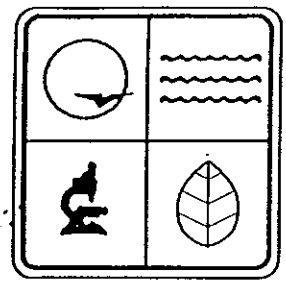

Missouri Department of Natural Resources

Missouri's Capacity Development for New Community and Non-Transient Non-Community Water Systems

Public Drinking Water Program
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MISSOURI CAPACITY DEVELOPMENT
September 16, 1999

Background

The state of Missouri regulates its public drinking water systems by dividing the state into six different regions within the state and a Program Central Office located in Jefferson City, Missouri. The Missouri Department of Natural Resources (DNR) Public Drinking Water Program (PDWP) Central Office performs the reviews of all proposals for the creation of new public water systems throughout the state. Upon review and approval of construction permit applications, engineering reports, and engineering plans and specifications, the Central Office issues or denies construction permits. The Regional Offices provide the on-site surveys, construction inspections, final inspections, and routine or priority inspections of all water systems within their regions. Based upon the inspections and approvals from the regional offices, the PDWP Central Office issues or denies the Permits to Dispense Water.

The Safe Drinking Water Commission is charged with promulgating rules necessary for the implementation, administration and enforcement of Missouri's safe drinking water statutes. The members of the SDWC are appointed by the Governor. All nine members of the Safe Drinking Water Commission are representative of the general interest of the public or of public water systems. Four members are associated with the operation of public water systems, one of which is associated with a water system serving a population of seventy-five or less, one of which is associated with a water system serving a population greater than seventy-five but not more than two thousand five hundred, one of which is associated with a water system serving a population greater than two thousand five hundred and less than one hundred thousand, and one of which is associated with a water system serving a population of more than one hundred thousand; and five members that represent the water consuming public. All members have demonstrated an interest in and knowledge about water quality, and, to the greatest extent possible, the various associations representing water suppliers of the above mentioned size classes are represented on the commission. All members are qualified by interest, education, training or experience to provide, assess and evaluate scientific and technical information concerning drinking water, financial requirements and the effects of the promulgation of standards, rules and regulations. The commission is to assist the PDWP to assure that all public water systems provide safe and adequate drinking water to the public by promoting and protecting public water systems.

There is a distinct geological formation boundary which differentiates the northern region water system source water quality and types from the southern region water system source water quality and types (see the water system maps in the Appendix WSM) and the frequency of proposed water systems in these different areas of Missouri. Missouri's history of the formation of new water systems indicates a greater need for TMF Capacity concentrated in the southern region of the state. Missouri's northern region geology provides a highly mineralized/low yielding

groundwater, thus most of the systems are either surface water sources or groundwater sources with treatment systems for iron and manganese. Because of the expense in designing, constructing, operating and maintaining such elaborate systems, the number of newly formed systems in the north is quite small. Thus there is more regionalization in the northern part of the state. Conversely, in the southern part of the state, the geology provides a high yielding supply of fresh water. Because of this abundance of fresh water, there are more groundwater systems without treatment. In addition, there are more highly populated areas and tourist attraction areas located in the southern part of the sate (e.g., Branson, St. Louis, Lake of the Ozarks). Thus, there tends to be more water systems being developed per year in the southern regions of Missouri.

Basis of Authority

The State legislature has enacted legislation giving the state of Missouri the statutory authority to ensure that all new community and new non-transient non-community water systems commencing operation after October 1, 1999, demonstrate technical, managerial, and financial capacity with respect to each national primary drinking water regulation in effect, or likely to be in effect, on the date of commencement of operations. The Missouri Safe Drinking Water Law Sections 640.100-640.140, RSMo give our Safe Drinking Water Commission the authority necessary to promulgate rules for the implementation, administration, and enforcement of sections 640.100 to 640.140 and the federal Safe Drinking Water Act, as amended. Missouri filed the proposed rules for TMF Capacity 10 CSR 60-3.030, the proposed amendment to the Construction Authorization, Final Approval of Construction, Owner-Supervised Program and Permit to Dispense Water 10 CSR 60-3.010, and the proposed rules for Continuing Operating Authority 10 CSR 60-3.020 with the Secretary of State (SoS) and the Joint Committee on Administrative Rules (JCAR) on July 1, 1999 and the proposed rules were published in the Missouri Register August 2, 1999 (see Appendix PR). A public hearing was held September 9, 1999 and Missouri filed the emergency rules 10 CSR 60-3.010-3.030 for TMF Capacity on September 20, 1999, effective September 30, 1999. Missouri has the emergency rule authority under the provisions of section 536.025, RSMo of the Missouri Law. The emergency rules are intended to meet the technical, managerial, and financial capacity requirements of section 1420(a) of the Safe Drinking Water Act in the short term. The long-term rules will become effective March 27, 2000.

The regulations implementing the 1994 statute also enhance the State's authority to use an operating permit to ensure the technical capacity of new water systems. The State has the authority to refuse an operating permit until the system provides as-builts, has a final inspection, and a certification by a professional engineer that the system was completed in accordance with the State-approved plans and specifications.

Our State Attorney General has certified that the State has the legislative and regulatory authority to ensure that all new community water systems and non-transient non-community water systems commencing operation after October 1, 1999 demonstrate technical, managerial, and financial capacity with respect to each national primary drinking water regulation in effect, or likely to be in effect, on the date of commencement of operations. His opinion is based on the analysis of the legal authority, statutory authority and the implementing regulatory authority of section 1420(a) of the Safe Drinking Water Act of 1996, sections 640.100-640.140 of the Missouri Safe Drinking Water Statutes, and the emergency rules promulgated thereunder in the provisions of 10 CSR 60-3.010, 10 CSR 60-3.020, and 10 CSR 60-3.030. **A copy of the Attorney General's Certification is included in this package.**

The regulations issued by the DNR pursuant to the 1998 legislation and the technical, managerial, and financial capacity regulations promulgated under the authority of Sections 640.100-640.140 of the Missouri Safe Drinking Water Statutes require the following items to be part of the approval process for the construction of new water systems:

TECHNICAL REQUIREMENTS:

- A description of the proposed new system's service area, a description of service area(s) of nearby system(s).
- Extent of the water works system including nature and extent of area to be served, maps of legal boundaries, provisions for extending the water works system to additional areas, and appraisal of future service requirements.
- An assessment of alternatives including feasibility and practicability, financial considerations, and comparisons of operator requirements for operation of each alternative.
- A description of the proposed source(s) quality, capacity, protection, and production.
- A description of the treatment process proposal and waste disposal.
- A description of the project site, including considerations, potential pollution sources, location with respect to other establishments, houses, etc.
- Water Use Data, including population trends and projections, present water consumption, water losses, projected demands, fire flow demand, present and future source yields, etc.
- Future extensions for needs.
- Flow requirements, including hydraulic analyses based on flow demands and pressures and fire flows.
- Proper Operator Certification, training, adequate number, and have all equipment needed including safety equipment to perform job duties.
- A permanent organization exists as the continuing operating authority for the management, operation, maintenance, replacement, and modernization of the facility.
- An updated distribution map.
- Planning and consideration for the technical capacity impacts of future regulations.

MANAGERIAL REQUIREMENTS:

- Organizational chart with the name, position, phone, and address of all mangers and elected officials.
- Customer complaint designated person.
- Written rate structure and service fees.
- Public meetings for changes in rate structure or service fees with advanced notice to customers.
- Designated compliance person to be contact for regulatory issues and compliance actions.
- Planning and consideration for the managerial capacity impacts of future regulations.

FINANCIAL REQUIREMENTS:

- Standard Accounting Principles and Practices shall be used.
- A system for water fee collection including measures to obtain payment for non-payment.
- An annual budget of revenues and expenditures and comparison of planned budget.
- A five year budget and capital plan updated annually, including financial impacts of future regulations, annual estimated cost of operation, including salary of operator, estimated cost of integral parts of system, and proposed methods to finance both capital charges and operating expenses.
- Annual revenues cover public water system costs.
- Operating Reserve = 1/10 of annual operations and maintenance budget.
- Emergency Equipment Replacement Reserve equal to or greater than the most expensive mechanical equipment item.
- Debt reserve equal to or greater than that required in bonding agreement.
- Planning and consideration for the financial capacity impacts of future regulations.

Demonstration of Control Points in the New System Development Process

The primary control points exercised by Missouri are the Construction Authorization Process, the Permit to Dispense Water (Operating Permit), the TMF Capacity Regulations 10 CSR 60-3.030, and the TMF assistance agencies.

Control Points:

1. **Construction Authorization/Permit 10 CSR 60-3.010**
   - Written application for Construction Permit (Appendix CPC)
   - Compliance with Continuing Operating Authority (COA) and TMF Requirements
   - Compliance with Missouri Well Driller's Regulations
   - On-Site Survey of Proposed Project
   - New wells have the Department's Division of Geology and Land Survey (DGLS) evaluation of geological factors, depth, etc.
   - Engineering Report approval process prior to construction
   - Plans and Specification approval process prior to construction
   - Issuance of Construction Permit
   - Final Construction Approval before project is placed into service
   - Certification letter signed by the professional engineer certifying proper construction in accordance with approved plans & Specifications

2. **Permit to Dispense Water to the Public 10 CSR 60-3.010**
   - Written application for Permit to Dispense (Appendix PD)
   - Completed TMF assessment tool attached to Application for Permit to Dispense
   - Proof of Continuing Operating Authority (COA) and compliance with COA Requirements of 10 CSR 60-3.020
   - Must comply with TMF Requirements of 10 CSR 60-3.030
   - Final Construction Approval, including engineering certification
   - Issuance of Permit to Dispense Water to the Public

3. **Sanitary Surveys including the assessment of compliance with Technical, Managerial, and Financial Capacity Regulations 10 CSR 60-3.030**

4. **Agencies, associations, partnerships:**
   - Department of Natural Resources (DNR) Division of Geology and Land Survey (DGLS) – notified for new well construction in coordination with the Well Driller's Association.
   - Well Driller's Association – Lists all new wells drilled with DGLS.
   - Banking Association – loans for homes, businesses, etc. supplied by non-complying water systems may be rejected for loans until in compliance with PDWP.
   - Food and Liquor Control – water systems of business which serve food and/or liquor, if in non-compliance, may be restricted on sales until in compliance with PDWP.
   - Department of Health (DOH) – Notification of new DOH regulated entities, which are also Public Water Systems regulated by DNR.
   - Midwest Assistance Program-Provides operator training and onsite assistance to small systems.
   - Missouri Rural Water Association-Provides operator training, on-site assistance, public official training, offsite financial assistance to small and medium systems. Agreement with DNR to provide TMF assistance to specific needy systems.

- Missouri Water & Wastewater Conference-Provides training to operators and public officials of all size systems.
- American Water Works Association-provides training to operators, public officials of large systems, and educational information, documents, to all systems and other agencies/associations.
- Missouri Public Service Commission-Provides onsite and offsite assistance to PSC regulated facilities.
- MDNR's Technical Assistance Program-Provides onsite technical, managerial, and financial training and offsite financial training to operators and public officials to small and medium size systems, and educational documents.
- DNR Regional Offices-assistance onsite and offsite to all public water systems.

Plan for Implementation and Ongoing Evaluation of New System Capacity Program

- **The first step in our program evaluation process is to review TMF Capacity requirements in the application process for construction authorization.**

  Currently the Public Drinking Water Program Permit Section reviews application submittals to ensure two copies of engineering report and plans & specifications with engineer's seal are submitted with the application signed by the owner (see Appendix CPC). If the application is found to be missing any required information, a letter is sent denying review of the project until the necessary information is provided. If the submittal is complete, a letter also is sent to the system as notice of receipt of application.

  On October 1, 1999 and thereafter, any new community or non-transient non-community water system is required to meet TMF Capacity in accordance with the TMF Capacity Regulations as part of the application for construction authorization. A Construction Permit Checklist, as provided in Appendix CPC, is to be used during the review of application submittal for construction authorization to ensure all of the TMF requirements of 10 CSR 60-3.030 are met. The Public Drinking Water Program Permit Section review engineers review each application to make certain the information required on the checklist is included in the submittal. The necessary information includes two copies of an engineering report, two copies of the engineering plans and specifications, one application signed by the owner/president (continuing operating authority), and TMF Requirements of 10 CSR 60-3.030.

  If an application is found to be deficient of any information on the checklist, a comment letter is sent to the applicant requesting the necessary information to be submitted for review and a copy of the TMF Capacity Regulations is sent along with the letter.

- **The second step in the program evaluation process is during the Permit Approval Process – Construction Permit & Permit to Dispense Water.**

  Upon review and approval of the Permit to Construct, an approval letter is sent to the Continuing Operating Authority with the notification that TMF Capacity will be assessed upon completion of construction by the regional office field staff. An assessment tool (completed by September 30, 1999), will also be sent along with the construction approval letter so the system can complete and provide it to the regional office upon completion of construction.

  The assessment tool is a checklist form that the system can complete on its own, or can be used by the Regional Office staff or any other assisting agency to evaluate the compliance with the TMF Capacity Regulations. The financial part of the assessment tool is a spreadsheet form with blank areas the system information can easily be entered and the program ran to determine their financial capacity. This includes the reserves that are to be established in accordance with the TMF

Capacity Regulations. This assessment tool will be sent to all developers, regional planning commissions, engineers, and technical assistance providers the PDWP has in their address database for informational and training purposes.

Upon notification of completion of construction, the regional office performs a final construction inspection to assess the proper construction in accordance with the Plans and Specifications and also conclude the elements of TMF Capacity are in place using the TMF assessment tool.

The regional office's determination of proceeding with issuance of the Permit to Dispense is based upon the evaluation factors listed in Appendix PD. Upon the regional office's determination the system has the necessary TMF Capacity, the application for Permit to Dispense Water to the Public and the certification of proper construction is sent to the PDWP along with the completed assessment tool for the issuance of the Permit to Dispense. Appendix PD provides a flow chart of the Permit to Dispense process, the application for Permit to Dispense for community and non-community water systems, and the tracking system currently used.

When the Permit Section of the Public Drinking Water Program issues a Permit to Dispense Water, the cover letter includes a reminder that the system must maintain TMF Capacity in accordance with 10 CSR 60-3.030 and compliance with these regulations will be evaluated during sanitary survey inspections by the Regional Offices.

In the event a Permit to Dispense is denied for lack of technical, managerial, or financial capacity with respect to TMF Capacity Regulations, the system will not be allowed to operate without obtaining the Permit to Dispense. If the system continues to operate without a Permit to Dispense and does not work toward compliance to obtain a Permit, the system will be considered in violation of the Missouri drinking water statutes and regulations and will be referred to the Attorney General's Office for enforcement. However, it is very unlikely that this situation would occur since TMF Capacity is assessed during the review process during the construction approval process.

- **The third step to the program evaluation process is the tracking of new systems commencing operation after October 1, 1999 for evaluating the ability to maintain TMF Capacity with respect to the drinking water.**

Currently, the PDWP tracks all new projects in the inventory database system and sends a list of new systems and dates approved since 1996 to the Regions twice a year. A construction database that is a view database that all staff can view, including the regions, is available. The information in this database includes, water systems by name and Missouri ID, the engineer, type of submittal (i.e., eng. Report or Plans and Specs.), date of application for construction, review of application dates/deny or approval information, construction permit date, and final inspection and approval dates. There is also a Permit tracking system that provides the water system application dates, date denied and reasoning, approval/issuance date, and conditions of permit.

From the Inventory System, it is possible to obtain a list of all proposed systems or activated systems by specific date (e.g., October 1, 1999). This list can also be obtained by the final construction date and approval date from the construction tracking system. This new system tracking system is to be called "TMF Tracking System" and includes compliance status information for the on-going success evaluation described in the next bullet. The PDWP will send a list of all new systems by activation date starting October 1, 1999 to the Regional Offices on an annual basis at minimum. This enables them to know which systems commenced operation after October 1, 1999 and thus will be required to maintain TMF Capacity. This TMF Capacity is evaluated during the sanitary survey inspections of the water system, which is on a three-year frequency for community water systems and a 5-10 year frequency for non-transient non-community water systems. The TMF assessment tool will be utilized to assess their TMF Capacity.

- **The fourth step in the Program Evaluation Process is the evaluation of success in the Missouri TMF Capacity process.**

The fiscal year 2000 Regional Office Principal Activity Workplan Section 4 .B. (see Appendix PAW) specifies the TMF Capacity requirements for the regional offices to meet. The Regions must assist the PDWP in developing the program to assess and assure public water systems meet TMF Capacity, perform on-site engineering inspection to assess TMF Capacity, and encourage development of partnerships between public water systems to enhance TMF Capacity. Note, Capacity Development is also addressed in the "Special Requests from the PDWP Director" located in 5. C. of the Workplan.

Once the water system's TMF Capacity, along with other compliance and operational issues, is assessed during the inspection process, the inspection report addresses each regulatory violation and any recommendations for best management practices and sanitary issues to the continuing operating authority. Violations of the drinking water regulations are tracked in accordance with the current Escalation Policy (see Appendix ESC) in a database. New system compliance status will be incorporated into the TMF Tracking System. This tracking system provides the list of all water systems commencing operation after October 1, 1999, inspection dates, compliance status, and number and type of violations. From this tracking system and the inspection reports, the reasoning for non-compliance can be determined to the extent practicable and an annual report on the new systems capacity progress and compliance status will be provided to EPA at the same time the DWSRF capitalization grant application is sent. If the DWSRF program is no longer funded, this report will be sent separately.

In the case a new system becomes in non-compliance under the escalation policy and the voluntary compliance process is implemented (see Appendix ESC), the TMF Capacity will be assessed to help achieve non-compliance and assistance may then be requested by the technical assistance agencies. The assisting agencies: Technical Assistance Program of DNR, Midwest Assistance Program (MAP), Missouri Rural Water Association (MRWA), Missouri Water & Wastewater Conference (MWWC), American Water Works Association (AWWA) when applicable, and the Association of Municipal Utilities will be requested to assist the systems in need of TMF Capacity as applicable. This assistance will be requested, if needed, during the voluntary compliance process prior to enforcement action. A resource survey (see Appendix RS) was sent to each of the assisting agencies in Missouri to obtain the available services with respect to TMF Capacity each could give to specific types of systems. The result of the survey is included in Appendix RS. In summary of the survey, each of these assisting agencies is willing to provide assistance when requested.

The PDWP Central Office assesses the success of the process and considers inclusion of an additional capacity measures into future agreements. In addition to the TMF Tracking System and annual report, one way the PDWP can assess the success of TMF is to compare the percent of water systems referred to the Attorney General's Office (AGO) within a specific time frame. For instance, compare the number of referrals from Oct. 1, 9994-Oct. 1, 1997 to the number of referrals from Oct. 1, 1997-Oct. 1, 2001, then compare referrals from Oct. 1, 2001-Oct. 1, 2004 to the previous years, and so on.

Training:
The PDWP provides inspection training to the Regional Office staff on a two-year frequency and will incorporate the TMF Capacity into that training agenda. Also, training has been included in the October 1999 Regional Office/PDWP annual meeting.

Training for proper use of the TMF Assessment Tool will be incorporated into the assistance organization's training programs annually.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VII
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

SEP 20 1999

Stephen M. Mahfood, Director
Missouri Department of Natural Resources
PO Box 176
Jefferson City, MO 65102-0176

Dear Mr. Mahfood:

I am pleased to inform you that the New Systems Capacity Development program submitted by the Missouri Department of Natural Resources (MDNR) has been approved by EPA Region 7. The Region 7 office has concluded that the MDNR has complied with the requirements of Section 1420(a) of the Safe Drinking Water Act as amended and that, pursuant to Section 1452(a)(1)(G)(i) of the Act, a 20 percent withholding from the State's Drinking Water State Revolving Fund allotment is not required.

We support the MDNR's strategy to ensure capacity development for new community water systems and nontransient noncommunity water systems.

If you have additional questions regarding this memo, please contact Wolfgang Brandner Chief, Drinking Water/Groundwater Management Branch, at (913) 551-7381.

Sincerely,

Dennis Grams, P.E.
Regional Administrator