



# Establishing Programs To Resolve Small Drinking Water System Viability

## A Summary Of The Federal/State Workshop

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## I. Introduction

### Overview

Currently, small water systems (those regularly serving between 25 and 3,300 people) represent 95 percent of all public water systems (PWSs) and account for over 70 percent of all drinking water regulation violations. As the Safe Drinking Water Act (SDWA) Amendments of 1986 are implemented, small system non-compliance is expected to increase. The States, acquiring more regulatory responsibilities as the Amendments take effect, will bear the burden of the small systems problem. As a result, States will need to adopt preventative strategies to reduce small system non-compliance.

The Office of Drinking Water (ODW), with contractor support, organized a workshop to help States develop programs to control the proliferation of new, potentially non-viable, small water systems. The workshop was held in Scottsdale, Arizona from September 22 to 24, 1990.

The workshop's goal was for every State to develop an "action plan" for implementing small system viability initiatives. Each action plan identifies the program elements needed to reduce proliferation of new small systems and discusses how the plan will be implemented over the next two to three years. Some of the approaches that States examined were: establishing financial and operational requirements as part of the permitting process; encouraging interconnections; establishing water supply plans; providing financial assistance and incentives to small systems; and strengthening operator certification requirements. In writing their action plans States had to answer such questions as: "What legal authority do we have?", "Who must agree to our plan?", "What are the obstacles to implementation?", "When can our program be operational?", and "What will it cost?" The answers to these questions determined the types of programs States chose. A copy of the State action plan format is included in Appendix A of the report.

The workshop was unique in its "States helping States" approach. It was designed to let State representatives exchange information and learn from each other's experiences. State representatives were the "experts," trading knowledge of past successes and failures. The workshop also allowed departments within each State to coordinate their goals and activities.

This report summarizes the activities of the workshop. Sections on the workshop evaluations, the speakers' presentations, and the participant States' action plans are included. Many States expressed interest in Pennsylvania's initiatives, so the report also contains a section detailing Pennsylvania's strategy for ensuring small system viability.

### Workshop Participants

Representatives from 10 States were chosen to participate in the workshop, based on their response to an Association of State Drinking Water Administrators (ASDWA) survey conducted in 1989. The States were: Arizona, Kentucky, Massachusetts, Missouri, Montana, Nevada, New Hampshire, Pennsylvania, Utah, and Vermont. The diverse group of State representatives included: State drinking water program staff, public utility and public service commission employees, legal representatives, and State legislators and staffers. In addition to State participants, representatives from Connecticut, Maryland, Pennsylvania, and Washington gave presentations on their States' viability programs. EPA Headquarters and Regional staff and representatives from the National Conference of State Legislatures (NCSL) and the Council of State Governments (CSG) also attended the workshop. (A complete list of participants is presented in Appendix B of this report.)

### Workshop Agenda

The workshop was composed of three main sections: speaker presentations, action plan development, and peer reviews. To begin the workshop, State participants heard from representatives whose States have already implemented viability programs and representatives who work with State governments and understand the legislative process. On the second day, participants met in individual State workgroups to develop their viability action plans. After States completed first drafts of the plans, they reviewed the plans of other States. Each State workgroup analyzed between three and five action plans. At the conclusion of the workshop, one representative from each State presented a summary of his or her completed action plan. (A copy of the workshop agenda is provided in Appendix C of this report.)

## II. Summary of Workshop Evaluations

Before leaving the workshop, participants completed evaluation forms. The evaluations were positive, and most participants felt that the workshop was valuable. On the evaluation form, participants were asked to rank the following workshop elements: State presentations, presentations on the legislative process, background information for the action plans, and peer reviews. The average rating was four, on a scale of one to five. The table on the following page summarizes the participants' responses to the four workshop elements.

Participants had minor suggestions for improving the workshop. First, they felt that too much information was presented to absorb in only three days. They would have liked the workshop to have been longer or less rigorous. Participants also would have liked more interaction with the speakers. They suggested that presentations



**SUMMARY OF  
RATINGS FOR WORKSHOP ELEMENTS**

<u>Workshop Element</u>	Very Valuable			Not Valuable	
	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
State Presentations	20	18	3	0	0
Legislative Presentations	13	21	6	1	0
Background for Action Plans	9	14	13	2	1
Peer Reviews	8	11	16	4	0

could have been shorter and there could have been a question and answer period afterwards. In addition, they thought the peer review process would have been more productive if States had reviewed fewer action plans. Some participants suggested having groups of two or three States review and discuss each others' action plans.

### III. Workshop Presentations

Representatives from four States, NCSL, and CSG gave presentations at the workshop. The presentations featured many strategies for dealing with the small systems problem. State speakers discussed elements of their viability programs, and representatives from NCSL and CSG addressed how to use the legislative process to implement viability programs. This section provides highlights from all the workshop presentations.<sup>1</sup>

#### Washington

William Liechty and Richard Siffert from the Department of Social and Health Services (DSHS) and Robert Wubbena, formerly with DSHS, spoke about Washington's small system viability program. The Office of Environmental Health Programs, located in the DSHS, is responsible for implementing the SDWA. The Utilities and Transportation Commission sets rates for privately owned systems but does not have any viability programs.

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<sup>1</sup>For a more detailed examination of the programs in Connecticut, Maryland, and Washington please see the U.S. EPA Report, "Ensuring the Viability of New, Small Drinking Water Systems: A Study of State Programs."

Washington has focused on water supply planning to reduce the proliferation of new, non-viable small systems. In 1977, Washington adopted the Public Water Supply Coordination Act (PWSCA), which created a planning process to regulate water system development.<sup>2</sup> The PWSCA authorizes counties to develop Coordinated Water System Plans (CWSPs) that will: demarcate present and future water system service areas; outline future water system development; establish procedures for authorizing new water systems; establish shared use of facilities; and create a Satellite Support System to provide assistance to small systems. As part of the CWSPs, all large systems, and selected small systems, must complete individual plans to designate present and future service areas.

Two key elements of Washington's planning approach are satellite management and the Small System Management and Operations Program. Satellite management enables small systems to transfer ownership or to seek assistance from larger utilities in order to meet SDWA and State drinking water requirements. DSHS has sought to inform all water systems that satellite management may resolve their financial, operational, and managerial problems. In addition, counties that have adopted the PWSCA are required to assess the need for satellite management. The Small Water System Management and Operations Program is designed for water systems that are not required to file an individual plan. It consists of a financial program and an operations program. The financial program is intended to facilitate financing of anticipated physical improvements required to operate a system. The operations program is intended to ensure that systems have plans for operation and control, water quality monitoring, emergency response, cross-connection control, and budgeting.

In addition to its planning program, Washington has strict permit regulations for all PWSs. Chapter 248-54 of the Washington Administrative Code (WAC) sets standards for system design, construction, monitoring, finance, operation, and management. These regulations have been updated to expand the State's examination of proposed systems to include tests of financial and operational viability.

The DSHS publishes many handbooks describing its programs. A list of these publications and how they may be obtained is included as Appendix D of this report.

### Connecticut

Raymond Jarema, from the Water Supplies Section of the Department of Health Services (DHS) and Richard Albani, from the Department of Public Utility Control (DPUC) gave presentations on Connecticut's program for ensuring small system viability. DHS and DPUC are the two agencies with authority to restrict the creation of

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<sup>2</sup>Revised Code of Washington, chapter 70.116.

non-viable small water systems. In addition, the Water Resources Task Force, consisting of 17 members, helped develop Connecticut's viability legislation.<sup>3</sup>

New small systems in Connecticut are limited by the Certificate of Public Convenience and Necessity, the Connecticut Plan, and laws that mandate takeovers of small systems. The Certificate of Public Convenience and Necessity is a joint DPUC and DHS certificate that requires a new or expanding water system serving between 25 and 1,000 people to obtain a permit.<sup>4</sup> A new water system is allowed to form only when the State determines that an interconnection or a satellite arrangement is not feasible. If such a determination is made, the system's technical, financial, and managerial qualifications are evaluated by DHS and DPUC.

The Connecticut Plan, which is based on Washington's PWSCA, establishes an area-wide planning program.<sup>5</sup> Water Utility Coordinating Committees (WUCCs), composed of representatives of all utilities serving at least 25 persons, determine future water needs and establish exclusive service area boundaries. Once existing utilities are designated "service areas," they accept responsibility for all water systems within their areas. CWSs serving more than 1,000 customers are required to write individual water system plans, which outline the water sources they will use and the area they will serve over the next 50 years.

Connecticut's takeover laws grant DPUC and DHS the authority to order a solvent water company or municipality to take over a failing small water system.<sup>6</sup> A takeover may be ordered only after a system fails to comply with an Administrative Order from either DHS or DPUC. Once a system is designated for acquisition, a joint agency hearing is held to determine the most appropriate action. DPUC and DHS may order the acquisition of the system by the most suitable public or private entity. If acquisition is ordered, the acquiring company must make the necessary improvements to the failing system, but is allowed to recover reasonable costs.

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<sup>3</sup>The Task Force was formed as a result of Special Act 82-28, "An Act Concerning a Study of State Agency Authority in the Management of Water Resources for Public Water Supplies."

<sup>4</sup>Connecticut General Statutes 16-262m.

<sup>5</sup>Public Act 85-535, "An Act Concerning a Connecticut Plan for Public Water Supply Coordination." Incorporated into statutes as Connecticut General Statutes 25-32d and 25-33 e-j.

<sup>6</sup>Connecticut General Statutes 16-2621 (n)-(q).

## Maryland

William Parrish, from the Water Supply Program in the Maryland Department of the Environment (MDE), spoke on Maryland's approach to small system viability. The Water Supply Program has primacy over drinking water regulation and oversees water system compliance and enforcement. Other groups involved in regulating small water systems include: the Comprehensive Planning section of MDE; counties; local governments; and the Public Service Commission (which regulates only 35 water and wastewater utilities).

Maryland discourages the creation of new, non-viable water systems through a county water supply planning program and a stringent permit process. Since 1969, Maryland has required county governments to submit a comprehensive water plan to MDE every two years.<sup>7</sup> The plan must define which areas will require water service from publicly owned utilities in the next 10 years and describe how proposed water systems will finance construction and maintenance. A county water plan must be consistent with all State and local comprehensive development plans, and it must integrate all subsidiary water supply plans developed by local, private, State, or Federal agencies within county boundaries. In developing a water plan, a county may require a proposed facility to interconnect with an existing system. To enforce the county plan requirement, MDE may withhold a construction permit for a water facility in a county that has not completed a plan. This halts any development and puts pressure on the county to submit a plan. MDE may also withhold a construction permit for a facility not included in the county plan.

In addition to the comprehensive water plan, Maryland also has permit requirements that prevent the creation of new, non-viable water systems. Maryland's broad statutory authority has allowed MDE to adopt extensive rules governing PWS permits.<sup>8</sup> To obtain a construction permit, a proposed community water system must submit a financial plan and an operation and maintenance (O&M) plan. These plans outline the proposed system's construction and maintenance costs and the expected revenues. An MDE accountant reviews the plans, and if they are approved, an agreement is drawn up between the owner, the MDE, and the county.

Privately owned systems must execute financial agreements, which include a provision to establish three escrow accounts. The first is an initial O&M account used to support the system until construction is finished and the systems becomes self-supporting. The second is a repair/replacement account used to cover the repair or

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<sup>7</sup>Title 9 of the Health-Environmental Code in the Annotated Code of Maryland outlines MDE's statutory authority.

<sup>8</sup>Maryland is trying to pass viability legislation to strengthen its regulations.



replacement of the highest-cost treatment plant unit. The third is a sinking fund used for system replacement. This account must be sufficient to replace the system 20 years after construction. Revenue for the sinking fund is provided within a system's rate structure.

### Pennsylvania

Pennsylvania was the only State at the workshop whose representatives functioned as speakers and participants. Steven Schmidt and Walter Harner, from the Department of Environmental Resources (DER), Judith Koch Carlson, a Public Utility Commission (PUC) rate analyst, and John Cromwell, a contractor for DER, gave presentations on Pennsylvania's approach to ensuring small system viability. The Division of Water Supplies in DER regulates all PWSs, and the PUC regulates all investor-owned systems and municipal systems operating outside their boundaries (approximately 15 percent of all CWSs).

Pennsylvania has initiated efforts to improve the viability of small systems through DER and through PUC. DER already has established several viability programs, including: the Technical Assistance Program for Small Systems (TAPSS), which offers on-site technical assistance and training to small systems; the Pennsylvania Small Water Systems Committee, which functions as a clearinghouse and information center for organizations providing small systems services; the Pennsylvania Infrastructure Investment Authority Act (PENNVEST), which provides low interest loans and limited grants for water and wastewater improvements; and the Mobile Home Park Cooperative, which improves small systems' ability to obtain supplies and services by increasing their economies of scale. These programs are discussed in detail in section V.

DER also is studying many new viability options. A major part of this effort focuses on the permit process. The State would like to develop a viability screening method which would be incorporated into the permit application. Applicants requesting construction permits will have to demonstrate that no better alternative means of providing water are available, and they will need to provide detailed estimates of the total capital cost, the total O&M cost, and the amount required in reserve to provide for eventual system replacement. In addition, they will need to prepare a business plan that includes *pro forma* balance sheets and income statements projecting five years into the future.

Other options DER is considering are: providing incentives for large systems to acquire non-viable small systems; passing legislation or regulations to order the acquisition of small systems; developing regional planning; encouraging the formation of multi-community water systems; and conducting public outreach and operator training. These options are described more fully in section IV.

PUC also has initiated efforts to ensure small system viability. The two pieces of legislation that address viability are Act 24 and proposed House Bill 25. Act 24, which passed in April 1990, encourages large systems to acquire non-viable small systems, and House Bill 25 would allow PUC to order the takeover of a small system. (More information on these are presented in section V.) Additionally, PUC has passed a water conservation policy and a universal metering order that applies to all utilities under PUC jurisdiction. These programs require each utility to submit a plan for metering all sources and customers.

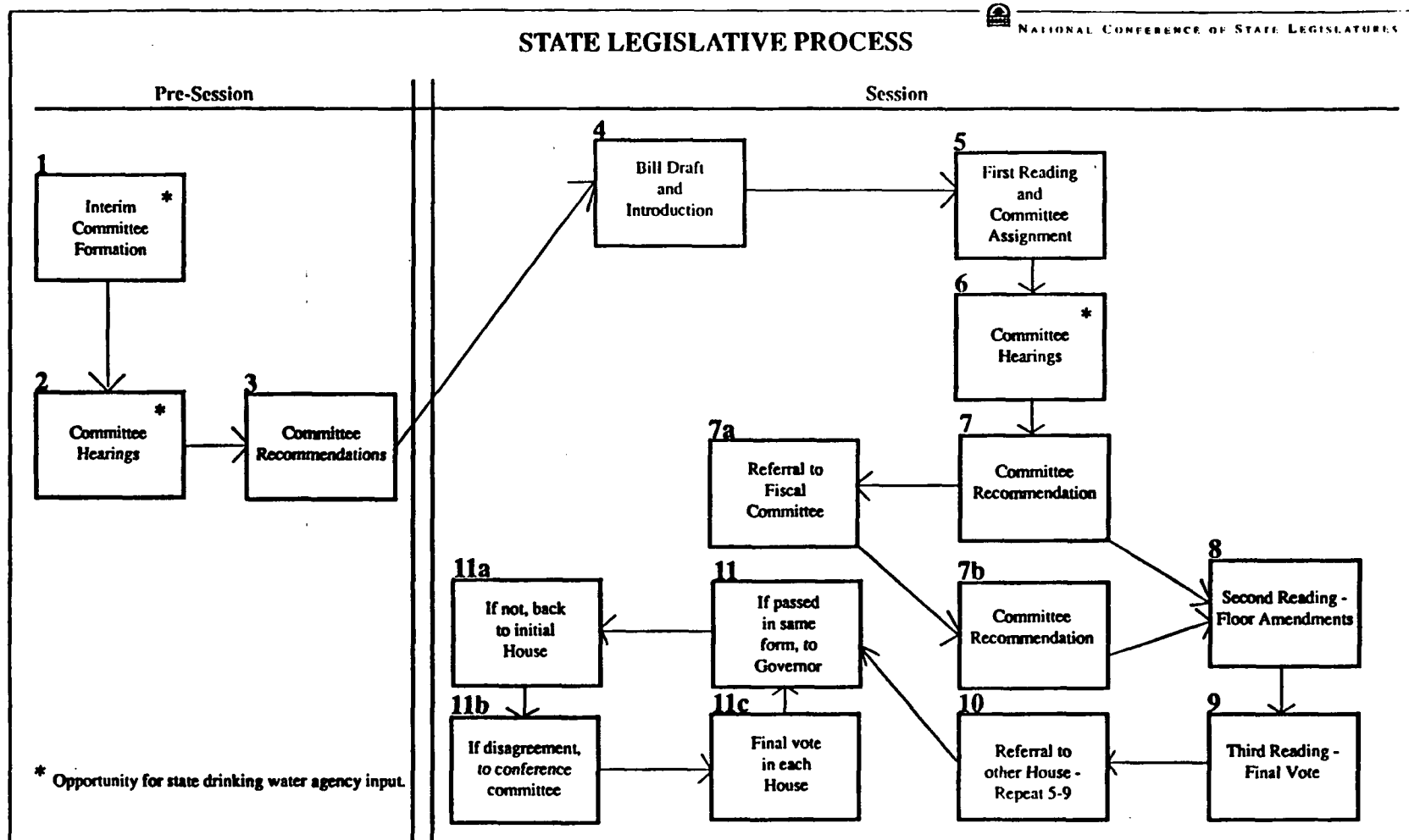
### The Legislative Process

State legislatures will play an increasingly important role in ensuring that water systems comply with the SDWA Amendments. Many State regulatory agencies will require additional legal authority to regulate the formation of small water systems that may lack the technical, financial, and managerial capacity to protect public health. Larry Morandi from NCSL and Steve Brown from CSG gave brief presentations on the legislative process.

Passing legislation is difficult, but there are some guidelines State agencies and drinking water programs may follow (see Exhibit 1). First, States must identify whether legislation is necessary to implement a program. Historically, drinking water issues have not been a priority with legislators. Because it may be difficult to generate legislative interest, States must determine whether changes in regulations issued under existing statutory authority will be sufficient to accomplish their objectives.

If legislation is necessary, State agencies must determine whether they need a change in *policy* or just *money* to implement their program. This will determine which committees will be involved. Next, agencies must learn the relationship of policy committees to fiscal committees. For example, they should know whether a policy committee acts before a fiscal committee and whether policy committee members serve as fiscal subcommittee members in the drinking water area. State agencies also need to decide whether they should request that an interim legislative committee be established to study the issue and develop recommendations prior to the session. To determine what bills may compete for legislative attention, agencies and drinking water programs should know the status of other legislative proposals that may relate to water quality. Finally, States should consider whether the governor or the legislature is primarily responsible for drawing up the State budget.

To gain support for legislation, States must spark interest in drinking water issues, actively involve all relevant parties, and gain a consensus on proposed solutions. First, drinking water issues must achieve higher visibility. Generally, the issues with the greatest costs gain legislative attention. Therefore, drinking water policies should be tied to larger issues, such as growth management or infrastructure finance. State agencies also should involve legislators as advocates of drinking water programs.



To win support for legislation, agencies need to work with the Governor's office, legislative leadership, and the relevant committee chairperson. In addition, State agencies must form a consensus on the need for the proposed legislation and present a united front at legislative committee meetings. The final piece of advice, offered by a Utah State Senator to Larry Morandi, is: "Don't ever write a one page bill: it might get read."

#### IV. State Action Plan Excerpts

During the workshop, each State completed a draft action plan that outlines the viability initiatives it will implement over the next two to three years. This section presents excerpts from States' action plans, providing information on such programs as water supply planning, permitting, and review, assistance to small systems, and certification and licensing. The excerpts also summarize States' planned activities and give a schedule for the activities' completion. Each synopsis provides a comprehensive description of the State's viability program as it will be when all of the program components are implemented. New Hampshire's action plan is not included because the State requested no distribution at this time. Complete action plans may be obtained by calling Penny Barles, at U.S. EPA, Office of Drinking Water, (202) 382-5517.

##### Arizona

Arizona has four viability program objectives: to define the term "viability"; to prevent the creation of new non-viable systems; to help existing systems become viable; and to encourage the elimination of non-viable systems whose problems cannot be corrected. To achieve these objectives, the State is considering many programs. One important program is to develop financial requirements that will test the viability of new and existing systems. New systems would be required to develop business plans, demonstrating that they have adequate financial, operational, and management capabilities and that they have evaluated all other water supply options. Some other programs the State is considering are: providing incentives for, or requiring, small system takeovers; requiring financial assurances, such as bonds, from investor-owned systems; promoting regional planning; attaching operator certification requirements to permitting and local planning; and coordinating the permitting process between the three agencies involved. These programs and others are outlined below. Any questions about Arizona's action plan should be directed to the State lead contact:

Mr. Robert L. Munari, Manager  
Field Services Section, Office of Water Quality

Department of Environmental Quality  
2655 E. Magnolia Street  
Phoenix, Arizona 85034  
(602) 392-4002

## **Viability Measures**

### **Water Supply Planning, Permitting, and Review**

- **Water Supply Planning:**
  - require PWS to track current users and undeveloped lots in approved subdivisions it has committed to serve;
  - require PWS to manage water resources and plan source development, system improvements, and extensions; and
  - require continued compliance with the Arizona Ground Water Management Act.
- **Business Plan for New PWSs:**
  - management requirements;
  - operation requirements;
  - financial requirements;
  - full cost analysis; and
  - evaluation of options.
- **Encourage Interconnections**
- **Provide Takeover Mechanisms:**
  - eliminate obstacles to takeovers;
  - provide incentives for takeovers;
  - provide disincentives to current owners to fight takeovers;
  - provide authority for mandatory takeovers;
  - encourage quasi-public entity to run water systems; and
  - provide emergency hauling.
- **Require financial assurances (primarily for investor-owned PWSs):**
  - require bonding mechanism to guarantee completion of construction;
  - require guarantor to ensure proper operation; and
  - require sinking fund set aside for major equipment replacement.

- **Inter-Agency Coordination:**
  - Water Systems Coordinating Council (statutory);
  - Private Water System Advisory Committee (ad hoc–Department of Water Resources);
  - Rural Infrastructure Committee (ad hoc–Dept. of Commerce);
  - Councils of Government (statutory, ad hoc involvement); and
  - Omnibus Drinking Water Legislation Development Committee (envisioned; WSCC, RIC, Legislature).
- **Regional Planning:**
  - use 208-type plan as a vehicle for restricting development of new free-standing water systems;
  - encourage regional water service districts; and
  - establish role in land use planning and non-point source management.

#### **Assistance to Small PWSs**

- **Financial Assistance:**
  - develop a state revolving loan fund to provide capital funding for small water systems.

#### **Certification and Licensing**

- **Operating Certification:**
  - strengthen certification requirements;
  - increase certification fees; and
  - tie permitting, certification, 100-year assured supply (Dept. of Water Resources), local planning and zoning, County Health Department license requirements, and Certificate of Convenience and Necessity concepts into a single process.

#### **Other Measures**

- **Emergency Operations:**
  - contamination;
  - outages;
  - interruptions; and
  - hauling (mandate in Certificate of Convenience and Necessity).



- **Link Agency Requirements for New Wells:**
  - well drilling permits (Dept. of Water Resources);
  - plan and specification review (Dept. of Environmental Quality); and
  - public service corporation adjudication (AZ Corporation Commission).
- **Violation Prevention:**
  - reminders prior to due dates;
  - reminders shortly after due dates but before formal enforcement actions are taken; and
  - annual compliance status reports.

#### **Planned Activities**

#### **Legislation Development**

- **Identify what must go to the legislature:**
  - ratification of program;
  - additional authorities;
  - clarification of existing authorities; and
  - authorization of dedicated funds and deposition of fees to support state and county programs.
- **10/90 - 4/91 Option development:**
  - strategy and strawman legislation.
- **6/91 Workshop:**
  - implementation under current authorities and
  - need for new legislation.
- **7/91 - 1/92 Develop legislation for 1992 Legislature:**
  - educate legislators and interest groups.

#### **Regulation Development**

- **Identify current authorities and what can be done under current authorities**

- 6/91 - 12/92 Rule development (for items that need rule changes but can be done under current authorities)

### Kentucky

Kentucky has three viability program objectives: to educate the general assembly on the importance of ensuring small system viability; to define more clearly the responsibilities of State authorities; and to expand and clarify legislation that grants authority to agencies regulating PWSs. To reach its goals, the Drinking Water Branch is considering several viability programs. One is an operating permit to ensure that systems meet financial and managerial requirements. Presently, systems must meet only technical criteria before they are issued a permit. Kentucky also is considering the following programs: escrow account requirements for systems regulated by the Public Service Commission (PSC); financial reviews of all small systems; satellite management requirements for small systems; and technical assistance for systems during construction. These programs and others are summarized below. Any questions about Kentucky's action plan should be directed to:

Mr. John Smither, Branch Manager  
 Drinking Water Branch  
 Division of Water  
 Department of Environmental Protection  
 18 Reilly Road, Fort Boone Plaza  
 Frankfort, Kentucky 40601  
 (502) 564-3410

### Viability Measures

#### **Water Supply Planning, Permitting, and Review**

- Both the PSC and KyDEP have permitting authority to ensure that minimum design, construction and operating requirements are met before construction.
- The PSC conducts financial reviews to determine affordability and financial requirements, such as system escrow accounts for the 210 regulated utilities.
- The PSC authorizes new system interconnections with existing viable systems for the 210 regulated utilities.
- The PSC authorizes satellite management/ownership.

- The PSC grants exclusive service areas to districts. A system-wide planning process needs to be implemented for all water systems.
- KyDEP may need to regulate systems not regulated by PSC for financial review, satellite management/ownership and service areas.

#### **Assistance to Small PWSs**

- Technical assistance needs to be given before construction, to resolve any design and construction problems needs to be developed.
- Develop a program to certify system managers for all systems.
- The PSC provides limited technical assistance for all regulated systems.
- KyDEP is developing a program for State funding for water supply planning.

#### **Certification and Licensing**

- KyDEP certifies water plant operators.
- Licensing of pump installers, well drillers, and plumbers is handled by other departments.

#### **Other Measures**

- Coordinate grants and loans by other intra-State agencies to incorporate viability issues during decision-making process.

#### **Planned Activities**

#### **Legislation Development**

- 1990 - 1991 Work with the governor's office, legislative leaders and committee chairman to educate decision makers on viability issues of drinking water systems
- 1991 Prepare appropriate legislation for introduction in the 1992 Legislative Session

#### **Regulation Development**

- 1990 - 1991 Develop regulations which can be implemented without new legislation no later than the 1992 Legislative Session

## **Other Milestones**

- 1990 - 1991 Develop intra-agency agreements which can be implemented without new legislation no later than the 1992 Legislative Session

## **Massachusetts**

Massachusetts wants to limit the creation of new non-viable systems and encourage the expansion of existing viable systems. To do this, the State has planned several viability initiatives. One of the most important is financial accountability requirements for new systems. To obtain a construction permit, a system would need to demonstrate that it has considered all available alternatives, and it must submit a financial management plan. Other initiatives Massachusetts is considering include: conducting financial reviews of existing systems; providing business management assistance to newly formed systems; and expanding operator certification requirements to very small systems. These options, as well as others, are described in the excerpts below. More information on Massachusetts' action plan can be obtained from:

Ms. Yvette dePeiza, Program Manager  
Division of Water Supply  
Department of Environmental Protection  
One Winter Street, 9th Floor  
Boston, Massachusetts 02108  
(617) 292-5857

## **Viability Measures**

### **Water Supply Planning, Permitting, and Review**

#### **New Systems**

- New system approval regulations; permitting process to ensure that minimum design, construction, and operating requirements are met before construction:
  - investigation of all available alternatives during the application process, including interconnecting with an existing system;
  - new system interconnection with existing viable systems;
  - satellite management/ownership;

- consolidating management with another existing system, etc.;
  - review of financial management plan to assess viability, such as Letters of Credit, bonds, escrow accounts, etc. can be considered;
  - certified operator requirements must be met prior to operation;
  - operation and maintenance manual required;
  - emergency response plan required;
  - engineer's certification of new systems before and after construction; and
  - notice of cost to prospective purchasers at each point of sale or transfer/guidance to be developed.
- Changes to original approved status:
    - information required on any changes to original;
    - transfer of permits approval required; and
    - transfer of assets approval required.

#### Existing systems in compliance

- Identification
- Sanitary survey
- Financial audit (worksheet to be developed with DPU)
- Use of third-party groups to provide technical assistance

#### Existing systems in non-compliance

- Municipal
- Non-municipal
  - DPU regulated and
  - Non-DPU regulated
- Identification
- Sanitary survey
- Enforcement action (orders, civil penalties)
- All options for resolving the problem are considered including the following;
  - revenue enhancements;

- loans or grants;
- rate increases;
- takeovers;
- mergers; and
- abandonment.

#### **Assistance to Small PWSs**

- Provide technical assistance, before construction, to resolve any design and construction problems.
- Provide business management assistance to newly forming systems/third party involvement, RCAP, NERWA, AWWA, NEWW.
- Provide Financial assistance such as State funding for water supply planning (to be investigated).
- Hold training programs and seminars.
- Promote the NERWA circuit rider program.

#### **Certification and Licensing**

- Develop certified operator requirements for systems (VSS).
- Promote shared certified operators for systems.
- Develop a licensing program for well drillers, plumbers, and cross-connection device testers.

#### **Other Measures**

- Outside task force on small water system issues:
  - NERWA/Cadmus initiative for small systems (part of larger water supply review program).
- Safe Drinking Water Act Advisory Committee:
  - small system issues workgroup.
- Small system issues (1 FTE presently devoted).
- Outreach activities:



- "In the Main" newsletter.
- Legislative initiative to bring Board of Certified Operators under DEP jurisdiction

### **Special Measures of DEP**

- Linkage of all environmental data bases for compliance determination.
- Administrative penalties and orders:
  - up to \$25,000/day per violation.
- Annual compliance fees and permit fees dedicated to DEP program.

### **Planned Activities -**

### **Legislation Development**

- No later than fiscal year 1993:
  - obtain authority to order temporary supply interconnections in emergencies and
  - investigate takeover alternatives.

### **Regulation Development**

- No later than fiscal year 1993:
  - develop financial management plan requirements and
  - develop notice of service cost for prospective purchasers

### **Other Milestones**

- No later than fiscal year 1993:
  - create training school similar to existing waste water training facility;
  - formalize relationship between DEP and DPU;
  - develop guidelines for determining whether service to an existing system is feasible;
  - develop field worksheet for collection of financial data during sanitary surveys;

- develop operation and maintenance manual;
- develop responsibilities of certified operators (ongoing); and
- mobilize third party support.

### Missouri

Missouri's goal is to prevent the formation of non-viable systems and to ensure the viability of existing systems. To accomplish this goal, Missouri is developing such viability initiatives as: developing a permitting program that will guarantee technical, financial, and continuing authority capabilities; developing financial requirements; encouraging comprehensive water system planning; and improving operator certification and training requirements. The excerpts below provide more detail on these programs and others. The lead contact in Missouri is:

Mr. Jerry Lane, Director  
Public Drinking Water Program  
Department of Water Resources  
Division of Environmental Quality  
205 Jefferson Street  
P.O. Box 176  
Jefferson City, Missouri 65102  
(314) 751-0535

### Viability Measures

#### **Water Supply Planning, Permitting, and Review**

- Modify permitting process to ensure that minimum design, construction, and operating requirements are met before construction. This would include:
  - requirement to provide certified as-built by PE;
  - definition and establishment of continuing utility management and operating authority requirements;
  - requirement to have certified operators; and
  - requirement to meet financial viability criteria.
- Require financial review to determine affordability and financial requirements:
  - establish financial ability criteria.
- Require water supply plans for water systems every 5-10 years.

- Establish hierarchy for continuing utility management and operating authority, which may include the following:
  - new system interconnection with existing viable systems;
  - satellite management/ownership;
  - management O & M contracting; and
  - receiverships.
- County and regional review to specify each system's present and future service areas and system improvements and expansion plans.

#### **Assistance to Small PWSs**

- Develop management, operation, and maintenance manual (consider public/private partnerships).
- Modify state funding criteria to promote consolidation of management, operation, and maintenance of water systems.
- Develop tax free bond funding program for privately owned water and sewer systems.

#### **Certification and Licensing**

- Modify state regulations to require certified operators at all community water systems.
- Modify state regulations to require certified operators at all non-community water systems.

#### **Planned Activities**

#### **Legislation Development**

- 12/90 Request additional funds from Legislature
- 6/91 Clarify water quantity issues
- 6/91 Develop administrative authority and penalties
- 6/92 Expand permitting authority to include financial requirements

- 6/92 Establish and define continuing authority requirements to ensure long-term system ownership
- 6/92 Develop authority to appoint receiverships

### **Regulation Development**

- 7/91 Identify existing regulatory authorities among state and local agencies
- 7/91 Develop a fee system
- 6/91 Operator certification regulations for community water systems
- 6/93 Operator certification regulations for non-community water systems

### **Other Milestones**

- 7/91 Delegate some permit reviews to regional offices
- 7/91 Explore county cooperative efforts
- 7/91 Hire individual or contractor for planning
- 7/91 Provide assistance to water supplies
- 6/92 Modify permitting process
- 7/92 Develop MOUs or public/private partnerships
- 7/93 Hire additional staff to implement program

### **Montana**

Montana wants to establish a viability program designed to limit the proliferation of new water systems and ensure the viability of existing systems. Montana currently is drafting legislation that would require small systems to submit financial, operational, and management information during the construction permit process. In addition, the Department of Health and Environmental Services (DOHES) is considering a provision that would order small systems to maintain escrow accounts to ensure future viability. Other viability initiatives include: developing an annual financial reporting requirement; encouraging satellite management/ownership; providing financial management assistance; and establishing operator certification requirements

for non-transient, non-community system operators. The excerpts below describe these programs and others. The lead contact for Montana is:

Mr. Dan L. Fraser, Chief  
Water Quality Bureau  
Department of Health and Environmental Sciences  
Cogswell Building Room A206  
Helena, Montana 59620  
(406) 444-2406

### **Viability Measures**

#### **Water Supply Planning, Permitting, and Review**

- Develop permitting process to ensure that minimum design and construction requirements are met before construction commences (existing).
- Conduct construction inspections to ensure construction is in accordance with Department of Health approval and follow-up inspections.
- Review long-term financial viability.
- Institute bonding provision to ensure capital improvements are made.
- Develop an annual financial reporting requirement.
- Establish more complete rules regarding minimum operating requirements including pressure and service (application of 10 State standards).
- Encourage new system interconnection with existing viable system (satellite management/ownership).

#### **Assistance to Small PWSs**

- Provide technical assistance to give operating and maintenance guidance.
- Provide assistance for administration and financial management.
- Adopt comprehensive performance evaluation/composite correction program process to small ground water systems.

### **Certification and Licensing**

- Mandatory certification for all community systems.
- Require certification of non-transient non-community operators.
- Require continuing education for community systems serving less than 100 and non-transient non-community system operators.
- Strengthen training program.
- Contract with rural water and rural community action committee to provide training and technical assistance.
- Provide more training for system administrators.

### **Other Measures**

- Formal Memorandum of Agreement between PSC and DHES to coordinate efforts related to adequacy of facilities, service, and financial considerations of small water systems.
- Enforcement
  - Administrative Orders,
  - Administrative penalties, and
  - Civil penalties.

### **Planned Activities**

#### **Legislation Development**

- 10/90 Draft legislation
- Task force activities (ongoing)
- 10/90 Complete task force report
- Prior to legislative session: Brief Director, Governor's Office, and key legislators
- 10/91 Draft rules:



- viability review standards;
  - fees;
  - administrative enforcement; and
  - operator certification.
- 1991-1992 Reconvene task force
  - 8/92 Develop recommendations for 1993 Legislature

#### **Other Milestones**

- 11/91 PSC/DHES MOU
- 1991-1992 Develop comprehensive performance evaluation process for small systems

#### **Nevada**

Nevada's goal is to develop and enact State legislation that will provide the financial, administrative, and institutional support needed to ensure the viability of new small water systems. The State is particularly interested in increasing resources for State program administration and providing financial and technical assistance to small PWSs. Other viability initiatives being developed are: requiring new systems that will not be operated by a governmental agency to post a performance bond; developing more stringent operator certification requirements; and imposing administrative fines. Excerpts from Nevada's action plan are provided below. More information about Nevada's initiatives may be obtained from:

Mr. Jeffrey Fontaine, Supervisor  
Public Health Engineering  
Nevada Division of Health  
Bureau of Regulatory Health Services  
505 East King Street, Room 103  
Carson City, Nevada 89710  
(702) 885-4750

#### **Viability Measures**

##### **Water Supply Planning, Permitting, and Review**

- Any new public water system that will not be operated and maintained by a governmental agency must post a performance bond, using some financial

viability model, with the county for operation and maintenance for a period of 5 years.

#### **Assistance to Small PWSs**

- Enact legislation which provides financial support for small water systems in meeting the existing and future requirements of the federal SDWA. Systems must submit, prior to receipt of any financial support, a plan approved by the State Board to Finance Water Projects, that ensures viability.
- Provide additional funds through existing programs such as Community Development Block Grants and Section 501 of Title V of the Federal Disaster Assistance Act of 1989.
- Establish a matching grant program administered by the State Board to Finance Water Projects to provide financial assistance for capital improvements required of non-investor-owned community and non-transient public water systems.
- Establish a revolving loan fund administered by the State Board to Finance Water Projects to provide low-interest loans for capital improvements required of community water systems.
- Appoint the Administrator of Nevada's Health Division, or his/her designee, as a nonvoting advisory member of the State Board to Finance Water Projects.

#### **Certification and Licensing**

- Require certification of operators of [community] all public water systems which are designated surface water systems [or] and community water systems serving 100 or more persons. Program is to be administered through the Nevada Division of Health.
- Establish an advisory board appointed by the Governor which consists of water system operators to advise the Health Division concerning the procedures and process of an operator certification program.
- Operator certification program will encompass continuing education and training.

## **Other Measures**

- Urge by resolution the establishment of well-head protection zones to protect the quality of community drinking water sources through planning and zoning authorities as provided in NRS 278.020, NRS 278.150, NRS 278.160 and NRS 278.250.
- Enact legislation which emphasizes the maintenance of primary enforcement responsibility (primacy) at the State level for the drinking water program.
- Increase resources for the administration of the State program.
- Enact new provisions which state that willful violation of a regulation pursuant to NRS 445.381 subjects a supplier to a civil penalty of not more than \$5000 per day as provided in NRS 445.397.
- Authorize the State Board of Health to impose an administrative fine of not more than \$5,000 per day for the willful violations listed in NRS 445.397.
- Appropriation of \$300,000 to the Health Division for the preparation of an inventory of the quality of Nevada's 440 community public water systems to include an assessment of projected needs necessary to the comply with current and future SDWA requirements.
- Require approval of the State Health Division, the Division of Environmental Protection, and the Division of Water Resources for parcel maps not within the service area of a water system created as a general improvement district, owned or created by a county or city, or regulated by the PSCN.
- Specify that no supplier of water or sewer services which is subject to regulation by the PSCN may dispose of or encumber any of its property which is necessary or useful in the performance of its duties to the public without first securing from the PSCN an order authorizing it to do so; and declare that any such action made other than in accordance with the order is void.

## **Issues to be resolved**

- Proliferation of individual wells in areas that could best be served by a water system. Water rights are a problem.
- State authority to regulated quasi-water systems (those serving 2 to 14 connections) that serve more than the individual household or complex of buildings on a piece of property.

- Investigate existing authority to prohibit/deny construction of new water systems with inadequate water supply potential.
- What satellite management incentives the State Health Division can offer to existing utilities.
- Ability to review the entire operation and maintenance/revenue package and approve/deny construction of new water systems.
- Explore responsibility and authority for the management of failed systems.

#### **Planned Activities**

#### **Legislation Development**

- 1/91 Recommendations of the legislative committee on Water and Waste-water Resources introduced as bill drafts to the 1991 Legislature
- Ongoing: Coalition of cities, counties, private utilities, interested parties and state government formed to assist passage of the proposed legislation in the 1991 Legislature
- 1/91 - 6/91 Coalition to resolve outstanding issues during the 1991 Legislature

#### **Pennsylvania**

Pennsylvania's goal is to control the proliferation of new non-viable water systems and improve the viability of existing systems. Currently, the State is conducting a study that develops a viability screening method that will be incorporated into the permit process. Eventually, this method will be applied to existing systems. (For more information on this study, please see section III of this report.) The State also is considering such viability measures as: providing financial assistance for water supply planning and satellite management; improving operator certification requirements; and directing training programs to small system needs. Excerpts from Pennsylvania's program are provided below. The State's lead contact is:

**Mr. Steve Schmidt, Chief, Program Development  
and Evaluation, Division of Water Supplies  
PA Department of Environmental Resources**

P.O. Box 2357  
Harrisburg, Pennsylvania 17105  
(717) 787-0122

## **Viability Measures**

### **Screening Methodology for New Small Systems**

**Step 1:** The Preliminary Engineering Conference presently called for in the PWS Manual will be expanded. An early initial meeting will provide potential applicants with a "pre-feasibility" analysis. The objective is to educate potential applicants regarding full costs at as early a point as possible. In this meeting, DER engineers will utilize a new cost model being developed by Gannett Fleming as part of this project. The cost model is designed to provide a rough order-of-magnitude assessment of capital, operation and maintenance, and replacement costs. The model will compute total capital requirements and the total annual cost per connection from a fundamental set of input assumptions provided by the potential applicant. Many potential applicants will use the full cost "price signal" thus provided by DER as a basis for comparison shopping to see if they cannot find a more economically attractive alternative to new system development.

**Step 2:** For applicants who choose to pursue new system development, the scope of the Engineer's Report presently required to accompany the permit application will be expanded in two respects:

- The consideration of alternatives will be expanded to require a discussion of the rationale for proceeding with new system development instead of choosing an alternative means of providing water service, such as interconnection to an existing system.
- The proposed system design must be accompanied by a detailed cost estimate, presenting estimates of:
  - the total capital cost;
  - the total annual O&M cost; and
  - a prudent annual reserve requirement to provide for eventual system replacement.

**Step 3:** The O&M Plan requirement will be expanded to include a requirement for a "business plan." The business plan will include the following components:

- Information to disclose more fully the ownership of the proposed system to identify the parties responsible for its effective management.

- A pro forma balance sheet, projected 5 years into the future, to provide assurance of adequate capitalization of the system.
- A pro forma income statement, projected 5 years into the future and demonstrating a positive cash flow, to assure revenues sufficient to cover the full costs of the system.
- Any additional guarantees that the system developer wishes to offer to assure DER of the success of the business plan, such as:
  - letters of credit confirming the commitment of capital to the project;
  - a commitment of funds in escrow, a performance bond, or another form of insurance;
  - a commitment to hire a credible contract O&M company; and
  - a commitment from a guarantor to take responsibility for the system if the business plan fails. (Guarantors could include: nearby water systems capable of extending service; local governments; county authorities; private water companies; private contract O&M firms; and other credible entities.)

Step 4: Conformance with the business plan will become a condition of the permit. The annual operating report requirement will be expanded to require an annual financial report sufficient to allow a clear comparison of actual versus planned financial performance.

To complement and reinforce the incentives implicit in the modified permit process, DER will undertake programs of public education to assure that the general public as well as targeted groups such as consumers, homebuyers, mortgage lenders, and local government officials are apprised of the business risks inherent in small water system development and are aware of the information available in the business plans submitted to DER.

Modification of the permit application process will ensure that all parties involved in the development of new water systems are made fully aware of the full costs of providing a proper water supply. This correction in the "price signal" can be made to function as a "credible deterrent" that will redirect many potential applicants to other--eventually less expensive--means of providing water service.

Assuming the modifications in the DER permit process are successful in encouraging some comparison shopping by potential new system developers, what measures could be proposed to remove existing barriers to--or, enhance the incentives for--alternative solutions such as extensions of service, interconnections, absorption/satellite management by nearby larger systems, and innovative forms of commercial involvement by the private sector? This may include a wide range of proposed



statutory, regulatory and institutional changes that bear on the problem of providing water service. There are a number of barriers inherent in the present legal/regulatory/institutional framework as well as a number of places where incentives to larger scale provision of water service can be enhanced.

### **Review of Existing System Viability**

- Apply viability screening to existing small systems, perhaps through DER or PUC regulatory/enforcement proceedings or through PENNVEST loan application procedures. This may include a requirement for the same plan components:
  - Facility Plan--detail replacement, rehab, and upgrade needs;
  - O&M Plan--following format already developed in the DER water supply manual; and
  - Management and Financial Plan--same components as for new systems; balance sheet to show adequate capitalization, income statement to document revenue sufficiency; full disclosure of ownership.
- Initiate regional/local planning involvement in the review of viability plans of existing small systems. Attempt to attract "a few good counties/townships" to lead the way. Encourage this involvement by investigating the use of PENNVEST funds--or other sources of funding--for local planning efforts. Charge the local/regional planners with addressing the natural geographic relationships between small systems within an area--possibilities for regionalization, franchising, interconnection, satellite management, big brother arrangements, mergers/acquisitions. How can the viability status of individual systems within the same region be enhanced through mutual arrangements?
- Build on recent consensus process undertaken in development of the PENNVEST Comprehensive Water Facilities Plan to build momentum for legislation to mandate statewide regional/local planning initiatives. Obtain "ratification" and extension of initiatives already started. Obtain a suitable appropriation to implement this initiative.

### **Assistance to Small PWSs**

- DER will continue reviewing and offering assistance during the technical review of plans and specifications.

- The cost estimates and management checklist derived from the cost model will assist newly forming systems to understand the good business requirements.
- DER will work with PENNVEST staff to consider the possibility of using PENNVEST funds for water supply planning at a regional level in efforts to consolidate nonviable systems rather than simply prop-up nonviable systems with grants or low interest loans.

### **Certification and Licensing**

- DER will strive to improve and enhance the operator certification training and examination process for small system operators.
- Training programs will be directed to small system needs.

### **PLANNED ACTIVITIES**

- 10/90 Establish a Viability Advisory Committee to guide the current studies of new and existing systems and to assure practical steps are developed
- 7/91 Complete the Viability Study of both new and existing systems
- 4/91 Develop a MOU with the PUC to utilize the viability process
- 4/91 Obtain DER/PUC executive staff approval of viability concepts and process
- 6/91 Train DER/PUC staff in implementation of viability screening method and cost model
- 6-9/91 Prepare a request for additional staff and budget to carry out the program
- 6-9/91 Execute a contract for financial service agency to perform viability reviews
- 7/91 Develop a formal plan and agreements with funding agencies
- 7/91 Develop a communications strategy for the entire viability effort, including targeting of groups to achieve education about viability issues, and developing implementation methods
- 7/92 Recruit, hire, and orient new staff to begin full viability screening

- 1992-96 Phase in all existing small water systems
- 1991– Maintain viability by reviewing annual financial reports for consistency with viability plans.

### Utah

Utah's primary objective is to create incentives for regionalization and cooperative agreements. To achieve this objective, the State would like to develop financial and managerial requirements for proposed systems and promote area-wide planning. Other initiatives being considered are: providing technical assistance to systems before construction; establishing more stringent operator certification requirements; and developing a more extensive licensing program. Excerpts from Utah's action plan are provided below. The lead contact for the State is:

Mr. Ken Bousfield  
Bureau of Drinking Water  
Utah Department of Health  
P.O. Box 16690  
Salt Lake City, Utah 84116-0690  
(801) 538-6159

### Viability Measures

#### **Water Supply Planning, Permitting, and Review**

- Permitting process to ensure that minimum design, construction, and operating requirements are met before construction:
  - review of engineering plans and specifications to ensure they meet regulations and common industry standards;
  - submittal of certified as-build plans (by inspector or certified system operator);
  - inspection by a State-certified local jurisdictional inspector to ensure compliance with engineering plans and specifications;
  - submittal of proposed managerial organization and operations of the small drinking water system to include the services of a State certified drinking water operator of the proper discipline and grade level as required by the Utah Operator Certification Regulations;
  - review projected fixed operational costs and ensure adequate reserves for unforeseen operational and maintenance expenses, and any capital expenditures;
  - adequacy of pre-purchase disclosure;

- demonstration of why regionalization or formation of a cooperative is not viable, if they are not used; and
- conformity with the area-wide plan as provided by AOG/COG.
- Financial review to determine affordability and financial requirements.
- analysis to ensure that the small drinking water system is economically feasible for construction, operations, and maintenance with viability ensured by the posting of an adequate performance bond until the system is economically self-sustaining.

#### **Assistance to Small PWSs**

- Technical assistance, before construction, to resolve any design and construction problems (many agencies available for consultation).
- Financial assistance is available for non-profit small drinking water systems through existing State agencies.

#### **Certification and Licensing**

- Operator certification will be required for all small drinking water systems under proposed legislative changes.
- Licensing of pump installers, well drillers, and plumbers currently required by other State agencies.

#### **Planned Activities**

##### **Legislation Development**

- 1991 Session: Propose legislation for extension of operator certification to all public drinking water systems
- 1992 Session: Propose legislation for levying administrative penalties by the Bureau of Drinking Water

##### **Regulation Development**

- 1/92 Revise existing regulations for extension of operator certification to all public drinking water systems

## **Other Milestones**

- Develop guidelines for an AOG/COG area-wide planning process
- Develop a program with the PSC to allow economic incentives for continuing operation of non-compliant small drinking water systems by other entities, expanding receivership which currently exists through the Safe Drinking Water Committee.

## **Vermont**

Vermont's objective is to ensure the viability of new and existing PWSs, with particular emphasis on privately owned systems. Some of the initiatives the State is considering are: requiring systems to develop 10-year financial plans; requiring proposed systems to explore alternatives such as interconnection; proposing legislation that would create incentives for consolidation of small systems and satellite management; and improving technical assistance to small system operators. These initiatives and others are described below. More information on Vermont's action plan may be obtained from:

Mr. Winslow Ladue, Drinking Water Program Chief  
Environmental Health Division  
Vermont Department of Health  
60 Main Street, P. O. Box 70  
Burlington, Vermont 05402  
(802) 863-7234

## **Viability Measures**

### **Water Supply Planning, Permitting, and Review**

- Evaluate viability as part of reviews of new investor-owned water systems. Determine whether alternatives such as system interconnections or denial of a Certificate of Public Good by the Public Service Board would better serve the public interest. (Estimated caseload 1 to 2 per month.)
- Require new and existing non-investor-owned water systems to develop 10-year financial plans, with updates every five years. These plans should include all costs affecting viability and should establish reasonable sinking funds for equipment replacement.
- ~~For the creation of a new sub-town municipal water district, propose~~ legislation that would establish a concurrent approval requirement by local

Boards of Selectmen and the State Water Supply Program, with advice from the Department of Public Service. Approval would be withheld if the new system has not adequately considered interconnection or if the rates will not ensure viability.

- Review viability of existing small systems over next 3 years. Schedule reviews in order of decreasing public health risk factors. Use existing sanitary surveys to perform analysis.
- Propose legislation to create incentives for the consolidation of small systems, as well as satellite operation and management.
  - add financial incentives through rate-making for the takeover of small systems by nearby investor-owned utilities and
  - authorize State Treasurer to grant lower interest loans to municipal utilities which accept "dogs."
- Strengthen the role of regional planning in water system planning. This will involve training and better communicating system locations and limitations. It also may involve increasing PRC responsibility for coordinating municipal water system service areas.
  - propose a bill that explicitly states that regional plans will include a public water system inventory and plan.
- Add a water system viability evaluation in the current state land use permitting process (Act 250) for subdivisions and new development.
- Revise the process for PSB approval (Certificate of Public Good) of new small investor-owned systems:
  - shorten the review period and reduce case preparation costs and
  - use application forms jointly prepared by PSB and Water Supply Program.
- Clarify PSB jurisdiction over cooperatives and mobile home parks.
- Develop joint database regarding public and investor-owned water systems that is interactively accessible to Water Supply Program, Dept. of Health Epidemiology Division and PSB and Department of Public Service.

#### **Assistance to Small PWSs**

- Improve technical assistance to small system operators. Use as a model the current program for technical assistance to municipal sewage systems.
- Improve small system access to private capital sources. Develop explanatory handbook on how to acquire loan capital from banks and how to obtain rate increases to meet bank prudential concerns. Clarify PSB policy on rate increase timing. Answer these questions:
  - will PSB allow rate increase (based on loaned amount) before asset becomes "used and useful?" and
  - can rates be conditioned upon installation of improvements?

### **Other Measures**

- Improve enforcement activities:
  - expand existing authority to use administrative penalties for drinking water violations and
  - use receivership and revocation of Certificates of Public Good as means of promoting change in investor-owned non-viable systems.
- Increase revenues for water supply program. Propose legislation to:
  - raise fees for water quality analysis, permits, operator certification, and laboratory certification and
  - increase the water company gross receipts tax on investor-owned systems. (Revenues to go to technical support of small systems.)

### **Planned Activities**

#### **Legislation Development**

- 10/90 Meet with small system operators and other stakeholders; Develop advisory group and refine overall strategy
- 11/90 Develop MOUs to implement interim strategy of interagency cooperation; Develop legislation (simple and non-controversial); Circulate first draft within government of redraft of PSB rule on drinking water systems

## **Regulation Development**

- 3/91 Adopt new drinking water rules
- 6/91 Adopt new PSB rules

## **V. Pennsylvania's Program**

### **Introduction**

The Pennsylvania Department of Environmental Resources (DER), Division of Water Supplies (DWS), is responsible for regulating the State's public drinking water systems. DER regulates approximately 10,700 PWSs: 2,400 are community systems and 8,300 are non-community systems. Approximately 87 percent of all Pennsylvania's PWSs are small systems, which are responsible for more than 90 percent of the State's drinking water violations. The Pennsylvania Public Utility Commission (PUC) regulates privately owned systems and municipal water systems that operate outside their municipal boundaries. There are approximately 365 such systems, representing 15 percent of the State's CWSs. Over half have annual operating revenues of less than \$100,000. The table below presents Pennsylvania's water system inventory.

**Pennsylvania's  
Water System Inventory**

<b>Number of Individuals Served by a System</b>	<b>Public Water Systems</b>	<b>Percent of all PWSs</b>	<b>Community Water Systems</b>	<b>Percent of all CWSs</b>
0 < 500	9,338	87.1	1,551	63.9
501 - 3,300	1,023	9.5	551	22.7
3301 - 10,000	204	1.9	175	7.2
> 10,000	155	1.5	151	6.2

### **DER's Viability Controls**

DER has developed many viability initiatives. Some are directed toward new systems, while others affect existing systems. The initiatives discussed in this section include: the permit process; the Small Water Systems Committee; the Technical Assistance Program for Small Systems; the Pennsylvania Infrastructure Investment



Authority Act; and the Mobile Home Park Cooperative. All of these initiatives were implemented within the last two years, so information about them is limited.

**Permit Process:** DER attempts to ensure the viability of new small systems through its permit process. DER requires a system to submit engineering designs and specification plans to qualify for a design and construction permit. In addition, it requires the system owner or operator to obtain an operating permit. Title 35, Chapter 5, section 721.7 of the Pennsylvania Statutes grants DER the authority to "include in each permit general and specific conditions to ensure the proper operation of the public water system and the furnishing of an adequate, safe, and potable supply of water." DER is considering the inclusion of financial and managerial requirements in the permit process.

**Pennsylvania Small Water System Committee (SWSC):** Formed in 1988, the SWSC is a forum for exchanging information about small water systems. The Committee has members from agencies and organizations such as: the Department of Community Affairs; the PA Water Works Operators Association; the Joint Air and Water Pollution Control and Conservation Committee; the Senate Environmental Resources and Energy Committee; the PA Rural Water Association, and the PA League of Women Voters. Members meet quarterly to discuss small water system issues and to help coordinate resources and prevent an overlap of efforts. They also assist in building support for State drinking water legislation. For example, the Committee supported the passage of Act 24, which encourages small system takeovers by large water systems.

**Technical Assistance Program for Small Systems (TAPSS):** TAPSS was designed to improve the technical, operational, and managerial capabilities of small water systems through on-site technical assistance and training. The program was established in 1989 and was financed with State and Federal funds. The program's primary goal was to help small water systems comply with new and existing drinking water regulations, focusing on filtration, disinfection, and corrosion control. TAPSS has aided approximately 360 small water systems.

DER hired contractors to conduct the on-site technical assistance and training programs for small systems. The contractors trained 113 small water system owners and operators in corrosion control principles, 50 systems in operations and maintenance of filtration plants, and 194 systems in disinfection practices. The corrosion control contractors made videotapes of the corrosion control seminars, which were edited to three half-hour topic areas: "Corrosion Principles," "Chemicals and Chemical Feed," and "Operational Considerations." In addition, contractors conducted training seminars for all DER field staff.

**The Pennsylvania Infrastructure Investment Authority Act (PENNVEST):** PENNVEST is an initiative that has provided small water and sewage system owners

with financial assistance. In 1989, \$560 million was available through the program and approximately 60 percent was directed towards small system capital improvements. The program is designed to provide \$2.5 billion in assistance to water and sewage systems over the next 25 years.

Any owner or operator of a drinking water system is eligible to participate in the program. It may be a public or private entity, including any person, corporation, partnership, association, cooperative, municipal authority, or governmental unit. PENNVEST grants financial assistance for construction, improvement, expansion, extension, acquisition, repair, or rehabilitation of any drinking water system.

PENNVEST is able to finance up to 100 percent of eligible project costs, subject to some limits. There is an overall cap of \$11 million per project. This cap is increased to \$20 million if more than one municipality is served and may be exceeded with Authority approval if more than four communities are served.

PENNVEST assistance primarily consists of low interest loans with some supplemental grants for economically distressed communities. Interest rates vary, but once a loan is approved, interest is fixed for the term of the loan. Most of the loans have a term of 20 years and carry interest rates ranging from one to six percent. There are no application or service fees and there are no pre-payment penalties.<sup>9</sup>

One of the largest projects PENNVEST approved was a \$5.2 million water system improvement for the Columbia Water Company in Lancaster County. The Columbia system has suffered with giardia contamination, rusty water, and inadequate pressure for fire fighting. The PENNVEST loan will be used to renovate the water treatment plant and distribution system, to build a new pump station, and to install a 2-million-gallon water tank.<sup>10</sup>

**The Mobile Home Park Cooperative:** This initiative began in 1989 to address compliance problems with the State's estimated 800 mobile home parks. The goal of the program is to provide operations expertise to mobile home park owners in order to improve their compliance with drinking water regulations. Eleven mobile home parks in Berks County were selected to receive assistance through the program. A "circuit rider" from an engineering contractor trained system owners and operators, assisted in developing operations and emergency plans, and helped operators become State certified. The pilot program also developed a guidebook for coalition building.

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<sup>9</sup>Information on PENNVEST was taken from "A Water Utility's Guide to Financial and Technical Assistance Programs," Pennsylvania Infrastructure Investment Authority, Commonwealth of Pennsylvania, January 1990.

<sup>10</sup>Commonwealth of Pennsylvania, PENNVEST, News Release, September 26, 1990.

which provides the program's history and a guide explaining how to organize such efforts. Preliminary results indicate that mobile home park owners are not as financially constrained as was initially thought.

### PUC's Viability Controls

The major PUC viability initiatives are Act 24 and proposed House Bill 25. Both initiatives, described below, encourage the acquisition of non-viable small systems by larger, viable systems.

**Act 24:** Signed into law in April 1990, this initiative provides an incentive for large water utilities to acquire failing small systems. When a public utility acquires a small system at a cost which exceeds the depreciated original cost, that excess, or any portion deemed reasonable by the commission, may be included in the acquiring utility's rate base.<sup>11</sup> To spread acquisition costs over its rate base, a utility must prove several points, including: that the system purchased is useful in providing water service; that the system purchased had 1,200 or fewer customer connections; that at the time of purchase, the system was not furnishing and maintaining adequate, efficient, safe, and reasonable service; that the purchase price is reasonable; and that the rates charged to pre-acquisition customers will not increase unreasonably.

**House Bill 25:** This bill, which is currently before the legislature, would give the PUC authority to require the acquisition of non-viable, small systems by large systems. The bill allows the PUC to order a capable public utility to acquire a small water utility if it determines that: the small system has violated statutory or regulatory standards which affect the safety, adequacy, efficiency, or reasonableness of the service provided; the system has failed to comply, within a reasonable period of time, with any PUC or DER order; that the system cannot furnish and maintain adequate, efficient, safe, and reasonable service in the future; that alternatives to acquisition have been considered and rejected; and that the rates charged by the acquiring utility to its pre-acquisition customers will not increase unreasonably.

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<sup>11</sup>The acquired small system may be owned by a public utility, a municipal corporation, or an individual.

## STATE ACTION PLAN

### ENSURING THE VIABILITY OF NEW SMALL DRINKING WATER SYSTEMS BEFORE CREATION

#### I. STATE PROFILE

- Background
- Definitions
- Small System Characteristics
- Current Small System Program
- Future Viability Issues

#### II. MISSION STATEMENT AND OBJECTIVES

**Viability Program Mission:**

- Concise statement identifying the purpose and mission of the State's viability program.

**Viability Program Objectives:**

- Translate the general mission statement into specific measurable results -- identifying what is to be accomplished through the program's activities.

#### III. DESCRIPTION OF STATE'S PROPOSED VIABILITY PROGRAM

- Each State will develop individual action plans tailored to address its specific and unique small systems needs. This section should be used to describe in detail necessary program authority, program administration and viability activities the State envisions will comprise its viability program (i.e. the big picture). This should be a comprehensive description including any current viability activities the State is implementing. The basic elements that should be considered in formulating a viability program are listed below.

**Authority:**

- Statutory and regulatory (current and under development)
- Identification of organizations involved and responsibility and authority of each

**Program Administration:**

- Appropriated funds or other resources to carry out the program
- Program planning, management and evaluation
- Staff hiring and training
- Partnerships with third parties for resource sharing and cooperation to achieve the program's mission

**Viability Program Activities:**

Water Supply Planning, Permitting and Review

- Permitting process to ensure that minimum design, construction and operating requirements are met before construction.
- Financial review to determine affordability and financial requirements, such as system escrow accounts.
- New system interconnection with existing viable systems.
- Satellite management/ownership.
- Area-wide planning to specify each system's present and future exclusive service area, system improvements and expansion plans; may include satellite management plans.

Assistance to small PWSs

- Technical assistance, before construction, to resolve any design and construction problems.
- Business management assistance to newly forming systems.
- Financial assistance such as State funding for water supply planning.

Certification and Licensing

- Certified operator requirements for new systems.
- Licensing of pump installers, well drillers, and plumbers.

Other Measures

**IV. VIABILITY PROGRAM IMPLEMENTATION**

- From the detailed description in Section III identify specific tasks (those things that must be done in order to put a viability measure in place and reach implementation) and establish milestones (dates targeting expected accomplishment of the task or portions of the task).

**APPENDIX B**  
**Small System Viability Workshop**  
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**APPENDIX C  
VIABILITY WORKSHOP  
AGENDA**

Saturday, September 22, 1990

- 8:00 am**      Registration
- 8:30 am**      ASDWA Welcome
- Dan Fraser, National Vice President  
Association of State Drinking Water Administrators
- 8:45 am**      Introduction Exercise
- 9:00 am**      EPA Opening Remarks
- Michael B. Cook, Director, Office of Drinking Water  
Environmental Protection Agency
- 9:30 am**      Washington State Viability Program
- Mr. Richard Siffert, Planning Program Supervisor  
Drinking Water Program, Dept. of Social & Health Services
  - Mr. William Liechty, Acting Director  
Drinking Water Program, Dept. of Social & Health Services
  - Mr. Bob Wubbena, President  
Economic and Engineering Services
- 10:45 am**    Break
- 11:00 am**    Connecticut State Viability Program
- Mr. Raymond Jarema, P.E., Chief Engineer  
Water Supplies Section, Conn. Dept. of Health Services
  - Mr. Richard Albani  
Connecticut Department of Public Utility Control
- 12:30 pm**    Lunch
- 1:30 pm**      Maryland State Viability Program
- Mr. William Parrish, Jr., Program Administrator  
Water Supply Program, Maryland Dept. of the Environment
- 2:30 pm**      Break



- 2:45 pm**      Pennsylvania State Viability Program -
- Mr. Steve Schmidt, Chief  
Program Development & Evaluation, Division of Water Supply  
PA Department of Environmental Resources
  - Mr. Walt Harner, Sanitary Engineer  
Division of Water Supplies, PA Dept of Environmental Resources
  - Ms. Judy Carlson, Rate Analyst  
Pennsylvania Public Utility Commission
  - Mr. John Cromwell, Project Coordinator  
Wade Miller Associates, Inc.
- 3:45 pm**      The Legislative Process
- Mr. Larry Morandi, Program Director  
Natural Resources, National Conference of State Legislatures
  - Mr. Steve Brown  
Council of State Governments
- 5:00 pm**      Feedback
- 5:15 pm**      END
- 7:30 pm**      Evening Sessions
- Informal meeting with workshop speakers
- 9:30 pm**      END

**Sunday, September 23, 1990**

- 8:30 am**      General Session to Review Workshop Process Schedule
- Discussion on how groups will be working, approach to  
completing the action plan, and review the elements of the action  
plan
- 9:00 am**      State Workgroup Session
- State Action Plan is developed. Before lunch, PC disk is turned  
in for hard copy production
- 12:30 pm**      Lunch

- 2:00 pm** General Session to Describe Peer Review Process
- Each State to review and provide written comments on 5 States' Action Plans
- 2:15 pm** State Workgroup Session
- 4:15 pm** Break
- Review completed and hand written comments turned in for photocopying
- 5:15 pm** General Session to Handout Peer Reviews
- Brief discussion of Monday's activities
- 6:15 pm** END

Monday, September 24, 1990

- 9:00 am** State Workgroup Session to Review Comments and Incorporate Changes
- 10:15 am** General Session
- Chairman of each Workgroup Reports on State Viability Action Plan
- 1:00 pm** Lunch
- 2:00 pm** Improving the Viability of Existing Small Drinking Water Systems
- Ralph Jones, The Cadmus Group, Inc.
- 2:30 pm** Administrative Penalty Authority
- Penny Barles, Office of Drinking Water, EPA
- 3:00 pm** Closure and Evaluation
- Final Action Plans Distributed