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DRINKING WATER

**Combination of Strategies
Needed to Bring Program
Costs in Line With Resources**

Statement of Peter F. Guerrero,
Director, Environmental Protection Issues,
Resources, Community, and Economic
Development Division



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Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity to discuss the difficulties small communities face in complying with the Environmental Protection Agency's (EPA) drinking water program. In 1986, the Congress amended the Safe Drinking Water Act to increase the number of regulated contaminants and strengthen EPA's enforcement authority. To implement these amendments, EPA issued new regulations that significantly increase the responsibilities involved in managing drinking water programs. To comply with EPA's revised regulations, small water systems--which make up 87 percent of all community water systems--must incur enormous costs and face difficult challenges.

Our statement today addresses three issues. First, we will review the efforts by EPA, the states, and other parties to help small water systems comply with the act and with the regulatory framework EPA has established to implement the act. Our findings on this issue are discussed in detail in our report, Drinking Water: Stronger Efforts Essential for Small Communities to Comply With Standards, which is being released by the Subcommittee today. Second, we will discuss a number of issues associated with this regulatory framework, such as the need to comply with new monitoring requirements and contaminant limitations, and the costs water systems are incurring to meet these requirements. Finally, we will discuss the implications of these and related issues for the Congress as it once again considers amendments to the Safe Drinking Water Act.

In summary, Mr. Chairman,

- The GAO report being released today examines various approaches for improving small systems' compliance with the act, including the use of (1) affordable, alternative treatment technologies and (2) creative strategies for providing technical and financial assistance to small systems. However, a number of factors limit the effectiveness of these strategies--particularly the sheer number of systems needing assistance. Accordingly, a number of states have increasingly sought to restructure the management or operations of small, nonviable systems, and to prevent nonviable systems from forming in the first place. However, EPA needs to take various steps to help ensure that states' viability programs succeed in improving small systems' compliance with the act.
- While it is essential to improve the capacity of small systems to comply with the act's requirements, it has also become increasingly apparent that the spiraling costs associated with these requirements--particularly among smaller communities--must be examined by the Congress and the administration. The addition of

significant new requirements without a commensurate increase in resources has impaired the ability of states and communities to implement many of the fundamental program requirements that were in place before the 1986 amendments were enacted. The problem has had a disproportionately larger impact on smaller communities because they generally lack the economies of scale to absorb additional costs.

- Many of the problems facing small systems are indicative of those facing the drinking water program as a whole. We believe that as the Congress and the administration move to address these complex issues through the reauthorization of the Safe Drinking Water Act, they will need to pursue a combination of strategies rather than a single course of action. Specifically, an integrated approach is needed that (1) promotes the development of alternative and cost-effective compliance strategies, particularly for small systems; (2) reassesses whether regulatory modifications are warranted that could reduce cost burdens without compromising health protection; (3) provides the minimum funding levels needed to maintain the integrity of EPA's drinking water program, thereby reflecting the agency's stated policy of emphasizing activities associated with greater environmental and health risk; and (4) places greater emphasis in the drinking water program on activities designed to prevent contamination problems from occurring in the first place.

Before elaborating on these findings, we would first like to provide a little background on the nation's drinking water program.

BACKGROUND

The Congress enacted the Safe Drinking Water Act in 1974 to protect the public from the risks of contaminated drinking water. This act required, among other things, that EPA establish (1) drinking water standards or treatment techniques for contaminants that adversely affect human health and (2) requirements for monitoring the quality of drinking water supplies and ensuring the proper operation and maintenance of public water systems.

The act also gave EPA the authority to delegate the primary responsibility for enforcing requirements of the drinking water program--commonly referred to as "primacy"--to states that meet certain requirements. To assist states in developing and implementing their own drinking water programs, the act authorized EPA to award grants to the states and directed the agency to help the states administer their programs. All states except Wyoming have assumed primacy for managing their drinking water programs. These states receive grants from EPA to help pay

for the oversight of water systems and other responsibilities.

In 1986, the Congress amended the act to, among other things, (1) establish deadlines to accelerate EPA's efforts to set standards, (2) establish a monitoring program for certain unregulated contaminants, (3) require EPA to issue criteria for determining which systems that rely on surface water must filter their water supplies, and (4) require all public water systems to disinfect their supplies. These new and more stringent requirements significantly increased responsibilities for providing safe drinking water at the federal, state, and public water system levels.

Meeting new and complex drinking water regulations has become increasingly difficult, particularly for small public water systems which often lack the resources and technical expertise needed to do so. In fact, 90 percent of community water systems that were found in violation of drinking water regulations in fiscal year 1991 were small systems (defined by EPA as systems with 3,300 or fewer customers). According to EPA estimates, it will cost small systems nearly \$3 billion through the end of the century to comply with all regulations, and an additional \$20 billion to repair and replace equipment and to expand the systems. Several regulations now under development could affect thousands of small water systems and be very expensive to implement.

ALTERNATIVE APPROACHES TO HELP SMALL SYSTEMS

These escalating costs are the driving force behind the recent efforts by EPA, the states, and others to develop new strategies to improve small systems' compliance. These strategies include (1) exploring whether alternative technologies can effectively treat drinking water at a cost affordable to small systems, (2) testing creative alternatives for providing technical and financial assistance to small systems, and (3) exploring options for restructuring small systems, such as consolidating small systems with larger systems that are better able to absorb costs.

Large systems usually have a customer base large enough to absorb the design, engineering, and capital costs of full-scale treatment facilities. Because small systems have fewer customers, the costs associated with constructing a full-scale treatment facility are generally prohibitive. Alternative technologies are available to remove contaminants from drinking water, and some small systems have successfully used these alternatives to meet their treatment needs at an affordable cost. One such alternative is the packaged treatment plant. Packaged treatment plants are systems that are preassembled in a factory, mounted on skids, and transported to treatment sites virtually ready to use. One small water system in Connecticut, serving

approximately 3,000 people, saved \$1 million by installing two packaged treatment plants instead of building a larger, full-scale treatment plant.

Technical and financial assistance for small community water systems is available from private, state, and federal sources. This assistance can help small systems correct deficiencies that cause violations of state or federal safe drinking water regulations. The American Water Works Association recently reported that \$100 million to \$200 million is being spent annually on technical assistance and training for about 75,000 small water systems.¹ In addition, for many years, the Farmers Home Administration has provided loans and grants to small, rural communities for financing the construction or improvement of community water and wastewater systems.

While technological innovation and technical and financial assistance can help some small systems, EPA and the states have increasingly recognized that the heart of the noncompliance problem lies in the sheer volume of small systems that are nonviable as presently structured and that have little chance of ever achieving compliance with the increasing number of drinking water regulations.² Accordingly, several states have turned toward restructuring strategies and viability programs to provide a more comprehensive solution. Restructuring is the adoption of management and/or ownership changes that provide nonviable systems with the financial, technical, and/or managerial capability needed to comply with drinking water regulations in the long term. One restructuring strategy involves consolidating a nonviable small water system with a larger, viable system that has a larger customer base and can better absorb costs. Such consolidation is sometimes impossible (particularly in the case of isolated systems in rural areas) but is nonetheless a worthwhile option in many cases.

State viability programs, in general, are designed to assess the viability of water systems and determine the best solution for bringing nonviable systems into compliance. State officials hope that such strategies will not only result in greater compliance, but will also help resolve their own financial crises by reducing the number of problem systems they must oversee.

¹Waterweek, American Water Works Association, vol. 1, no. 5, Nov. 9, 1992.

²In general, nonviable water systems lack the technical, financial, or managerial capabilities to remain in long-term compliance with drinking water regulations.

FACTORS IMPEDING WIDER USE OF ALTERNATIVE STRATEGIES

We found that several factors prevent wider use of alternative treatment technologies by small drinking water systems. In general, a lack of reliable cost and performance information about alternative technologies makes it difficult for state regulators to (1) identify alternative technologies that will satisfy treatment needs at an affordable cost and (2) grant approval of these technologies. Among other things, state regulators are concerned that some of the available alternative technologies are too complex for many small system operators to properly operate and maintain.

Although a wide variety of technical and financial assistance is, ostensibly, available to help small community water systems comply with federal and state requirements, the amount of assistance is extremely limited in comparison with the needs of small systems. Notwithstanding these resource limitations, state and industry officials told us that such assistance does not always address a system's long-term needs and, therefore, may actually perpetuate, rather than resolve, chronic noncompliance problems.

States have also experienced difficulties in using restructuring strategies and viability programs. Ironically, while these strategies offer states a promising way to help reduce their own long-term program costs, states lack the resources needed in the near-term to develop and implement these programs. The problem is compounded by the priorities EPA has set for the states' drinking water programs, which emphasize compliance monitoring, implementing new regulations, and other activities. Other problems complicating states' restructuring strategies and viability programs include (1) difficulties obtaining the authority needed for such programs from state legislatures; (2) the lengthy time required for some restructuring efforts, particularly those involving hostile parties; and (3) EPA's drinking water grant formula, which generally allocates more funding to states with more water systems and can therefore serve as a disincentive to states that consolidate their water systems.

OVERCOMING BARRIERS HINDERING ALTERNATIVE APPROACHES

EPA is involved in various efforts to encourage wider use of alternative technologies. For example, the agency is (1) helping to assess the effectiveness of selected alternative technologies, (2) assisting in the creation of a centralized data base that will allow states and small systems to share information about drinking water technologies, and (3) assisting in efforts to develop standard protocols for the assessment and approval of alternative drinking water system technologies.

Nevertheless, given the large number of small community water systems, many federal, state, and industry officials agree that there will never be sufficient resources to provide the technical and financial assistance needed to bring all violating systems into compliance. Moreover, as EPA continues to develop new regulations required by the 1986 amendments to the act, small systems will soon be required to comply with requirements with which their larger counterparts are already having difficulty.

Accordingly, EPA has focused attention on overcoming the difficulties preventing wider use of restructuring strategies and viability programs. For example, the agency has encouraged states, through guidance and workshops, to develop viability programs and restructure nonviable systems. EPA also changed the method for allocating state grants for fiscal year 1994 to help remove disincentives for consolidating nonviable systems-- although the agency has yet to adopt long-term changes to the grant formula.

EPA is also seeking new legislation that would further enhance restructuring and viability programs. In particular, the agency recently recommended that the Congress require states, as a condition of retaining primacy, to have both small system viability programs and the authority to direct nonviable drinking water systems to restructure. EPA also recommended that states be required to implement operator certification programs as a condition of primacy. The agency hopes this will help encourage wider use of certain restructuring strategies, such as contracting for operation and maintenance services and developing cooperative agreements to share these services. EPA has also proposed that the Congress establish a state fee program to help fund these and other state drinking water programs activities, although the agency has yet to develop the details of such a proposal.

We acknowledge EPA's progress in addressing technological and managerial issues, particularly in light of the agency's own serious budget constraints, and agree that states should develop viability programs and acquire authorities needed to restructure nonviable systems. To be consistent, however, the agency still needs to address a number of problems to ensure the success of these restructuring efforts. Specifically, as we noted in our report, EPA needs to (1) revise the priorities it has set for states' drinking water programs to place greater emphasis on developing and implementing viability programs, (2) work with the Congress to ensure that its proposal to require that states develop viability programs is accompanied by a detailed and realistic funding strategy to implement these programs, and (3) remove disincentives to consolidating water systems in the agency's state grant formula.

IMPACTS OF ESCALATING PROGRAM COSTS

While greater progress is needed in efforts to improve small systems' compliance with drinking water requirements, it has become increasingly apparent that we need to reexamine the requirements themselves--particularly some of the newer requirements associated with the act's 1986 amendments. Specifically, we believe the act's reauthorization offers the Congress and the administration a unique opportunity to reexamine the costs associated with some of the act's 1986 amendments and implementing regulations, and the unintended impacts these requirements may be having on the overall effectiveness of the program.

EPA recently estimated that total compliance costs will reach \$1.4 billion annually by 1995. This estimate only includes regulations that have already been promulgated; several regulations now under development, including regulations on radon and other radionuclides, disinfectants and disinfection by-products, groundwater disinfection, and arsenic, could affect thousands of small water systems and be very expensive to implement. For example, annual compliance costs for the first stage of the upcoming disinfectants/disinfection by-products rule are estimated to be approximately \$1.1 billion. Perhaps more important, program costs will continue to rise rapidly well into the future--as presently written, the act requires EPA to set standards for an additional 25 contaminants every 3 years.

Simply by virtue of their size and number, small water systems bear a disproportionately greater financial burden than large systems in implementing drinking water regulations. On a per-household basis, the disparity between large and small systems can be dramatic. For example, for water systems that have synthetic organic and/or inorganic contamination greater than the maximum contaminant levels, EPA estimates that per-household costs for larger water systems will increase by about \$210 per year, as compared with up to \$1,500 per household for smaller systems serving populations of 100 or fewer. Overall, EPA estimates that nearly 70 percent of total compliance costs will be borne by small water systems, although these systems supply drinking water to only 10 percent of the U.S. population.

States have also been severely affected by the growth in the program's requirements, particularly since this growth has occurred without a commensurate increase in program resources. As we reported in 1992, states are deferring or eliminating important program elements, devoting available resources instead to developing and overseeing implementation of a growing list of

contaminant regulations.³ Ironically, many of the activities that have suffered the most, such as technical assistance programs, operator training and certification programs, and wellhead protection programs designed to prevent contamination of groundwater drinking supplies, are the ones with greatest potential to avert contamination problems and reduce water systems' long-term compliance costs.

Among the most important of these activities are comprehensive inspections called sanitary surveys. During a sanitary survey, state officials may sample the water, inspect plant equipment, evaluate operators' capabilities, and assess numerous other vital aspects of plant safety and operations. Yet as we reported last year, many state program managers--while conceding that sanitary surveys are among the most vital elements of their program--are nevertheless cutting back on them in order to meet the new program requirements mandated by the 1986 amendments.⁴

The recent crisis at the Dalecarlia water treatment plant in Washington, D.C., illustrates how important these basic activities can be in preventing or minimizing major problems. As was the case in Milwaukee last year, the problem at the Dalecarlia plant involved a turbidity violation, a condition that can result in bacteria, viruses, or other pathogenic organisms entering the water supply. In the aftermath of the crisis, it became clear that many of its causes could be traced to deficiencies in the basic "nuts and bolts" needed to protect a system's drinking water: Operators were inadequately trained, operating procedures were poorly designed, and equipment was outdated. Many of these problems had been identified during a sanitary survey of the facility during 1991 but, according to EPA and plant officials, a shortage of funds prevented plant officials from correcting them.

Our long-standing oversight of the drinking water program suggests that the budget problems cited by Dalecarlia officials are not unique. Moreover, we have found that many of the new responsibilities added to the program are being addressed at the expense of existing responsibilities--often to the detriment of the overall program. In at least some of these cases, modification of the 1986 amendments could allow limited resources to be allocated to activities that are clearly more important to the viability and effectiveness of state and local efforts to

³Drinking Water: Widening Gap Between Needs and Available Resources Threatens Vital EPA Program (GAO/RCED-92-184, July 6, 1992).

⁴Drinking Water: Key Quality Assurance Program Is Flawed and Underfunded (GAO/RCED-93-97, Apr. 9, 1993).

protect drinking water. The requirement to regulate 25 additional contaminants every 3 years, with little regard for the relative risks they pose, may well be a good candidate for such reconsideration.

MULTIFACETED APPROACH NEEDED TO PROTECT
THE NATION'S DRINKING WATER SUPPLIES

Regulatory changes, however, are only a partial solution to the problems warranting the Congress's attention as it considers reauthorizing the Safe Drinking Water Act. The recent drinking water crises in Milwaukee and Washington, D.C. are sobering reminders of the importance of protecting drinking water supplies--and of the difficulty of doing so. As we recommended in a report issued last June, we believe that EPA and the Congress should work together to develop an integrated approach that addresses the need to bring the program's costs under control, but which includes several other essential elements as well.⁵

First, EPA has made some progress in helping states and water systems find alternative and cost-effective strategies to achieve compliance (especially among small water systems), particularly in light of the agency's own budget constraints. However, as we noted earlier in this statement and in the report being released today, the agency needs to accelerate its efforts to deal with nonviable water systems by (1) revising the priorities it has set for states' drinking water programs to place greater emphasis on developing and implementing viability programs, (2) working with the Congress to ensure that its proposal requiring states to develop viability programs is accompanied by a detailed and realistic funding strategy to implement them, and (3) removing disincentives to consolidating water systems in the agency's state grant formula.

Second, as we have reported on several occasions in the past, EPA needs to work with cognizant committees of the Congress to identify the minimum funding levels needed to maintain the integrity of EPA's drinking water program, thereby reflecting the agency's stated policy of emphasizing activities associated with greater environmental and health risk. We believe this assessment is particularly warranted in light of (1) the high levels of noncompliance and other problems identified in some of our more recent evaluations of this program and (2) the agency's own designation of the program as a "material weakness" under the Federal Managers' Financial Integrity Act--a designation the agency reserves for its most serious problems.

⁵Drinking Water: States Face Increased Difficulties in Meeting Basic Requirements (GAO/RCED-93-144, June 25, 1993)

Third, we believe the drinking water program overemphasizes the treatment of problems detected, at the expense of activities designed to prevent or minimize problems in the first place. In particular, greater emphasis is needed on activities such as (1) the wellhead protection program, which is designed to prevent contaminants from finding their way into underground water supplies, and (2) sanitary survey programs, which are designed to identify and correct limited problems at the water system before they become larger problems affecting water quality. As EPA has long acknowledged, near-term investments in preventive programs such as these can improve compliance and prevent much larger cleanup costs in the long term.

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Mr. Chairman, this completes our prepared statement. We would be pleased to respond to any questions you or other members of the Subcommittee may have.
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