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Real-time Remote Monitoring and Hydraulic Simulation to Support Operation and Maintenance of Water and Wastewater Networks

Objectives

To develop strategies and techniques for integrating the use of remote monitoring technologies to support operation and maintenance decisions.

Background

Recent advances in technologies for continuous remote monitoring of water and wastewater systems and in wireless communication can potentially provide municipalities with new opportunities to collect accurate and up-to-date performance information, and to implement integrated monitoring systems across wide geographic areas, thus enhancing asset sustainability and operational efficiency. This project is investigating methods for integrating the use of real-time remote monitoring and hydraulic analysis to support operation and maintenance decisions.

Statement of Work

The research will consist of the following tasks:

- Review state-of-the-art technologies for real-time monitoring of water and wastewater networks
- Develop techniques to optimize the management and use of the collected remote monitoring data
- Investigate the use of real-time monitoring data and hydraulic simulation to identify and locate potential problem areas (e.g., leaks), and thus support proactive approaches to mitigate the effect of these problems.

Expected Outcomes

Techniques and a decision-support tool for the efficient use of remote monitoring data to support operation and maintenance decisions of water and wastewater networks.

Partner

City of Regina

Start/Expected Completion Dates

This project began in January 2005 and will be completed in July 2007.

Project Manager

Dr. Mahmoud Halfawy: 306-780-5396; Mahmoud.Halfawy@nrc-cnrc.gc.ca

For more information, see http://irc.nrc-cnrc.gc.ca/csir/projects/networks_e.html

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