

Midwest Technology Assistance Center for Small Public Water Systems

Fiscal Year 2000 Annual Progress Report

The Midwest Technology Assistance Center (MTAC) was established October 1, 1998 to provide assistance to small public water systems throughout the Midwest via funding from the United States Environmental Protection Agency (USEPA) under section 1420(f) of the 1996 amendments to the Safe Drinking Water Act.

MTAC is a cooperative effort of the ten states of the Midwest (congruent with USEPA regions 5 and 7), led by the Illinois State Water Survey, an affiliated agency of the University of Illinois. The participation of each state in MTAC is led by the Director of their Water Resources Institute. John Braden and Kent Smothers were the Principal Investigators for this project. Kent Smothers serves as the Managing Director of the Center, and is responsible for conducting routine activities with the advice and council of John Braden. Richard Sparks is also actively involved in the business of MTAC, as he is the current Director of the Water Resources Institute at the University of Illinois. This report summarizes progress made for the FY 2000 time period.

Competitive Grants

Updates of progress for the competitive grants follows. These updates were based on material submitted to MTAC by the Principal Investigators for the respective projects for inclusion in this report. All projects are currently on schedule for completion during this calendar year. The final report has been submitted for one of the projects, and the other two are scheduled to be delivered by the end of November. We will forward copies of the final project reports to the USEPA office as soon as they are received and approved by our office. We have included additional material concerning these projects and other MTAC activities in the Appendices.

Benchmark Investigation of Small Public Water System Economics

Roger Beck, Ben Dziegielewski, Tom Bik
Southern Illinois University
Departments of Agribusiness Economics and Geography

Final Report

The final report was received November 20, 2000, and a copy is included with this report. See Appendix A for the final project report.

Preparation of the Technical Brief

Representatives of the project team will meet with Kent Smothers of MTAC and Sanjay Saxena of the National Drinking Water Clearinghouse in November to finalize the formatting and production of this product. The meeting is tentatively scheduled for Thursday, November 30th at this time.

Technical Assistance and Education for the Native American Nations In Kansas, Nebraska and South Dakota

Bruce I. Dvorak, and DeLynn Hay
University of Nebraska-Lincoln

A total of nine educational activities have been completed at this time and two others are in the planning stages. The educational activity topics were selected by the Tribal Colleges are listed in the below table. A brief description of each activity is given subsequently.

Workshop Topic	Date	Tribal College
Lab Technician Training (Horton, KS)	12/20/00	Haskell Indian Nations College
Lab Tech Training – Needs Assessment	1/26/00	Sinte Gleska University
Lab Tech Training – Needs Assessment	1/26/00	Oglala Lakota College
Lab Technical Training on Microbiological Techniques	3/27/00	Nebraska Indian Comm. College
Lab Technical Training on Pesticides	4/20/00	Little Priest Tribal College
Youth Education (Project WET Training for Teachers)	6/13/00	Sinte Gleska University
Youth Education (Project WET Training for Teachers)	7/31/00	Haskell Indian Nations University
Youth Education (Project WET Training for Teachers)	10/24/00	Haskell Indian Nations University
Youth Education (Project WET Training for Teachers)	11/00	Little Priest Tribal College
Youth Education (Project WET Training for Teachers)	11/00	Nebraska Indian Comm. College
Youth Education (Project WET Training for Teachers)	?	Oglala Lakota College

Of the above 12 activities listed, it is likely that only 11 will be delivered. A total of 10 were promised in the original proposal. The second Oglala Lakota College (OLC) activity might not be performed. OLC has not responded to the numerous phone calls and letters sent since May of 2000. If OLC does not deliver their workshop, then their \$1,000 will be distributed to SGU and Haskell for performing additional workshops.

The paperwork has been processed to provide the tribal colleges with their portion of the funds. Four of the five tribal colleges have provided the University of Nebraska-Lincoln (UNL) with the needed information in order to provide the colleges with their funds. Oglala Lakota College is the only college that has not provided information to allow UNL to send them a check.

Disbursement of Grant Money to Tribal Colleges

Below is a table outlining the funds that have already been directly distributed to the tribal colleges (as of Oct. 1, 2000) and the funds that will be distributed as of Nov. 30, 2000. UNL has provided over \$5,000 from the grant to directly cover the additional costs to cover materials for educational activities, travel by Tribal College staff, and to cover the expenses of non-tribal college instructors (e.g., South Dakota Discovery Center).

Tribal College	Funds Distributed	Total Funds to be distributed ¹
Haskell Indian Nations College ²	\$4,500	\$5,500
Little Priest Tribal College	\$3,000	\$4,000
Nebraska Indian Comm. College	\$3,000	\$4,000
Oglala Lakota College	-	\$3,000
Sinte Gleska University	\$4,000	\$5,000
TOTALS	\$14,500	\$21,500

1 - Based on activities to be performed.

2 - Funds were sent through the Prairie Band Potawatomi due to problems in the Haskell Sponsored Programs office.

Educational Activities Delivered During Summer and Fall of 2000.

A brief description of each of the four educational activities that occurred during this period and two to be performed during the next month are given below.

April 24-26, 2000. Sinte Gleska University. Introduction to Public Health and Drinking Water and Drinking Water Regulations for the Native American Nations. Two members of the Rosebud Sioux Tribal Water Resources Office (Brian Dillon and Young Colombe) were sent to participate in a training session held at the Ramkota Conferencing Center in Rapid City, South Dakota. This session was put on by US EPA Region VIII (Contact person: Gary Carlson). A schedule of sessions is attached.

June 13, 2000. Sinte Gleska University. Project WET training for Teachers and tribal members in Rosebud area. Workshop was presented by Terry Lewis of the South Dakota Discovery Center in Pierre, South Dakota. Attendance of approximately 18 people.

July 31, 2000. Haskell Indian Nations University. Project WET training. Workshop was held at the Prairie Band Potawatomi Tribal Gymnasium. A total of 18 youth and adults attended. The workshop was presented by the Haskell Extension Service.

October 24, 2000. Haskell Indian Nations University. Project WET training for Teachers and tribal members. Haskell Extension put training on at the Heart of America Indian Center, 1340 East Admiral Blvd., Kansas City, MO. A total of 15-25 participants were anticipated, mid-school thru adult. More information will be available in November.

Educational Activities for November of 2000.

Project WET training is being planned by two tribal colleges involved. These colleges are Little Priest Tribal College and Nebraska Indian Community College (NICC). The two plan to have project WET workshops for teachers in November of 2000. Little Priest has five teachers from the Winnebago school system signed up for a November 16th session in Winnebago, Nebraska. NICC has seventeen Omaha and Santee tribal members who are in an elementary teacher education program signed up for a November 15th session in Macy, Nebraska. UNL's Cooperative Extension staff will deliver these two workshops. UNL's portion of the project will cover the costs of the extension staff and the materials and supplies.

Preparation of the Technical Brief

Representatives of the project team will talk via a conference call with Kent Smothers of MTAC and Sanjay Saxena of the National Drinking Water Clearinghouse in November to finalize the formatting and production of this product. The call is tentatively scheduled for Thursday, November 30th at this time.

Study of Corrosion Control in Small Public Water Systems

Professor Jae K. Park of the University of Wisconsin Department of Environmental Engineering
Abigail Cantor, P.E. of Process Research, an engineering consulting firm
Prasit Vaiyavatjamai, a student assistant

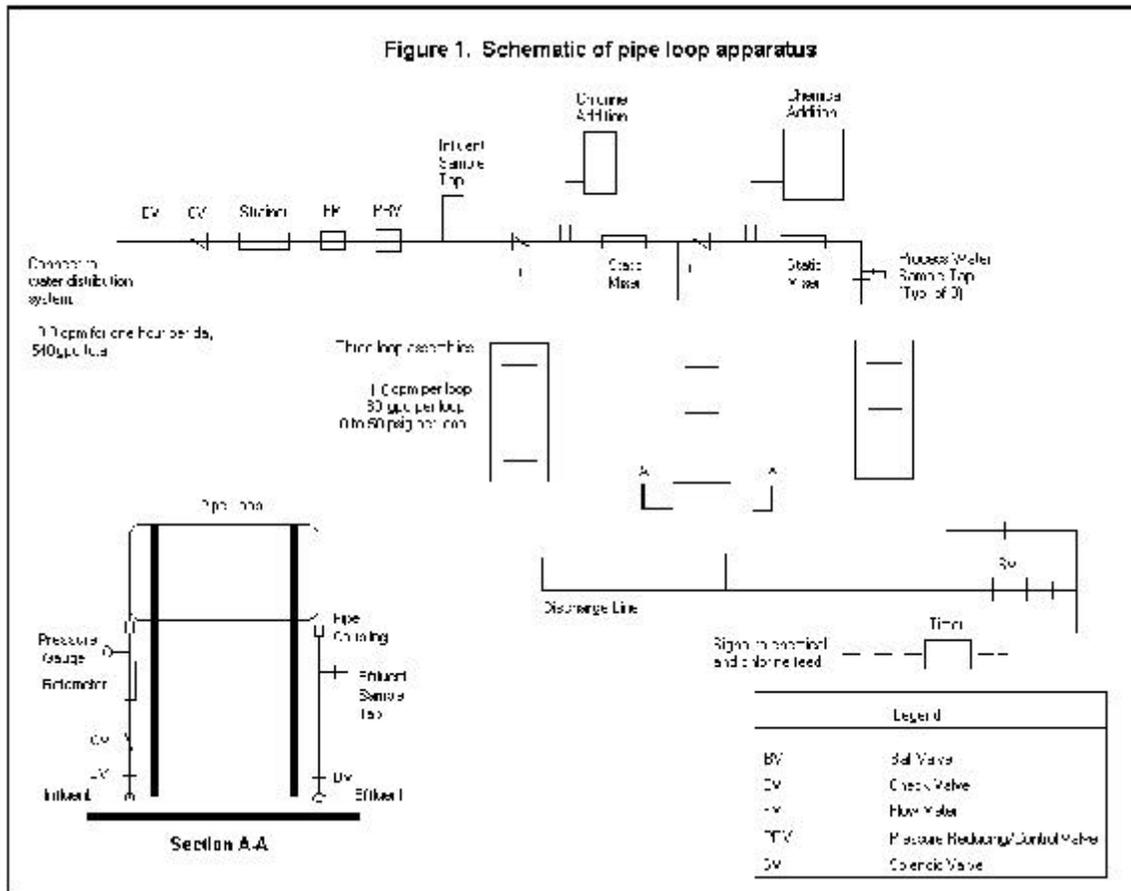
Objective

The goal of this project is to identify the effect of chlorine on small drinking water systems that have not previously used chlorination for disinfection. The interaction of chlorination and corrosion control techniques is also examined.

Description of Project

The project was described in detail in the six-month interim report issued in September 1999. This report is included in Appendix B. In review, two small water utilities in Wisconsin are hosting the experimental apparatuses. One utility in the Village of Dane has high alkalinity water and the other in the

Village of Lone Rock has lower alkalinity water. An apparatus consisting of three groups of three pipe loops each (nine loops) have been installed at each site. In each group, one loop is copper, another lead, and the other iron. One group of loops receives untreated water, a second receives chlorinated water, and a third receives water where chlorine and a corrosion control chemical have been added. A schematic of the apparatus is shown in Figure 1. Each pipe loop simulates a residential plumbing system and is similar to the AWWARF Pipe Loop Model. This model was introduced in the book, Lead Control Strategies (1991) published by the American Water Works Association Research Foundation. The loops are sampled every week to check the effluent metals concentrations. The loops will be compared in their response to corrosive factors. A number of other samples are taken for process control and to define the water quality at the sites.



Status

The loops operated as planned from September 1999 to end of August 2000. At this time, the experiment has been completed, the data is being analyzed, and the loops have been disassembled.

The final report will be submitted to MTAC at the end of November 2000.

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Public Water System Emergency Planning Interactive Guide

Laurie Papanos, Executive Manager
Illinois Section American Water Works Association

Background:

As required by the Capacity Development Provisions of the Safe Drinking Water Act Amendments of 1996, all community water systems, and nontransient, non-community water systems are expected to demonstrate technical, managerial and financial capacity. Emergency response plans have been identified by USEPA as a tool that will be used to measure Managerial and Financial Capacity.

The Illinois Section of the American Water Works Association (ISAWWA) is working closely with Illinois EPA to disseminate information and educational programs to assist with the implementation of the SDWA Amendments. ISAWWA has the resources available to develop an interactive self-study CD to assist both the community and non-community water systems in their emergency response planning.

In addition to emergency planning development, and continuing education credits to participants, feedback from participants will be compiled and set up with internet access for integration into a Big Brother and Buddy System Program, as identified by USEPA to encourage partnerships between water systems.

The contract for the Interactive Guide with the University of Illinois was signed and the project initiated in late March. Estimated completion time for the CD version of the Guide is August 31st.

The Committee

A committee was formed consisting of 10 people including representatives from public and private water utilities, manufacturers and rural water systems. This committee provides input from successful emergency plans completed, review of material along with case studies of municipalities experiencing emergency situations.

Theory

The Interactive Guide will be designed with interactive learning techniques. Participants will learn a particular lesson, self-test on that lesson. Each chapter will have a question and answer section that participant's answers will be archived and retrieved to produce a customized emergency-planning manual for the participants print at the completion of the course.

Objective

Develop an interactive CD to aid in the Emergency Planning for community water systems. Also, access to the information will be available via the Internet through MTAC and the ISAWWA websites. As part of the Emergency Planning Guide, water supplies will be encouraged to share resource information that will be posted on the ISAWWA's website as a preliminary start to the Big Brother and Buddy System Program information online database. Information included will be based upon applicability to multiple states and will not be specific to Illinois.

Access to the CD and Internet information will be at no cost to the water supply. For those who would like to earn contact hours by completing the guide, there will be a minimal charge for administering the test procedures of \$20.00 per participant through the Illinois Section AWWA

Status

Version 1.0 of the CD is completed. 40 CD's have been forwarded to the Midwest Technology Assistance Center for distribution. The CD is comprehensive and upon completion of the questionnaires incorporated into the CD, the participant can print several reference reports to be incorporated into their Emergency Planning Guide.

The next step is to upload the CD information to the internet for an electronic internet version incorporating the Big Brother and Buddy System Program information online database. The web version of the program is active on the ISAWWA site now, and should operational on the MTAC web site before the end on November 2000.

Additional CD's for both Win 95, 98 and NT along with Windows 3.1 version and Macintosh computers will be produced upon request by Illinois AWWA.

Advertising will now be placed in the Fall issue of Splash Magazine, the ISAWWA website and

the Board Update advertising the completion and availability of the CD. A copy of the CD will be available to participants at the upcoming Illinois Water Alliance Meeting, a consortium of water related organizations.

Evaluation

Distribution of the CD and access to the website guide will be available both from MTAC and the Illinois Section AWWA. A report of the success of this program will be provided for inclusion in the next annual report of the Mid-West Technology Assistance Center. Two copies of this CD are included with this report.

Resources

The following resources have been identified and reviewed for this Interactive Guide:

International Association for Continuing Education and Training, *The Continuing Education Unit Criteria and Guidelines*, IACET, Washington, DC., 1993

American Water Works Association, *Preventing Waterborne Disease: Is Your System At Risk?* Denver, Co., 1994

American Water Works Association, *Long-Term Plan Key to Emergency Response*, Opflow, November 1999

United States Environmental Protection Agency, *State Source Water Assessment and Protection Programs Guidance, Final Guidance*, Office of Water, Aug. 1997

Federal Emergency Management Agency, *Emergency Preparedness USA*, Emergency Management Institute, June 1998

NSF International, World Health Organization, *Providing Safe Drinking Water in Small Systems*, Lewis Publishers, 1998

Illinois Section American Water Works Association, *Emergency Planning Handbook and Seminar*, Ciity of Rockford Emergency Plan, Rockford, IL.

Federal Emergency Management Agency Public Private Partnership, *Emergency Management Guide for Small Business and Industry*

United States Environmental Protection Agency, *Information for States on Implementing the Capacity Development Provisions of the Safe Drinking Water Act Amendments of 1996*, Office of Water, July 1998

Village of Lombard, *Comprehensive Emergency Operations Plan*, Lombard, IL.

Illinois American Water Co. *Emergency Action Plan*, Belleville, IL,

City of Rockford Public Works Water Division - *Contingency Plan for Water Systems*, Rockford, IL

Planning & Management Consultants, *Emergency Water Planning for Natural & Man-Made Emergencies: An Analytical Bibliography*, June 1986

Illinois Emergency Planning and Community Right to Know Act

Distribution and advertising

Space will be allotted in the Board Update, Splash and the ISAWWA Website advertising the upcoming CD, offering participation in the process and updating the audience as to the progress. Upon completion those same tools will be used to distribute the CD's. Additionally, information will be sent to related water organizations offering the CD guide. MTAC will receive credit for funding this project and will be credited with such on the CD and internet websites. Initially, 40 CD's will be sent to MTAC for distribution with additional available at no charge upon request.

Preparation of the Technical Brief

Representatives of the project team will meet with Kent Smothers of MTAC and Sanjay Saxena of the National Drinking Water Clearinghouse in November to finalize the formatting and production of this product. The meeting is tentatively scheduled for Thursday, November 30th at this time.

Technical Needs Assessment

The Technical Needs Assessment for small systems in the Midwest has been completed, and the information received is being evaluated. Preliminary analysis of the results were presented at the Midwest Workshop for Small Public Water Systems, and the text for that presentation is included in this report in Appendix C. Some additional analysis of the data will be completed and summarized for the project final report.

Small Systems Conference

The MTAC co-sponsored the Midwest Workshop for Small Public Water Systems on February 29, 2000 in St. Louis, Missouri with the Missouri Technology Assistance Center. The meeting was held at the Renaissance Hotel near the St. Louis Airport. The program for the workshop is included in Appendix D. Mark Mazzoli made a presentation over-viewing the USEPA's small systems programs. Sanjay Saxena was invited to make a brief presentation on the National Drinking Water Clearinghouse

programs. There were approximately 60-65 people in attendance at the meeting. Bob Dunleavy, the Regional Capacity Development Coordinator for USEPA Region 7, attended the meeting and invited Kent Smothers to attend the Existing Systems Capacity Development Meeting for USEPA Regions 7, 8, 9, and 10 to present an overview of MTAC activities.

MTAC Web Site

The MTAC web site experienced over 42,000 “hits” of individual pages during FY 2000. There were over 1700 unique users, with 500 of those being repeat users. The average session time was almost eleven minutes, and more than five percent of the users were from outside the United States. For a complete breakdown on user sessions and web activity, see the report by Kevin Merrifield in Appendix.

Outreach Activities

Kent Smothers attended the Existing Systems Capacity Development Meeting held at the USEPA Region 8 Headquarters in Denver, Colorado on April 25-26, 2000. The meeting was organized by Bob Dunleavy of USEPA Region 7, who invited Mr. Smothers after attending the MTAC workshop in St. Louis, Missouri. There were representatives from USEPA Regions 7, 8, 9, and 10 in addition to attendees from the drinking water offices of the majority of the states covered by those regions. The purpose of the meeting was to make those individuals aware of the various resources available to them to assist in building the technical, managerial, and financial capacity of their state drinking water systems. Mark Mazzola from USEPA Headquarters, who spoke at the MTAC workshop, was in attendance representing the USEPA Small Systems Group. Bill Jarocki, Director of the Environmental Finance Center at Boise State University, was the facilitator for these sessions and provided an overview of his organizations activities. Kent Smothers presented an overview of MTAC programs in the afternoon session on the 26th, and received a very positive response to the work that MTAC is doing. The Economic Benchmark Study, the Technical Needs Assessment, and the Emergency Response CD all generated a great deal of interest. Most of the attendees expressed interest in obtaining copies of the CD when they become available, and several indicated they wanted to obtain copies of the Technical Needs Assessment Overview that Mr. Smothers presented at the MTAC Workshop.

Kent Smothers presented a poster display on the programs of MTAC at a conference (*Illinois Water Supplies: Is the Well Running Dry?*) in Chicago. The conference focused on current and future

water supply and demand issues in Illinois. Highlights included a keynote address by former Senator Paul Simon and opening remarks from Illinois Lieutenant Governor Corine Wood. The conference was attended by more than 150 individuals representing local and regional governing bodies, professional societies, consultants, and state government officials.

Kent Smothers and Rip Sparks met with representative of several different groups that work with small systems in Illinois to discuss potential topics to be addressed in the work plan for FY 2001. Also in attendance at the meeting were Roger Selburg, Manager of the Division of Public Water Supplies and Safe Drinking Water Administrator for the Illinois Environmental Protection Agency (IEPA), Mike Garretson, Judi Mier, Barbara Liebman, and Lou Allyn Byus (also with IEPA), Loy McCart of the Illinois Rural Water Association, Laurie Papanos and Craig Cummings of the Illinois American Water Works Association, and Don Anderson of the Illinois Environmental Resources Training Center. Several good concepts for projects were discussed, and many of these will be included in the work plan submitted to USEPA.

Kent Smothers gave a presentation on MTAC for the Illinois State Water Plant Task Force on November 8th, with particular emphasis given to the Emergency Response Interactive Planning Guide. The Task Force was particularly interested in the use of the CD in assisting communities in preparing for droughts. Illinois and much of the Midwest suffered from an extended drought through the early summer of 2000, raising concerns over the overall state of drought and emergency preparedness.

Staffing

One staff member has changed since the last quarterly report. The Administrative Assistant for the program, Cindy Hawkins, has been replaced by Rhonda Griffet. The part-time WEB administrator, Kevin Merrifield, continues maintenance of the site with assistance and input from Kent Smothers and Rhonda Griffet. Dr. John Braden is one of the Principal Investigators for the MTAC proposal, and continues to actively participate in Center activities. Dr. Richard Sparks, who replaced Dr. Braden as Director of the Water Resources Center at the University of Illinois, has been working closely with both Braden and Smothers on the project, and is coordinating interaction with the Management Committee. Dr. Sparks has provided valuable input to the Principal Investigators of the competitive grants, and is helping to increase the awareness of MTAC programs in small systems communities. Kent Smothers continues to serve as Managing Director, and remains in contact with local and regional EPA officials concerning MTAC activities.

Budget

Expenditures to date include scheduled salary expenditures as indicated in the proposal budget. Some normal office expenses for supplies, copying, and mailing costs have also been charged. Office equipment (server, FAX machine, printer) included in the budget has been purchased. The subcontracts for the Water Resources Institutes have been executed. Expenditures to date are within budget estimates. The major expenditures for the Center are associated with the three competitive grants, which have been awarded. The funds allocated for the Water Resources Institutes and the three competitive grants is shown

as obligated in the attached table. MTAC has received a no-cost extension from the USEPA since several of these projects will obviously take longer than one year to complete.