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|  | OFFICE OF DRINKING WATER AND MUNICIPAL ASSISTANCE POLICY AND PROCEDURE | | DEPARTMENT OF ENVIRONMENTAL QUALITY |
| Original Effective Date: October 1, 1999 | Subject: New Systems Capacity Assessment For Community Public Water Systems | | Category: <input type="checkbox"/> Internal/Administrative <input type="checkbox"/> External/Noninterpretive <input checked="" type="checkbox"/> External/Interpretive |
| Revised Date: | Division/Office and Program Names: ODWMA-Public Water System Supervision Program | | |
| Reformatted Date: January 25, 2013 | Number: ODWMA-399-025 | Page: 1 of 9 | |

A Department of Environmental Quality (DEQ) Policy and Procedure cannot establish regulatory requirements for parties outside of the DEQ. This document provides direction to DEQ staff regarding the implementation of rules and laws administered by the DEQ. It is merely explanatory; does not affect the rights of, or procedures and practices available to, the public; and does not have the force and effect of law.

INTRODUCTION, PURPOSE, OR ISSUE:

As a result of the 1996 amendments to the federal Safe Drinking Water Act, the state of Michigan must implement a capacity development program or risk the United States Environmental Protection Agency withholding 20 percent of the Drinking Water Revolving Loan Fund capitalization grant. One of the elements of this program is to ensure that all new community public water systems commencing operation after October 1, 1999, demonstrate technical, financial, and managerial capacity with respect to each national primary drinking water regulation.

The References section of this policy and procedure lists rules, policies, and documents that establish minimum requirements, describe acceptable practices, and/or provide guidance that may be used to develop and assemble the information necessary for the Office of Drinking Water and Municipal Assistance (ODWMA) or its agent to perform a capacity assessment at a community or nontransient noncommunity water supply. A separate policy and procedure exists for conducting capacity assessments on nontransient noncommunity water supplies.

The applicant seeking a construction permit for a proposed community or nontransient noncommunity public water system is responsible to compile the information necessary for the ODWMA or its agent to conduct the capacity assessment. The capacity assessment is a process that may begin with a formal request for a well site inspection or submittal of plans and specifications for a new system, and concludes with a final inspection and written approval to commence operation.

This policy and procedure replaces Policy and Procedures Number DWRP-03-013, New Systems Capacity Assessment for Community Public Water Systems, dated October 1, 1999.

AUTHORITY:

1. Capacity Development Program

Authority for Michigan's capacity development program originates in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended (Act 399), MCL 325.1001 *et seq.* and the administrative rules promulgated thereunder, R 325.10101 *et seq.*

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2. Capacity Assessments

MCL 325.1003b allows the DEQ to conduct capacity assessments. New system capacity assessments are covered in MCL 325.1004(2), which:

- a. Directs the DEQ to evaluate the adequacy of the proposed water supply.
- b. Directs the DEQ to conduct a capacity assessment and determine if the system has technical, financial, and managerial capacity to meet all requirements under Act 399.
- c. Allows the DEQ to return plans and specifications to the applicant if inadequate.
- d. Allows the DEQ to reject plans and specifications if the waterworks system will not satisfactorily provide for the protection of public health.
- e. Allows the DEQ to deny a permit for construction if the capacity assessment shows that the proposed system does not have adequate technical, financial, or managerial capacity to meet the requirements under Act 399.

3. Criteria for Capacity Assessments

MCL 325.1008 directs the DEQ to consider a water supply's unique characteristics when specifying design and operation standards and establishing criteria for capacity assessments.

4. Order the Water Supply to Make Changes

MCL 325.1015 directs the DEQ to inspect a water supply and determine its adequacy to protect public health. If not adequate, the DEQ may order alterations in the waterworks system or its method of operation.

STAKEHOLDER INVOLVEMENT:

Prior to the drafting of this policy and procedure in 1999, meetings were held with internal and external stakeholders to determine how to implement the capacity development program, including how to ensure new systems had technical, managerial, and financial capacity to meet the requirements of Act 399 and protect public health.

DEFINITIONS:

"Capacity assessment" – 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 Act 399 and the rules promulgated under Act 399. See MCL 325.1002 Definitions.

"Capacity plan" – information necessary for the DEQ or its agent to conduct the Capacity Assessment.

"Plans and specifications" – drawings, data, and a true description or representation of an entire waterworks system or parts of the system as it exists or is to be constructed, and a statement on how a waterworks system is to be operated. See MCL 325.1002 Definitions.

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POLICY:

Ensure each new community water supply has technical, managerial, and financial capacity to meet all requirements of Act 399 before it commences operation. To that end, upon receipt of a request for a well site inspection or plans and specifications for a proposed community water supply, do the following:

1. Conduct a capacity assessment by reviewing the capacity plan submitted by or on behalf of the applicant. The capacity plan, as a minimum, consists of the documentation listed in this policy and procedure.
2. Issue the permit to construct only after the capacity plan satisfactorily demonstrates technical, managerial, and financial capacity. However, some items are not practical to develop or review until construction of the waterworks system is nearly complete. This policy and procedure indicates which items must be submitted prior to final on-site inspection instead of with the permit application.
3. Conduct a final on-site inspection of the waterworks facilities to ensure they have been constructed in accordance with the construction permit.
4. Approve the water supply to commence operation after determining that the water supply has technical, managerial, and financial capacity.

The capacity plan, as a minimum, consists of the following:

1. For Technical Capacity

The following are due with the application for a construction permit.

- a. Project summary, planning data, alternatives considered, and reasons for selected alternative.
- b. Analysis of source, including demonstration of compliance with large quantity water withdrawal requirements:
 - i. For a groundwater supply, an aquifer analysis, well construction details, and ownership or acceptable control of the required well isolation area.
 - ii. For a surface water supply, a sanitary survey of the proposed source and a vulnerability assessment.
 - iii. For a purchased supply, documentation of the purchase agreement or contract, including the conditions of service (capacity, pressures, etc.).
- c. Water use projections and basis for projections for initial, 5-year, and 20-year demand, including usage by customer class and water supplied to other public water supplies.
- d. Demonstration of adequate capacity under initial, 5-year, and 20-year projected demand conditions for sources (including contracted), treatment, pumping, storage, and distribution system.

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- e. Technical plans and specifications, basis of design and the materials, methods, and procedures used in construction.
- f. Chemical analyses of the proposed source(s).
- g. Analysis and demonstration of adequate backup power service.

2. For Managerial Capacity

The following are due with the application for a construction permit.

- a. For privately-owned water supplies:
 - i. Resolution from the local government unit indicating their refusal to own or operate the proposed public water supply.
 - ii. Stipulation to conditions ensuring the public water supply will meet the requirements of Act 399.
 - iii. Proof of establishment of escrow fund. This does not apply to licensed facilities.

The following are due prior to final on-site inspection.

- b. Clear description of ownership and its organization.
- c. Designation of a certified operator in responsible charge and plan for continued training.
- d. Sample Site Plan(s)
- e. Emergency Response Plan
- f. Cross Connection Control Program
- g. Operation and Maintenance Procedures
- h. Plan for providing legal doctrines, including plans and/or policies for rate structure and fees, extending water service, shut-off or nonpayment, metering, responsibilities of water supply and of customers, water conservation, and efficiency.
- i. General layout of the system (or as-built drawings) showing locations and capacities of sources, treatment systems, storage facilities, pumping facilities, distribution system (including water main location, size, material, and age; valves; hydrants; pressure district service area boundaries with hydraulic analysis; and service area boundaries at initial, 5-year, and 20-year projections), and backup power systems.
- j. Planning documents, if applicable, such as regional plans, zoning plans, land use plans, and source water protection plans. A capital improvements plan would be appropriate for a new municipal water supply with existing infrastructure. A new municipal water supply with all new infrastructure may fulfill the capital improvements plan requirement in the financial plan showing capital replacement needs for a 5-year planning period.

3. For Financial Capacity

The following is due with the application for a construction permit.

- a. An analysis comparing the development of the proposed, new public water supply to consolidating with an existing, reasonably available public water supply.

The following are due prior to final on-site inspection.

- b. Acknowledgement of the annual fee.
- c. Approval of a Financial Plan demonstrating that revenues will be sufficient to cover expenses, including funding operation and maintenance and capital replacements for a 5-year planning period.

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PROCEDURES:

| WHO | DOES WHAT |
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| District Staff | <p>When an applicant expresses intent to construct a new waterworks system:</p> <ul style="list-style-type: none"> a. Remind the applicant not to begin construction until a construction permit is issued. b. Direct the applicant to submit as soon as possible (but at least 60 days before planning to initiate construction) to the appropriate DEQ district office, a capacity plan consisting of the items in the Policy section, above, with the application for a construction permit. As a minimum, the capacity plan includes sufficient information for a construction permit to be issued. However, certain financial and managerial capacity issues may be submitted prior to the final on-site inspection as indicated in the Policy section. |
| District Staff | <p>Review the capacity plan submittal for completeness. Within 30 days of receiving the capacity plan, either:</p> <ul style="list-style-type: none"> a. Notify the applicant of the modifications or additional information necessary to issue a construction permit and/or initiate the capacity assessment, or b. Initiate the capacity assessment, including review of the plans and specifications. |
| District Staff | <p>Review the technical, managerial, and financial capacity documentation (i.e., items in the Policy section that are needed before issuing a construction permit) and determine whether the applicant will have sufficient capacity to operate a water supply. Within 30 days of receiving the last submittal of acceptable documentation, either:</p> <ul style="list-style-type: none"> a. If the capacity assessment and/or review of plans and specifications show the proposed system to be unacceptable or inadequate, notify the applicant and require additions or modifications, as may be appropriate. Do not issue the construction permit until the capacity assessment, including the review of plans and specifications, is satisfactory. Beginning construction without a construction permit is prohibited, even if more than 30 days is needed to review the capacity plan. b. If the capacity assessment is acceptable, issue the construction permit. |

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| WHO | DOES WHAT |
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| District Staff | <p>Direct the applicant to submit the following as soon as practical but at least 30 days before construction is expected to be completed:</p> <ul style="list-style-type: none"> a. Submit the financial capacity documentation to the ODWMA's Revolving Loan Section staff. b. Submit the remaining managerial documentation to the district staff. |
| Revolving Loan Section Staff | <p>Review the financial plan. If inadequate or unacceptable, notify the applicant of additional information or modifications necessary. Within 30 days of receiving the last submittal of acceptable documentation, either approve or deny the financial plan and notify the applicant and the district staff.</p> |
| District Staff | <p>Review the managerial plan while the Revolving Loan Section staff review the financial plan. If inadequate or unacceptable, notify the applicant of additional information or modifications necessary. Within 30 days of receiving the last submittal of acceptable documentation, determine if the applicant will have sufficient capacity to comply with Act 399.</p> |
| District Staff | <p>Direct the applicant to schedule a final on-site inspection to take place after construction is completed and before commencing operation. Instruct the applicant to arrange for the following to be present at the final on-site inspection: the design engineer, the contractor responsible for construction, the certified operator, and any other representative having some responsibility for managing the proposed waterworks system.</p> <p>Conduct the final on-site inspection. Inspect the waterworks facilities to ensure they have been constructed in accordance with the construction permit.</p> |
| District Staff | <p>If the proposed system has adequate technical, financial, and managerial capacity to comply with the requirements of Act 399, grant approval to commence operation of the new community public water system. Notify the applicant of approval in writing within 30 days after the final onsite inspection or after receiving the last submittal required from the applicant, whichever is later.</p> |
| District Staff | <p>If the capacity assessment demonstrates the system is deficient or inadequate to protect public health, do not grant approval to commence operation until appropriate corrections or additions are made and a satisfactory inspection has documented the modifications are acceptable. If the applicant places the system into operation providing service to 15 or more living units without correcting these deficiencies, initiate enforcement action under Act 399. The water supply is subject to the penalties and provisions of Act 399.</p> |

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REFERENCES:

1. Rules

Rules promulgated under Act 399 address technical and managerial capacity criteria. Specifically, the following Parts of the rules cover items in a capacity assessment.

- a. Part 7 – *Surveillance, Inspection, and Monitoring* establishes monitoring requirements for public water supplies and outlines the oversight responsibilities of the DEQ.
- b. Part 8 – *Groundwater Sources* establishes the procedure for approval of proposed wells, including the requirement for a hydrogeological study. This part also identifies well construction requirements and the necessary well appurtenances for all community water supplies (CWSs).
- c. Part 9 – *Surface Water Sources* establishes requirements for the development of a surface water source, including evaluation criteria and intake design.
- d. Part 10 – *Treatment Systems and Pumping Facilities* establishes the treatment requirements for systems relying upon a surface water or groundwater under the direct influence. It also describes some of the design requirements for pumping stations.
- e. Part 11 – *Distribution Systems and Storage Tanks* establishes requirements for design and installation of water mains and storage tanks.
- f. Part 12 – *Reliability* describes the requirements for maintaining the reliability of public water supplies to assure a continuous supply. Included in this section is the requirement to identify existing and projected system needs on a 5- and 20-year basis, and to propose a method of complying with system capacity requirements. This section also establishes the minimum number of wells, the requirement for standby power, and the procedure for responding to an interruption in service.
- g. Part 13 – *Construction Plans and Specifications and Permits* prescribes requirements of CWSs regarding the submission of plans and specifications or other pertinent information for the construction of a waterworks system. It includes the requirement for an engineering report, basis of design, and a cover letter explaining the plans and specifications.
- h. Part 14 – *Cross-Connections* requires a community water system to develop a cross connection control program.
- i. Part 16 – *General Plans* identifies the items required in a general plan or map of the water system.
- j. Part 17 – *Ownership of Public Water Supplies* identifies the requirements for private ownership of a public water supply to be approved, including the need for a local governmental resolution, a stipulation to conditions, and an escrow fund.
- k. Part 19 – *Examination and Certification of Operators* identifies the certification requirements for operators in charge of water treatment and distribution systems. It includes continuing education requirements to maintain the certification.
- l. Part 23 – *Emergency Response Plans* requires the preparation of a plan for emergency response and requires notification of the DEQ when an emergency affecting public health is discovered.

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2. Guidance Information

Refer to these documents when conducting capacity assessments:

- a. *Recommended Standards For Water Works*, prepared by the Great Lakes-Upper Mississippi River Board of State Sanitary Engineers, may be purchased from the Health Education Services, P.O. Box 7126, Albany, New York 12224, telephone 518-439-7286, or on the Internet at <http://www.hes.org/>.
- b. *The American Water Works Association Manual M19, Emergency Planning for Water Utilities*, may be purchased from the American Water Works Association, 6666 West Quincy Avenue, Denver, Colorado 80235, telephone 1-800-926-7337, or on the Internet at www.awwa.org.
- c. *Suggested Practices for Waterworks Design, Construction and Operation for Type I Public Water Supplies*, prepared by the DEQ and available on the Internet at <http://www.michigan.gov/deqwater>, click on Drinking Water, Community Water Supply.
- d. *Cross Connection Rules Manual*, prepared by the DEQ and available on the Internet at <http://www.michigan.gov/deqwater>, click on Drinking Water, Community Water Supply.

3. Policies and Procedures

Refer to the applicable policies and procedures when conducting capacity assessments, which include, but are not limited to:

- a. Permit requirements for water main construction
- b. Aquifer test requirements for public water supply wells
- c. Requirements for use of high-density polyethylene water main
- d. Grouting of community water supply wells
- e. Community water supply required operations oversight
- f. Turbidity compliance monitoring and determination of compliance with the turbidity treatment technique standard
- g. Lead and Copper Implementation
- h. Design and operational requirements for arsenic removal treatment systems for compliance with the arsenic maximum contaminant level
- i. Classification of public water supplies

4. Other Documents

Forms, templates, explanations of requirements, and other guideline documents are available to distribute to applicants and water supplies to help them comply with Act 399. These include but are not limited to:

- a. New Community Water System Capacity Guideline Document
- b. Monitoring guides and monitoring schedules
- c. Sample site plans
- d. Emergency response plans
- e. Explanation of annual fees
- f. Consumer confidence report examples

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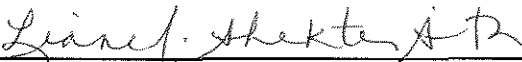
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- g. Reliability study and general plan document contents
- h. Sample escrow agreement, letter of credit, and local unit of government refusal to accept ownership or operation
- i. Stipulate to conditions for private ownership of public water supply
- j. Wellhead protection program guide and nonmunicipal source water protection guide

OFFICE CHIEF APPROVAL:



Liane J. Shekter Smith, P.E., Chief
Office of Drinking Water and Municipal Assistance

1/18/2013
Date

DEPUTY DIRECTOR APPROVAL:



Jim Sygo, Deputy Director

1/25/2013
Date