



NRC-CNRC

*Institute for
Research in
Construction*

Bringing quality
to the
built environment

Examining the Impact of Water Quality on the Integrity of Distribution Infrastructure

Objectives

Conduct a research needs study to identify how changes in water treatment processes might affect the distribution system infrastructure.

Background

Current and anticipated water-quality regulations from regulatory agencies in Canada and the U.S. require utilities to continually upgrade their water treatment processes, improve operations, or change source-waters. These changes may affect the physical, chemical, and biological characteristics of the distributed water and thus disrupt the equilibrium between the distributed water and the distribution infrastructure. (For example, decreasing pH to comply with the Disinfection Byproduct Rule (DBPR) may increase corrosion of cast iron pipes.) Before making any changes utility managers need to understand the impact of modifying the quality of distributed water on the integrity of the distribution infrastructure.

Statement of Work

- Identify from the literature the water quality requirements to meet current and anticipated regulations.
- Identify the impacts of changing water quality on the distribution infrastructure and develop a synthesis document.
- Conduct a workshop with experts from the utility and drinking-water communities in Canada and the U.S. to consolidate current knowledge and identify research needs for the future.

Expected Outcomes

- A document that can be used by utilities to identify potential impacts of changes to distributed water quality on the integrity of the distribution infrastructure.
- A list of related knowledge gaps requiring further research and/or development.

Partners

American Water Works Association Research Foundation (AwwaRF) and experts from the utility and drinking water community.

Start/ Expected Completion Dates

This project will begin in June 2005 and will be completed in July 2006.

Project Manager

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For more information, see http://irc.nrc-cnrc.gc.ca/ui/bu/integrity_e.html

Factsheet 30, May 2005



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