



## WATER RESOURCES RESEARCH GRANT PROPOSAL

**Project ID:** MA3341

**Title:** Monitoring Disinfection Byproducts in Drinking Water: Strategies for Small Utilities

**Focus Categories:** Water Quality, Toxic Substances

**Keywords:** Trihalomethanes, monitoring, modeling, disinfection byproducts, Haloacetic Acids

**Start Date:** 04/01/2001

**End Date:** 03/30/2003

**Federal Funds:** \$24,897

**Non-Federal Matching Funds:** \$49,923

**Congressional District:** 1st Congressional District Of Massachusetts, Hampshire County

**Principal Investigator:**

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**Abstract**

Statement of Critical Regional or State Water Problem: Over the next 7-10 years, small drinking water systems will have to comply with the new stage 2 federal regulations for minimizing disinfection byproducts (DBPs). These contaminants are costly to measure and their concentrations are highly dependent on source water quality, physical conditions and engineering parameters. Reliable and cost-effective control of DBPs requires good knowledge of the relationship between system operation and DBP concentrations throughout the system.

Currently only large water systems have the resources to measure their own DBP concentrations. This leaves small systems at the mercy of commercial laboratories, with almost no chance of managing their system in 'real time'. The combination of staffing limitations and the aforementioned disengagement between utility and data analysis, leaves small systems with little opportunity to develop their own in-house expertise at controlling DBPs.

Statement of Expected Results or Benefits: The end result of this project will be new set of tools that can empower small utilities to better manage their THM monitoring and control. These will include a combination of simple mathematical models and on-site analytical devices or methodologies that support those models. Several options will be developed that span a wide range of capital and operating costs. The lowest cost options will likely involve just some simple software and a personal computer. The highest cost (and most powerful) options will probably incorporate on-line chromatographic analyzers along with appropriate computer support. Several intermediate options will also be developed.

The final protocols and recommendations will be published in project reports. We will also submit a manuscript to the Journal of the American Water Works Association and present the results at our annual drinking water institute to help disseminate this information to water utilities nationwide.