

Michigan Department of Environmental Quality
Drinking Water and Radiological Protection Division

CAPACITY DEVELOPMENT STRATEGY FOR EXISTING PUBLIC WATER SYSTEMS

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**Michigan Department of Environmental Quality
Drinking Water and Radiological Protection Division
Capacity Development Strategy for Existing Public Water Systems**

Introduction

The 1996 Amendments to the federal Safe Drinking Water Act (SDWA) require each State to develop a program to assist existing public water systems in acquiring and maintaining technical, managerial, and financial (TMF) capacity. This program places emphasis on the prevention of water system problems and encourages proper management to ensure a safe, reliable and abundant supply of drinking water to all customers. The capacity development provisions of the Act focus on the enhancement and maintenance of the technical, managerial, and financial capabilities of public water supplies. Section 1420(c)(1)(C) of the SDWA requires that States develop and implement a strategy to assist existing public water systems in acquiring and maintaining technical, managerial, and financial capacity. The State risks losing a percentage of the annual allotment for the Drinking Water State Revolving Fund (DWSRF) if it does not develop and implement a capacity development strategy for existing systems. The State must develop and be implementing a strategy by August 6, 2000.

The federal requirements for developing a capacity development strategy include the following:

1. Identify and prioritize systems in need of improving capacity;
2. Identify the factors that encourage or impair capacity development;
3. Describe the methods the State will use to the implement the strategy;
4. Describe the baseline that the State will use to measure effectiveness of the strategy; and
5. Identify the involvement and participation of stakeholders in the creation of the strategy.

This document describes the process used to develop a capacity development strategy in Michigan and describes the methods and tools that will be used to implement the strategy. Because Michigan contracts with local health departments to provide regulatory oversight and technical assistance to noncommunity water systems, the **Capacity Development Strategy for Existing Noncommunity Water Systems** is described separately in a section immediately following the conclusion of the strategy for Community Public Water Systems.

Public Participation

Although listed last among the five elements that must be considered in developing a strategy for existing systems, the participation of stakeholders is key to the other four elements and is therefore considered first in the development of Michigan's strategy. The Michigan Department of Environmental Quality (MDEQ) utilized the expertise and experience of stakeholders both within and outside of the agency to develop an approach to address the capacity development provisions of the 1996 Amendments of the Safe Drinking Water Act. Representatives of the following organizations were invited to a meeting on December 21, 1999, during which they were asked for input on each of the federal requirements to consider in developing a capacity development strategy.

- Michigan Department of Environmental Quality (MDEQ)
 - Drinking Water & Radiological Protection Division (DWRPD)
 - Field Operations, Ground Water & Environmental Health Sections
 - Environmental Assistance Division (EAD)
 - Municipal Facilities Section & Operator Training & Certification Unit
- Michigan Department of Consumer & Industry Services
 - Health Facilities
- Michigan Department of Treasury
 - Michigan Municipal Bond Authority (MMBA)
- Michigan Section, American Water Works Association (AWWA)
 - Chair, Chair-elect, Past-Chair, Director
 - Small Community Water Systems Committee
 - Regulatory Advisory Committee
- Michigan Rural Water Association (MRWA)
- Michigan Townships Association (MTA)
- Michigan Municipal League (MML)
- Michigan Community Action
- Public Sector Consultants
- Michigan Association of Local Environmental Health Administrators (MALEHA)
- Michigan Association for Local Public Health (MALPH)
- Small Business Association of Michigan
- Michigan School Business Officials
- Michigan Public Service Commission
- Michigan Rural Community Assistance Program (RCAP)
- Michigan Manufactured Housing Association (MMHA)
- Public Water Supplies (Private and Municipal)
- Michigan Consulting Engineering Council
- Michigan Professional Engineers Association
- Contractors
- Law Firms
- League of Women Voters

The purpose of this meeting was to gather input from these stakeholders on the required elements of a capacity development strategy for existing systems. The state's authority to conduct a capacity assessment at a community and noncommunity water supply was explained, including the requirement for public water supplies to make available records needed to conduct a technical, managerial or financial capacity assessment, either in writing or during on-site surveillance visits. The five requirements a state must address were then identified and discussed. Attendees were specifically asked to provide input on the triggers that should be used to identify systems that should be a priority for capacity assistance, and whether the state should have statutory authority to enforce these triggers. This same information was presented at the Annual Meeting of the Rural Water Association in Midland, Michigan on April 16, 2000, and the presentation used at both meetings was placed on the Field Operations Section web site for access by interested parties. In addition, informational articles were placed in the Michigan Section, AWWA publication, "WaterWorks News", and in the newsletter of the Michigan Rural Water Association. Both articles provided a contact for interested stakeholders to provide input and obtain further information.

At the same time external stakeholders were being asked for their input, staff of the Field Operations Section of the DWRPD were also holding informal meetings to discuss the criteria that should be used to prioritize systems in need of capacity assistance. DWRPD staff agreed that the current program of technical assistance provided through surveillance visits, evaluations, sanitary surveys, plan review, and compliance oversight is the logical basis for identifying and prioritizing systems in need of capacity assistance. Both the external and internal groups also agreed that significant noncompliance by a water supply should be a trigger used in the prioritization system. During this process, external stakeholders expressed the following opinions and concerns.

- There is a fine line between protecting public health and interfering with "home rule."
- They felt strongly that any prioritization system should be public health based.
- Capacity assistance should be available to address problems before they become violations.
- The capacity development program should use "may" versus "shall" in implementation of the strategy for existing systems.
- A willingness to participate on the part of the water supplier should be incorporated into the strategy
- A self-assessment process needs to be available.

The internal stakeholders echoed these recommendations, and emphasized that the current program of sanitary surveys and evaluations provides a sound basis for identifying systems in need of assistance. They also suggested that the priority system for the noncommunity program closely follow enforcement activity initiated by the local health departments, and focus primarily on nontransient water systems.

Strategy Implementation

The implementation of this Capacity Development Strategy involves several steps to determine which public water supplies are *most* in need of improved technical, managerial, and financial (TMF) capacity. The key issue in designing a capacity development strategy for community public water systems is identifying and prioritizing those systems most in need. To make this determination, it is necessary to identify what information the DWRPD already has about the condition of the community water systems. Fortunately, the State of Michigan has conducted a water supply regulatory program since 1913 that has included consultation and technical assistance. This program is in addition to the regulatory oversight responsibilities added more recently by the federal and state Safe Drinking Water Acts. A primary component of this technical assistance program is the routine surveillance visit and evaluation (sanitary survey) conducted at each community water supply. In Michigan, surveillance and evaluations are performed at all public water systems on a routine basis. These visits and surveys serve to detect construction, maintenance and operational deficiencies before the water supply poses a public health threat. By conducting visits and evaluations on a recurring cycle, recent improvements and new construction can be inspected for conformance and acceptability, and any deterioration of facilities, failings in operation or lack of maintenance can be detected.

In the past year, the DWRPD has updated the sanitary survey program with an expanded data gathering form and development of standard evaluation criteria, which are located in ***Appendix 1 and Appendix 2***, respectively. This evaluation process results in the accumulation of significant technical and managerial capacity information, and some financial capacity data. Experience has demonstrated that when a system is found to be lacking in technical or managerial capacity, the problems can often be traced to financial deficiencies as well. It is noted that federal guidance does not require a comprehensive capacity assessment of every existing system, but only for those systems identified as needing assistance. Therefore, to abide by the wishes of our stakeholders, the DWRPD has decided not to intrude into financial matters of an existing water supply *as long as there is no violation, deficiency or other indication that a water system is lacking in technical or managerial capacity*. When an evaluation of an existing system reveals problems that create difficulty in providing safe drinking water, an in-depth financial capacity assessment may be initiated.

Another source of information that is readily available to the DWRPD is compliance data. Because the DWRPD already has systems in place for dealing with acute risks to public health (both those that result from violations and those that may arise from emergencies that may not constitute a violation), the existing systems strategy will not deal with these situations. Examples of immediate actions undertaken when circumstances warrant are boil water advisories, public notification, system flushing and emergency disinfection. Circumstances that warrant these actions in a public water system include the loss of system pressure or the detection of unacceptable levels of contaminants in the water supply. These emergency situations are better handled through the current regulatory system, and will not be included in the capacity development program. However, other compliance data will often serve as an excellent indication that a water system lacks adequate capacity. Repeated failure to monitor, sporadic recurrences of coliform bacteria in the distribution system, extended periods without a certified operator, inconsistencies in chemical application rates, and other similar symptoms

should trigger an assessment of a system's capabilities when they have not already been identified during the system evaluation.

It was decided that population served generally favors larger systems, and therefore, is not a valid criterion in the capacity development program. While it may be critical to identify the population served for assessing the impact resulting from a drinking water violation, it is not necessary for this factor to be used in this prioritization system for capacity assessments. History has demonstrated that the majority of systems experiencing violations of DWRPD rules and regulations are the very small drinking water systems serving less than 500 persons. It is anticipated that nearly all systems identified for assistance in Michigan will be small systems.

The aim of the prioritization process is to determine the order in which systems will be given attention under the capacity development strategy. Because the strategy is an ongoing element in the state's program, it should be possible to eventually address all systems that truly need capacity assistance. The reorganization of the Water Supply Division of the Department of Public Health into the DWRPD of the MDEQ, the ensuing decentralization of the drinking water program staff to eight district offices, and the realignment of district boundaries resulted in a transition period from which we are just emerging. During the recent reorganization and decentralization, numerous experienced employees were assigned new districts and many new employees were hired to replace others who could not relocate. As a result, the initial prioritizing of a system's TMF capacity will rely on existing data and evaluations that may be somewhat dated. Therefore, when the initial screening process identifies a system in need of further capacity assessment, an effort will be made to determine if the system has already corrected any deficiencies and is no longer in need of capacity assistance.

The expanded data gathering form located in Appendix 1 and the evaluation criteria located in Appendix 2 should enhance the evaluation process and ensure consistency among the eight districts in the state. Evaluations will also provide an excellent screening process for this Capacity Development Strategy. Through the evaluation process, all community public water supplies will be screened initially to determine if further capacity assessment is necessary. The systems will then be categorized to determine the extent and focus of their needs. Once the needs of the systems are determined, the systems that choose to participate in a "capacity building" effort may be directed to various tools or resources that may be used to enhance the capacity of the public water supply.

Screening of Public Water Systems for Capacity Assistance

The key issue in designing the state's capacity development strategy is identifying and prioritizing those public water systems that are most in need of improving their technical, financial or managerial capacity. Before such a screening system can be devised, it is necessary to determine what information the DWRPD has available or accessible that helps identify problems that need to be addressed. A variety of databases and files exist that provide information regarding the compliance status and capacity of a public water supply.

The following information sources will be used to identify and “target” those systems most in need of capacity assistance:

1. Compliance Information
 - Maximum Contaminant Level Exceedences
 - Waterborne Disease Outbreaks
 - Action Level and/or Treatment Technique Violations
 - Monitoring and Reporting Violations
 - Failure to Obtain and/or Violation of Construction Permits

2. Sanitary Surveys and Evaluations
 - Failure to provide adequate firm capacity to meet demands
 - Failure to provide required reliability
 - Lack of Contingency Plans
 - Lack of Sampling Site Plans
 - Lack of General Plans and Reliability Studies
 - Lack of Cross Connection Control Programs & Annual Reports
 - Violation of Operator Certification Requirements
 - Lack of Capital Improvements Plans

3. Construction Permit Bans/Warning Letters

4. Operation & Maintenance Problems
 - Lack of Hydrant & Main Flushing
 - Lack of Valve Turning Program
 - Lack of Pump & Motor Maintenance Program
 - Frequent Main Breaks
 - Lack of Wellhead Protection Programs/Source Water Protection Plans
 - Failure to submit Monthly Operation Reports
 - Lack of Annual Pumpage Reports
 - Inadequate Recordkeeping

5. DWRPD District Staff Input

Using this information, a “hierarchy of violation types” based on public health risk has been developed by the DWRPD to prioritize systems needing assistance. This hierarchy will be used to assign problems to **Critical, Serious, Minor, Potential, or Request Assistance** categories. See Figure 1 on the next page for a flow diagram of the proposed capacity development process. Systems will be ranked according to the relative seriousness of the system’s problems. A final consideration in determining which systems to assist would be the willingness of the water system to participate or cooperate with the State in addressing its capacity problems. The nature of the assistance offered under the capacity development program would be determined only after an assessment of the TMF capacity at an individual water system. TMF capacity review could be accomplished by a self assessment, by an in-depth sanitary survey by DWRPD, or by a third party evaluation conducted on-site with the system’s cooperation.

Michigan's Decision Model

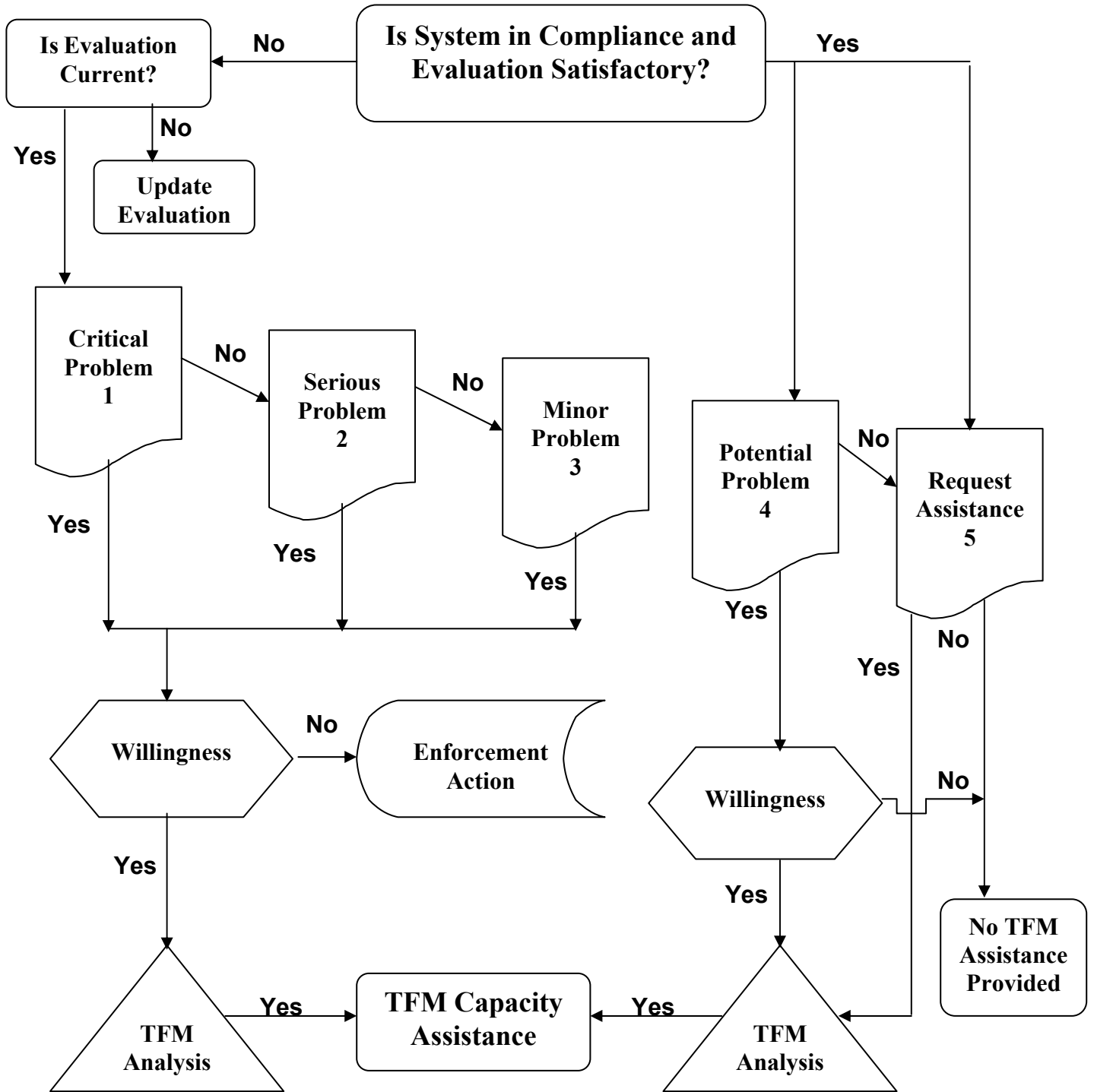


Figure 1

Violations Types:

Critical Problem – Continued exceedance of an acute* health based standard, or lack of monitoring for any acute contaminant. System is rated “Deficient”. System is chronically out of compliance with state requirements for reliability, such as a minimum of two wells, adequate firm pumping capacity, standby power, and no contingency plan. A construction permit ban or warning letter has been sent to the system.

Serious Problem – Continued exceedance of a non-acute health based standard, or chronic lack of monitoring for a non-acute* contaminant. System is rated “Deficient” or “Marginal”. System is chronically out of compliance with state requirements for preparation of general plans and/or reliability studies. System lacks a cross connection control program or violates operator certification requirements.

Minor Problem – Minor problems are defined as sporadic or one-time violations of compliance standards. System is rated “Marginal”. System has not updated plans as required, or is not submitting necessary monthly operation reports, annual pumpage reports or cross connection control reports.

Potential Problem – Potential problems are defined as problems that may lead to critical or serious problems in the future, or circumstances that may culminate in a problem due to tightening of current regulations. System is not out of compliance at this time, but may experience difficulties in the future. Indications of these problems would be inadequate operation and maintenance programs such as hydrant flushing and valve turning programs, pump and motor maintenance programs, no routine tank inspections, not implementing a capital improvements program.

Request Assistance – Systems that foresee a problem that may culminate in difficulties in the future and have therefore requested assistance before DWRPD has updated the evaluation.

Willingness – Systems that are willing to take action to resolve inadequate technical, managerial, or financial capacity.

Definitions: (for the purpose of this document)

Enforcement Action – An action against a public water supply initiated by MDEQ to enforce provisions of the Michigan Safe Drinking Water Act or rules adopted pursuant to the Act.

TFM Assistance – Assistance related to the technical, financial or managerial capacity of a public water system provided by the Department or a third party technical assistance provider.

TFM Analysis – Analysis of a system’s technical, financial and managerial capability to produce safe drinking water at a reasonable cost for the foreseeable future.

Acute Contaminant – A compound that if ingested, may rapidly induce severe and unacceptable impacts on drinking water consumers.

Non-acute contaminant – A compound that, if chronically ingested, may induce a gradual unacceptable impact on drinking water consumers. Health based standards are promulgated by EPA for both regulated and unregulated contaminants.

The databases, data gathering and evaluation forms, and files will be searched, and a list of systems will be compiled for further evaluation. The majority of the information to initially screen public water systems for capacity assistance will be retrieved from these information sources. However, systems may also be recommended for further evaluation by field staff or other staff that may be aware of problems at a public water supply where the information is not currently recorded in a file or database. Future candidates for assistance will be identified as a part of the routine surveillance and evaluation program.

Candidates to Participate in Capacity Development Process

The DWRPD district staff conduct sanitary surveys and inspections and serve as the main point of contact with the water system. Public water systems with problems or deficiencies identified by district staff during the sanitary survey process will be given a priority for receiving capacity development assistance. Once a system has been identified as a candidate for capacity assistance, there will be several options available for determining what steps MDEQ and the water system can take. If a system is willing to participate in a capacity building program, a meeting will be arranged by district staff to discuss the options for participating in the process. If the system is unwilling to participate in the capacity development program, they will be referred for enforcement action if the deficiency is due to a violation of the Michigan Safe Drinking Water Act.

The type of assistance needed may differ at each system, depending on the extent and severity of the technical, managerial, or financial needs. The system could choose to complete a self-assessment, such as the one developed by Rural Water Association, or they could choose to contract with a consultant to help identify the specific source of their problems and recommend a course of action. The system could also turn to other technical assistance providers, such as the American Water Works Association, Michigan Rural Water Association, or the Rural Communities Assistance Program (RCAP).

Tools Available to Build Capacity

Once a system agrees to participate in a capacity building effort, DWRPD will assist the system by directing them to various resources that are available to use to acquire or maintain adequate technical, managerial, or financial capacity. There are various tools currently available that may be used by systems to enhance capacity. In Michigan, a number of capacity building activities and programs already exist, and will continue to be relied upon to help public water systems comply with drinking water standards and regulations. Other tools

will be new to Michigan's drinking water program, particularly in the area of financial capacity assessment. The use of self assessments and guidance on budgeting and long-term planning may be recommended for systems that have been identified as having financial difficulties in meeting all water system needs. Other tools may be broadly applied to assist in building capacity, such as statewide newsletters and regional meetings that assist water systems in preparing and planning for upcoming regulations.

Michigan's existing capacity development tools include:

- Sanitary Surveys and inspections conducted by the DWRPD district staff or their agents for the purpose of evaluating the condition of existing public water systems.
- Plan Review and approval performed by DWRPD district staff or by the local health department for all new construction in public water systems.
- One-on-one Technical Assistance and Consultation between DWRPD district staff and water supply personnel to assist in the understanding of and compliance with state and federal requirements.
- Other DWRPD public water supply program efforts, including:
 - Monitoring letters and schedules that facilitate compliance and budgeting
 - Well site inspections and approvals
 - Review of Master Plans and Engineering Studies to assure regulatory compliance and optimum performance
 - Consumer Confidence Report assistance
 - Monthly Operation Report review to assure compliance with treatment techniques and to evaluate treatment processes for optimal operating practices
 - Emergency Planning and Response assistance for responding to public health threats
 - Cross Connection Control Guidance through annual seminars and the Cross Connection Rules Manual
 - Guidance documents for completing required contingency plans and sample site plans
- Enforcement Activities of the DWRPD to assure compliance
- Contracted technical assistance (through the DWSRF set-aside funds) for small community and nontransient noncommunity systems. A four-year contract has been awarded to a technical assistance provider who is concentrating on nontransient noncommunity water systems and small community systems. A checklist has been developed to assist in and document the contractor's efforts.
- Operator certification and training conducted by MDEQ, with staff from both the Environmental Assistance Division and the DWRPD participating in the training and certification process. With continuing education requirements and expanded certification requirements, numerous three day courses, one-day seminars, semester long classes, and regional meetings are conducted by MDEQ staff. In addition, staff prepares the certification examinations to ensure that system operators will be evaluated on the basis of current operational practices.
- The DWSRF has been a significant tool for systems building capacity, both through loans for system improvements and by the use of set-asides for other activities, including the aforementioned technical assistance activities, as well as the programs below:
 - Source Water Protection efforts
 - Wellhead Protection matching grants

- Source Water Assessments of regional aquifers and surface water sources
- Expanded Operator Certification and Training
- Technical Assistance in preparing project plans for small systems applying for a DWSRF loan
- Capacity Development Program implementation
- Stakeholder Organization activities that assist water systems in meeting the SDWA requirements, including:
 - Training in operational responsibilities such as valve turning, hydrant flushing, leak detection, cross connection control, recordkeeping systems, etc.
 - Consultation from circuit riders on operation and maintenance matters
 - Determining rate structures
 - Newsletters
 - Mentoring through the use of experienced operators assisting others upon request
 - Proactive training about proposed or new regulations and their impact
 - Assistance in wellhead capture zone delineation
 - Engineering assistance

The DWRPD uses many of the above tools in its daily activities to assist in building and assuring adequate capacity in Michigan public water supplies. In addition, individual public water supplies may utilize some of these tools to address system specific issues. There are also additional tools that will be developed as part of the long-term implementation of the Capacity Development Strategy. Most of these tools will be developed for use by individual systems specifically targeted through the prioritization system, while other tools will be beneficial in building capacity in water systems collectively before they may fall into a deficient or marginal category. Some of these tools are still in the developmental stages, and will be pursued and/or implemented as the need arises or they are completed, to assist public water systems build technical, managerial and financial capacity.

- Voluntary self-assessments for systems categorized as “Marginal” or “Deficient”;
- Expanding operator certification requirements to apply to all noncommunity water systems and to community water systems where certification requirements were previously waived;
- Provide opportunities for mentoring;
- Require systems to have organizational charts;
- Require systems to prepare Operations Plans much as new systems must now do;
- Require all systems to have Contingency Plans, including those systems now exempt (systems serving less than 200 people or less than 50 service connections, or licensed facilities such as mobile home parks);
- Require all community public water systems to have standby power, not just systems serving more than 200 people or more than 50 service connections;
- Encourage systems to join professional organizations such as AWWA, MRWA, etc.;
- Establish a Coalition or Team of technical assistance providers to refer systems in need of capacity assistance, which may consist of the following organizations:
 - DWRPD
 - Environmental Assistance Division, MDEQ, as administrators of the Drinking Water State Revolving Loan Fund;

- Environmental Assistance Division, MDEQ, as managers of the operator certification and training program;
- Michigan Section, American Water Works Association;
- Michigan Rural Water Association;
- United States Department of Agriculture (USDA) Rural Development;
- Rural Community Assistance Program (RCAP);

This team could then provide capacity assistance in their areas of expertise beyond those activities already listed, including but not limited to the following:

- Develop training in accounting and bookkeeping, including a possible bookkeeping manual for small utilities;
- Provide assistance in financial planning and capital improvement planning, similar to the assistance provided to new systems;
- Help systems set up accounts in books;
- Provide management training on water system responsibilities, particularly financial issues;
- Provide training on cash flow and budgeting; and
- Assist systems in setting up metering or separate billing to create an account for revenues generated by the water system.

Identify the Factors that Encourage or Impair Capacity Development

The SDWA Amendments of 1996 require each state to identify the factors that either encourage or impair the TFM capacity of public water systems. States are required to identify institutional, regulatory, financial, tax, and legal factors. The factors operating at the Federal, State and local level that impair or enhance capacity are presented in this section. They are:

- Institutional – Intergovernmental, cultural, procedural or relationship issues that either enhance or impair the ability of the water systems to acquire and/or maintain TFM capabilities.
- Regulatory – Federal, State or local rules and regulations that affect TFM capacity.
- Financial – Financial practices, policies or conditions that affect TFM capacity.
- Tax – Federal, State or local taxation practices, policies or attitudes that affect TFM capacity.
- Legal – Federal, State or local statutes, interpretations of laws and court decisions that affect TFM capacity.

These factors were drawn from the experience gained by the MDEQ staff administering the drinking water program for many years, as well as the knowledge of other states.

Federal Enhancements to TFM Capacity

Institutional Enhancements:

- US EPA funding to States for the Public Water Supply program and to other technical assistance organizations such as Rural Water Association provides support for building TFM capacity at the water system level.

Regulatory Enhancements:

- The federal SDWA has provided a statutory and regulatory basis for what States and local water systems must do at a minimum to provide safe drinking water.
- The amount of research and the commitment by EPA to work with States and the regulated community through Technical Advisory Workgroups when establishing national drinking water standards is an enhancement to TFM capacity.
- Regulations are developed in a manner that should assist systems in prioritizing issues that need to be addressed in providing safe drinking water to the public.

Financial Enhancements:

- Continued funding of the Public Water Supply Grant for State programs is an important enhancement to creating State capacity for TFM programs.
- The Drinking Water State Revolving Fund set-asides that may be used for capacity development programs and technical assistance activities are enhancements to capacity building
- Low interest loans through the Drinking Water State Revolving Fund for capital improvements can assist in building capacity of an existing system.

Federal Impairments to TFM Capacity

Institutional Impairments:

- US EPA's headquarters is considered to be more removed from and less willing to provide the flexibility necessary for the MDEQ to implement the regulations as best suits Michigan's water systems. Headquarters does not appreciate the significant variations that States have in program priorities and responsibilities.
- Occasionally, EPA headquarters and the regional office differ on programmatic interpretations, creating confusion for the State and regulated community.
- Although US EPA has primary responsibility for assisting States in protecting public health by providing safe drinking water, there is a lack of coordination between other federal agencies that have some responsibility for participating in the mission of providing safe water (USDA-RD, US Army Corps of Engineers, HUD).
- Federal performance measures drive State program operations – focus should be on outcome, not process.

Regulatory Impairments:

- Although progress has been made in developing drinking water regulations that are cost effective, more work needs to be done in the area of providing the basis for the standards that are being promulgated, particularly in the area of establishing cost-benefit analysis. Too often, it appears that US EPA may be underestimating costs and overstating benefits when establishing new drinking water standards.
- Rules and regulations are promulgated by US EPA without complete consideration of the ability of States and water systems to ultimately implement them. US EPA Rule Managers often consider the rule for which they are responsible to be more important than any other, and the cumulative impact on State programs and local water systems is overwhelming.

- US EPA too often considers the States to be a member of the regulated community instead of a partner in the process of ensuring safe drinking water for the public. If the US EPA is going to grant primacy to the State, then they should be more trusting of the State's ability to implement the program. US EPA should focus more on the outcome, and leave the details of the process to ensure compliance up to the State
- The necessary, extended time periods between a proposal for and adoption of drinking water standards and rules can cause problems for States and local water systems. The process will often generate awareness of a pending standard, like arsenic, but will not necessarily provide information on how to deal with the interim period before the system has to be in compliance even though the public will be aware of the health risk.
- Increased number of federal regulations and continuous changes in regulations and rules create difficulties for both State regulators and regulated systems.
- The complexity of recent regulations requires significant resources at the State and local water systems to interpret and implement them.

Financial Impairments:

- The procedural requirements of the DWSRF are impairments to TFM capacity building. Systems will only consider the DWSRF as a funding source after easier financial services are explored.
- The lack of coordination between financing programs for drinking water systems by the federal government is an impairment to capacity building efforts.
- The current funding levels requested by US EPA and approved by Congress are clearly inadequate to meet the funding needs for capital improvements identified in the US EPA drinking water needs survey. Both grant and DWSRF loan programs should be enhanced to remove this financial impairment to building capacity.
- Not since 1976 has the US EPA increased its Public Water Supply Supervision grant to keep pace with the state's expanded responsibilities under the SDWA.

State Enhancements to TFM Capacity

Institutional Enhancements:

- The training sponsored jointly by the Michigan Section, AWWA and the MDEQ provides for enhanced capacity by providing well trained, knowledgeable operators.
- The joint administration of the DWSRF between the MDEQ and the Michigan Municipal Bond Authority enhances, ensures and/or builds financial capacity.

Regulatory Enhancements:

- The State has had a program for supervision and oversight of public water systems since 1913, which has historically included a technical assistance component as one of its strongest elements. Onsite surveillance, well site approval, plan review, operation report review, sanitary surveys and monitoring of community water systems have been performed routinely for years.
- Michigan has a strong operator certification program that has included requirements for certified operators in charge of distribution systems, shifts at surface water

treatment plants and treatment for public health purposes at noncommunity water systems. The program has also included requirements for continuing education.

- The State has developed a monitoring waiver program authorized by the 1986 Amendments to the federal SDWA, resulting in significant cost savings for public water systems.
- MDEQ has an active Source Water Protection Program represented by the Wellhead Protection Program promoted through the use of matching grants. A Source Water Assessment Program is being implemented for noncommunity water systems and community systems that have not voluntarily participated in the wellhead protection program. Surface water systems are also being addressed in this Source Water Assessment Program.
- MDEQ has additional requirements imposed upon privately owned community water systems such as apartments, condominiums and subdivisions, where governmental ownership and operation is not possible. Such systems must enter into a formal agreement with MDEQ stipulating the manner in which the system will be designed, constructed and operated before a construction permit is issued.

Financial Enhancements:

- The ability of private systems to qualify for DWSRF funding. MDEQ, in conjunction with the Michigan Municipal Bond Authority and US EPA, developed an innovative means to fund privately owned water systems under the DWSRF program.
- MDEQ's drinking water program receives revenues from State-imposed yearly fees paid by regulated water systems. These fees supplement the State appropriation for program activities.

Tax Enhancements

- Tax exempt bonds are available to fund infrastructure projects in municipalities.
- Exemption of state sales taxes for purchasing materials and exemption of property taxation for publicly owned water systems.

State Impairments to TFM Capacity

Institutional Impairments:

- Lack of overall resources to meet the demand for technical support from local water systems.
- The prevalence of small systems in certain regions of the state, particularly northern Michigan.

Regulatory Impairments:

- Michigan has over 11,000 noncommunity public water systems and approximately 1800 of these systems are nontransient. Small systems (both community and noncommunity) face numerous and significant challenges in providing safe, reliable and abundant drinking water.
- As a result of increasing federal regulations, more and more state resources are being spent on regulatory enforcement rather than the historical role of technical assistance that can build and strengthen TFM capacity.

- Lack of Public Service Commission oversight of public water systems in Michigan is a major impairment to building and maintaining capacity. There is no PSC oversight of water system revenues or rate hikes, as in many other states.
- Impending regulations for arsenic and radionuclides will likely result in significant numbers of systems having to treat their water supply for removal of these substances. However, disposal of the concentrated waste stream will not be easy or inexpensive. Depending upon the ultimate disposal of this waste stream, other regulatory programs within the MDEQ (Waste Management Division, Surface Water Quality Division, Air Quality Division) will have to be consulted and approve of the treatment system/disposal alternatives.
- Michigan has no incentives to encourage or require regional water supply planning. Political entities have historically mistrusted each other's motives, resulting in less than optimal sharing of resources between neighboring water systems.
- The lack of oversight and inconsistent application of design standards in the past have resulted in the installation of sub-optimal water systems, particularly for non-municipal water systems serving apartment complexes, subdivisions, mobile home parks and nursing homes.
- The incorrect classification of privately owned systems by local health department staff can lead to installation of public water systems that do not provide adequate TFM capacity as required.
- The cost and complexity of state regulations, especially for small community and noncommunity systems.

Financial Impairments:

- No uniform governmental accounting required for privately owned systems. Financial management standards and requirements are needed, such as periodic audits.
- DWSRF audit requirements by the bondholders are a disincentive to potential applicants.
- The perception that there is inadequate funding for sufficient resources to allow more frequent onsite visits by district office staff.

Legal Impairments:

- The increasing use of lawsuits to get states to enforce drinking water regulations.
- The inability of the DWSRF to be used to accommodate growth limits the consolidation of nonviable water systems.
- Some municipal entities will not extend municipal water service without annexation, which also prevents consolidation and eliminates economically feasible solutions from being implemented.

Local Enhancements to TFM Capacity

Institutional Enhancements:

- The regional and statewide meetings of various stakeholder groups (AWWA, MRWA, Michigan Municipal League, Michigan Townships Association, etc.) provide excellent opportunities for TFM capacity building. The Michigan Section AWWA

mentoring program is a prime example of a program that developed from these stakeholder groups that enhances capacity through sharing of operator knowledge and expertise.

- Funding for program activities that provide training and education of employees (non-regulatory programs such as safety, maintenance, etc.) are enhancements to capacity.
- Consumer Confidence Reports that provide greater public awareness of the public water system can only assist in building capacity by educating the public about the water system needs.

Regulatory Enhancements:

- Local ordinances that provide the water system with the authority and responsibility to conduct cross connection control programs enhance capacity.
- Local regulations that allow water service to be terminated for nonpayment prevent a water system from having insufficient revenues to cover system expenses.
- When a local water system is selected to participate in the US EPA Needs Survey, they must identify long-term needs, allowing for a capital improvements plan to be more easily developed.

Financial Enhancements:

- Municipal governments and utility board members appointed by elected officials have the authority to initiate financing for capital projects.

Local Impairments to TFM Capacity

Institutional Impairments:

- Lack of public awareness of the costs of water production, treatment and distribution. Often, the public (as well as the governing body) is unaware of the true cost of producing safe water. Frequently, the bill is combined with wastewater, or the rate is set politically and not reflective of the actual cost of service.
- Smaller systems face greater challenges in maintaining adequate TFM capacity because they lack the economy of scale and resources available to larger systems.
- Small systems often do not possess the resources to maintain a professional staff having access to necessary funding. Without these critical elements, there is no commitment to long-term viability, which is best demonstrated by implementation of an on-going capital improvements program.

Regulatory Impairments:

- There are no controls or requirements for long range planning of water service needs in order to prevent the establishment of multiple, new small systems in areas where existing systems may better serve the needs through expansion and consolidation.
- Most local water systems, particularly small and medium systems, lack the expertise to interpret and implement new regulations and requirements.

- Many small water systems are not in the utility business, but are public water suppliers nonetheless, such as mobile home parks, apartments, noncommunity systems, etc.
- Many systems do not establish or follow standard operating procedures for the water system.
- Specific geological conditions will create regulatory compliance problems for local public water systems in certain regions because of elevated contaminant levels (arsenic, radionuclides, etc.).

Financial Impairments:

- There is a lack of funding mechanisms for small systems, especially those systems not in the utility business. Financing small, low-cost projects is not available.
- Economies of scale are not available for most small systems.
- Lack of professional staff familiar with water system financing results in underestimating system revenue needs until a financial crisis arises. Customer pressures to avoid cost increases prevents public water systems from keeping up with operating expenses, maintaining adequate reserve funds and properly investing in capital facilities.
- There is no required training for financial managers of water systems. Such training could provide knowledge in the area of financial resource management, assisting in capacity building efforts.

Legal Impairments:

- Land use planning and zoning is at local discretion. Regional cooperation in these areas could lead to more efficient expansion of water systems to foster consolidation and avoid proliferation of small, nonviable systems.

As part of MDEQ's long term approach to capacity development, we will continue to use the tools that encourage capacity and reduce or eliminate the factors that hinder systems from obtaining adequate capacity. The long-term strategy will identify the factors to focus on for improvement, propose solutions or methods to mitigate the problems, and direct the appropriate resources to improve or eliminate the factors that impair capacity.

Historically, Michigan has played an active role in stakeholders meetings at the national level and in the Federal rule making process. Since the inception of the federal SDWA, we have expressed our position through whatever means available. This involvement continues today, with state representation on the Ground Water Rule Advisory Group, the Needs Survey Workgroup, the Microbial/Disinfection Byproducts Workgroup, and others. In addition, Michigan has been a leader in the development of the Association of State Drinking Water Administrators, ASDWA, and its positions with regard to proposed legislation. We have also maintained a significant presence in the Michigan Section of the American Water Works Association.

Describe the Methods the State Will Use to Implement the Strategy

There are various authorities, resources, and methods that the DWRPD of MDEQ is currently using to assist public water systems in complying with state and federal regulations, to encourage partnerships between public water systems, and to assist public water supplies in the training and certification of operators.

In April of 1998, the Michigan Safe Drinking Water Act was amended. Among the changes made to the Act were several amendments to facilitate the implementation of a Capacity Development Program, including the following definitions and rules:

- From **Part 325.1002 Definitions.**
Sec. 2. As used in this act:
(b) Capacity Assessment – means an evaluation of the technical, financial, and managerial capability of a community supply or nontransient noncommunity water supply to comply and maintain compliance with all requirements of this act and the rules promulgated under this act.

- From **Part 325.1003 Power and control over public water supplies and supplier of water; inspection of waterworks system.**
Sec. 3b (1) The department may do 1 or more of the following:
(a) Conduct a capacity assessment at a community supply, a nontransient noncommunity water supply, or a public water supply applying to the department for assistance under part 54 of the natural resources and environmental protection act, 1994 PA 451, MCL 324.5401 to 324.5418.
(b) Conduct a source water assessment at a public water supply.
(c) Enter the facilities and business office used in the operation of a public water supply.
(2) Public water supplies shall make available to the department records needed to conduct a capacity assessment or source water assessment. The department may request information in writing or during on-site visits to conduct capacity assessments or source water assessments.

- From **Part 325.1004 Filing plans and specifications of waterworks system; general plan of waterworks system; evaluation of proposed system; return or rejection of plans and specifications; plans and specifications for improvements; permit for construction; violation; permit as condition of expenditures.**
Sec. 4. (4) The department may deny a permit for construction of a waterworks system or an alteration, addition, or improvement to a water works system if the most recent capacity assessment shows that the waterworks system does not have adequate technical, financial, or managerial capacity to meet the requirements of this act and the rules promulgated under this act, and the deficiencies identified in that capacity assessment remain uncorrected unless the proposed construction will remedy the deficiencies.

With this authority, the DWRPD has the ability to request information and make on-site visits for the purposes of performing capacity assessments. We also have the authority to deny a construction permit for any alteration, addition or improvement to a waterworks system that has not demonstrated adequate TFM capacity if the proposed construction will not correct the deficiencies. In addition to this authority, the MDEQ is in the process of developing rules that will require a “back-up” certified operator for both treatment and distribution operation to be available in systems serving more than 4000 people.

Monetary resources available to implement the capacity development strategy are provided through a number of avenues, including the Public Water Supply Supervision Grant and the State of Michigan appropriation to support the program. In addition, Michigan's public water supplies pay an annual fee to support the efforts of the state to maintain primacy. However, much of the resources that will be brought into this program originate with the Drinking Water State Revolving Fund. Resources that will be used include:

- Low-interest loans to public water supplies to fund infrastructure improvements;
- Set-aside funds that will be used to provide the following services:
 - Additional field staff for conducting the program activities that are expected to be faced with increasing workloads generated by the capacity development efforts;
 - Contracting for technical assistance focussing on assistance to small water systems
 - Increasing operator training and certification program activities as the certification program is expanded to cover nontransient noncommunity systems and the small, nonmunicipal systems without treatment for public health purposes;
 - Source Water Assessment and Source Water Protection activities, including matching grants for Wellhead Protection Programs; and
 - Planning assistance for small communities that are applying for DWSRF loans.

Additional resources and methods that will be used to aid in the implementation of Michigan's capacity development strategy for existing systems include:

- Continue to provide and improve DWRPD program activities that have historically been performed that enhance the technical capacity of public water supplies. These activities include:
 - surveillance visits to provide technical assistance in operational matters such as cross connection control, chemical treatment, system operation & maintenance;
 - conducting sanitary surveys;
 - assisting with emergency response activities;
 - plan review and approval;
 - providing reminder letters for compliance activities; and
 - providing updates on upcoming rules and regulations.
- Continue to coordinate training activities with the Environmental Assistance Division, the Michigan Section, AWWA and other technical assistance providers, such as the Michigan Rural Water Association, Bay de Noc Community College and Delta Community College (who run two-year programs for water & wastewater operation), and the Michigan Plumbers and Mechanical Contractors Association (who conduct the cross connection training for inspectors and plumbers);
- Establish a web site to educate and answer questions regarding the capacity development program in Michigan;
- Develop or modify a self assessment form for use by systems identified as needing capacity assistance;
- Possibly develop new rules that will encourage capacity development among public water supplies and assist in the implementation of this strategy, such as:
 - Requiring ownership of community public water supplies to be clearly identified and having the legal standing to carry out the responsibilities of a public water supply;

- Requiring standby power (or other means of reliability), contingency plans, and reliability studies of systems currently exempted from these requirements (systems serving less than 200 people or less than 50 service connections);
- Requiring Operation Plans from systems identified as having difficulty providing adequate capacity;
- Requiring systems to initiate review of financial data and prepare a Budget Plan when systems are determined to have inadequate financial capacity; and
- Requiring training for system managers and board members.

To encourage partnerships among water systems, Michigan will draw on the previously mentioned tools available and methods used to develop capacity. Specifically, encouraging operators to join professional organizations, such as the Michigan Section AWWA, provides an opportunity to network with operators during regional meetings and training conferences. Organization members may also use mentoring services such as AWWA's program that matches more experienced operators with less experienced operators. Newsletters of professional organizations provide a wealth of information and resources for operators and utility administrators. Sharing newsletters provides a resource to water systems with similar concerns or solutions to capacity challenges.

Baseline Measures for Success of Capacity Development Program

The internal stakeholders have discussed various factors that may be used as potential baseline measures to determine the effectiveness of the Capacity Development Program overall. It is possible that some areas may improve over time, while others may worsen, particularly as new rules and regulations are promulgated and put into effect. For example, new certification requirements may increase the number of violations initially, but ultimately, improve capacity building efforts in many systems. On the other hand, new regulations for arsenic and radionuclides/radon could result in an increase in MCL violations that appear to indicate a diminishing of the capacity of Michigan water systems. For this reason, numerous factors may have to be used in order to provide a clear picture of the overall program efforts. These factors include, but are not limited to:

- Compliance data, including the number of violations for monitoring and reporting, maximum contaminant levels, action levels, or treatment techniques;
- The number of Sanitary Surveys and evaluations performed;
- The number of evaluations that improve from one evaluation to the next, i.e., Deficient or Marginal ratings improved to Marginal or Satisfactory;
- The number of systems that complete a self assessment for capacity each year;
- Operator certification information such as the number of systems without a properly certified operator in charge of treatment, of an operating shift, or of a distribution system, where such certification is required;
- Operator certification information on the increasing (or decreasing) number of continuing education units obtained by certified operators;

- Information from operator training and professional affiliations to determine the number (or percent of the whole) of systems with professional affiliations and types of training provided;
- Monthly Operation Report information to determine the percentage of systems that are turning in these reports, and whether these reports are complete and accurate;
- Compliance data to determine how many systems have submitted their consumer confidence reports (community water systems);
- The number of Public Notifications for MCL and monitoring/reporting violations that are sent out annually;
- Enforcement information to determine the number of actions initiated against public water systems for financial, managerial, or technical problems;
- Using Ground Water Section data to determine how many systems have completed or are actively pursuing an approved wellhead protection program, source water protection plan, or source water assessment.

There are other potential baseline measures that may be possible to use if the data is readily available. These measures include, but are not limited to:

- The number of systems with emergency contingency plans;
- The number of systems with acceptable standby power or other means of reliability;
- The number of systems with Reliability Studies and General Plans;
- The number or percentage of systems with cross connection control programs

Summary

The Drinking Water and Radiological Protection Division of MDEQ has solicited public comment on the elements required in developing a capacity development strategy for existing public water systems. Because Michigan has conducted surveillance visits and performed evaluations at community public water supplies for many years, external and internal customers recognized this process as the logical basis for identifying and prioritizing systems in need of TMF capacity assistance. These same customers identified several factors that either encourage or impair the implementation of a capacity development strategy. With this information in mind, the strategy was developed to incorporate some of the enhancements into the capacity development program while avoiding those factors that may inhibit or impair the strategy. This strategy also identifies the authority and resources of the Safe Drinking Water Act that can be used to assist in implementation. The strategy also encourages and promotes partnerships in resolving TMF deficiencies identified in this process. Finally, several baseline factors have been identified to measure the effectiveness of the strategy.

From this point, it is essential that the DWRPD implement this strategy by blending it into the existing program of technical assistance and public water supply supervision. In particular, it will be necessary to insert the capacity assistance component into the water system evaluation process to facilitate capacity building efforts before violations occur and enforcement becomes necessary. As this capacity development program is implemented, it is likely that some of the fundamentals in this strategy will be easily applied or accomplished, while others may not work as well as originally anticipated. For this reason, it must be realized that this strategy is

adaptable, allowing for adjustments and modifications as experience dictates.

As discussed in the Introduction to this document, the Noncommunity Public Water Supply Program in Michigan is unique. The implementation of this program is performed primarily by local health agencies covering more than 11,000 noncommunity public water systems statewide. As a result, a separate strategy is necessary for the NCWS, using the program activities performed by local health departments to provide technical, managerial and financial capacity assistance. This strategy is described in the next section.

Capacity Assessments for Existing Noncommunity Systems

Methods or criteria used to identify and prioritize systems.

Michigan employs a comprehensive program in conjunction with local health departments to provide regulatory oversight and technical assistance to noncommunity water systems. These activities include: sanitary survey inspections, source water assessments, cross connection control inspections, permitting for new or altered noncommunity water systems, water sampling and water quality oversight, certification for operators employing treatment for public health purposes, complaint investigation, water borne disease outbreak investigation, annual fee invoicing and collection, technical assistance, training, and outreach. Consequently we believe state and local regulatory staff are knowledgeable of noncommunity public water systems and their capabilities.

Information from these existing programs will be used to prioritize noncommunity water systems in most need of capacity assistance. MDEQ will prioritize noncommunity systems (NCWS) as follows:

- NCWS with a water borne disease outbreak, or chronic violations of acute maximum contaminant level (MCL) or treatment techniques (TT) violations.
- NCWS's reaching formal hearing status for enforcement of violations of the Safe Drinking Water Act.
- Failure to employ a certified operator for public health treatment
- Significant Noncompliers (SNC's), other than monitoring and reporting violators.
- Systems with other MCL or TT violations.
- Potential SNC's
- Significant uncorrected infrastructure deficiencies i.e. sanitary survey / source water assessment issues.
- Monitoring and Reporting SNC's
- NCWS brought to the informal hearing step in enforcement of violations of the Safe Drinking Water Act.
- Chronic failure to pay annual fees, civil fines, or state laboratory analytical fees.

Factors that encourage or impair capacity development.

Michigan has an established NCWS program and we are already knowledgeable and involved with NCWS in a wide range of activities. This facilitates incorporating appropriate capacity activities into existing services and communication channels. Examples include:

1. Sanitary survey / source water assessments.
2. Construction permit requirements for new or altered existing systems.
3. Operator certification.
4. Monitoring oversight
5. State and local training and outreach (brochures, newsletters, web sites, and training workshops).
6. Special 3rd party technical assistance contract.
7. Network with NCWS Association and large owner groups (federal, state, and local government)
8. Cooperation from state licensing agencies such as food service, liquor control, child care, campground, migrant labor camps, medical facilities, plumbing and water supply contractors, etc.

Factors that impair capacity of NCWS.

1. Lack of awareness, NCWS generally are a business, or non-profit entity engaged in a product or service. Owners do not see themselves as supplying water to the public. It is a constant educational process that often involves enforcement to ultimately drive the message home.
2. The large number of NCWS in Michigan (11,000) greatly impair the states ability to communicate effectively as does the extreme diversity of the size and types of facilities. We estimate there is a 10% turnover rate per year in ownership or responsible charge.
3. The complexity of regulations is a very significant impairment for NCWS. Typically federal rules are written to address the technical and operational problems of community water systems and not noncommunity systems. This leads to a variety of federal rules that do not directly address noncommunity problems and divert resources for state efforts that are more beneficial.
4. Lack of resources. Seventy seven percent of the NCWS in Michigan serve less than 100 persons per day. The very small systems have very limited financial resources and virtually

no managerial or technical resources relative to supplying water to the public.

How the state will assist NCWS in complying with drinking water regulations, encourage partnerships between systems, and assist with training and certification of operators.

Michigan will utilize its existing programs and delivery of services using state staff, local health departments, and third party contractors to assist NCWS to comply with regulations. The activities are summarized as follows:

1. Sanitary Survey Inspections – Each supply is required to be surveyed every five years. The survey will identify systems and operational deficiencies. A written report is provided to the owner and any corrective actions are identified and a follow-up inspection is required. The report also identifies monitoring requirements and a contact for additional technical assistance. The sanitary survey is a primary means to insure systems are constructed and operated in a manner protective of public health. It is also an opportunity for personal consultation/outreach with the owner to explain their responsibilities as a supplier of water and answer questions.
2. Source Water Assessments – This is an onsite activity focusing on identifying water systems that may be especially susceptible to contamination and practices the owner can initiate to minimize that risk. Michigan intends to complete an assessment in conjunction with the sanitary survey and continue to educate the owner on source water protection.
3. Cross Connection Control Inspections – Cross connection control inspection and operator education is a part of each sanitary survey. Michigan provides classroom training, manuals, and handouts that operators are encouraged to use.
4. Permitting Plan Review – All new or altered noncommunity water systems are required to submit plans and obtain a permit from the local health department prior to construction. This not only provides a means to insure the systems is properly located and constructed, it affords an opportunity to educate the applicant on the operational and monitoring requirements and establishes a local contact for further technical assistance.
5. Water Sampling / Water Quality Oversight – Local health departments are contracted by DEQ to insure systems comply with monitoring requirements and drinking water standards. Local health departments notify systems of monitoring requirements and track compliance. Prior to sampling deadlines, most agencies send reminder notices, or make personal contact to encourage sampling. Local agencies also provide for fee sampling services or refer owners to private contractors.
6. Certification for Operators – Michigan requires certification and training of operators of any noncommunity system that treats for public health purposes. This provides a means to insure treatment is properly applied and to offer ongoing outreach and training. New requirements for training and certification of operators for all 1,800 nontransient

noncommunity supplies will facilitate compliance for those systems.

7. Civil Fines – Enforcement through the issuance of civil fines is provided for in the Michigan statute. Owners that fail to collect or report samples or exceed drinking water standards are subject to monetary fine as well as additional enforcement.
8. Complaint Investigation / Water Borne Disease Outbreak Investigation – Local health departments are utilized for complaint investigation and are equipped and trained to conduct disease outbreak investigations.
9. Annual Fee Invoicing / Collection – all noncommunity water systems are invoiced annually. This not only establishes a consistent funding source for the noncommunity program, it provides an additional opportunity to communicate and provide program information to all 11,000 supply owners. This billing also helps maintain inventory accuracy relative to current owners, addresses, and facility status.
10. Training and Outreach – DEQ and Local health department staff provide periodic training and outreach opportunities for suppliers. This outreach is done through district meetings, mailings, newsletters, and Internet access. We are encouraging the use of contingency plans created for Capacity Development to be expanded to all noncommunity systems.
11. Consumer Confidence Reports – Michigan requires certain nontransient noncommunity systems (schools) to issue CCR's. This raises the awareness level of the owners and the customers and promotes compliance with the Safe Drinking Water Act.
12. Technical Assistance Contracts / Set Asides – A third party contractor is engaged in a four year project to provide onsite technical assistance for nontransient noncommunity water systems, and training workshops, and public outreach for all noncommunity systems. The use of set-aside funds has allowed DEQ to expand outreach to supply owners in a non-threatening format and provide them with compliance training and operational guidance.
13. Association Outreach - Partnerships with NCWS can be encouraged by educational efforts directed at organizations or associations that represent systems that share a common purpose. DEQ contributes to various noncommunity association conferences and newsletters for schools, campgrounds, food service facilities, golf courses, childcare centers, etc.
14. Annual Local Health Department Evaluations – An annual noncommunity program evaluation is conducted for all local health departments in accordance with our contract with them. Performance measurements include the rate of compliance of noncommunity supplies in each local agency jurisdiction. We encourage and promote the practices of local agencies with high compliance rates and assist, monitor, and recommend changes for those local agencies with poor compliance rates. Contracts can be terminated for failure to perform satisfactorily i.e. enforce the safe Drinking Water Act to obtain compliance.

How the state will establish a baseline and measure improvements.

Our current system tracks violation rates for systems statewide and by local health jurisdiction. We routinely assess compliance rates with monitoring and reporting, maximum contaminant level violations, and with sanitary surveys. We review violation data quarterly. In addition to the annual compliance reports, we formally evaluate local health department noncommunity program performance annually, based in part on compliance rates of the NCWS in their jurisdiction. This system will serve as the basis for measuring improvement.

How the state will identify interested persons

Representatives of NCWS associations and owners groups were invited to attend the stakeholder group and participate in the process. However, a problem with noncommunity water systems is there are few state or national organizations that represent any significant number of NCWS. Most of the systems are not affiliated with any group or trade association, and when they are being represented, usually only a very small subset are considered “public water supplies” under state and federal definitions, so it is not an important issue with the group as a whole. We will continue to work to overcome this communication obstacle. One means is improving our web site to enable ready access to NCWS systems owners for pertinent information. This could include a means to identify and encourage individuals to participate in capacity decision making.

GLOSSARY OF TERMS

Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

AWWA - American Water Works Association

Boil Advisory – Procedure where a local or state health agency or a public water system issues an advisory that the water may not meet bacteriological standards and that water should be boiled for disinfection purposes.

Budget Plan – A plan that includes a summary of expected annual revenue sources, an accounting of anticipated and planned expenses, administrative costs, capital replacement costs and a description of the method of payment for the operation and maintenance of the water system.

Capacity Assessment – An evaluation of the technical, financial, and managerial capability of a public water supply to comply and maintain compliance with all requirements of the SDWA.

Community Water Supply (System) – A public water supply that provides year-round service to not fewer than fifteen (15) living units or which regularly provides year-round service to not fewer than twenty-five (25) residents.

Contingency Plan – A plan for use by a supplier of water in the event of an emergency.

Cross Connection – A connection or arrangement of piping or appurtenances through which a backflow could occur.

Drinking Water State Revolving Loan Fund (DWSRF) – A program to provide money for loans and other financial assistance.

DWRPD – Drinking Water and Radiological Protection Division of MDEQ.

Emergency – A situation in a public water supply that results in contamination, loss of pressure, lack of adequate supply of water, or other condition that poses an imminent hazard or danger to the public health.

Financial Capacity – The ability of a public water supply system to acquire and manage sufficient financial resources to allow the system to achieve and maintain compliance with state and federal drinking water regulations.

Field Operations Section – The staff of the DWRPD primarily located in eight district offices throughout Michigan that conduct the Community Public Water Supply program.

General Plans – A plan for a waterworks system to include as a minimum:

- a) The general layout of the entire waterworks system, including treatment systems and distribution systems, and the location of valves, hydrants, storage tanks, watermains, and their size, pumps, wells, and pumping systems.
- b) An identification of locations in the distribution system where the pressure may be less than 20 psi during peak flow.
- c) An identification of the entire area served or proposed to be served by the public water supply.
- d) Rated capacity of the waterworks system, including capacity of the developed water source, treatment system, storage tanks, pumping facilities, and equipment to maintain system reliability.
- e) Other optional information, including the number of service connections, fire fighting capabilities, standby power, location of sampling stations, a description of metering, etc.

Managerial Capacity – The ability of a public water supply system to conduct its affairs in a manner enabling the system to achieve and maintain compliance with 327 IAC.

Maximum Contaminant Level (MCL) – The maximum permissible level of a contaminant in water which is delivered to any user of a public water supply.

Maximum Contaminant Level Goal (MCLG) - The maximum level of a contaminant in drinking water at which no known or anticipated adverse effect on the health of persons would occur and which includes an adequate margin of safety. Maximum contaminant level goals are nonenforceable health goals. The level of a contaminant below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MDEQ – Michigan Department of Environmental Quality

MRWA – Michigan Rural Water Association

MSDWA – Michigan Safe Drinking Water Act, 1976 PA 399, as amended.

Monitoring Waiver - An elimination of or a reduction in monitoring granted in accordance with Indiana drinking water regulations. Waivers can be granted for asbestos, cyanide, nitrite, glyphosate, PCBs, and dioxin, which eliminate the monitoring requirements during a compliance period. Waivers can be granted for Volatile Organic Compounds (VOCs) and Synthetic Organic Compounds (SOCs) which can reduce the amounts of monitoring required by a public water system.

Noncommunity Water Supply (System) – A public water supply that is not a community supply, but that has not less than 15 service connections of that serves not fewer than 25 individuals on an average daily basis for not less than 60 days per year.

Nontransient Noncommunity Water Supply (System) – A noncommunity public water supply that serves not fewer than 25 of the same individuals on an average daily basis over six (6) months of the year.

Operations Plan – A written document that provides guidance on daily routine and trouble shooting operations as well as information on system maintenance. As a minimum, the Operations Plan shall include a plan for water quality monitoring, a contingency plan, standard operating procedures for water supply components, standard specifications, a cross connection control program, a plan for ongoing operator training, and customer complaint response procedures. Other information that may be included are a General Plan of the system, a safety program, recordkeeping procedures, a metering policy, and copies of any leases, easements or other policies, ordinances or rules.

Plans and Specifications – drawings, data, and a true description or representation of an entire waterworks system, or parts thereof, as it exists or is to be constructed and, in addition, a *statement of how a waterworks system is to be operated*.

Public Water Supply (PWS) – A waterworks system that provides water for drinking or household purposes to persons other than the supplier of water, except for those waterworks systems that supply water to only 1 living unit.

RCAP – Rural Community Assistance Program

Reliability Study – A study to determine the quantity of water supply needed for the waterworks system based upon 10-year projections of water use by the public water supply.

Safe Drinking Water Act – Commonly referred to as SDWA. An Act passed by the U.S. Congress in 1974. The Act establishes a cooperative program among local, state, and federal agencies to insure safe drinking water for consumers. The Act was last amended in 1996.

Sanitary Survey – An evaluation, including an on-site review of a waterworks system, or a portion thereof, for existing or potential health hazards, including sampling, design, operation,

and maintenance, for the purpose of determining the ability of the public water supply to produce, treat, and distribute adequate quantities of water meeting state drinking water standards.

SNC or Significant Noncomplier – A public water system which has enough violations to be classified as a significant noncomplier by EPA.

Source Water Assessment – A state program to delineate the boundaries of areas in the state from which one or more public water supplies receive supplies of drinking water, to identify contaminants regulated under the MSDWA for which monitoring is required because the state has determined they may present a threat to public health, and, to the extent practical, to determine the susceptibility of the public water supply in the delineated area to these contaminants.

Technical Capacity – The physical and operational ability of a public water supply system to meet the requirements of 327 IAC.

Transient Noncommunity Water System – A noncommunity water system that does not meet the definition of nontransient noncommunity water supply system.

Treatment Technique (TT) – A minimum treatment requirement or a necessary methodology or technology that is employed by a supplier of water for the control of the chemical, physical, biological, or radiological characteristics of the public water supply.

Waterworks System – A system of pipes and structures through which water is obtained and distributed, including but not limited to wells and well structures, intakes and cribs, pumping stations, treatment plants, storage tanks, pipelines and appurtenances, or a combination thereof, actually used or intended for use for the purpose of furnishing water for drinking or household purposes.

Appendix 1: Community Water System Review Form

Appendix 2: Evaluation Criteria