

217/782-3397

September 30, 2002

The Honorable George H. Ryan  
Governor of Illinois  
207 Statehouse  
Springfield, Illinois 62706

Dear Governor Ryan:

I am pleased to transmit the first report on Illinois EPA's Capacity Development Program. The Safe Drinking Water Act Amendments of 1996 required states to implement a Capacity Development Strategy for public water supplies. Capacity is defined for public water supplies as having adequate technical, managerial and financial resources in order to operate in compliance with State and federal drinking water standards.

The 1996 Amendments also required that a report be submitted within two years of strategy adoption to the Governor. The report discusses the efficacy of the strategy and progress made toward improving technical, managerial and financial capacity of public water systems in the State. The report is to be made available to the public and will be posted on the Illinois EPA web site.

Sincerely,

Renee Cipriano  
Director

## **Report to Governor Capacity Development Program**

### **What is Capacity Development?**

The United States Environmental Protection Agency, USEPA, has recognized the need for each public water supply to have adequate managerial, financial and technical resources in order to operate in compliance with State and federal drinking water standards and requirements. These managerial, financial and technical abilities are called “capacity”. USEPA refers to the implementation of these three program elements as “capacity development”, and to the documentation of these elements as a “capacity development demonstration”. Illinois, as a primacy agent for enforcement of the federal Safe Drinking Water Act, has implemented a capacity development program.

The primary goal of the Capacity Development program is to ensure that those who drink water in Illinois and across the country receive safe, potable water from each and every public water supply tap. Full Illinois Environmental Protection Agency (EPA) participation in the implementation of capacity development will benefit the water consumers of Illinois by providing the direct assistance needed by water supplies to operate in compliance with all drinking water regulations. Consistent vigilance over the entire public water supply operation will ensure that technical equipment and processes are correctly operated, communication between operators and managers facilitated, and information to assist in managerial and financial planning for both emergency operations and future regulations is handled in a timely manner to promote planning. The Capacity Development program emphasizes assistance with a goal of working together toward compliance, versus contact as an outcome of violation response (outside routine evaluations). Education and information for new officials, as well as assistance with changing technologies and regulations, are important deliverables that the Illinois EPA provides to public water supply officials and operators.

### **Requirement for a Capacity Development Program**

The Safe Drinking Water Act Amendments of 1996, (PL 104-182, August 6, 1996, Title XIV, Section 1420), required each state that intended to apply for the full amount of available drinking water State Revolving Loan Fund monies to implement a Capacity Development Program. This program was to be implemented in two parts.

1. First, all new public water supplies that became active after October 1, 1999, were required to complete a capacity development demonstration. Illinois adopted regulations to implement this requirement. Failure to meet this deadline would have resulted in a loss of up to 20% of the State Revolving Loan Fund monies allocated to Illinois each year.
2. Second, Illinois was required to develop a Capacity Development Strategy by September 30, 2000. The purpose of this Strategy is to structure a work plan that Illinois will implement to ensure that existing public water supplies have the capacity to achieve compliance, and continue to operate in compliance with all existing and future drinking water program standards and requirements. Failure to meet this deadline would have resulted in a loss of up to 20% of the State Revolving Loan Fund monies allocated to Illinois each year. The Illinois Capacity Development Strategy was approved by USEPA on September 27, 2000.
3. A report to the Governor of the State is also required by the Safe Drinking Water Act Amendments of 1996. This report is to provide a status of the Capacity Development program to you, and is to be made available to the public, as well.

### ***Capacity Demonstrations***

A capacity demonstration is a compilation of all the information needed to manage, finance and operate a public water supply. This data is documentation prepared by the public water supply, reviewed on-site by

the Agency, and kept current by water supply operators and officials. Information consists of the following types of documentation:

- Technical Capacity documentation includes copies of all construction and operating permits; a capital improvement plan with projections for at least five years; an operation and maintenance plan; water system ordinances for conditions of water connection and service, rates, water use and cross-connection control; a cross-connection implementation and operation plan; a list of all operators and their certification classifications; and copies of the most recent engineering evaluation, with copies of the response to any violations or deficiencies noted, and a plan to address any remaining deficiencies,
- Managerial Capacity documentation includes copies of the water supply organizational chart, up to the owner or official custodian level; an operational management plan; and emergency management plan; a summary of all educational conferences or seminars attended by both operator and managerial personnel; a communications chart, with a description of channels of communication; and legal agreements pertinent to water supply such as articles of incorporation, operating tariff, and mutual assistance agreements.
- Financial Capacity documentation includes copies of such financial documents as the most recent fiscal year audited annual statements for the past three years; any outstanding debts such as bonds, loans or other commitments; most recent rate review and ordinance recommendations; review of replacement, use and reserve funds; and a five-year projected operating budget/cash flow.

### **Program Implementation**

Illinois EPA has devised a plan that will fully utilize existing program resources to incorporate the Capacity Strategy, and will serve as a resource contact point to network public water supplies with other organizations or agencies that have needed expertise. Illinois EPA's strength lies in the ability to provide technical expertise and assistance in understanding regulatory requirements. While the Agency also provides some financial and managerial assistance, other agents such as the Rural Community Assistance Program or the Illinois Rural Water Association might, in some situations, be better able to provide on site assistance or specific managerial or financial guidance. Illinois EPA serves as a coordinator in these situations.

***Initial Implementation*** -- A special workshop targeting small significant non-compliant water supplies was held in the fall of 1999 as a cooperative effort with the Illinois Rural Water Association, with 58 water supplies represented. These supplies provided input into the formalized Capacity Strategy, and helped structure the format of the capacity development program in Illinois. Workshops and seminars were held in cooperation with professional organizations and other agencies to introduce the concept of capacity development and to receive input from public water supply operators and officials as to the needs that could best be met by Illinois EPA assistance.

Public water supplies experiencing significant non-compliance problems were first targeted for capacity development assistance, and are identified in the Illinois Strategy as Tier 1 supplies. Those undergoing formal enforcement are given an opportunity to possibly extend the final compliance date when agreement is reached for the supply to complete a capacity demonstration. Even though the compliance date may be delayed somewhat, this process provides an opportunity for the supply to determine complete overall compliance needs, rather than address only the specific current violations, and to develop a plan that will work toward achieving and maintaining compliance in all areas.

***Ongoing Implementation*** --- Water supplies with recurring problems or violations are a second priority (Tier 2) for capacity demonstration. These water supplies are encouraged to complete a capacity demonstration in order to remain in compliance, or to eliminate sporadic non-compliance episodes.

The final priority (Tier 3) for capacity program implementation is water supplies that are in compliance at this time. It is important that new and existing officials and operators are cognizant of the technical, managerial and financial efforts needed for a water supply to remain in compliance. These education and assistance efforts require considerable time on the part of field and headquarters staff, but have been incorporated as much as possible into routine activities to achieve continued compliance through education and cooperation of water supply officials and operators.

To begin targeted Capacity Development assistance in Tiers Two and Three of the program, Division of Public Water Supplies (DPWS) Field Operations Section (FOS) has begun to send worksheets to community public water supplies to obtain a measure of all program activities that impact capacity. These worksheets list the various drinking water program elements needed for a public water supply to operate in compliance, and ask water supply officials to assess whether or not these activities or elements are present in routine operations. Emergency operations and response activities are reviewed as a part of this process, as these operations require smooth coordination among technical, financial and managerial personnel and program operations, and must be kept current. Once baseline data has been gathered, Field Operations staff will, as part of the required engineering evaluation to determine proper operations and compliance, review and assess the materials that officials indicate are used by the water supply. Where deficiencies are found, Field Operations staff will make arrangements to provide assistance or suggest various other resources. Re-evaluation of capacity development elements will remain an integral part of all engineering evaluation activities. Additional field operations staffing has been identified as a need to more effectively implement the capacity development program.

The Illinois Department of Public Health (IDPH), by interagency agreement with the Illinois EPA, has regulatory authority over the Non-Community Public Water Systems (NCPWS) in Illinois. Pursuant to this agreement, capacity development as it relates to Non-Transient Non-Community Public Water Systems (NTNCPWS) is the responsibility of the IDPH. The NCPWS Program is unique in that these systems are not in the business of producing water for resale; therefore, the treatment and monitoring of the water system has not traditionally been a routine function of the management. The water supply at these facilities is used for drinking, sanitation, and in some cases, manufacturing processes. Demonstrating capacity for these types of non-community water systems is, for the most part, a small part of the overall management, budget and operating plan for a specific public water supply. IDPH uses existing field survey and visit opportunities to identify NCPWSs which need or may benefit from capacity development assistance, but approaches the water supply compliance issues from a somewhat unique perspective of a side benefit activity rather than a primary activity, and must work within the framework of the entire operation to best assist the supply in developing capacity.

### **Successful Compliance Can Be Achieved – Strategy Efficacy**

While the resource commitment needed to assist a water supply experiencing many non-compliance problems is significant, both managers and operators can benefit from capacity development. Many water supplies have most of the elements of a capacity demonstration in place “somewhere” – frequently in the memories of long-term employees or officials. Capacity development encourages water suppliers to take the time to organize and document, to ensure that key employees are aware of responsibilities and expectations during both normal and emergency operations, and helps water suppliers take a look at future regulations to be both financially and technically prepared to continue to operate in compliance. The Strategy developed by the Illinois EPA is designed to encourage water supply officials and operators to organize a capacity demonstration, to use the document as a training aid for new employees and officials, and to keep the information in the demonstration current. The Strategy also emphasizes the Illinois EPA’s role in providing technical assistance whenever possible, and helping water suppliers locate and coordinate with other organizations and agencies when specific financial or managerial skills are needed, thus maximizing existing resources while developing new tools only when truly necessary.

The Illinois EPA is committed to implementation of the Strategy, and is moving forward as quickly as resources allow.

### ***Capacity Assistance Examples***

**The Village of Sorento** Sorento is a small public water supply serving 564 persons located in central Illinois. Prior to the concept of capacity development and to the development of the Capacity Strategy for Existing Water Supplies, the DPWS FOS interacted with Sorento over a period of years. During the period that the Illinois EPA was developing and documenting the Capacity Strategy, problems again developed in Sorento. FOS decided to pursue a capacity development approach to a more permanent resolution of recurrent problems. Cooperative efforts among the Agency, Illinois Rural Water Association, Illinois Office of the Attorney General, Department of Commerce and Community Affairs, and other state funding agencies were needed to bring this supply to a point nearing ongoing compliance. On March 9, 2001, FOS personnel were informed that Sorento received a DCCA grant to connect to the Three County Public Water District. Sorento abandoned the existing water treatment plant, as it could not maintain operation in compliance with upcoming Enhanced Surface Water Treatment regulations. State Revolving Loan fund dollars were reserved for Sorento to pay the local match on a DCCA grant. The project is now complete and the supply has returned to compliance as a result of the commitment of technical assistance resources as set forth in the Illinois Capacity Development Strategy for Existing Public Water Supply Systems.

**Big Rock Elementary School** The second case history focuses upon a non-community public water supply. The Big Rock Elementary School is located in rural Kane County, with approximately 400 staff and student consumers. The water supply for this system is from a six-inch diameter drilled well which is approximately 100 feet deep. The school participated in the regular sampling program for NTNCPWSs, including Lead and Copper sampling. As a result of continuing Lead and Copper action level exceedances, IDPH and Local Health Department staff conducted a thorough survey of the water treatment system and building distribution system in an attempt to isolate the source of contamination. Some plumbing fixtures were suspect due to presence of lead in components of the fixture. Results from samples collected prior to and after flushing suggested that distribution piping within the walls and below a concrete floor was a contributing factor.

As a result of these findings, IDPH personnel worked with the principal of the school to explore avenues of compliance. Following these discussions, the principal agreed the school would replace any fixtures contributing to the high lead levels, and, since distribution piping which was inside walls and under concrete could also be a contributing factor but replacement would be cost prohibitive, IDPH was asked to review a proposal for installation of a point-of-use/point-of-entry filtration system. After IDPH staff had discussed the operation and maintenance of this unit, it was learned that the certification indicated after 600 gallons of treatment, the filter cartridge must be replaced unless it is used with an accurate metering and accumulation device, in which case, the life of the unit is 1,000 gallons. This metering device was also available from the manufacturer. The metering device automatically stops the flow of water through the unit once the 1000-gallon capacity has been achieved.

On March 27, 1998, the IDPH approved installation of this system with the condition that the metering device be installed and the system maintained and operated in compliance with the manufacturers recommendation. The school instituted a maintenance program that includes checking and replacing each filter cartridge just before the metering device records that the maximum capacity has been achieved and the water flow is shut off to ensure a continuous supply of water to all fixtures. Lead sample results have been consistently below action levels since installation of this system and, for the most part, below detection levels. Copper levels are also below action levels. The Big Rock Elementary School continues to operate in compliance.

## Progress Toward Compliance

Illinois continues to retain and improve compliance levels. The ultimate test of capacity development efficacy is compliance – a successful overall program operation that includes both capacity development and formal enforcement will minimize non-compliance rates. During times of stable federal regulation, compliance rates will rise; when new regulations are promulgated at the federal or State level, however, it is expected that compliance rates may dip or decrease, depending upon the regulation and the level of capital improvement needed to improve treatment or distribution processes. When new regulations adversely affect compliance rates, it is expected that ongoing capacity development programs will minimize the amount of time that water supplies will be out of compliance by encouraging better preparation and insight into upcoming requirements.

Significant gains in compliance may not be immediately apparent, due to the impact of new regulations. A considerable number of significant regulations are expected to emerge over the next five years. Illinois has recently been impacted by both the radionuclide and arsenic regulations, as well as increasingly stringent regulations for water supplies that use surface water sources. Regulations are also expected for new microbial contaminants, water supplies that use groundwater sources, and water supply distribution system operations. The Agency is confident, however, that progress toward compliance will be consistent for existing regulations, thus providing consumers with an increased confidence in the safety of Illinois drinking water. The following information must be reported to USEPA each year to monitor progress on new system capacity development. All Illinois water supplies that received either a construction or an operating permit since October 2, 1999, have completed capacity development demonstrations.

Annual Report on New Systems Capacity Development Program October 1, 2001 – September 30, 2002	
Method(s) used to evaluate and verify program implementation	Construction and Operating Permits
Number of proposed new CWSs	2
Number of proposed new NTNCWSs	57
Number of approved new CWSs during FFY 2002	0
Number of approved new NTNCWSs during FFY 2002	57
Number of new CWSs (total number that commenced operation after October 1, 1999)	13
Number of new NTNCWSs (total number that commenced operation after October 1, 1999)	317
Number of new CWSs that are not in compliance, Reason for non-compliance	0
Number of new NTNCWs that are not in compliance, Reason for non-compliance	0