



Indiana Department of Environmental Management

## Office of Water Quality

# INFORMATION HANDBOOK

**FOR PREPARING A WATER SYSTEM MANAGEMENT PLAN:**

*Requirements for Proposed New Community and  
Nontransient Noncommunity Water Systems*



Indiana Department of Environmental Management

Office of Water Quality  
**Drinking Water Branch**

April 2015



# Indiana Department of Environmental Management

## Information Handbook for Preparing a Water System Management Plan: Requirements for Proposed New Community and Nontransient Noncommunity Water Systems April 2015



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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
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# Information Handbook for Preparing a Water System Management Plan: Requirements for Proposed New Community and Nontransient Noncommunity Water Systems April 2015

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# INTRODUCTION

## IDEM Requirements

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### **All new community and nontransient noncommunity drinking water systems in Indiana are required to submit to the State a Water System Management Plan**

The State of Indiana (Indiana Administrative Code, 327 IAC 8-3.6) requires new community or new nontransient noncommunity public water supply systems to submit a Water System Management Plan (WSMP) demonstrating adequate technical, financial, and managerial capacity to the Indiana Department of Environmental Management (IDEM) for review and approval prior to submitting an application for a construction permit. A copy of this rule can be found in Appendix A. All new public water supply systems, as well as expanded systems that are newly classified as community or nontransient noncommunity systems, that will commence operation after October 1, 1999 must submit a Water System Management Plan to IDEM. This information handbook is designed to guide proposed public water supply owners, operators, and their contractors through the development and submission of the plan.

The Office of Water Quality in IDEM is Indiana's primacy agency and is responsible for implementing federal and state drinking water standards

If you are planning to develop a new community water system or a nontransient noncommunity water system you must submit a Water System Management Plan (WSMP) demonstrating that the proposed system will have adequate technical, financial, and managerial capacity to construct, maintain, and operate a public drinking water system capable of meeting national Safe Drinking Water Act standards. The WSMP is a comprehensive document that water systems should develop and use to make strategic decisions to ensure compliance with all relevant regulations. Preparing a sound WSMP is itself a means of demonstrating capacity. The WSMP should be prepared in accordance with the guidance provided in this Handbook. The WSMP is to be submitted to IDEM prior to the public water supply system's intended submission to IDEM of application for a construction permit. Each plan will be reviewed for completeness and technical accuracy in terms of

hydrogeological, engineering, financial, and other information. Any information that the applicant cannot provide must be identified as not applicable or not available and accompanied by an explanation as to why the information was not provided.

Drinking water systems are defined in terms of the populations they serve

A **public water system** (PWS) means a public water supply for the provision to the public of water for human consumption through pipes or other constructed conveyances, if the system has at least fifteen (15) service connections or regularly serves at least twenty-five (25) individuals at least sixty (60) days of the year. A **community water system** means a public water system that serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents. This may include a subdivision or a mobile home community. A **nontransient noncommunity water system** means a public water system that is not a community water system, which regularly serves the same 25 or more persons at least 6 months of the year. Typical examples of a nontransient noncommunity water system include schools, truck stops, factories, and businesses with more than 25 employees or daycare centers with 25 or more combined children and staff.

## Capacity Development and Planning

The Water System Management Plan is a demonstration of the proposed water supply system's capacity, or capability, which is defined in technical, financial, and managerial terms. Adequate planning for the long term operation of the PWS itself can be a good indicator of capacity.

The 1996 amendments to the SDWA addressed the need for developing the technical, managerial, and financial capacity of new public water supply systems in order to consistently produce water that meets the health standards of the Safe Drinking Water Act. Small water systems, which proliferated in the decades preceding the Act, often face significant challenges in maintaining compliance; historically, many small water systems have experienced failure. The 1996 amendments to the SDWA empowered the Environmental Protection Agency (EPA) to address the problems of small water systems through capacity development strategies. The underlying purpose of these provisions is to prevent violations and noncompliance with essential drinking water standards that are protective of public health. This handbook is designed to assist small water systems in preparing plans that meet these provisions and, by extension, remain in compliance.

Capacity development refers to the ability of a water system to produce and deliver drinking water that meets state and federal health standards. Capacity development consists of three key components: technical capacity, financial capacity, and managerial capacity. Technical capacity refers to the physical and operational ability of a public water supply system to meet state and federal requirements. The physical infrastructure of the water system includes, but is not limited to, the source water adequacy, infrastructure adequacy, and technical knowledge. In other words, does your treatment system work the way it is supposed to? Are you consistently providing water to your customers that meets required standards? Will you be able to do so in the future?

Financial capacity refers to 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 regulations. The financial resources of the water system include, but are not limited to, the revenue sufficiency, credit

worthiness, and fiscal controls. Basically, does your system have a budget and enough revenue to cover operation costs, repairs, and replacements?

Preparing a sound management plan is an important way of demonstrating capacity

Finally, managerial capacity refers to the ability of a public water supply system to conduct its affairs in a manner enabling the system to achieve and maintain compliance with state and federal regulations. The management structure of the water system includes but is not limited to ownership accountability, adequate and qualified staffing and a sound organization. In simpler terms, do you have capable and trained staff? Does your system have an effective management structure?

## What You Need To Know Before Filing a Plan to Create a New Water System

Prior to beginning the process of developing a community water system or a nontransient noncommunity water system, applicants must be aware of and consider several factors, not the least of which is the requirement to prepare a Water Systems Management Plan. The planning process can be time-consuming and costly; most applicants will need to retain outside professional help such as an environmental engineering firm and accountant. You should also consider:

1. **Alternatives.** Alternatives to developing a new community water system or nontransient noncommunity water system may be available, sometimes with technical or economic advantages. Have you explored all your options, such as extension of service from existing public or private systems or purchasing treated water from another system? What are the costs and benefits of the alternatives?
2. **Regulations.** Drinking water service is a very highly regulated business, subject to many federal, state, and local statutes, rules, and ordinances. Have you considered all the regulations that apply to your business? Are you prepared and able to meet these regulations? Are you fully familiar with the requirements of the Safe Drinking Water Act, including treatment, testing, and water-quality reporting?
3. **Costs.** The total cost of water service – supply, treatment, and delivery -- can be very significant. Consider all costs, including labor, energy, chemicals, laboratory testing, regulatory and permit fees, and so on. Have you calculated these costs and compared them with alternatives? Do you have reliable cost estimates and plausible cost projections that consider inflation and uncertainty?
4. **Rates.** For community water systems, the cost of service is normally recovered through rates. Some systems are subject to rate regulation and other forms of economic oversight by the [Indiana Utility Regulatory Commission](#) (IURC) and the [Office of Utility Consumer Counselor](#) (OUCC). Are you prepared to set rates that recover costs? Do you know

whether your system will be regulated by the IURC and able to comply with applicable accounting, financing, and ratemaking requirements?

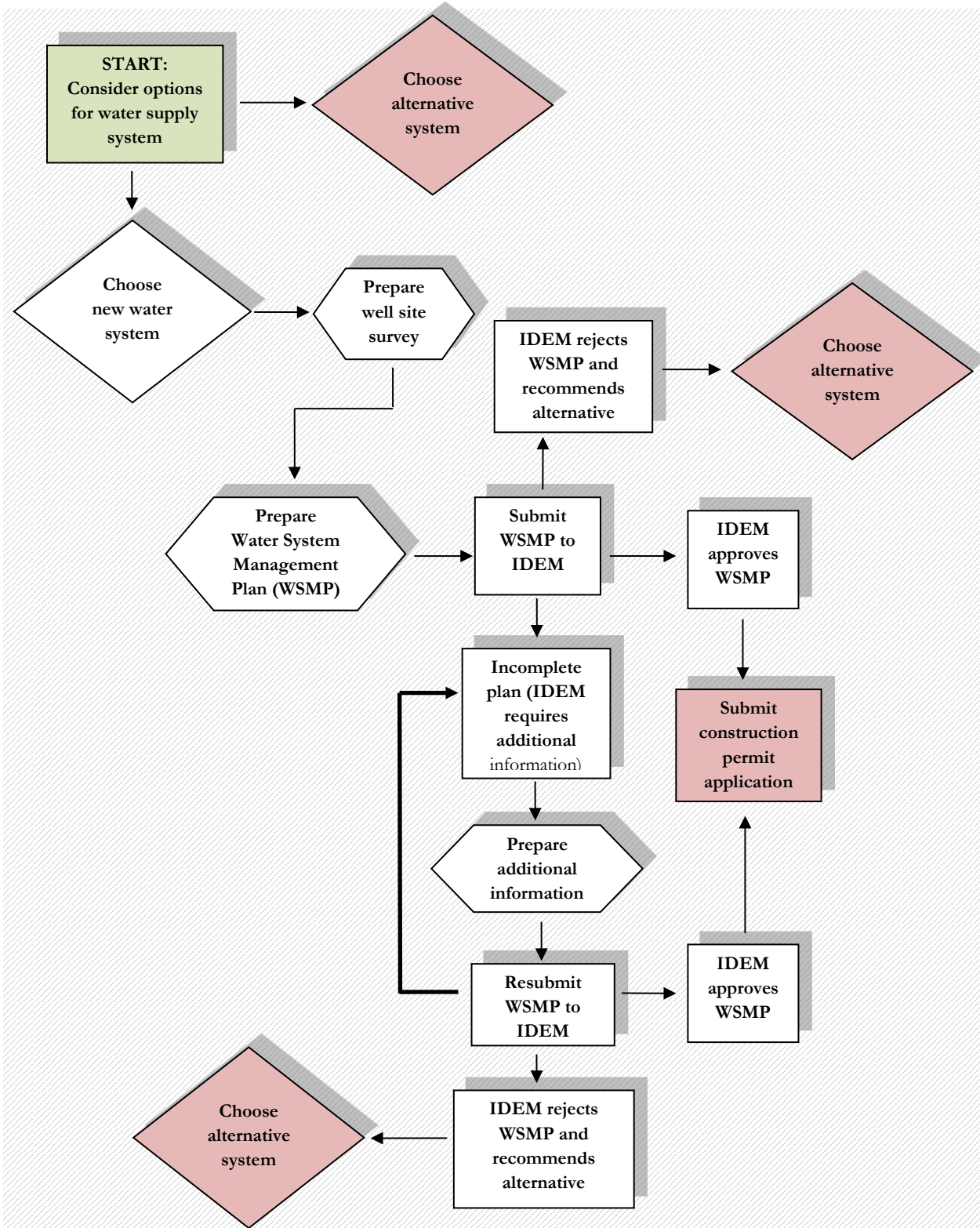
5. **Personnel.** A community water system or a nontransient noncommunity water system requires expert personnel certified by the state. Are you able to provide these personnel, including certified professionals to run the system? Furthermore, you will need professional assistance, such as a professional engineer (PE), licensed professional geologist (LPG), and/or certified public accountant (CPA) to help prepare this planning document and other required documents.

## Flow Chart

The following flow chart indicates the sequence of events, alternatives, and decisions to be made, including required permit submissions and approvals, before construction can begin on a community water system or a nontransient noncommunity water system.



INFORMATION HANDBOOK FOR PREPARING A WATER SYSTEM MANAGEMENT PLAN



## Frequently Asked Questions

- 1. Who needs to submit a Water System Management Plan (WSMP)?** Anyone who is planning to develop a community water system or a nontransient noncommunity water system must submit a WSMP.
- 2. To whom do I submit the WSMP?** Four (4) copies of the WSMP must be submitted to the Indiana Department of Environmental Management (IDEM): Office of Water Quality, Drinking Water Branch, 100 North Senate Ave Indianapolis, Indiana 46204-2251.
- 3. When do I submit the WSMP?** The WSMP must be submitted and approved and certification of capacity must be granted before an application for a construction permit can even be submitted. At least one hundred twenty (120) days must be allowed for IDEM to review the plan. An incomplete or inadequate plan can stop the one hundred twenty (120) day clock.
- 4. What must be included in the WSMP?** The WSMP must include a comprehensive discussion of the technical, financial, and managerial aspects of your proposed water system, demonstrating adequate capability in each of these three areas. This Information Handbook identifies specific information and planning horizons to be included.
- 5. Will I need professional help in preparing the WSMP?** Yes. The technical capacity section of the WSMP must be prepared by a professional engineer who is registered in Indiana or a licensed professional geologist who is registered in Indiana or by a qualified person under the direct supervision of said professional engineer or licensed professional geologist. The financial capacity section of the WSMP must be prepared by a certified public accountant. The cost-benefit analysis in the managerial capacity section of the WSMP must be prepared by or under the direct supervision of a professional engineer.
- 6. Who should sign and submit the WSMP?** The party with ultimate responsibility for owning and operating the proposed public water supply system should sign, attest, and submit the WSMP to IDEM.
- 7. What happens after I submit the WSMP?** IDEM has 120 days to review the WSMP for a proposed public water supply system. IDEM may require the applicant to submit additional information before either issuing a letter of certification or recommending an alternative to the approval of the proposed public water supply system.

Visit IDEM for more information at  
[www.in.gov/idem](http://www.in.gov/idem)

## TECHNICAL CAPACITY

The Water System Management Plan must include an analysis of the technical capacity of the system. This section must examine the physical and operational abilities of the public water system.

In order to determine technical capacity, detailed information on several aspects of the new system must be provided. The Indiana Administrative Code requires the following information: a description of the public water supply system; an assessment of the adequacy of the water supply source; documentation of any planned water purchases; methods to meet the requirements of Indiana's public drinking water rules; information on the operation, maintenance, inspection, testing, repair, replacement, and record keeping of infrastructure and equipment; an infrastructure replacement plan; and details on the provision of a certified operator.

### System Description

A detailed description of the proposed public water supply system is needed. The system management plan must provide answers to the following prompts regarding system description:

1. What is the physical address of the proposed water system? Include the county, section township, and range of your water supply system.
2. What type of water system are you proposing (community or nontransient noncommunity)? What is your basis for determining this system type? (e.g. My water system will serve the same 45 people for 9 months out of the year, thus it is a NTNCWS.)
3. What are the characteristics of the population to be served (single and multi-family residential, commercial, industrial, governmental, agricultural, employees, students, visitors, and so on) and how does their water usage vary during the day and over the year (by month or season)?

4. What is the anticipated population growth over the next twenty years? Provide documentation and describe the effects of population changes over time on anticipated water demand.
5. What are your plans to provide for increased demand associated with anticipated growth?
6. Provide a site plan (with technical drawings completed by a licensed Professional Engineer) showing the distribution system service area and the proposed location of the following:
  - a. Wells and wellhead protection areas
  - b. Surface water intakes
  - c. Treatment facilities
  - d. Storage facilities
  - e. Pumping facilities
  - f. Connections to another public water supply system
  - g. Other applicable facilities.
7. Provide a description of treatment and transmission facilities including a discussion of the design basis and anticipated useful life of the following:
  - a. Treatment plants
  - b. Pipes
  - c. Pumping stations
  - d. Storage facilities
8. Describe in detail any interconnections with other water systems.
9. Describe the design basis of the system in terms of meeting fire-protection demand. If the system will not be used for fire protection, describe planned fire-protection measures and clarify that there will be no interconnection with any potable water lines.
10. What is your plan for metering water production at each source of supply and metering water use by consumers?
11. What types of waste will be generated by the system? What is your plan to manage waste generated by the treatment processes of the public water supply system?

12. What is the highest flood elevation at the site of source-water and treatment facilities? Is the site within the one hundred year frequency flood plain? Provide documentation, such as a flood map, indicating that the site is not within the one-hundred year frequency flood plain.

## Water Supply Source Assessment

A detailed assessment of the adequacy of the water supply source is needed. The Water System Management Plan must provide the following information:

1. Provide a site map for each water supply source drawn to scale.
2. Provide a narrative description of each water supply source including the land uses and potential sources of contamination within a three thousand foot radius of each water supply source.
3. Describe the design basis of the system in terms of meeting average-daily and peak daily (maximum-day, and maximum-hour) consumer demand. Provide the methodologies and calculations used in estimating average and peak demand. These methodologies and calculations can be found in the Bibliography: Applicable Indiana Public Drinking Water Rules.
4. Provide an analysis of a proposed source to reliably meet consumer demand, including pump tests (24 hour tests for community systems; 8 hour tests for nontransient noncommunity systems).
5. For systems planning to purchase water through interconnection with another system, provide the available flow and pressure at each point of connection (see 327 IAC 8-3.2-11).
6. Provide a geological or hydrogeological characterization of the source of the drinking water supply.
7. Provide a summary of a source water quality analysis that includes the applicable primary and secondary drinking water standards (may omit PCBs, dioxin, and asbestos). This requirement is not applicable to systems planning to purchase treated water.
8. What are your proposed activities to protect source water (for example, delineating the source water area and controlling access to and activities within the area)?

## Purchase Agreements

If you propose to purchase water from another public water supply system, you must provide signed documentation of a detailed purchase agreement with the other public water supply system.

## Indiana Public Drinking Water Rules

The Water System Management Plan must include a description of the methods used to meet the requirements of Indiana's public drinking water rules. The plan must reflect a working understanding and not simply a recitation of the applicable rules, including but not limited to the following:

1. Drinking Water Direct Additives and Indirect Additives ([327 IAC 8-1](#)).  
This rule includes standards for the direct additives fluoride and phosphate and requirements for submitting a list to the commissioner of all direct additives that come into contact with drinking water. The rule also gives health standards for indirect additives.
2. Filtration and Disinfection ([327 IAC 8-2-8.5](#))  
This rule gives requirements for which systems require filtration, disinfection, or both.
3. Public Water Supply Construction Permits ([327 IAC 8-3](#))  
This rule states the requisites for construction permits that are required once the Water System Management Plan is approved by the commissioner.
4. Public Water System Wells ([327 IAC 8-3.4](#))  
This rule states requirements regarding proposed production wells, including but not limited to who must certify a well design, the location of a proposed well, mechanics of a proposed well, proposed well materials, separation of a well from contamination or damage, well diameter requirements, casing and screen requirements, cross connection control requirements, drilling requirements, and disinfection requirements.
5. Wellhead Protection ([327 IAC 8-4.1](#))  
This rule states requirements for each well or wellfield providing ground water to a community public water supply system, including but not limited to local planning teams, delineating the wellhead protection area, submittal requirements, and tracking and management of contamination.

6. Cross Connection Control ([327 IAC 8-10](#))  
This rule states prohibitions and controls on cross connections.
7. Consumer Confidence Reporting ([327 IAC 8-2.1-1](#))  
This rule established requirements for annual reports that a system must deliver to its customers.
8. Vulnerability (Security) Assessment

## Infrastructure and Equipment Assessment

The Water System Management Plan must describe planned methods and processes for the operation, maintenance, inspection, testing, repair, replacement, and associated record keeping of the infrastructure and equipment needs of the proposed water system. The following equipment and facilities must be assessed according to the preceding parameters:

1. Source of supply facilities
2. Pumping facilities
3. Water meters
4. Treatment process components
5. Storage tanks (cleaning and painting)
6. Water mains (flushing and exercising valves/hydrants)
7. Cross connection control devices

This assessment must follow current American Water Works Association Standards, Section A100 through Section F100 and the Recommended Standards for Water Works, Great Lakes—Upper Mississippi River Board of State Public Health and Environmental Managers.<sup>1</sup>

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<sup>1</sup> These documents may be obtained from the American Water Works Association, 666 West Quincy Avenue, Denver, CO 80235 ([www.awwa.org/awwastds.htm](http://www.awwa.org/awwastds.htm)); Health Education Services, P.O. Box 7126, Albany, NY 12224

## Infrastructure Replacement Plan

The Water System Management Plan must include a specific infrastructure replacement plan, where infrastructure is as defined in Section 2, Infrastructure and Equipment Assessment, that addresses the following:

1. A schedule of equipment replacement.
2. Estimated life expectancy of equipment.
3. Expected replacement date.
4. Estimated cost of replacement and a plan for cost recovery.



## Operator Certification

The Water System Management Plan must include details for providing a certified operator in charge of the public water supply system and complying with applicable state and federal requirements concerning certified operators, including 327 IAC 8-12.

## Preparation

The technical capacity section of the Water System Management Plan must be prepared by or under the direct supervision of a professional engineer who is registered in Indiana or a licensed professional geologist who is registered in Indiana, as indicated by letterhead, signature, and seal. The technical capacity section must demonstrate that the proposed public water supply system will produce drinking water that meets public water supply requirements.

Table 1. Summary of technical capacity requirements to include in a Water System Management Plan. Note that if a system plans to purchase water from an existing system, signed documentation of a detailed purchase agreement with the other public water supply system must be provided.

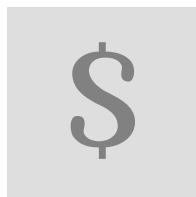
Requirement	System Description	Water Supply Source Assessment	Indiana Public Drinking Water Rules	Infrastructure and Equipment Assessment	Infrastructure Replacement Plan
Provide	Physical address of the proposed water system	Site map of each water supply source	Description of methods used to comply with 327 IAC 8-1	Assess source of supply facilities	Estimated life expectancy of equipment
Provide	System type (CWS or NTNCWS) and justification of determination	Description of water supply source	Description of methods used to comply with 327 IAC 8-2-8.5	Assess pumping facilities	Schedule of equipment replacement
Provide	Characteristics of population and water use	Design basis of the system in terms of meeting consumer demand	Description of methods used to comply with 327 IAC 8-3	Assess water meters	Expected replacement date
Provide	Anticipated population growth (20 years) and resulting change in demand	Analysis of proposed source reliability	Description of methods used to comply with 327 IAC 8-3.4	Assess treatment process components	Estimated cost of replacement

## INFORMATION HANDBOOK FOR PREPARING A WATER SYSTEM MANAGEMENT PLAN

Requirement	System Description	Water Supply Source Assessment	Indiana Public Drinking Water Rules	Infrastructure and Equipment Assessment	Infrastructure Replacement Plan
Provide	Plan for meeting increased future demand	Available flow and pressure at points of interconnection with another system	Description of methods used to comply with 327 IAC 8-4.1	Assess storage tanks	Plan for cost recovery
Provide	Site plan	Geological or hydrogeological characterization of the source of the drinking water supply	Description of methods used to comply with 327 IAC 8-10	Assess water mains	--
Provide	Description of facilities	Summary of source water quality analysis	Description of methods used to comply with 327 IAC 8-2.1-1	Assess cross connection control devices	--
Provide	Details of interconnections with other PWSs	Proposed activities to protect source water	Description of methods used to comply with Vulnerability (Security) Assessment	--	--
Provide	Description of ability to meet fire protection demand	--	--	--	--
Provide	Plan for metering water production	--	--	--	--
Provide	Waste generated and plan for waste treatment	--	--	--	--
Provide	Highest flood elevation IF system is in 100-year flood plain	--	--	--	--

## FINANCIAL CAPACITY

The Water System Management Plan must include an analysis of the financial capacity of the system. In order to determine financial capacity, the Indiana Administrative Code requires new community public water supply systems to submit a five-year budget plan that includes a detailed accounting of



all operating revenues and all operating expenses. They must also submit a twenty-year financial plan, in five-year increments, that describes projected growth, an infrastructure replacement plan, and an account for funding repairs. A new nontransient noncommunity public water supply system need submit only a five-year budget plan that summarizes the revenues and expenses associated with construction, operation, maintenance, and administration of the system.

### New Community Water System Five-Year Budget Plan

The five-year budget plan for a new community public water supply system must include a pro forma income statement, balance sheet, statement of retained earnings, and a statement of cash flows for each of the next five years. For systems subject to IURC jurisdiction, the budget should be consistent with accepted accounting practices for regulated systems. An accounting of revenues and expenses must include the following information (at a minimum):

- 1. Operating Revenues**

- Metered water revenues

- Unmetered water revenues

- Fire protection revenues

Sales for resale (i.e. if your system is selling to others, what is your expected revenue?)

Connection and system-development fees

Other water revenues

## 2. **Operation and Maintenance Expenses**

Purchased water

Operating expenses by category (labor, energy, chemicals, laboratory testing, etc.)

The greater of depreciation or extensions and replacements

Taxes other than income

Operating income before income taxes

Current federal income taxes

Current state income taxes

Deferred income taxes

Income tax credits

Other charges and credits

Net operating income

Debt service and debt service reserve, including an anticipated amortization schedule  
on any proposed borrowings

## 3. **Administration Expenses**

Salaries

Benefits

Supplies

Insurance

Legal fees

Engineering fees, studies, and plans Accounting services

Security services

Consumer-confidence reporting

Regulatory, reporting, and permit fees

Costs to comply with other applicable state or local requirements

## Twenty-Year Financial Plan

New community public water supply systems must submit a twenty-year financial plan reflecting five-year planning increments. The financial plan must include details on the following items:

1. Projected growth and a description of the ability to meet expected growth.
2. An infrastructure replacement plan (which can be taken from the Technical Capacity section) that includes funding of the plan.
3. An account for funding necessary repairs to the proposed public water system to meet the drinking water standards and projected growth.

## New Nontransient Noncommunity Water System Five-Year Budget Plan

New nontransient noncommunity public water supply systems must submit a five-year budget plan that describes the public water supply system's source of revenue and ability to meet the costs associated with the water system portion of the business. The plan must include the following (at a minimum):

1. **Revenues directed to**

Construction

Operation

Maintenance

Administration of the new nontransient noncommunity public water supply system.

2. **Expenses associated with**

Construction

Operation

Maintenance

Administration

The budget plan should reflect only water system budget, and not data for any affiliated interest. However, any special financial circumstances of the affiliated interest should be noted in the budget.

## Preparation

The financial capacity section of the Water System Management Plan for both Community Water Systems and Nontransient Noncommunity Water Systems must be prepared by a certified public accountant that is registered in Indiana, as indicated by letterhead, signature, and seal.

Table 2. Summary of financial capacity requirements for Community Water Systems to include in a Water System Management Plan. This table does **not** apply to NTNCSs.

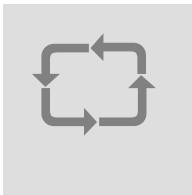
Requirement	Operating Revenues	Operation and Maintenance Expenses	Administration Expenses	Projected Growth	Infrastructure Replacement Plan	Account for Funding
<b>Plan duration</b>	5 years	5 years	5 years	20 years (5 year increments)	20 years (5 year increments)	20 years (5 year increments)
<b>Include</b>	Metered water revenues	Operating expenses by category (labor, energy, chemicals, testing, etc.)	Salaries	Description of the ability to meet expected growth	Funding of the plan	Funding for repairs
<b>Include</b>	Unmetered water revenues	The greater of depreciation or extensions and replacements	Benefits	--	--	Funding to meet projected growth
<b>Include</b>	Fire protection revenues	Taxes other than income	Supplies	--	--	--
<b>Include</b>	Sales for resale	Operating income before income taxes	Insurance	--	--	--
<b>Include</b>	Connection and system-development fees	Current federal income taxes	Legal fees	--	--	--
<b>Include</b>	Other water revenues	Current state income taxes	Engineering fees, studies, and plans	--	--	--
<b>Include</b>	--	Deferred income taxes	Regulatory, reporting, and permit fees	--	--	--
<b>Include</b>	--	Income tax credits	Accounting services	--	--	--
<b>Include</b>	--	Other charges and credits	Security service	--	--	--
<b>Include</b>	--	Net operating income	Consumer-confidence reporting	--	--	--
<b>Include</b>	--	Debt service and debt service reserve	--	--	--	--





## MANAGERIAL CAPACITY

The managerial capacity section of the Water System Management Plan must include detailed information on several aspects of management of the new water system. This information must include detailed descriptions of the organization, ability to respond to emergencies, consolidation with or interconnection to another system, authorities and responsibilities, and staff qualifications.



### Organization

The management plan must include a **description** of the organization, the purpose, corporate status, nature of the entity, and ownership. **Names** of the owner, chief executive officer, director, agency head, and members of the board of directors must be included in this information. An **organizational structure chart** showing the chain of command and other aspects of management involvement in the operation of the water system must be prepared. The management plan must also include an **assessment of the job responsibilities** for each management position, as well as an estimate of the amount of time committed to each job responsibility.

### Emergency Situations

The management plan must include a description of the ability to respond to an emergency situation and include the following:

- 1. Identification of**

Risks, whether they be known, potential, natural in origin, or human causes

Staff members, by job position, that are responsible to act in response to risks

The risk response actions to be taken by staff

2. **Notification procedures** to be implemented during an emergency
3. **A means to obtain an alternate water supply**
4. **Casualty insurance and its existence and limits**

## Consolidation or Interconnection

An assessment must be made concerning consolidation with or interconnection to another public water supply system. This assessment must include a narrative that describes the **potential accessibility** to another public water supply system with adequate water supply, flow, and pressure to serve the proposed service area. A description of the **efforts to notify other operating public water supply systems** within a ten-mile radius, that there is a proposal to develop a new public water supply system and the responses to that notification must be included. Finally, the narrative must state **whether an agreement could be obtained** for consolidation with or interconnection to an operating public water supply system within the ten-mile radius. This narrative must be prepared by or under the direct supervision of a professional engineer who is registered in Indiana, as indicated by letterhead, signature, and seal.

If other systems are willing to serve the proposed service area, the Water System Management Plan must include a cost-benefit analysis in addition to the narrative. The cost-benefit analysis must be prepared by or under the direct supervision of a professional engineer who is registered in Indiana, as indicated by letterhead, signature, and seal. The cost-benefit analysis must compare the following alternatives:

1. Development of a new public water supply system.
2. Consolidation with an existing public water supply system (PWS), meaning your system would either become one system with an existing PWS or a would become a customer of an existing PWS.
3. Interconnection with an existing public water supply system, meaning your system would purchase wholesale from an existing PWS.

## Authority and Responsibility

In order to evaluate managerial capacity, the Water System Management Plan must include an assessment of the water system's authority and responsibility, that is, the system's capacity to make and execute decisions related to the provision of water service. Ultimate responsibility depends in part on the system's ownership structure. For publicly owned systems, authority and responsibility may rest with a government agency or elected officials; for other water systems, authority and responsibility may rest with a nonprofit organization or private corporation.

This assessment must include a narrative describing the authoritative policies, ordinances, rules, or regulations by which the proposed system will address the following:

1. Conditions required for providing water service for existing or new connections. Under what conditions is the system obligated to provide service to a customer who wants water service?
2. Responsibilities of the public water supply system to the customer. What are the terms of service (for example, metering, pricing, connection policies, complaint handling, etc.)?
3. Responsibilities of the customer to the public water supply system. What must customers do in order to maintain service? Under what circumstances can service be denied or terminated based on a customer's failure to meet its obligation to the system?

The narrative must summarize and explain the effects of all local, state, and federal rules and requirements that pertain to the proposed public water supply system, including requirements beyond those that are imposed by IDEM.

## Qualifications

The management plan must include a list of the minimum qualifications for all owners, directors, managers, operators, and other responsible persons. Furthermore, a proposal for the continuing training of all staff involved with the water system must be included.

Table 3. Summary of managerial capacity requirements to include in a Water System Management Plan.

Requirement	Organization	Emergency Situations	Consolidation or Interconnection	Authority and Responsibility	Qualifications
<b>Include</b>	Name of owner of PWS	Identification of risks	Accessibility to another PWS	Proposed requirements for providing water service for existing or new connections	Minimum required qualifications for owners
<b>Include</b>	Name of chief executive officer, if applicable	Identification of staff members responsible to respond to risks	Efforts to notify other PWSs within a 10-mile radius of proposal of new PWS	Proposed requirements that define the responsibilities of the PWS to the consumer	Minimum required qualifications for directors
<b>Include</b>	Name of director, if applicable	Risk response actions of staff	Response to notification	Proposed requirements that define the responsibilities of the consumer to the PWS	Minimum required qualifications for managers
<b>Include</b>	Name of agency head, if applicable	Notification procedures	Can an agreement be obtained with another PWS?	Summary of existing local, state, or federal requirements	Minimum required qualifications for operators
<b>Include</b>	Names of board of director members, if applicable	Means to obtain alternate water supply	Cost benefit analysis	Explanation of effects of existing requirements on proposed PWS	Minimum required qualifications for other responsible persons
<b>Include</b>	Organizational structure chart	Existence and limits of casualty insurance	--	--	Proposal for continuing training

## PLAN SUBMISSION AND APPROVAL

Four copies of the Water System Management Plan must be submitted to the Commissioner of the Indiana Department of Environmental Management (IDEM). Once the plan has been submitted, the commissioner will have one hundred twenty days to review the plan for all information required by Rule 327 IAC 8-3.6. The plan must be properly signed and documented by the owner or person in charge of the public water supply system attesting to a review and understanding of the Water System Management Plan.



In addition to the plan, the applicant should also submit a mailing list and mailing labels of parties or stakeholders that may have an interest in the establishment of the system in order for IDEM to have an opportunity to solicit comments on the Water System Management Plan for the proposed public water supply system.

Any information requested by Rule 327 IAC 8-3.6 that the applicant cannot provide must be identified as not applicable or not available and accompanied by an explanation of its absence. The commissioner may contact the applicant, by letter, to request omitted or supplemental information that is related to the Water System Management Plan of the proposed public water supply system. If this occurs, the one hundred twenty days allowed for the commissioner's review shall be extended. If it is determined that the plan fails to demonstrate technical, financial, or managerial capacity of the proposed public water supply system, it will be denied and returned to the applicant. If it is determined that the plan does demonstrate technical, financial, or managerial capacity of the proposed public water supply system, the applicant will receive a letter of certification and may proceed to submit an application for a construction permit. For details on this process, see [IAC 327 Rule 4](#).

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Rules concerning consumer demand calculation: 327 IAC 8-3.3-2 [www.ai.org/legislative/iac/title327.html](http://www.ai.org/legislative/iac/title327.html)

Rules concerning drinking water direct and indirect additives: 327 IAC 8-1

[www.ai.org/legislative/iac/title327.html](http://www.ai.org/legislative/iac/title327.html)

Rules concerning filtration and disinfection: 327 IAC 8-2-8.5 [www.ai.org/legislative/iac/title327.html](http://www.ai.org/legislative/iac/title327.html)

Rules concerning public water supply construction permits: 327 IAC 8-3

[www.ai.org/legislative/iac/title327.html](http://www.ai.org/legislative/iac/title327.html)

Rules concerning public water system wells: 327 IAC 8-3.4 [www.ai.org/legislative/iac/title327.html](http://www.ai.org/legislative/iac/title327.html)



Rules concerning wellhead protection: 327 IAC 8-4.1 [www.ai.org/legislative/iac/title327.html](http://www.ai.org/legislative/iac/title327.html)

Rules concerning cross connection control: 327 IAC 8-10 [www.ai.org/legislative/iac/title327.html](http://www.ai.org/legislative/iac/title327.html)

Rules concerning certified operators: 327 IAC 8-12 [www.ai.org/legislative/iac/title327.html](http://www.ai.org/legislative/iac/title327.html)

Rules concerning professional engineers: IC 25-31 [www.in.gov/legislative/ic/code/title25/ar31/ch1.html](http://www.in.gov/legislative/ic/code/title25/ar31/ch1.html)

Rules concerning licensed professional geologists: IC 25-17  
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## Appendices

### Appendix A

#### Indiana Administrative Code, 327 IAC 8-3.6

##### ARTICLE 8. PUBLIC WATER SUPPLY

###### 327 IAC 8-3.5-12 Requirements for the public water system

Authority: IC 13-14-8; IC 13-14-9; IC 13-15-2; IC 13-18-1; IC 13-18-3; IC 13-18-4; IC 13-18-16-8

Affected: IC 13-11-2; IC 13-18

Sec. 12. (a) The public water system must maintain the information contained on each NOI and all documents submitted with each NOI for all water main construction with a general construction permit.

(b) The public water system must maintain the information contained on the plans and specifications for each corresponding NOI for all water main construction with a general construction permit. (*Water Pollution Control Board; 327 IAC 8-3.5-12; filed Mar 31, 1999, 10:20 a.m.: 22 IR 2527; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

##### Rule 3.6. Demonstration of New Public Water Supply System Capacity

###### 327 IAC 8-3.6-1 Definitions



Authority: IC 13-13-5; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-21-3

Affected: IC 13-11-2; IC 13-18-16

Sec. 1. In addition to the applicable definitions contained in IC 13-11-2, 327 IAC 8-3.2-1, and 327 IAC 8-3.4-1, the following definitions apply throughout this rule:

(1) “Financial capacity” means 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 this article.

(2) “Managerial capacity” means the ability of a public water supply system to conduct its affairs in a manner enabling the system to achieve and maintain compliance with this article.

(3) “New public water supply system” means the following:

(A) A community water supply system or nontransient noncommunity water supply system that is newly constructed and will commence operation after October 1, 1999.

(B) A community water supply system or nontransient noncommunity water supply system that has not previously met the definition of a public water supply system but will have expanded infrastructure after October 1, 1999, to meet the definition of a public water supply system.

(C) A community water supply system, nontransient noncommunity water supply system, or transient water supply system that currently meets the definition of a public water supply system and expands its infrastructure after October 1, 1999, if such expansion results in a change in the classification of the system to a community water supply system or a nontransient noncommunity water supply system.

(4) “Technical capacity” means the physical and operational ability of a public water supply system to meet the requirements of this article.

*(Water Pollution Control Board; 327 LAC 8-3.6-1; filed Aug 10, 1999, 8:54 a.m.: 22 IR 3678; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

### 327 IAC 8-3.6-2 Applicability

Authority: IC 13-13-5; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-21-3

Affected: IC 13-18-16

Sec. 2. (a) This rule applies to a new public water supply system that commences operation after October 1, 1999.

(b) This rule does not apply to a public water supply system in operation prior to October 1, 1999, except as provided in section 1(3)(C) of this rule. (*Water Pollution Control Board; 327 IAC 8-3.6-2; filed Aug 10, 1999, 8:54 a.m.: 22 IR 3679; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

### 327 IAC 8-3.6-3 Water system management plan submission

Authority: IC 13-13-5; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-21-3

Affected: IC 13-18-16

Sec. 3. (a) A new public water supply system shall submit to the commissioner a water system management plan that demonstrates the capacity of the proposed public water supply system. The plan shall include, at a minimum, an assessment of the following:

- (1) Technical capacity according to section 4 of this rule.
- (2) Financial capacity according to section 5 of this rule.
- (3) Managerial capacity according to section 6 of this rule.

(b) Four (4) copies of the water system management plan shall be submitted to the commissioner in advance of the public water supply system's intended submission to the commissioner of application for a construction permit with sufficiency to allow the commissioner one hundred twenty (120) days for review of the water system management plan.

(c) Information requested by section 4, 5, or 6 of this rule that the applicant cannot provide shall be:

- (1) identified as being not applicable or not available; and
- (2) accompanied by an explanation of its absence.

(d) A written request by the commissioner for additional information from the applicant, due to an incomplete water system management plan, shall extend the one hundred twenty (120)

days allowed for the commissioner's review. (*Water Pollution Control Board; 327 IAC 8-3.6-3; filed Aug 10, 1999, 8:54 a.m.: 22 IR 3679; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

327 IAC 8-3.6-4 Technical capacity of a new public water supply system

Authority: IC 13-13-5; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-21-3

Affected: IC 13-18-16; IC 25-31

Sec. 4. (a) A water system management plan shall provide the following technical capacity information:

(1) Details of the public water supply system that include the following:

(A) A description of the type of system, including:

(i) whether it is a community public water supply system or a nontransient noncommunity public water supply system and the basis for determining the system type; and

(ii) the population to be served.

(B) A description of the planned service area, including:

(i) the anticipated growth for the next twenty (20) years; and

(ii) the plans to provide for the demand of the anticipated growth.

(C) A description of the public water supply system by county, section, township, and range.

(D) A site plan that includes the location of the following, as applicable:

(i) Wells.

(ii) Surface water intakes.

(iii) Treatment facilities.

(iv) Storage facilities.

(v) Pumping facilities.

- (vi) Connections to another public water supply system.
  - (vii) Other applicable facilities.
- (E) A description, design basis, and anticipated useful life for treatment and transmission facilities, including the following:
- (i) Treatment plants.
  - (ii) Pipes.
  - (iii) Pumping stations.
  - (iv) Storage facilities.
- (F) The identification of interconnections with other systems.
- (G) A description and design basis of the fire protection demand on the system.
- (H) A description of a plan for metering water production by source and water use by consumers.
- (I) A description of plans to manage waste generated by the treatment processes of the public water supply system.
- (J) A description of the highest flood elevation at the site of sources and treatment facilities, if the site is within the one hundred (100) year frequency flood plain.
- (2) Details of an assessment of the water supply source adequacy that include the following:
- (A) A site map for each water supply source that must be drawn to scale with the scale disclosed on the map.
  - (B) A narrative describing each source, and a description of land uses within a three thousand (3,000) foot radius of each water supply source.
  - (C) The design basis for system demands, including:
    - (i) average daily; and
    - (ii) peak daily;consumer demand according to 327 IAC 8-3.3-2.
  - (D) An analysis of a proposed source to reliably meet consumer demand.



- (E) A geological or hydrogeological characterization of the source of the drinking water supply.
  - (F) A summary of a source water quality analysis that includes the applicable primary and secondary drinking water standards.
  - (G) The proposed activities to protect source water.
- (3) A public water supply system that proposes to purchase water from another public water supply system must provide documentation of a planned purchase agreement with the other public water supply system.
- (4) A method to meet the requirements of the following public drinking water rules:
- (A) 327 IAC 8-1 concerning drinking water direct additives and indirect additives.
  - (B) 327 IAC 8-2-8.5 concerning filtration and disinfection.
  - (C) 327 IAC 8-3 concerning public water supply construction permits.
  - (D) 327 IAC 8-3.4 concerning public water system wells.
  - (E) 327 IAC 8-4.1 concerning wellhead protection.
  - (F) 327 IAC 8-10 concerning cross connection control.
- (5) A method to provide for the operation, maintenance, inspection, testing, repair, replacement, and associated record keeping for the following, according to the American Water Works Association Standards, Section A100 through Section F100 (February 1998 Edition)\* and the Recommended Standards for Water Works, Great Lakes—Upper Mississippi River Board of State Public Health and Environmental Managers (1997 Edition)\*\*:
- (A) Source of supply facilities.
  - (B) Pumping facilities.
  - (C) Water meters.
  - (D) All components of the treatment process.
  - (E) Storage tanks, including the following:
    - (i) Cleaning.
    - (ii) Painting.

- (F) Water mains, including the following:
    - (i) Flushing.
    - (ii) Exercising valves.
  - (G) Approved cross connection control devices.
- (6) Details of an infrastructure replacement plan that include the following:
- (A) A schedule of equipment replacement.
  - (B) Estimated life expectancy of equipment.
  - (C) Expected replacement date.
  - (D) Estimated cost of replacement.
- (7) Details for providing a certified operator in charge of the public water supply system and complying with applicable state and federal requirements concerning certified operators, including 327 IAC 8-12.
- (b) The technical capacity information required by subsection (a) shall:
- (1) be prepared by:
    - (A) a professional engineer, as described under IC 25-31, who is registered in Indiana;
    - (B) a licensed professional geologist, as described in 305 IAC 1-2-5, who is registered in Indiana; or
    - (C) a qualified person under the direct supervision of a professional engineer or licensed professional geologist registered in Indiana;
- as applicable according to the information required; and
- (2) demonstrate that the proposed public water supply system shall produce drinking water that meets public water supply requirements of this article.

\*This document is incorporated by reference. Notwithstanding language to the contrary in the primarily incorporated documents, the versions of all secondarily incorporated documents, which are those documents referred to in the primarily incorporated documents, shall be the versions in effect on the date of final adoption of the primarily incorporated document. Copies of this publication may be obtained from the American Water Works Association, 6666 West Quincy Avenue, Denver, Colorado 80235 or from the Indiana Department of Environmental Management,



Office of Water Management, Indiana Government Center-North, 100 North Senate Avenue, Room 1255, Indianapolis, Indiana 46206.

\*\*This document is incorporated by reference. Notwithstanding language to the contrary in the primarily incorporated documents, the versions of all secondarily incorporated documents, which are those documents referred to in the primarily incorporated documents, shall be the versions in effect on the date of final adoption of the primarily incorporated document. Copies of this publication may be obtained from Health Education Services, P.O. Box 7126, Albany, New York 12224 or from the Indiana Department of Environmental Management, Office of Water Management, Indiana Government Center-North, 100 North Senate Avenue, Room 1255, Indianapolis, Indiana 46206. (*Water Pollution Control Board; 327 IAC 8-3.6-4; filed Aug 10, 1999, 8:54 a.m.: 22 IR 3679; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

327 IAC 8-3.6-5 Financial capacity of a new public water supply system

Authority: IC 13-13-5; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-21-3

Affected: IC 13-18-16

Sec. 5. (a) A new community public water supply system shall provide the following financial capacity information as part of the water system management plan:

(1) A five (5) year budget plan that includes the following:

(A) A pro forma income statement, balance sheet, statement of retained earnings, and statement of cash flows for each of the next five (5) years.

(B) An accounting of operating revenues for the following:

(i) Metered water revenues.

(ii) Unmetered water revenues.

(iii) Fire protection revenues.

(iv) Sales for resale.

(v) Other water revenues.

(C) An accounting of operating expenses for the following:

(i) Operation and maintenance, including the following:

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- (AA) Operating expenses by category.
  - (BB) The greater of depreciation or extensions and replacements.
  - (CC) Taxes other than income.
  - (DD) Operating income before income taxes.
  - (EE) Current federal income taxes.
  - (FF) Current state income taxes.
  - (GG) Deferred income taxes.
  - (HH) Income tax credits.
  - (II) Other charges and credits.
  - (JJ) Net operating income.
  - (KK) Debt service and debt service reserve, including an anticipated amortization schedule on any proposed borrowings.
- (ii) Administration expenses, including the following:
- (AA) Salaries.
  - (BB) Benefits.
  - (CC) Supplies.
  - (DD) Insurance.
  - (EE) Legal fees.
  - (FF) Engineering fees, studies, and plans.
  - (GG) Reporting requirements.
  - (HH) Accounting services.
  - (II) Costs to comply with other applicable state or local requirements.
- (2) A twenty (20) year financial plan, in five (5) year increments, including the following:
- (A) Projected growth and a description of the ability to meet expected growth.

(B) An infrastructure replacement plan, required by section 4(a)(6) of this rule, including funding of the plan.

(C) An account for funding necessary repairs to the proposed public water system to meet the drinking water standards and projected growth.

(b) A new nontransient noncommunity public water supply system shall submit a five (5) year budget plan that describes the public water supply system's source of revenue and ability to meet the costs associated with the public water supply system portion of the business, including the following:

(1) A summary of the revenues directed to the construction, operation, maintenance, and administration of the new nontransient noncommunity public water supply system.

(2) A detailed listing of the expenses associated with the construction, operation, maintenance, and administration of the new nontransient noncommunity public water supply system.

(c) The financial capacity information required by subsections (a) and (b) shall be prepared by a certified public accountant that is registered in Indiana. (*Water Pollution Control Board; 327 IAC 8-3.6-5; filed Aug 10, 1999, 8:54 a.m.: 22 IR 3681; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

### 327 IAC 8-3.6-6 Managerial capacity of a new public water supply system

Authority: IC 13-13-5; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-21-3

Affected: IC 13-18-16; IC 25-31

Sec. 6. A water system management plan shall provide the following managerial capacity information:

(1) A description of the organization, the purpose, the corporate status, and the nature of the entity, and its ownership that includes the following:

(A) Name of the owner of the public water supply system.

(B) Name of the following, where applicable:

(i) Chief executive officer.

(ii) Director.

- (iii) Agency head.
    - (iv) Members of the board of directors.
  - (C) An organizational structure chart showing the following:
    - (i) The chain of command.
    - (ii) Other aspects of management related to operation.
  - (D) An assessment of the job responsibilities and estimated time commitment in hours for each management job position.
- (2) A description of the ability to respond to an emergency situation that includes the following:
  - (A) Identification of:
    - (i) risks, whether they be:
      - (AA) known;
      - (BB) potential;
      - (CC) natural in origin; or
      - (DD) human caused;
    - (ii) staff members, by job position, that are responsible to act in response to risks; and
    - (iii) the risk response actions to be taken by staff.
  - (B) Notification procedures to be implemented during an emergency.
  - (C) A means to obtain an alternate water supply.
  - (D) The existence and limits of casualty insurance.
- (3) An assessment of consolidation with or interconnection to another public water supply system, including the following:
  - (A) A narrative describing:
    - (i) the accessibility to another public water supply system;

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- (ii) efforts by a proposed public water supply system to notify other operating public water supply systems, within a ten (10) mile radius, that there is a proposal to develop a new public water supply system;
    - (iii) the response to notification required by item (ii); and
    - (iv) whether an agreement can be obtained for consolidation with or interconnection to an operating public water supply system within a ten (10) mile radius.
  - (B) A cost benefit analysis comparing:
    - (i) development of a new public water supply system;
    - (ii) consolidation with an existing public water supply system; and
    - (iii) interconnection with an existing public water supply system.
  - (C) The information required by this subdivision shall be prepared by a professional engineer, as described under IC 25-31, who is registered in Indiana, or by a qualified person under the direct supervision of a professional engineer registered in Indiana.
- (4) An assessment of authority and responsibility, including the following:
  - (A) A narrative describing proposed policies, ordinances, rules, or regulations, that, at a minimum, define the following:
    - (i) Conditions required for providing water service for existing or new connections.
    - (ii) Responsibilities of the public water supply system to the consumer.
    - (iii) Responsibilities of the consumer to the public water supply system.
  - (B) A summary of existing local, state, or federal requirements pertaining to and explaining the effects upon the proposed public water supply system.
- (5) A description of the following:
  - (A) The minimum required qualifications for the following staff:
    - (i) Owners.
    - (ii) Directors.
    - (iii) Managers.

- (iv) Operators.
- (v) Other responsible persons.

(B) A proposal for continuing training.

*(Water Pollution Control Board; 327 IAC 8-3.6-6; filed Aug 10, 1999, 8:54 a.m.: 22 IR 3681; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

### 327 IAC 8-3.6-7 Certification of capacity

Authority: IC 13-13-5; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-21-3

Affected: IC 13-18-16

Sec. 7. (a) The commissioner shall do the following:

(1) Review a water system management plan that contains the following:

(A) The information required by this rule.

(B) A statement signed by the owner or person in responsible charge of the public water supply system attesting to having reviewed and to understanding the contents of the water system management plan.

(2) Deny the water system management plan and return it to the applicant if the plan fails to demonstrate the technical, financial, or managerial capacity of the proposed public water supply system.

(3) Issue a written determination that the public water supply system has met the technical, financial, and managerial capacity requirements of this rule.

(b) The commissioner may contact the applicant, by letter, to request omitted or supplemental information that is related to the water system management plan of the public water supply system. *(Water Pollution Control Board; 327 IAC 8-3.6-7; filed Aug 10, 1999, 8:54 a.m.: 22 IR 3682; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*



## Appendix B

### Indiana Drinking Water Permit Guide

The following content is intended as a general overview to assist persons interested in gaining a basic understanding of the IDEM Drinking Water Permit Program. This material does not fully explain all aspects of the applicable statutes and regulations regarding the Drinking Water Permit Program and is not meant to be used for actual regulatory permitting or compliance issues. Compliance with this guide will not be a defense to violation of state law. Those persons proposing to build or operate an actual facility which may need a permit should instead consult the Indiana Code, the Indiana Administrative Code, and IDEM.

This Appendix covers three areas:

- A. Goals of the Drinking Water Branch and Construction Permit Program
- B. Standards: Design and Construction Standards for Public Water Systems
- C. Indiana Wellhead Protection Program
- D. The Regulated Community: Who needs a Public Water System Construction Permit?

#### **A. Goals of the Drinking Water Branch<sup>2</sup>**

The Office of Water Quality's (OWQ) Drinking Water Program is unlike most other permit programs administered by IDEM. The other programs protect the environment by regulating the emission of pollutants into the air, water, or land.

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<sup>2</sup> <http://www.in.gov/idem/cleanwater/2381.htm>

[http://in.gov/idem/cleanwater/files/dw\\_compliance\\_report\\_2013.pdf](http://in.gov/idem/cleanwater/files/dw_compliance_report_2013.pdf)

The IDEM Drinking Water Program's primary mission is to protect the public health, rather than the environment. It ensures the public will have a safe and adequate drinking water supply and that the construction and operation of public water systems will not affect the environment.

In Indiana, 97 percent of public drinking water suppliers utilize ground water. However, they serve only 56 percent of the Indiana population. The OWQ Drinking Water Branch also oversees the mandatory Wellhead Protection Program, which went into effect March 28, 1997. The Wellhead Protection Program is a prevention-oriented approach to protecting the groundwater that focuses on limiting and managing the types of activities that may occur in the environment near well fields.

Meanwhile, surface water is utilized by the other 3 percent of Indiana drinking water suppliers, which serve the remaining 44 percent of Hoosiers. Surface water is protected by several other IDEM-issued permits, including air pollution permits which result in less polluted rain, National Pollutant Discharge Elimination System (NPDES) permits which require wastewater discharges to be treated before being returned to lakes and streams, and by-land disposal permits which limit pollutants entering the water cycle.

## **B. Standards: Design and Construction Standards for Public Water Systems<sup>3</sup>**

Standards establishing maximum allowable limits of contamination for water being made available for human consumption are defined by the U.S. Safe Drinking Water Act of 1973. The Act was amended in 1986 and re-authorized in 1996.

In 1986, responsibility for ensuring compliance with the Act was transferred from the Indiana State Department of Health to the Drinking Water Branch of the IDEM. Permits issued by the Construction Permit Section of the Drinking Water Branch of IDEM implement the standards of the Act. The Compliance Section of the Drinking Water Branch monitors for compliance those standards, while IDEM's Office of Enforcement works to get any violators back into compliance with those standards.

The health-based requirements of the Safe Drinking Water Act, and amendments to it, are reflected in Title 327, Article 8, Rule 2 of the Indiana Administrative Code (327 IAC 8 -2). Rule 2 establishes operational protocol, sets construction standards, and delineates maximum contaminant levels for drinking water which are used by the IDEM Drinking Water Construction Permit Program to protect public health in Indiana.

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<sup>3</sup> <http://www.in.gov/idem/cleanwater/2384.htm>

327 IAC 8 -2 outlines analytical methodologies for sampling, testing, monitoring and reporting on a wide range of possible contaminants, and establishes maximum contaminant levels (MCLs) intended to protect human health. Using those methodologies, public water suppliers are required to stay under the MCLs for organic compounds like trihalomethanes and other volatile and synthetic organic compounds, inorganic chemicals like sodium, microbiological contaminants like fecal coliform and *E. coli* bacteria, radioactive contaminants, and lead and copper. Because there is a correlation between water clarity and contamination, suppliers using surface waters for any part of their source are required to test for turbidity, which is a measure of the clarity of the water. In addition, Rule 2 outlines standards for filtration, disinfection, and corrosion control.

The Construction Permit Section's current procedures for reviewing the applications, plans and specifications for construction of any of the various parts of a public water system are based on 327 IAC 8-3-2. The design and construction of any public water system project must conform to these standards. A construction permit must be obtained from the Drinking Water Branch prior to the commencement of construction.

Current procedures for the design and construction of water mains can be found in 327 IAC 8-3.2. For water main projects, systems must obtain either an aforementioned regular construction permit or a general construction permit. The current procedures for the general construction permit for water main extension projects can be found in 327 IAC 8-3.5.

Under the “General Construction Permit for Water Mains” procedures, those planning water main extensions must submit a Notice of Intent Letter to IDEM in lieu of filing a permit application. The letter must be either be sent by certified mail or via email at [dwnoi@idem.in.gov](mailto:dwnoi@idem.in.gov) thirty (30) days before any construction starts, and must include certifications from the licensed professional engineer and the water system, along with information on average daily demand, system capacity, and 2 year average peak demand. In addition, all plans and specifications must meet the standards set out in 327 IAC 8-3-2, be on file with the public water system prior to construction and be available during construction.

### **C. Indiana Wellhead Protection Program**

The cornerstone of the Indiana Wellhead Protection Program is the Wellhead Protection Rule which became effective on March 28, 1997. Under the rule, community public water supply systems are required to submit to the IDEM, for approval, a complete wellhead protection program.

The rule requires the formation of a local planning team, the delineation of a wellhead protection area for the well field(s), the identification of all potential sources of contamination, a management plan for each potential source of contamination, and a contingency plan.

The local planning team must have a least one member that is impacted by the wellhead protection area. A variety of delineation methods are allowed depending on the unique circumstances of the well field. Potential sources of contamination include both regulated and unregulated sources. Management plans at a minimum must have an education component, but can include ordinances, zoning, monitoring, and the implementation of best management practices. The contingency plans address emergencies impacting the distribution system and contamination of the source water.

The program and its requirements are discussed in detail in several documents available from the IDEM. (See: [Wellhead Protection Program](#).)

#### **D. The Regulated Community: Who needs a Public Water System Construction Permit?**

Any "public water system" (PWS) in the state of Indiana that is proposing to "construct, install or modify any facility, equipment, or device for any public water supply" must first obtain a permit from the Construction Permit Section of the Drinking water Branch. A "public water system" means a public water supply for the provision to the public of piped water for human consumption, if such system has at least fifteen (15) service connections or regularly serves an average of at least twenty-five (25) individuals daily at least sixty (60) days out of the year.

Facilities, equipment and devices include, but are not limited to: new treatment plants, water storage tanks, booster stations, wells, or chemical additions. This also includes water main extensions, regardless of length.

A permit is not required for replacement projects of similar design and capacity that will not adversely change the plant operation, its hydraulic design or waste products, or the distribution system design, operation or capacity. This means that "like replacement" projects, such as changing out an old high service pump with a new pump with the same rated capacity do not need a permit. Nor are construction permits needed for the replacement of existing water mains, as long as the same location and material type, diameter, and class pipe are used. IDEM can confirm in writing that a permit is not required if the applicant requests this for reasons such as record keeping.

So, if your public water system is going to, for example, install an additional storage tank, start adding phosphate to control corrosion, replace an undersized well pump or boost the pressure in a remote part of town, it will need to get a construction permit from IDEM prior to beginning work

on the project. In addition, whether it be a thirty (30) foot length of PVC water main to close a loop in the system or 5,000 feet of ductile iron pipe in a new subdivision, a construction permit is required.

### Examples of public water systems include:

**Community Systems.** Cities, towns, private water companies, and mobile Home Parks.

**Noncommunity Systems.** Based on populations served and the number of days served.

**Transient noncommunity systems** include campgrounds, churches, restaurants, highway rest areas, and gasoline stations.

**Nontransient noncommunity systems** include schools, industries, and motels.

### Definitions:<sup>4</sup>

**Public Water System.** A system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections, or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

**Community Water System.** A public water system that serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

**Noncommunity Water System.** A public water system which has at least 15 service connections used by nonresidents or which regularly serves 25 or more nonresident individuals daily for at least 60 days per year. There are 2 types, nontransient and transient.

**Nontransient Noncommunity Water System.** A public water system that is not a community water system which regularly serves the same 25 or more persons at least 6 months of the year (they do not live here). Examples include: schools, factories, and businesses with more than 25 employees, or daycare centers with 25 or more combined children/staff.

**Transient Noncommunity Water System.** A noncommunity water system that does not regularly serve at least twenty-five (25) of the same persons over six (6) months per year.

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<sup>4</sup> Source: <http://www.in.gov/legislative/iac/T03270/A00080.pdf>

## Appendix C

# EPA Guidance on Implementing the Capacity Development Provisions of the Safe Drinking Water Act Amendments of 1996<sup>5</sup>

*Excerpts, footnotes omitted.*

### **What is water system capacity?**

Water system capacity is the ability to plan for, achieve, and maintain compliance with applicable drinking water standards. Capacity has three components: technical, managerial, and financial. Adequate capability in all three areas is necessary for a system to have "capacity."

### **What is water system capacity development?**

Capacity development is the process of water systems acquiring and maintaining adequate technical, managerial, and financial capabilities to enable them to consistently provide safe drinking water. The SDWA's capacity development provisions provide a framework for States and water systems to work together to ensure that systems acquire and maintain the technical, managerial, and financial capacity needed to meet the Act's public health protection objectives.

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<sup>5</sup> Source: U.S. Environmental Protection Agency

<http://www.epa.gov/ogwdw/smallsystems/pdfs/guidfin.pdf>

## **How does the SDWA address capacity development?**

The SDWA as amended establishes a focus on capacity development through two major provisions. First the law requires States to develop and implement programs to ensure that new systems demonstrate capacity and to assist existing systems in acquiring and maintaining capacity. States failing to develop and implement such programs will have up to 20% of their DWSRF allotment withheld.

Second, the law ties a water system's eligibility to receive assistance under Section 1452 to the system's technical, managerial, and financial capacity. In short, the law prohibits DWSRF assistance to a system which lacks the technical, managerial, and financial capacity to ensure compliance with SDWA requirements. The only exception for systems lacking capacity is if they agree to undertake changes in operations, such as changes in ownership, management, accounting, rates, etc. These would apply if the State determines that the changes are necessary to ensure that the system has the technical, managerial, and financial capacity to comply with the SDWA over the long term. Section 1452(a)(3) establishes the prohibition on assistance to a system lacking the capacity to ensure SDWA compliance unless the system agrees to restructuring changes to ensure it has the necessary technical, managerial, and financial capacity to comply with the Act over the long term.

## **What are the requirements for state capacity development programs?**

Section 1420 establishes the requirements for State programs. First, under section 1420(a), a State must develop a program to ensure that all new community water systems and new nontransient noncommunity water systems demonstrate the technical, managerial, and financial capacity to comply with all national primary drinking water regulations (NPDWRs) in effect, or likely to be in effect on the date commencement of operations. Second, under section 1420(c), a State must, by August 6, 2000, be developing and implementing a strategy to assist PWSs in acquiring and maintaining technical, managerial, and financial capacity.

## **To which water systems do the SDWA's capacity development provisions apply?**

Section 1420(a), the new systems provision, applies to all new CWSs and all new NTNCWSs.

Section 1420(c), the capacity development strategy provision, applies to all PWSs, but States must consider which systems they will focus on.

Section 1452(a)(3), the prohibition of assistance to PWSs which lack capacity, applies to all PWSs eligible for DWSRF assistance, which are CWSs, nonprofit NTNCWS, and nonprofit TNCWS.

## **What is technical capacity, and how can it be assessed?**

Technical capacity is the physical and operational ability of a water system to meet SDWA requirements. Technical capacity refers to the physical infrastructure of the water system, including the adequacy of source water and the adequacy of treatment, storage, and distribution infrastructure. It also refers to the ability of system personnel to adequately operate and maintain the system and to otherwise implement requisite technical knowledge.

A water system's technical capacity can be determined by examining key issues and questions, including:

- Source water adequacy. Does the system have a reliable source of drinking water? Is the source of generally good quality and adequately protected?
- Infrastructure adequacy. Can the system provide water that meets SDWA standards? What is the condition of its infrastructure, including well(s) or source water intakes, treatment, storage, and distribution? What is the infrastructure's life expectancy? Does the system have a capital improvement plan?



- Technical knowledge and implementation. Is the system's operator certified? Does the operator have sufficient technical knowledge of applicable standards? Can the operator effectively implement this technical knowledge? Does the operator understand the system's technical and operational characteristics? Does the system have an effective operation and maintenance program?

### **What is managerial capacity, and how can it be assessed?**

Managerial capacity is the ability of a water system to conduct its affairs in a manner enabling the system to achieve and maintain compliance with SDWA requirements. Managerial capacity refers to the system's institutional and administrative capabilities.

Managerial capacity can be assessed through key issues and questions, including:

- Ownership accountability. Are the system owner(s) clearly identified? Can they be held accountable for the system?
- Staffing and organization. Are the system operator(s) and manager(s) clearly identified? Is the system properly organized and staffed? Do personnel understand the management aspects of regulatory requirements and system operations? Do they have adequate expertise to manage water system operations? Do personnel have the necessary licenses and certifications?
- Effective external linkages. Does the system interact well with customers, regulators, and other entities? Is the system aware of available external resources, such as technical and financial assistance?

### **What is financial capacity, and how can it be assessed?**

Financial capacity is a water system's ability to acquire and manage sufficient financial resources to allow the system to achieve and maintain compliance with SDWA requirements.

Financial capacity can be assessed through key issues and questions, including:

- Revenue sufficiency. Do revenues cover costs? Are water rates and charges adequate to cover the cost of water?
- Credit worthiness. Is the system financially healthy? Does it have access to capital through public or private sources?
- Fiscal management and controls. Are adequate books and records maintained? Are appropriate budgeting, accounting, and financial planning methods used? Does the system manage its revenues effectively?

### **How are technical, managerial, and financial capacity related?**

Many aspects of water system operations involve more than one kind of capacity. Infrastructure replacement or improvement, for example, requires technical knowledge, management planning and oversight, and financial resources. A deficiency in any one area could disrupt the entire effort. The relationship between the three areas of capacity is illustrated in Figure 2. Additional information on technical, managerial, and financial capacity and how they relate to one another can be found in Information on Implementing the Capacity Development Provisions of the Safe Drinking Water Act Amendments of 1996.

## Appendix D

### Glossary of Terms<sup>6</sup>

**Capacity Development.** The enhancement and maintenance of the technical, managerial, and financial capabilities of public water systems.

**Certified Operator.** A person who has a valid certificate in a classification identified in section 2 of 327 IAC 8-12 for water treatment or water distribution operation and the ability to make decisions regarding the daily operational activities of a public water system water treatment plant or water distribution system that will directly impact the quality or quantity of the drinking water. (327 IAC 8-12-1)

**Community Water System.** A public water system that serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

**Drinking Water State Revolving Loan Fund (DWSRF).** A program authorized by IC 13-18-21 to provide money for loans and other financial assistance, including forgiveness of principal if allowed under federal law.

**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 327 IAC. The financial resources of the water system, including but not limited to the revenue sufficiency, credit worthiness, and fiscal controls. Basically, does your system have a budget and enough revenue to cover costs, repairs, and replacements?

**Infrastructure.** Any collection, treatment, storage, or distribution facilities under control of the operator of a public water system, including the operator or administrator of the system, which is used primarily in connection with the public water system and any collection or pretreatment facilities which are used in connection with the public water system, even if they are not under control of the operator of the water system. Infrastructure includes, but is not limited to: source development and rehabilitation, treatment, storage, transmission, and distribution.

**Licensed Professional Geologist.** A person who is licensed as a geologist by the Indiana board of licensure for professional geologists and is qualified by the person's knowledge of the principles of geology acquired by professional education and practical experience. (IC 25-17.6-1)

**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. The management

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<sup>6</sup> <http://www.in.gov/legislative/iac/T03270/A00080.pdf>

Indiana General Assembly. *Indiana Administrative Code*. [www.in.gov/legislative/iac/](http://www.in.gov/legislative/iac/)

Indiana General Assembly. *Indiana Code*. [www.in.gov/legislative/ic/code/](http://www.in.gov/legislative/ic/code/)

structure of the water system, including but not limited to ownership accountability, staffing and organization, and effective linkages. In simpler terms, do you have capable and trained staff? Does your system have an effective management structure?

**Noncommunity Water System.** A public water system which has at least 15 service connections used by nonresidents or which regularly serves 25 or more nonresident individuals daily for at least 60 days per year. There are 2 types, nontransient and transient.

**Nontransient Noncommunity Water System.** A public water system that is not a community water system which regularly serves the same 25 or more persons at least 6 months of the year (they do not live here). Examples include: schools, factories, and businesses with more than 25 employees, or daycare centers with 25 or more combined children/staff.

**Professional Engineer.** An individual who, by reason of that individual's special knowledge of the mathematical and physical sciences and the principles and methods of engineering analysis and design which are acquired by education and practical experience, is qualified to engage in the practice of engineering as attested by that individual's registration as a professional engineer. (IC 25-31-1-2)

**Public Water System (PWS) or Public Water Supply System (PWSS).** A public water supply for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such system has at least 15 service connections, or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. "Public water system" includes any collection, treatment, storage, and distribution facilities under control of the operator of such system, and used primarily in connection with such system and any collection or pretreatment storage facilities not under such control, which are used primarily in connection with such system.

**Purchased Water System.** A public water system, which purchases all of its water from another public water system.

**Technical Capacity.** The physical and operational ability of a public water supply system to meet the requirements of 327 IAC. The physical infrastructure of the water system, including but not limited to the source water adequacy, infrastructure adequacy, and technical knowledge. In other words, does your treatment system work the way it is supposed to? Are you providing the safest and cleanest water possible required by law to your customers right now? Will you be able to in the future?

**Transient Noncommunity Water System.** A noncommunity water system that does not regularly serve at least 25 of the same persons over 6 months of the year.