

Best Management Practices for Water Main Breaks May, 2009

Todd Heidgerken, Chair
Oregon Drinking Water Advisory Committee

Dave Leland, Manager
Oregon Drinking Water Program

Purpose of BMP Development

Better identify and agree upon
best management practices
to protect public health
during water service outages.

Guidelines not Requirement

Why Develop BMPs?

Recent anecdotal experiences showed a wide range of practices by individual water utilities with respect to:

- repair practices,
- restoring service,
- scope and manner of notifying users, and
- interaction with county and state programs.



BMP Development Process

- Forum-Drinking Water Advisory Committee
 - Formed in early 1980s
 - Authorized in statute in 2007 (SB 156) to “Advise and assist the Department of Human Services on policies related to the protection, safety, and regulation of drinking water in Oregon”
 - 15 members
 - Meets quarterly

Drinking Water Advisory Committee Members

- Large water systems
- Pacific NW water assoc.
- OR Assoc. of Water Utilities
- Special districts
- Cities
- Private-owned systems
- Certified labs
- Engineering firms
- Local health officials
- Environmental Health Assoc.
- League of Women Voters
- Watershed councils
- Plumbers/backflow testers
- Water consumers
- Environmental groups

BMP Development Process

- DWAC BMP subcommittee (Jan 2008):
 - Todd Heidgerken (Large Systems)
 - Mike Kurtz (Special Districts)
 - Steve Weaver (League of Oregon Cities)
 - John McEvoy (County Health)
 - Ed Butts (OR Assoc. of Water Utilities)
 - Bob Fuller (Engineering Companies)
 - Brian Stahl (PNWS-AWWA)
 - Dave Leland (DHS)

BMP Development Process

- Subcommittee charge:
 - Prepare guidelines describing best practices
 - Recognize that there will be different scenarios therefore provide flexibility in which best practices should be used
 - Reach out to utilities to encourage incorporation of best practices into regular operations



BMP Development Process

- BMP categories:
 - Cutting into or Repairing Existing Water Mains
 - Service Outages Due to Reduced Pressure Events
 - Disinfection or Filtration Treatment Interruption



BMP Development Process

- Water main repair BMP tackled first
 - Most commonly occurring service interruption
 - Greatest interest to local utilities
- Used available literature (AWWA Standards)
- Subcommittee met face-to-face and by conference calls over 9 months
- Input solicited from water utility organizations throughout BMP development
- DWAC approved water main repair BMPs in October 2008, published in Fall 2008 PIPELINE

Water Main BMPs Repair Scenarios

- Make repair while maintaining positive pressure (best)
- Make repair without pressure using BMPs (desirable)
- Make repair without BMPs (least desirable)



Make repair while maintaining positive pressure (best)

Leaks or breaks repaired with clamping devices while mains remain full of water under positive pressure present little likelihood of contamination and require no additional precautions or practices



Make repair without pressure using BMPs (desirable)

Water mains that are completely depressurized in order to be cut into or to repair leaks or breaks are susceptible to contamination. Following all the BMPs listed provides public health protection when repairs must be made under these conditions.

Make repair without BMPs (least desirable)

Water mains that are completely depressurized in order to be cut into or to repair leaks or breaks are susceptible to contamination. When all the BMPs listed can not be followed, additional measures to protect the health of affected customers are necessary.



BMP Elements

- Prepare for repair or cutting in
- Notify users to take protective action, if applicable
- Consult with state program, if applicable
- Conduct repair or cutting in
- Flush
- Verify water safety
- Notify users water is safe, if applicable



Lessons Learned

- BMP development is an opportunity for water professionals to learn from each other
- Broad participation increases the value of the product
- The process leads to common expectations and understandings about protecting public health

Questions and Comments

- Todd Heidgerken – 503-848-3013
- Dave Leland – 971-673-0415

Looking for feedback on the draft BMPs in
your handout!