AWWA’s Solutions: Infrastructure Standards and Manuals

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Overview

• AWWA Standards and Manuals Development

• Infrastructure focused:
  – Distributions system materials, operation, and repair
  – Utility operation and management
American Water Works Association

- Nonprofit scientific and educational association dedicated to managing and treating water
- Founded in 1881
- 50,000 members
- Oldest and largest organization of water professionals in the world
- *Dedicated to the World's Most Important Resource*
AWWA Standards History

• 1881-1882: First AWWA committee on product standardization
• 1890: AWWA report on standard makes and weights for cast-iron pipe
• 1908: First Standard - C100-08, Cast-Iron Pipe
• 1920: AWWA Standards Council formed
  – First Chair: George W. Fuller (1920-1928)
  – Second Chair: Malcolm Pirnie (1928-1947)
AWWA Standards Program

• 70 topic specific Standards Committees
  – Wells, Chemicals, Pipelines & Installation, Pipe
    Accessories, Disinfection of Facilities, Metering,
    Storage, Pumps, Plant Equipment, and Utility
    Management Systems
• ~1,400 volunteers at any given time
• AWWA Standards Council oversees the program
  and sets goals, policies, and procedures
• 172 published standards
Program Accreditations

• American National Standards Institute (ANSI) Accredited Standards Developer
  – AWWA Standards are ANSI Approved
  – Regular audits to maintain Accreditation

• US Department of Homeland Security (DHS) SAFETY Act Designation
  – AWWA Standards Development Process
  – Specific Designation for Security Standards (AWWA G430 and J100)
Understanding AWWA Standards

• AWWA Standards are not endorsements of any product, service, or company
• AWWA does not test, certify, or approve any products
• Voluntary Standards – not regulations unless adopted into a regulation by a governing authority
Using AWWA Standards

• Standards serve as an aid to, not a substitute for, engineering

• Basis for Specifications
  – Standards can be the basis for a specification, but site specific criteria must be added & the purchaser options selected to complete a specification
  – Designing a system using AWWA standards leads to simplified designs & construction, and cost efficiency
AWWA and NSF Standards

• AWWA Standards – address product use, performance, configuration, standard sizes, chemical concentrations, etc. Voluntary conformance – no certification process.

• NSF International – Extraction test/health effects standards
  — NSF 60 – Drinking Water Treatment Chemicals
  — NSF 61 – Drinking Water System Components
  — NSF 372 – Drinking Water System Components—Lead Content

• NSF Standards address health effects regardless of end use. Certification process to meet the standard.
Applications for AWWA Standards

• Primary focus has historically been transmission and distribution of potable water and untreated water resources

• Many AWWA pipeline standards include specific provisions for applying the use of the standard to wastewater and reclaimed water (total water solutions)
AWWA Pipeline Standards

• Provide minimum requirements:
  – Design
  – Materials & Dimensions
  – Coatings & Linings
  – Fabrication & Manufacture
  – Marking & Delivery
  – Installation
  – Verification/Testing/Inspection

• Consensus of the industry that the product will provide satisfactory service
AWWA Pipeline Standards Committees

• 8 Pipe Committees

<table>
<thead>
<tr>
<th>Asbestos Cement Pipe</th>
<th>Concrete Pressure Pipe</th>
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<tbody>
<tr>
<td>Ductile Iron Pipe</td>
<td>Polyolefin Pressure Pipe</td>
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<tr>
<td>PVC Pressure Pipe</td>
<td>Stainless Steel Pipe</td>
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<tr>
<td>Steel Pipe</td>
<td>Thermosetting FRP Pipe</td>
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</tbody>
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• 3 Related Committees

<table>
<thead>
<tr>
<th>Disinfection of Facilities</th>
<th>Pipe Rehabilitation</th>
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<tbody>
<tr>
<td>Grooved &amp; Shouldered Type Joints</td>
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Utility Management Standards

• Voluntary standards address common concerns including:
  – Heightened stakeholder interest in utilities’ efficiency and effectiveness
  – Raised government regulatory requirements
  – Closer public scrutiny of water quality issues, particularly those relating to health

• AWWA G200-09 Distribution Systems Operation and Management
  – Standard describes critical requirements for operation and management of potable water distribution systems
  – Maintaining acceptable water quality, system management programs, operation and maintenance of facilities, and verification procedures
Development Process

• Consensus development process
  – Rigorous and thorough
  – Includes multiple levels of review and consideration by diverse and balanced groups of industry experts

• Openness
• Lack of dominance
• Balance
• Coordination and harmonization
• Notification of standards development
• Consideration of views and objections
• Consensus vote
• Appeals
AWWA Standards Committees

• Balance of Subject Matter Experts from 3 Interest Categories:
  – **User Members**: Those predominantly responsible for or interested in the use of the product. (Utilities)
  – **Producer Members**: Those predominantly responsible for the production and/or sale of the product. (Manufacturers, Distributors, Trade Associations)
  – **General Interest Members**: Those who have interests other than producers or users. (Consultants, Regulators, Academics, etc.)
Standards Development: The Process

1. Request for Development
2. Standards Council authorizes development & assigns the standard to a committee.
3. Committee develops a draft of the Standard
4. Standards Council approves the draft Standard.
5. Standard is published for public review & comment
6. All comments are addressed & final document approved
7. Standard approved by Board of Directors
8. Standard process reviewed and approved by ANSI
AWWA Manuals of Practice

- System design, installation, operation, maintenance
- Best practices and practical application
- When associated with a Standards, the Manual provides companion operational information
  - Complement the proscriptive product requirements of standards
  - Offer practical guidance where possible
Example Manuals

M:17 Installation, Field Testing, and Maintenance of Fire Hydrants

M44 Distribution Valves: Selection, Installation, Field Testing, and Maintenance, Second Editio
AWWA Standards Program: Manuals Development Process

Request for Development of a New Manual or an Existing Manual is Due for Revision

AWWA Standards Council Review Request, Authorize Development and Assign to Committee

Committee Develop or Revise Draft Using Task Group or Subcommittee

Formal Committee Balloting Including Consideration of Comments and Objections

Formal Balloting of AWWA Standards Council

Manual Published
Other AWWA Resources

• Conferences and Events
  – ACE
  – Water Infrastructure Conference

• Webcasts

• Surveys and tools
  – Utility Benchmarking
  – Water and Wastewater Rates

• AWWA Store: Distribution & Infrastructure
  – Water Distribution Systems Handbook
Thanks!

Questions?

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