applicable Codes: Complete Plants

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>T10</td>
<td>Conventional Filter Plant</td>
<td>T18</td>
<td>Electrodialysis</td>
</tr>
<tr>
<td>T11</td>
<td>Direct or In-line Filter Plant</td>
<td>T19</td>
<td>Activated Alumina</td>
</tr>
<tr>
<td>T12</td>
<td>Slow Sand Filter Plant</td>
<td>T20</td>
<td>Manganese Green Sand</td>
</tr>
<tr>
<td>T13</td>
<td>Diatomaceous Earth Filter Plant</td>
<td>T21</td>
<td>Ion Exchange</td>
</tr>
<tr>
<td>T14</td>
<td>Membrane Technology for Particulate Removal</td>
<td>T22</td>
<td>Groundwater Chemical-feed</td>
</tr>
<tr>
<td>T15</td>
<td>Cartridge or Bag Filtration Plant</td>
<td>T23</td>
<td>Iron Adsorption</td>
</tr>
<tr>
<td>T16</td>
<td>Lime Softening</td>
<td>T24</td>
<td>Aeration</td>
</tr>
<tr>
<td>T17</td>
<td>Reverse Osmosis</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Applicable Codes: Other Treatment Components

<table>
<thead>
<tr>
<th>T30</th>
<th>Zebra Mussel Control</th>
<th>T35</th>
<th>Chemical Feed</th>
</tr>
</thead>
<tbody>
<tr>
<td>T31</td>
<td>Corrosion Control</td>
<td>T36</td>
<td>Chemical Storage Tank</td>
</tr>
<tr>
<td></td>
<td>(chemical addition)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T32</td>
<td>Powdered Activated Carbon</td>
<td>T37</td>
<td>Fluoride Addition</td>
</tr>
<tr>
<td>T33</td>
<td>Aeration</td>
<td>T38</td>
<td>Presedimentation Basin</td>
</tr>
<tr>
<td>T34</td>
<td>Sequestering for Iron and/or Manganese</td>
<td>T39</td>
<td>Sedimentation/ Flocculation</td>
</tr>
</tbody>
</table>

(continues)

<table>
<thead>
<tr>
<th>T40</th>
<th>Granular Activated Carbon</th>
<th>T44</th>
<th>Waste Handling/ Treatment: Nonmechanical or Connection to a Sanitary Sewer</th>
</tr>
</thead>
<tbody>
<tr>
<td>T41</td>
<td>Membrane Filtration</td>
<td>T45</td>
<td>Type of Treatment Unknown</td>
</tr>
<tr>
<td>T42</td>
<td>Media Filters</td>
<td>T46</td>
<td>Other (include explanation)*</td>
</tr>
<tr>
<td>T43</td>
<td>Waste Handling/ Treatment: Mechanical</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Treatment Projects

• Allowable projects
  – May be for regulatory compliance, but not necessarily
  – Secondary contaminants
• Unallowable projects
  – Double counting (example: complete plant and any component)

Example Treatment Project #1

• The minutes of a town board meeting discuss the recent solicitation for bids for iron removal treatment to address water quality problems related to taste issues and iron staining.

• The board moved to accept the low bid of $690,000 and sign the contract for the construction of a 1.0 MGD manganese green sand iron removal treatment facility.
Example Treatment Project #2

• A system states that their 10 MGD conventional filtration plant needs
  – replacement of filter media
  – rehabilitation of the 200,000 gallon clearwell
  – replace all six 3-MGD raw water pumps
  – upgrade to UV to control Cryptosporidium

• They have no independent documentation of need.
• They have no costs for these projects.

Example Treatment Project #3

• A system’s CIP indicates that their 10 MGD conventional filtration plant needs
  – replacement of filter media
  – rehabilitation of the 200,000 gallon clearwell
  – replace all six 3-MGD raw water pumps
  – upgrade to UV to control Giardia

• The CIP did not provide costs for these projects.
Example Treatment Project #4

- A system’s January 2014 CIP indicates that their 10 MGD conventional filtration plant needs
  - replacement of filter media $2,780,000
  - rehabilitation of 200,000 gallon clearwell $520,000
  - replace all six 3-MGD raw water pumps $1,050,000
  - upgrade to UV to control *Giardia* $1,495,000

Storage
### Applicable Storage Codes

<table>
<thead>
<tr>
<th>S1</th>
<th>Elevated Finished/Treated Water Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>S2</td>
<td>Ground-level Finished/Treated Water Storage</td>
</tr>
<tr>
<td>S3</td>
<td>Hydropneumatic Storage</td>
</tr>
<tr>
<td>S5</td>
<td>Cover for Existing Finished/Treated Water Storage</td>
</tr>
</tbody>
</table>

### Storage Projects

- **Allowable projects**
  - New, replacement, rehab of storage tanks
  - Cover for existing finished water storage

- **Unallowable projects**
  - Additional storage to meet fire suppression needs
  - Across-the-board increase in storage to meet Ten States Standards recommendations
Example Storage Project #1

- The system has 3 elevated storage tanks each with a capacity of 0.5 MG. They submit survey-generated documentation indicating that they will all require rehab within 20 years.

Example Storage Project #2

- A system’s CIP indicates that their old 0.75 MG elevated storage tank is no longer structurally sound and due to past growth the system needs considerably more storage. They intend to take down the old tank and replace it with a new 1.5 MG elevated tank.
Pumping

### Applicable Pumping Codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R2</td>
<td>Well Pump</td>
</tr>
<tr>
<td>R8</td>
<td>Raw Water Pump</td>
</tr>
<tr>
<td>P1</td>
<td>Finished Water Pump</td>
</tr>
<tr>
<td>P2</td>
<td>Pump Station (booster or raw water pump station-may include clearwell, pumps, housing)</td>
</tr>
</tbody>
</table>

*Remember: Complete plants include raw and finished water pumps*
Pumping Projects

- Allowable projects
  - Finished or raw water pumps
    - When there is not a related complete plant project
  - Booster pump station

- Unallowable projects
  - Increased pump capacity where a substantial portion of the project is fire suppression needs
  - Well pump project if same well is also rehabbed
  - Raw or finished water pumps already included in complete plant project

Example Pump Station Project

- The system reports they have 4 booster pump stations, each with a capacity of 0.5 MGD. They are all currently adequate but will need to be rehabilitated within 20 years. The system did not provide a cost.
Pipe: Transmission and Distribution

Applicable Pipe Codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1</td>
<td>Raw Water Transmission</td>
</tr>
<tr>
<td>X2</td>
<td>Finished Water Transmission</td>
</tr>
<tr>
<td>M1</td>
<td>Distribution Mains</td>
</tr>
</tbody>
</table>
Pipe Projects

• Allowable projects
  – New Pipe
    • Looping to maintain adequate flows and minimize stagnation
    • Connection of existing homes without adequate water quality
      and/or quantity
  – Replacement/rehabilitation of pipe
    • Allowable within limits

• Unallowable projects
  – Substantial portion for future growth or for meeting fire
    suppression needs
  – Highway relocation-driven projects
  – When cost is responsibility of a developer
  – To connect homes that currently have an adequate drinking water
    supply at the time of the Assessment

Example Pipe Project #1

• A Capital Improvement Plan, dated November 2013, includes the
  replacement of 25,000 feet of 8-inch cast iron pipe in excess of 70 years old.
  The CIP estimates that the cost is $3 million.
Example Pipe Project #2

- A system records on their inventory that they have 120 miles of pipe in their system. They indicate in survey-generated documentation they need the following pipe projects
  - Replacement of 20,000 feet of 12”
  - Replacement of 43,000 feet of 8 “
  - Replacement of 63,720 feet of 6”

(These projects represent 20% of total pipe in the system)

Pipe Example #3

- A system records on their inventory that they have 120 miles of pipe in their system. Their Capital Improvement Plan indicates they need the following pipe projects
  - Replacement of 20,000 feet of 12”
  - Replacement of 43,000 feet of 8 “
  - Replacement of 63,720 feet of 6”

(These projects represent 20% of total pipe in the system)
Pipe Example #4

• A system has 200 miles of pipe (1,056,000 ft)
• Their 5-year CIP shows an annual pipe replacement program at $2 M per year.
• System indicates that this is an ongoing program that will last more than 20 years at the same rate.
• System enters a project for $40 M (no length)

Additional Distribution Needs
Applicable Codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>M2</td>
<td>Lead (Pb) Service Line Replacement</td>
</tr>
<tr>
<td>M3</td>
<td>Service Lines (other than lead service lines)</td>
</tr>
<tr>
<td>M4</td>
<td>Hydrants Used for Flushing (not included in another pipe project)</td>
</tr>
<tr>
<td>M5</td>
<td>Valves (gate, butterfly, etc.) (not included in another pipe project)</td>
</tr>
<tr>
<td>M6</td>
<td>Control Valves (PRVs, altitude, etc.)</td>
</tr>
<tr>
<td>M7</td>
<td>Backflow Prevention Devices/Assemblies</td>
</tr>
<tr>
<td>M8</td>
<td>Water Meters</td>
</tr>
</tbody>
</table>

Additional Distribution System Projects

- **Allowable projects**
  - Meters, lead services, services owned by the system, control valves, backflow prevention
  - Valves not included in pipe projects
- **Unallowable projects**
  - Valves included in pipe projects
  - Hydrant projects
    - Type of need code removed for 2015 DWINS
    - Insignificant need and assume are adequately addressed in pipe projects
Example Additional Distribution System Project

• A system has 4,000 connections and they will need to replace meters at each connection sometime in the next 20 years. The meter sizes include: 3,500 @ 5/8-inch, 450 @ 3/4-inch, and 50 @ 1-inch.

Other Projects
**Applicable Codes**

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>W4</td>
<td>Laboratory Capital Costs for Labs Owned by the System</td>
</tr>
<tr>
<td>W2</td>
<td>Computer and Automation Costs (SCADA)</td>
</tr>
<tr>
<td>W3</td>
<td>Pump Controls/Telemetry</td>
</tr>
<tr>
<td>W4</td>
<td>Emergency Power (enter design capacity as kilowatts)</td>
</tr>
<tr>
<td>W5-W9</td>
<td>Security Related Needs</td>
</tr>
<tr>
<td>W10</td>
<td>Other <em>(include explanation and cost)</em></td>
</tr>
</tbody>
</table>

**Other Needs**

- Generators
  - For new projects must be critical infrastructure
  - Cost can be modeled but justify capacity
  - Rehab considered O&M, therefore not allowed
- SCADA
  - System-wide is allowable, only one per system
  - Plant SCADA considered part of a plant
- “Other”
  - Must have a documented cost
  - E.g., climate resiliency-related project such as a berm for a pump station or raising a generator platform
Core Criteria for Documentation of Need

3 Elements of a DWINSA Project

• Necessity
• Feasibility
• Commitment

➢ Necessity, feasibility, and commitment are all assumed when survey generated documentation is adequate
➢ Independent documentation is required for projects when one or more of these are common issues
Necessity

• Is the project necessary
  “...to facilitate compliance with national primary drinking water regulations or otherwise significantly further the public health protection objectives of the Safe Drinking Water Act based on sound drinking water engineering practices.”

Feasibility

• For most types of projects feasibility has been assumed or adequately addressed in documentation
• A complex or significant project may warrant additional information to demonstrate it is feasible within the 20-year survey period
  – Project schedule or phases may be determined by physical feasibility
  – No obvious road blocks including permits, environmental review issues, ownership, easements or public acceptances would be anticipated for these projects
Commitment

• Most projects have commitment clearly demonstrated or implied
• The commitment policy attempts to eliminate projects that are speculative or are contingent on other events
  – Systems will study potential projects and some will never be implemented and some will be replaced by other options
• Financial commitment is not required
  – An allowable need with financial commitment is an accepted project
  – A need with no financial commitment may warrant more detailed documentation that the project is allowable and feasible

Commitment

• An infrastructure investment need with multiple project options
  – Documented commitment can support the more costly option
    • EPA will not second guess local decisions
  – No documented commitment to an option
    • EPA would default to the least-cost option (including non-infrastructure solutions)
    • Survey is to reflect most cost-efficient investment strategies
Commitment

- Must be documented for projects related to:
  - Projects in the early planning stages
  - Drought
  - Redundancy
- Required because commitment is often not obvious for these projects

Projects in the Early Planning Stages that Require Indep. Doc.

- Feasibility studies and preliminary planning documents *might* meet ID requirements
- But, they might not provide sufficient information to document:
  - Necessity
  - Feasibility
  - Commitment
Early Planning Documents

• Early planning documents vary greatly in purpose and detail
  – The “what-ifs” or conceptual exercises (e.g., new plant or new wells if existing source becomes unacceptable)
  -VERSUS-
  – Preliminary steps toward identifying solutions to a recognized challenge (e.g., SDWA violation)

Drought

• Type of need determines the documentation requirements
• System-specific documentation that shows reoccurring or prolonged drought condition issues are impacting the system’s ability to meet current customer’s needs
  – Might not also demonstrate commitment
• The system must document commitment to addressing the issue on a long-term basis
Redundancy

• Type of need determines the documentation requirements
• System-specific documentation that shows the project is mission-critical or otherwise demonstrates the necessity of the project for current customer’s needs
  – (e.g., ease of repair of existing infrastructure, time out of service, etc.)
• The system must document commitment to addressing the issue

Other Policy Issue: Future Growth in Older Documentation

• Planning documents may discuss needs based on anticipated future growth
  – State may make the case the growth already occurred
    • System-specific document demonstrating growth has occurred
    • Current deficiency
    • Past and present system demand
      – average and max day
    • Past and present population data
      – infrastructure need tied to current population
    • Other system-specific limitation
• General information on growth that has occurred in a certain geographic area may not be enough
Other Policy Issue: Annexation

- Annexation alone is not a reason for need
  - Documentation (including independent) of state requirement is not adequate
- Water main extension for annexed area falls under new pipe documentation requirements
  - Public health need/deficiency for existing homes must be identified in independent documentation to demonstrate project allowability
    - Laboratory data regarding poor quality wells
    - Inadequate quantity documented
  - Identify party responsible for cost
    - System? Developer? Home owners?

Documentation Examples
Planning Documents

• Great information but...

“This project will expand the capacity of the water treatment plant from 60 MGD to 81 MGD. Pre-design studies for this expansion were completed in FY13, and major final design work was completed in FY14. Construction of these new facilities is expected to start in FY16. Improvements will include new a parallel treatment train consisting of...”

Planning Documents

• Add a statement addressing specific deficiency facing current customers

“Project 2004 for the expansion of the treatment plant is needed due to extensive growth in the area over the past decade. The current average day demand is 55 MGD and the current max day demand is 70 MGD. The system routinely operates under water restrictions.”
Indep. Documentation – Inadequate for Need

- CIP cost summary table but no project description provided

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sky View Water Treatment Plant</td>
<td>$8,200,000</td>
</tr>
<tr>
<td>Main to connect Sky View to new service area</td>
<td>$4,159,000</td>
</tr>
<tr>
<td>2-MG Ground Storage Tank</td>
<td>$1,900,000</td>
</tr>
<tr>
<td>12th Street Booster Pump Station</td>
<td>$1,100,000</td>
</tr>
</tbody>
</table>

Indep. Documentation – Inadequate for Need

- No additional information provided in survey-generated documentation
**Inadequate Survey-generated Documentation**

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Description</th>
<th>Reason for Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>1004</td>
<td>South Street Tank</td>
<td>This infrastructure needs replacement because it is old and deteriorated or will be old and deteriorated by 12/31/2034.</td>
</tr>
<tr>
<td>1005</td>
<td>Highline Tank</td>
<td>This infrastructure needs replacement because it is old and deteriorated or will be old and deteriorated by 12/31/2034.</td>
</tr>
<tr>
<td>1006</td>
<td>East Tank</td>
<td>This infrastructure needs replacement because it is old and deteriorated or will be old and deteriorated by 12/31/2034.</td>
</tr>
<tr>
<td>1007</td>
<td>Weber Booster Station</td>
<td>This infrastructure needs replacement because it is old and deteriorated or will be old and deteriorated by 12/31/2034.</td>
</tr>
<tr>
<td>1008</td>
<td>Oakvale Treatment Plant</td>
<td>This infrastructure needs replacement because it is old and deteriorated or will be old and deteriorated by 12/31/2034.</td>
</tr>
</tbody>
</table>

**Adequate Survey-generated Documentation**

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Description</th>
<th>Reason for Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>1004</td>
<td>South Street Tank</td>
<td>This tank, built in 1972, has not had any major work since built. It was poorly constructed and is deteriorated past the point of rehab and needs to be replaced.</td>
</tr>
<tr>
<td>1005</td>
<td>Highline Tank</td>
<td>This tank is in adequate condition now, but will need rehabilitation within 20 years.</td>
</tr>
<tr>
<td>1006</td>
<td>East Tank</td>
<td>This steel tank is 60 years old. It was rehabbed 12 years ago, but is in need of replacement now because it is structurally inadequate.</td>
</tr>
<tr>
<td>1007</td>
<td>Weber Booster Station</td>
<td>The booster station is operating poorly. It is 40 years old and has been band-aided together. It currently needs replacement.</td>
</tr>
<tr>
<td>1008</td>
<td>Oakvale Treatment Plant</td>
<td>Our plant is operating adequately but will need some rehabilitation within 20 years.</td>
</tr>
</tbody>
</table>
### Repeated Survey-generated Documentation

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Description</th>
<th>Reason for Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>Cast Iron Pipe Replace</td>
<td>This project is for replacement of old deteriorated cast iron pipe. It was installed over 80 years ago and the system has ongoing maintenance issues due to leaks and breaks.</td>
</tr>
<tr>
<td>2008</td>
<td>Cast Iron Pipe Replace</td>
<td>This project is for replacement of old deteriorated cast iron pipe. It was installed over 80 years ago and the system has ongoing maintenance issues due to leaks and breaks.</td>
</tr>
<tr>
<td>2009</td>
<td>Cast Iron Pipe Replace</td>
<td>This project is for replacement of old deteriorated cast iron pipe. It was installed over 80 years ago and the system has ongoing maintenance issues due to leaks and breaks.</td>
</tr>
<tr>
<td>2010</td>
<td>Cast Iron Pipe Replace</td>
<td>This project is for replacement of old deteriorated cast iron pipe. It was installed over 80 years ago and the system has ongoing maintenance issues due to leaks and breaks.</td>
</tr>
</tbody>
</table>

### Streamline Survey-generated Documentation

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Description</th>
<th>Reason for Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-2015</td>
<td>Cast Iron Pipe Replacement</td>
<td>These projects are for replacement of old deteriorated cast iron pipe. They were installed over 80 years ago and the system has ongoing maintenance issues due to leaks and breaks.</td>
</tr>
<tr>
<td>2015-2021</td>
<td>Ductile Iron Pipe Rehab.</td>
<td>These projects are for sections of ductile iron pipe that have been experiencing considerable tuberculation. The pipe is structurally adequate, but cleaning and lining is necessary to bring it back to original capacity.</td>
</tr>
</tbody>
</table>
Streamlined in Template Format

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Description</th>
<th>Reason for Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>Cast Iron Pipe Replace</td>
<td>This project is for replacement of old deteriorated cast iron pipe. It was installed over 80 years ago and the system has on-going maintenance issues due to leaks and breaks.</td>
</tr>
<tr>
<td>2008</td>
<td>Cast Iron Pipe Replace</td>
<td>See description for project 2007 above.</td>
</tr>
<tr>
<td>2009</td>
<td>Cast Iron Pipe Replace</td>
<td>See description for project 2007 above.</td>
</tr>
<tr>
<td>2010</td>
<td>Cast Iron Pipe Replace</td>
<td>See description for project 2007 above.</td>
</tr>
</tbody>
</table>

Inadequate WOE

- “The intake in the Elkhorn Reservoir is old and deteriorated and in need of rehabilitation. The intake is necessary to provide adequate water quantity to the customers of Bitterroot Water Department.”
Adequate WOE

• “Well 5 is 62 years old. It has been our primary well for decades. However, after several rehabs in the past 10 years capacity has diminished from 42 gpm to 27 gpm based on the most recent pumping test. In addition, a video of the well shows a structural flaw in the casing at 102 feet among other issues. We need to decommission this well and replace it with a new well at the original capacity.”

Inadequate Documentation

Program Category: Water

Program Title: Southwest Transit Corridor Improvements

Project includes planning, design and construction of water infrastructure improvements along the McDonald Transit Corridor. The project is planned to coincide with City departments on major infrastructure projects.

Project Schedule: Begins 2018/2019

Project Cost: $1,000,000
Conflicting Reasons for Need

Project Title: Green Meadow Rd.

Project includes the design and construction of approximately 15,925 linear feet of 24 in main along Green Meadow Rd. The need is based on continued growth in the western County. The project meets the demand by extending water service into the area.

Project Schedule: After 2016
Project Cost: No cost provided

Allowability Issue

• New Raw Water Transmission Main, 108”, ~11.7 miles at a cost of $441 million
• Documentation provided
  – Excerpts from an FY2013 – FY2014 CIP
  – Survey-generated documentation from state
Allowability Issue

• CIP Documentation Project Description:

“The Area B pipeline extension project consists of 11.7 miles of 108” diameter pipeline extending from the River to the Utility’s Diversion Structure...This project is designed to increase the Utility’s capability to import up to 370 mgd of untreated water.”

Allowability Issue

• CIP Documentation Project Status:

“....the online date for the project is set at FY 2027 but may be accelerated based on factors such as progress on the development of local water supplies including seawater desalination...[Staff] are currently working toward completing an aerial survey and a feasibility study in FY 2016 to determine the best alignment for the pipeline.”
Allowability Issue

• Issues with documentation
  – Commitment
    • Even though project is in a CIP, the system only indicates they are committed to a feasibility study and aerial survey but nothing beyond that
    • Survey-generated documentation reiterates CIP. No new details provided.
  – No clear indication why project is needed for current users

More than One Project Option

• Excerpt from a Preliminary Engineering Report

3.1 Flowing River Water Treatment Plant Findings
The evaluation of the Flowing River Treatment Plant identified several alternatives to address the capacity issues. The following alternatives were considered. Preliminary estimates are included for each alternative.

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Add a third treatment train that includes pretreatment and a two-stage reverse osmosis process.</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>2</td>
<td>Build a second water treatment plant on the east side of town.</td>
<td>$10,000,000</td>
</tr>
<tr>
<td>3</td>
<td>Purchase water from the neighboring town of Pleasantville.</td>
<td>$3,400,000 - Cost includes a new main and booster pump station.</td>
</tr>
<tr>
<td>4</td>
<td>Develop a new well source that requires minimal treatment.</td>
<td>$1,100,000 - Cost includes new transmission main</td>
</tr>
</tbody>
</table>
More than One Project Option

- Survey listed most expensive option but doesn’t document option selected
- Need for the project is documented; least cost option is EPA’s default

More than One Project Option

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Name</th>
<th>Type of Need</th>
<th>Reason for Need</th>
<th>N.E.R.H</th>
<th>C or E</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td>New treatment plant</td>
<td>T10</td>
<td>A2</td>
<td>N</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Survey listed all 4 alternatives and their costs
- Need for the project is documented; least cost option is EPA’s default
Costs Generated for the Survey

- An engineer completes the survey for the system and estimates project costs
- The following is an excerpt of the project table:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Name</th>
<th>Type of Need</th>
<th>Reason for Need</th>
<th>R or C</th>
<th>Design Capacity</th>
<th>Diameter</th>
<th>Length</th>
<th>Number Needed</th>
<th>Cost Estimate</th>
<th>Cost Date</th>
<th>Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td>Well Cleaning and Rehab</td>
<td>R1</td>
<td>A1</td>
<td>H</td>
<td>F</td>
<td>6.02</td>
<td></td>
<td>6</td>
<td>$187,000</td>
<td>2015</td>
<td>4, 11</td>
</tr>
<tr>
<td>1001</td>
<td>Treatment Facility Upgrades</td>
<td>T10</td>
<td>A1</td>
<td>H</td>
<td>F</td>
<td>7.7</td>
<td></td>
<td>1</td>
<td>$1,000,000</td>
<td>2015</td>
<td>4, 11</td>
</tr>
</tbody>
</table>

Costs Generated for the Survey

- Issue
  - An independent party ≠ independent documentation
- Review
  - Delete survey-generated cost
  - Delete project if no other documentation of need provided
  - If WOE met and parameters provided, model cost
Costs Generated for the Survey

<table>
<thead>
<tr>
<th>2015 EPA Drinking Water Needs Survey</th>
<th>Survey Generated Projects: Documentation of Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWS Name: Twin Peaks</td>
<td>PWS ID # ZZ100001</td>
</tr>
<tr>
<td>Project # 1001</td>
<td>Description and Cost</td>
</tr>
<tr>
<td></td>
<td>The system has allotted approximately $1M for water treatment facility upgrades</td>
</tr>
</tbody>
</table>

• Issue
  – Cost appears to be survey-generated
• Review
  – Delete survey-generated cost
  – Model cost

Credibility

• “Meadow St. Standpipe Rehab”
  – Project title in CIP cost summary table and survey
  – Survey-generated documentation
    • “This pipe will need to be rehabbed”
  – Coded as water main rehab on survey with cost

• “Newport Blvd 12-inch WM Replacement”
  – Project title in CIP cost summary table and survey
  – Survey-generated documentation
    • “This water meter needs to be replaced”
  – Coded as water meter on survey with cost
    • Research found actually a water main
Questions?

Documentation Workshop

• You are the primary coordinator for your state and you conduct final reviews of survey submittals from your regional offices
• You receive a survey packet that includes:
  – Questionnaire
  – Survey-generated documentation (from coworker)
  – Excerpts from independent documentation
• Review the submittal to determine if you would consider each project allowable and adequately documented
  – For this workshop, do not focus on project coding