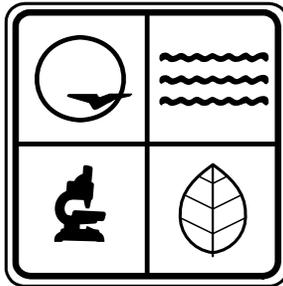


Report to the Governor

Missouri Public Water System Capacity Development



**Missouri Department of Natural Resources
Division of Environmental Quality
Water Protection Program**

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Public Access to This Report

This report will be available to the public upon request and will be posted on the Missouri Department of Natural Resources' Web site. Announcements will be placed in the department's Water and Wastewater Digest and other trade publications and Internet links to the publication will be placed on the Web sites of technical assistance providers and the U.S. Environmental Protection Agency. The department will also issue a news release to newspapers statewide.

Definition of Terms

Capacity Development - Capacity development is a State effort to help public drinking water systems acquire and maintain technical, managerial, and financial capabilities to ensure they consistently achieve the public health objectives of the Safe Drinking Water Act and regulations reliably, and cost-effectively.

Community Water System (CWS) – A public water system that serves at least fifteen (15) service connections and is operated on a year-round basis or regularly serves at least twenty-five (25) residents on a year-round basis.

Nontransient Noncommunity Water System (NTNCWS) – A public water system that is not a community water system and regularly serves at least twenty-five (25) of the same persons over six (6) months per year.

Public Water System (PWS) – A system for the provision to the public of piped water for human consumption, if the system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. The system includes any collection, treatment, storage or distribution facilities used in connection with the system. A public water system is either a community water system or a noncommunity water system.

Sanitary Survey – An on-site engineering inspection and review of a public water system – its supply sources, treatment of supply sources, treatment facilities and distribution systems, for the purpose of evaluating their adequacy, reliability and safety for producing and distributing drinking water.

Significant Non-complier (SNC) – Those violators that present the greatest risk to public health and, therefore, are generally primary enforcement targets.

Technical, Managerial and Financial (TMF) Capacity - Technical capacity refers to the physical infrastructure of the water system, including but not limited to the adequacy of the source water, infrastructure (source, treatment, storage and distribution), and the ability of system personnel to implement the requisite technical knowledge. Managerial capacity refers to the management structure of the water system, including but not limited to ownership accountability, staffing and organization, and effective linkages to customers and regulatory agencies. Financial capacity refers to the financial resources of the water system, including but not limited to revenue sufficiency, credit worthiness, and fiscal controls.

Transient Noncommunity Water System – A public water system that is not a community water system, which has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

Introduction

Since the 1996 amendments to the federal Safe Drinking Water Act, Missouri has been working toward improving water system capacity. Capacity, as used in this context, is the process of water systems acquiring and maintaining adequate technical, managerial and financial capabilities to ensure that they consistently achieve the public health objectives of the Safe Drinking Water Act and regulations.

Pursuant to Section 1420 of the act, states are required to develop and implement a capacity development strategy to assist public water systems that are in significant noncompliance in acquiring and maintaining technical, managerial and financial capacity that will bring them back into compliance with the act.

Not later than two years after EPA has approved a state's capacity development strategy, and every three years thereafter, the state agency responsible for implementing the act must submit a report to the governor on the efficacy of the strategy and progress made toward improving public water systems' technical, managerial and financial capacity. The report must also be made available to the public.

Missouri's strategy was approved by the U. S. Environmental Protection Agency Sept. 14, 2000. Adjustments to the strategy have been made as necessary through annual reports to EPA. Reports to the Governor were provided in 2002 and 2005. This is the third Report to the Governor on Missouri's capacity development strategy.

Missouri Capacity Development Strategy

Development

Staff of the Missouri Department of Natural Resources' Water Protection Program, Public Drinking Water Branch initiated a stakeholder effort in 1998 to gather input from a broad spectrum of public interest groups, drinking water industry associations, funding agencies, technical assistance providers and environmental groups. The branch conducted an extensive mailing to solicit interest in participating in the stakeholder meetings and provided public notice in accordance with the Missouri "Sunshine Law." The branch contracted with a professional facilitator from the Boise State University's Environmental Finance Center to facilitate the stakeholder meetings.

Workgroup Recommendations

The 1998-1999 workgroup recommended ten elements for improving the technical, managerial and financial (TMF) capacity of public water systems. Implementation of these elements is an ongoing process that requires refining and improvement each year.

Table 1. Capacity Development Strategy Elements

1.	Improve water system knowledge of current and future rules and regulations.
2.	Improve communication and trust between EPA, PDWB and the water system.
3.	Provide Missouri citizens with public education on the importance of safe drinking water.
4.	Encourage peer resource sharing.
5.	Encourage partnerships between agencies and systems.
6.	Improve interagency communication for TMF capacity related programs.
7.	Coordinate capital resources.
8.	Establish and implement a rate setting mechanism for sustaining fiscal health of water systems.
9.	Increase planning in rural areas.
10.	Develop and provide board member training and TMF Capacity materials to managers.

Continued Refinement of the Strategy

Department staff revisit the Capacity Development Strategy and update the strategy as new tools and procedures develop. Department staff coordinates internally and externally to discuss ongoing issues and ideas. During fiscal year 2007 several elements in the original strategy were revised. The revised Capacity Development Strategy Elements are in Table 2.

Table 2. Capacity Development Strategy Elements (Revised 2004)

1.	Improve water system knowledge of current and future rules and regulations.
2.	Improve communication and trust between EPA, the branch and the water system.
3.	Provide Missouri citizens with public education on the importance of safe drinking water, working within the constraints imposed by the department.
4.	Encourage partnerships between agencies and systems.
5.	Improve interagency and intra-agency communication for TMF capacity related programs.
6.	Coordinate capital resources.
7.	Continue rate setting and financial management training for small systems.
8.	Increase planning in rural areas.
9.	Develop and provide board member training and TMF Capacity materials to managers.
10.	Establish a base-line to measure the success of TMF capacity activities.

Strategy Implementation and Efficacy

Public Drinking Water Branch

The Public Drinking Water Branch is responsible for implementing the Capacity Development Strategy. Continued implementation of the strategy is required for Missouri receive its full allotment of the Drinking Water State Revolving Fund capitalization grant from EPA. The DWSRF grant is used to provide low-interest capital improvement loans to public water systems

and to fund public drinking water protection effort in Missouri, including but not limited to capacity development activities.

Compliance Assistance and Enforcement

In accordance with the Capacity Development Strategy, the Public Drinking Water Branch prioritizes systems based on their record of compliance. The first systems to receive technical, managerial and financial capacity assistance are systems in significant noncompliance with regulatory requirements.

As an initial step, a hierarchy of violation types based on public health risk was developed. Systems are ranked according to the relative seriousness of the problems and the associated risks. Prior to enforcement action and referral to the Missouri Attorney General's Office, public water system owners are offered the opportunity to participate in a voluntary compliance process. The system owner signs a Bilateral Compliance Agreement that specifies actions to be taken and a timeframe for the system to return to compliance. Technical, managerial or financial assistance may be provided. If the system does not return to compliance or show progress toward compliance, the department may proceed with enforcement action or referral to the Attorney General's Office.

The department's regional offices and the Missouri Rural Water Association, known as MRWA, provide on-site assistance to these systems in an effort to help them return to compliance. Other technical assistance organizations, such as Midwest Assistance Program, or MAP, other MRWA activities, the department's ombudsman program, and the University of Missouri Extension Technical Assistance Center, provide additional support with TMF activities. Coordinated efforts between the Public Drinking Water Branch, the Missouri Department of Economic Development, and the U.S. Department of Agriculture – Rural Development, which comprise the Missouri Water and Wastewater Review Committee, led to many state- and federally-funded projects to resolve compliance problems and, in many cases, led to regional water systems with adequate TMF capacity.

An ongoing goal of the branch is to inform drinking water system owners and operators of the impact of future regulatory requirements and assist them in meeting those requirements before they become effective. This process has proven to be extremely effective and most systems have made significant progress to come into compliance with the more stringent regulatory requirements they are facing.

Construction Authorizations and Permits to Dispense

The Public Drinking Water Branch is responsible for issuing construction authorizations for community and non-community systems. A TMF Checklist for Construction Authorization and Permit to Dispense Water to the Public and an Owner's Acknowledgement Statement are used during the review of new permit applications to ensure all TMF requirements of 10 CSR 60-3.030 are met. The branch's engineers review each application to make certain the information required on the TMF Checklist is provided and the Owner's Acknowledgement Statement is signed and included in the submittal. The capacity development coordinator has been refining

the TMF checklist over the last two years to improve compliance with TMF requirements prior to issuing the construction authorization. A minimum expectation for each item has been established to streamline the review process. A program is being developed to conduct a training forum for department staff, consultants, developers and other interested parties.

The required information includes two copies of an engineering report, two copies of the engineering plans and specifications, one application signed by the owner or president (continuing operating authority), TMF requirements of 10 CSR 60-3.030 as specified on the Checklist, and a signed Owner’s Acknowledgement Statement. The item on the TMF Checklist marked with an asterisk may be submitted after construction, but must be completed before the PDWB will issue a Permit to Dispense Water to the Public.

The financial capacity demonstration may be done per items on page three of the TMF Checklist. A Missouri Water System Financial Capacity Worksheet may be used to assist new water systems in establishing an initial budget and setting rates. The department’s Financial Assistance Center has tools available to establish user rates and user rate ordinances. If a proposed water system goes through the Missouri Water and Wastewater Review Committee and obtains funding, the financial evaluation by the committee is accepted. The majority of the systems demonstrate the financial capacity using these tools. The branch requires the Owner’s Acknowledgement Statement prior to issuing a construction authorization and permit to dispense water. The water system owners must sign the form and send it to the Public Drinking Water Branch for verification that he or she is aware of the TMF capacity requirements and the need to maintain those requirements.

Table 3. TMF Reviews for New Water Systems, 1999-2008

Summary of TMF Reviews for New Water Systems (October 1 through September 30)			
Time Period	Total Approved for Construction Authorization	Total Approved for Permit To Dispense	Under Construction or Serve a Population <25 and <15 Connections*
1999-2005	95	15	73
2005-2006	13	0	13
2006-2007	31	1	31
2007-2008	17	4	13
TOTAL	156	20	130

* Some water systems may not meet the definition of a public water supply, have decided not to build, did not have financial resources to complete the project or have requested a time extension on their construction authorization.

Engineering Contract Services

The branch helps very small community water systems improve their TMF capacity by providing funding for engineering report services contracts (engineering report studies). Priority is based primarily on compliance information, infrastructure conditions and capacity, along with the willingness of the systems’ owner to look at consolidation options, whether physical, operational or managerial. Small system infrastructure problems are most commonly related to lack of financial planning, operation and maintenance. In most cases, these are the causes of non-

compliance. Engineering contract services provide very small systems with the funding to have an entire system evaluation performed, considering all options including consolidation with nearby water systems.

The Contract for Engineering Report Services also assists small water systems with obtaining funding for project development, as there is a requirement for systems to demonstrate a good faith effort to apply to the Missouri Water and Wastewater Review Committee MWWRC for project development and construction funding. The committee is comprised of all the state and federal funding agencies within Missouri and includes the department's Drinking Water State Revolving Fund Loan and Grant Program, the Missouri Department of Economic Development's Community Development Block Grant Program and the U.S. Department of Agriculture's Rural Development Program. The money may be used to consolidate two systems, upgrade the source, treatment, storage, and distribution systems or other perform other measures to bring the system into TMF compliance. The committee meets monthly, on an as-needed basis, to discuss all project applicants' needs and possible funding options to best fit those needs.

Generally, for each fiscal year, applications for Engineering Report Services Contracts are mailed to all municipalities and public water supply districts serving 10,000 or less in population. The application is very brief and closely mirrors the Drinking Water State Revolving Fund application by assigning priority points for certain issues a system may have (i.e., lack of storage, lack of capacity, security). The branch reviews the applications and awards funding between \$7,500 and \$10,000, or up to 90 percent of the project cost, whichever is less.

The branch has provided funds to 116 small water systems through the Engineering Report Services Contract from fiscal year 2000 to fiscal year 2008. Of the 116 systems, 54 have thus far applied to the Missouri Water and Wastewater Review Committee for loan or grant funding to address their specific needs. Approximately five are currently being evaluated for project development funding.

This program has resulted in:

- Many small water systems with compliance problems connecting to larger, viable systems.
- The formation of regional water systems to eliminate small systems with significant non-compliance problems.
- Small systems obtaining managerial and financial capacity to address technical needs.

The branch provided \$120,000 to the Atchison County Wholesale Water Commission to perform an extensive study of possible transmission line scenarios. This study will allow the water commission to become the first part of a twelve-county Water Partnership for Northwest Missouri. The partnership will enable the region to have adequate sources of safe drinking water in drought conditions. It will also enable growth and economic improvement to the area.

Two other significant events occurred since the last report. The department and the University of Missouri Technical Assistance Center partnered to conduct a pilot board member training

initially starting in northwest Missouri. The outcomes of this training are currently being measured to determine its success.

The department is entering into the second year of a small systems circuit rider contract with Missouri Rural Water Association, known as MRWA. The branch develops a work plan listing systems in need of assistance. MRWA coordinates with the systems on the list and provides assistance with various compliance issues such as filing their consumer confidence reports, sampling, reporting sample results and assessing their TMF capacity. Once shortcomings are identified, MRWA and the branch will coordinate in the effort to provide the water system help in critical areas.

Electronic Sanitary Surveys

The branch developed an electronic sanitary survey to obtain real-time data and eliminate much of the paperwork that impedes the department from staying up-to-date in regard to water system information. This survey creates a database where specific information can be recalled immediately, such as TMF capacity items, security items, compliance, etc. It will allow geographic information system data to be integrated and downloaded with Drinking Water State Revolving Fund program information, and will improve quality control or quality assurance issues between the department's regional offices. Sanitary surveys are the primary mechanism by which the department evaluates the TMF of water systems once they are in operation.

Source Water Protection

Protecting and ensuring the quality and quantity of water available is a vital management function for any water system. Providing source water protection training and information helps public water system staff develop and maintain system TMF capacity by increasing their understanding of the relationship between preventing contamination of their source water and the technical and financial impacts on their system.

The branch has done water supply studies for 34 surface water supplies to determine the firm yield of their water sources in a multiple-year drought. Through these studies the department identified those water systems in peril due to inadequate storage in their reservoirs or inadequate flow in their supplying streams. The department also identified some systems as being marginal in their capacity to provide water during a drought and other systems that have adequate supplies. The department's regional office staff are working with these water systems. In most cases, the solution has been the utilization or creation of a regional water supply.

Regional Offices

Every regional office in the department has staff assisting water systems with Capacity Development. Systems with a potential for problems in meeting the requirements of future regulations, as indicated by operational test data, receive technical assistance from the department's regional offices. The Public Drinking Water Branch collects data from water systems and provides a list of systems facing future non-compliance with upcoming regulatory requirements to the regional offices quarterly. The regional offices provide assistance through on-site visits, priority inspections and training programs to the specific systems to help them meet future regulatory requirements.

Continuous tracking of systems is performed by coordination between the Public Drinking Water Branch and the regional offices. Hard copies of all the project receipt letters, comment letters, approvals and TMF checklists are provided to the regional office staff assigned to capacity development. An updated list of all new systems is maintained at the branch and sent to the regional offices twice a year for future inspections and to check on construction status of systems with construction authorizations more than two years old. This list allows the regions to know which systems are to receive a TMF assessment during their sanitary survey. Sanitary surveys are performed every three years for community water systems and every three to five years for non-transient, non-community water systems, depending on the level of treatment they provide. TMF capacity assessment as part of the sanitary survey is extremely beneficial to both compliant and non-compliant systems in ensuring TMF capacity.

Regional office personnel conduct an environmental assistance visit, or EAV, within 30 days of initial startup of a facility with a newly issued permit, or upon program request. If a permittee has multiple facilities of a like nature, EAVs may not be necessarily conducted at each individual facility.

EAVs will be conducted primarily to provide technical assistance. The inspector will confirm that the facility has a copy of the permit or registration, explain the general provisions of the permit or registration, and advise the facility of how to comply with these requirements and other related state and federal requirements. Special emphasis will be given to any permit limits, monitoring, record keeping, or reporting requirements. Permittees will be urged to comply with all parts of the permit, encouraged to ask questions, and will be provided with further contact information..

EAVs are not intended to initiate enforcement action except when conditions exist that may be immediately dangerous to human health or the environment, or where a federal requirement to initiate a formal enforcement action exists. If serious violations are encountered, regional or enforcement staff will provide all assistance possible to bring the facility into compliance without imposing penalties or other sanctions.

Division of Geology and Land Survey

Entities interested in drilling a new well in Missouri are required to contact the branch's Wellhead Protection Section prior to construction. The Wellhead Protection Section provides the proper casing depths for the well. Regional office personnel are responsible for approving the well site. The well site surveys conducted by the regions and providing proper casing depths are critical in preventing the construction of a non-community well when it should be a community well, and also the prevention of private well construction when it should be either a community or non-community well. This helps ensure the technical capacity of the system. Also, by contacting the Wellhead Protection Section, the owner knows what requirements are necessary up-front, before any cost is incurred, thus providing help with financial capacity, as well.

Public Drinking Water Branch

The department's Public Drinking Water Branch provides assistance with technical, managerial and financial capacity, board member training and operator certification. The Financial Capacity Worksheet and user charge analysis service serves as a financial capacity assessment tool and assists compliant and non-compliant systems with planning for current and future needs. The Financial Capacity Worksheet, TMF Capacity Checklist and other services provided are located on the Department's Web site at www.dnr.mo.gov and may be accessed directly from the branch's Web site at www.dnr.mo.gov/env/wpp/dw-index.htm.

Continuing Education Units (CEUs) are offered for attendance at technical training in order for operators to maintain their Operator Certification Certificates of Competency. The department uses a voucher program to assist systems with training for operators. Vouchers are department-issued forms made available to eligible water systems. They can be used to pay for operator certification fees and eligible drinking water training fees.

Technical Assistance Providers

Technical assistance providers, such as the Missouri Rural Water Association, Midwest Assistance Program, American Water Works Association and University of Missouri Technical Assistance Center play a vital role in helping water system owners and operators meet TMF capacity needs. Approximately 90 percent Missouri's 2,771 public water systems have a population of 3,300 or less. These small public water systems are less likely than larger systems to have the independent means to develop and maintain technical, managerial and financial capacity. With about 2,596 public water systems falling into this small system category, the workload on state staff would be overwhelming. The technical assistance providers have been a valuable asset in increasing the amount of TMF assistance provided to systems in significant noncompliance and have worked well with the branch and the regional offices in identifying issues and finding solutions.

The technical assistance provided by these organizations includes, but is not limited to, on-site assistance, board member meetings, operator and board member training, financial capacity assistance and rate setting, assisting system owners with grant and loan applications, regionalization efforts and educational outreach.

Missouri Rural Water Association (MRWA)

The department and the Missouri Rural Water Association, or MRWA, have developed an excellent working relationship over the years in assisting public water systems across Missouri. MRWA is very active, both on-site and off-site, in helping build systems that have technical, managerial and financial capacity. Since 1966, the MWRA has provided on-site training and technical assistance to Missouri water and wastewater providers. Since implementation of the TMF program in late 2000, MRWA has expanded its training emphasis to include more management and financial issues without shortchanging its on-site and classroom technical assistance efforts. MRWA has provided extensive board and council training on public water system issues for a number of years throughout Missouri.

Through competitive procurement, the branch awarded a small systems circuit rider contract to MRWA in 2007. The objectives of the contract are to provide training and technical assistance to owners and operators (including board and council members) of public water systems identified by the branch that will:

- Improve their TMF knowledge.
- Assist with system-specific problems.
- Improve skill levels.
- Increase awareness of available resources.
- Improve overall compliance rates of the subject group of water systems.

The Public Drinking Water Branch provides a list of systems that could benefit from this assistance. MRWA circuit rider visits the systems, provides assistance, and consults regularly with the branch on public water systems' needs. This contract with MRWA is in its second year and may be renewed one more year.

Midwest Assistance Program (MAP)

The department has also enjoyed an excellent working relationship with the Midwest Assistance Program, otherwise known as MAP. MAP has provided assistance to small public water systems in Missouri as well as eight additional states in the north-central United States since 1979. MAP helps local leadership of rural communities find solutions to their infrastructure and development needs through information, resource management and technical assistance. They have incorporated technical, managerial and financial assistance into their work with management and operating staff of both privately-owned and publicly-owned public water systems. The branch routinely provides MAP with lists of water systems in need of assistance and MAP uses this list to plan and prioritize their efforts.

MAP's assistance includes helping water systems with loan and grant applications, developing rate structures, evaluating community water system TMF capacity, preparing emergency management plans, providing operator training on regulatory requirements, negotiating utility water purchase/regionalization projects, conducting needs assessments, conducting board member training, evaluating operation and maintenance, assisting utility staffing and start-up plans, monitoring construction projects, and facilitating regionalization efforts and education programs.

Missouri Section American Water Works Association (AWWA)

The American Water Works Association, known as AWWA, also provides outreach and assistance, primarily to medium- and large-sized water systems. The branch has provided articles on capacity development for publication in several AWWA publications and has provided training at AWWA conferences. AWWA incorporates capacity development into their training programs for operators and managers. Members of AWWA consist of many consulting firms, medium and large water systems and equipment providers, who are not likely to be reached by other assistance organizations.

University of Missouri Technical Assistance Center

The coordination and cooperation between the University of Missouri and the department resulted in a pilot board member training program. Although the final results are not in from evaluations, it appears that this pilot program developed for northwest Missouri has been successful. Nearly every drinking water board or government entity in the twelve county Water Partnership for northwest Missouri was represented at some, if not all three TMF training sessions.

Boise State Environmental Finance Center EPA Region 7 Satellite Office

The department is utilizing the services of this recently opened center. There are actually several communities also utilizing the services for drinking water as well as wastewater facilities throughout the state. The department is currently coordinating with the center on the managerial and financial alternatives for the Water Partnership for Northwest Missouri, a twelve-county drinking water regionalization effort.

Continued Implementation of the Capacity Development Strategy

Of the elements listed in Table 2, various outside agency technical assistance providers are able to assist with the following elements of the Capacity Development Strategy. These elements are:

- Improve water system knowledge of current and future rules and regulations.
- Provide public education to Missouri citizens on the importance of safe drinking water.
- Encourage partnerships between agencies and systems.
- Coordinate capital resources.
- Increase planning in rural areas.

The Public Drinking Water Branch anticipates continuing and enhancing its capacity development efforts over the next three years.

The department is committed to continuing to enhance its capacity development program to ensure it is providing optimal assistance to public water system owners and operators as they strive to provide safe drinking water to the public.

Baseline

One of the milestones for the upcoming year is to establish goals, objectives and a baseline so that future measurements of the TMF programs success can more readily seen. The department will also continue using electronic sanitary surveys to provide real-time data on systems.

Conclusion

The department continues to improve the TMF capacity of Missouri's public water systems. Each year more owners and operators are being educated on the importance of providing safe water to their consumers and how to provide safe water. The department continues to explore and develop additional methods of providing this education to water system owners.