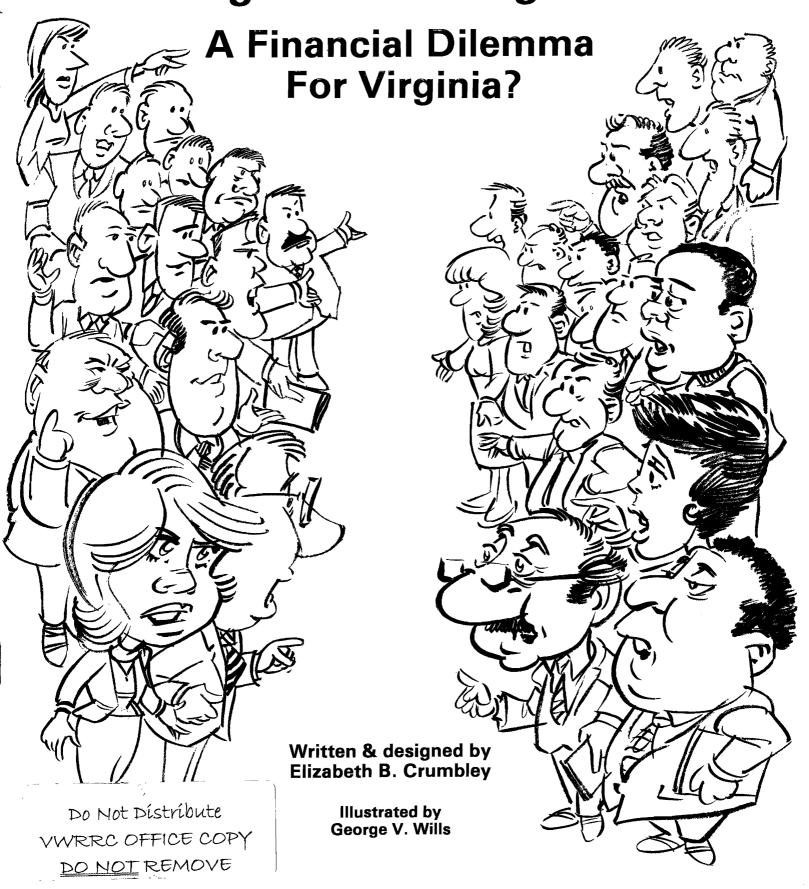
POINT/COUNTERPOINT

Ensuring Safe Drinking Water—



The Fundamental Problems

The way our drinking water is treated—or not treated-by municipal and private waterworks is obviously important to human health. Bacteria, heavy metals, synthetic organic chemicals, lead, copper, radioactive particles, and other contaminants in streams and groundwater usually can be reduced or removed by up-to-date treatment. If the waterworks that supplies your drinking water isn't equipped to eliminate contaminants, your health could be in jeopardy. Safe, reliable drinking water has become an integral part of the nation's "infrastructure," the underlying framework on which our society depends. Ensuring safe drinking water is complicated by three major factors:

Drinking water law has been federalized

In the past, state governments were responsible for policing the quality of drinking water. In 1974, Congress enacted the Safe Drinking Water Act (SDWA) to bring municipal and privately owned waterworks under federal regulations and ensure safe drinking water for all consumers. The federal law authorizes the U.S. Environmental Protection Agency (EPA) to develop a uniform drinking water quality program under national standards. In 1986, Congress amended the federal law with provisions for stringent standards to protect against the full range of potential drinking water contaminants.

A problem arises in defining the state's role in ensuring safe drinking water under the federal mandate.

A problem arises for state government in defining the state's role in ensuring safe drinking water under the federal mandate. Since 1977, the Virginia Department of Health (VDH) has maintained primacy over SDWA administration. Primacy, in this context, means the responsibility for establishing state drinking water standards at least as stringent as the federal standards and enforcing those standards at all of Virginia's waterworks. With this responsibility comes state flexibility to make decisions that can help waterworks stay in

business, comply with federal standards, and even save money. If the state does not continue to enforce federal regulations to the satisfaction of the EPA, primacy will return to the federal agency.

•Financing the state's role

The costs of maintaining state primacy will be high. The VDH estimates it will need \$4 million annually to fund additional staff positions for primacy administration and technical assistance to small waterworks operators. The federal regulations require substantial improvements in drinking water treatment methods, and many small waterworks lack the technical expertise to make these improvements. To date, most VDH drinking water activities have been financed by the state's general revenue funds. If Virginia is to maintain primacy, the problem of financing additional VDH expenses must be faced.

Virginia faces the problem of financing \$4 million for additional VDH staff to maintain primacy.

•Financing water utilities upgrades

Virginia has more than 1,600 municipal and private waterworks of all sizes, supplying drinking water year-round from ground and surface water sources. About 1,200 of these suppliers have fewer than 500 customers (*very small* waterworks), and another 240 suppliers serve only 501-3,300 customers (*small* waterworks).

A major problem is determining the most politically acceptable alternative for financing upgrades.

Because of their limited financial bases, these waterworks lack the resources and technical capabilities to implement the requirements of the federal law. The major problem in this area is determining the most politically acceptable alternative for financing upgrades that will bring Virginia's small waterworks into compliance with the federal regulations.

The Scope of Virginia's Financial Dilemma

The VDH's Office of Water Programs is charged with administering and enforcing drinking water regulations for all state water suppliers. Using work-hour records. VDH staff estimate that administering federal regulations and providing technical assistance to waterworks will require 90-100 additional positions at a cost of more than \$4 million per year. The agency's 1990 infrastructure survey found that state waterworks will need a total of \$1.5 billion through the year 2000 for all types of construction needs. A separate VDH report estimates that as much as \$143 million will be needed just to finance SDWA-required upgrades. This estimate is based on the agency's historical records, explains Thomas Gray of the VDH Office of Water Programs.

A VDH study estimates that state waterworks will need \$143 million to finance SDWA-required upgrades.

If these estimates are in the ball park, upgrades for regulatory compliance and infrastructure maintenance will be expensive for all Virginia waterworks. However, small and very small utilities face the largest problems simply because their financial bases are limited by their numbers of customers. Gerald Peaks, 1991 chairman of the Virginia Section of

the American Water Works Association (AWWA), is concerned that privately owned waterworks, which tend to have the fewest customers and are not eligible for many types of loans and grants, will experience greater difficulties than publicly owned utilities.

Required waterworks upgrades:

To comply with federal law and supply safe drinking water to their customers, most municipal and privately owned waterworks in Virginia will have to make four major types of construction upgrades:

- Modifications of disinfection systems, primarily to reduce the byproducts of chlorination (some Virginia waterworks still need to install disinfection systems).
- Aeration to reduce radiological contaminants.
- Corrosion control to reduce lead and copper.
- Filtration for all surface water systems.

The VDH estimates that state waterworks will need as much as \$143 million to pay for federally mandated upgrades.

Is Primacy Important for Virginia?

The EPA is the federal agency authorized to administer and enforce the requirements of the SDWA and its amendments nationwide. The VDH is the corresponding state agency with that responsibility in Virginia. The EPA will allow the VDH to maintain primacy over SDWA administration in Virginia as long as the federal agency believes the law is being enforced. As the drinking water program administrator in Virginia, the VDH receives an annual \$1 million EPA grant for assistance

and enforcement activities. To remain eligible for the grant, the VDH must submit a grant application and work plan each year and adopt state standards as least as stringent as those promulgated by the EPA, explains Allen Hammer, director of the VDH Division of Water Supply Engineering. The loss of state primacy would mean the loss of the \$1 million.

Carl Reeverts, deputy director of EPA's Enforcement and Program Implementation

Division, says the federal agency is not equipped to perform all of the administrative and technical assistance work necessary for a complete state drinking water quality program. The EPA currently has only two staff members in charge of SDWA enforcement for all of Region III, which includes Virginia, four other states, and the District of Columbia. These limited staff resources, Reeverts notes, might force the EPA simply to close down small waterworks that cannot comply with federal standards. "If Virginia had to turn primacy over to EPA, we could run only a skeletal program." Reeverts notes. "EPA staff would be able only to collect data and take enforcement actions against noncompliers. There would be no technical assistance offered to waterworks operators."

"If Virginia turned primacy over to the EPA, the state would have only a skeletal drinking water program."

Virginia's small waterworks need constant technical advice and assistance in learning how to comply with complex federal standards and regulations. Although construction funding will be needed for most small waterworks to come into compliance, money alone will not enable the operators of these facilities to comply. If Virginia retains primacy, VDH staff can work with small waterworks operators, helping them to understand the complex federal regulations, review bacteriological sampling plans for total coliforms, determine which treatments are needed for surface water supplies, evaluate corrosivity and the necessary corrosivity control standards for lead and copper, and sample for chemical contaminants. "If the VDH were unable to give technical assistance, nearly all small waterworks would be unable to comply," says Peaks of the AWWA.

Compliance is important for waterworks of all sizes, says Hammer of the VDH, because the federal regulations are designed to protect human health from the effects of drinking water contaminants. "Public health is much better served if the state

agency has its own program implementing the federal requirements," Reeverts says.

"Closing down water supplies can pose a greater health threat than noncompliance."

The inability of small waterworks to comply with drinking water standards poses two types of public health risks: waterworks that stay in operation without knowing how to comply with standards could be supplying water containing contaminants that pose immediate or long-term health risks; and customers whose waterworks are forced to close down have to find other water sources, which may or may not be safe, and often find it difficult to maintain consistent household sewage removal. "The VDH believes that closing down water supplies can pose a greater health threat than noncompliance," Hammer says.

The costs of losing state primacy:

- Loss of \$1 million in annual grant money from the EPA (represents one-third of the VDH budget for overseeing the quality of state drinking water supplies).
- EPA resumption of primacy, with only two staff members assigned to drinking water quality administration for all of Region III (Virginia, four other states, and the District of Columbia). EPA staff would be limited to data collection and enforcement actions against noncomplying waterworks.
- Potential closing of numerous small Virginia waterworks for noncompliance with federal regulations.
- Potential health risks posed for the customers of any small waterworks that close down or fail to upgrade treatment methods.

Everyone Wants Primacy—But Who's Going to Pay for It?

"Regulatory chaos could result if Virginia lost primacy," says Jason Gray of the Virginia Water Project Inc. The importance of retaining state primacy is perhaps the one point of agreement among those concerned with water treatment problems. "Immediate action should be taken to ensure continued state primacy," Newport News Public Utilities Director Charlie Crowder wrote in a 1990 letter to state and local officials. Del. Watkins Abbitt of the State Water Commission, which has been studying the issue of how to pay for primacy and waterworks upgrades, also wants to see primacy maintained. However, Abbitt comments, "The problem is that big utilities want primacy maintained, but they don't support any financing method that might help upgrade the smaller systems. Rural Virginia doesn't have the money to pay for primacy and upgrades."

"Regulatory chaos could result if Virginia lost primacy."

Robert Etris, past chairman of the Virgina Section of AWWA, says, "EPA doesn't have the staff to monitor all water systems. If Virginia loses primacy, the real losers would be consumers—there would be no consistency or flexibility in enforcement." Waterworks operators want state primacy, Etris notes, "because it makes good sense."

Proposals for state funds and fees

The VDH made a budget request to the 1990 General Assembly for allocation of \$4.5 million annually from state general funds to pay for 96 additional staff members to help administer federal regulations and provide technical assistance to waterworks. Water Commission Chairman Del. Lewis Parker introduced legislation (HB1115) to the 1990 assembly that would

have funded state primacy and waterworks upgrades through a water-use fee of 10 cents per 1,000 gallons of water produced at all municipal and privately owned utilities serving 15 or more customers. Although the 1990 assembly did not grant the VDH its full request or take action on HB1115, it did take the issue of primacy seriously enough to authorize funding for 19 new VDH staff positions.

"If Virgina loses primacy, the real losers will be consumers."

Aside from taking money from the state's general fund or imposing a water-use fee such as the one proposed in HB1115, one other major alternative for paying the costs of maintaining primacy has been put before the Water Commission and the General Assembly. In 1990, the commission appointed a Drinking Water Protection Fund Task Force to review HB1115 and the issue of paying for primacy and waterworks upgrades. The task force was divided on how to fund upgrades, but "there was no disagreement on the importance of maintaining primacy," reported chairman George Williams, director of the Rivanna water and sewer authority.

The task force recommended continued support for the VDH from the state's general fund.

The task force recommended that the VDH continue to receive administrative and enforcement personnel support money from the state's general fund. However, the group proposed that additional VDH personnel needed to provide technical assistance to waterworks be paid for with an annual permit fee imposed on all waterworks. The fee would range from \$250 to \$160,000, depending on the size of the waterworks, and a cap of \$4 million would be placed on the revenue generated.

Proposed schedule of permit fees to finance VDH technical assistance:

Fewer than 500 population	1,198 systems	\$250 fee
501-3,3300 population	237 systems	\$1,000 fee
3,301-10,000 population	68 systems	\$5,000 fee
10,001-1000,000 population	57 systems	\$20,000 fee
More than 100,000 population	12 systems	\$160,000 fee

Total revenues = \$3.9 million/year

Sen, Clarence A. Holland of Virginia Beach introduced a bill to the 1991 General Assembly that would have created a Waterworks Technical Assistance Fund by implementing the permit fee structure recommended by the task force, but the bill was defeated on the Senate floor. In August 1991, the Virginia Board of Health presented draft legislation to the Water Commission that would resurrect the permit fee proposal for funding VDH technical assistance. The commission did not request this proposal and may or may not consider taking action on it. Commission Chairman Parker said one goal of the 1991 commission was to consider primacy and waterworks upgrade needs as part of the larger issue of developing a comprehensive statewide water management plan.

"Upgrades and primacy should be paid for by the customers who will benefit."

Many who have disagreed on other waterworks financing mechanisms approve of the idea of a staggered schedule of permit fees to help fund primacy. Crowder calls the concept "acceptable" for the Newport News Waterworks, which would pay \$160,000 annually in fees. Upgrades and primacy should be paid for by the customers who will benefit, Crowder contends.

However, he also believes money from permit fees should be used in addition to current state and federal funding to meet VDH primacy requirements. Jason Gray of the Virginia Water Project agrees that permit fees would be an equitable source for primacy funding. Water systems and water customers, as primary beneficiaries of the federal regulations, should underwrite primacy costs, Gray believes.

"Waterworks permit fees would represent only a fraction of financing needs."

Some who support the idea of a permit fee structure note its limitations. Hammer of the VDH points out that the \$4 million that could be accrued from the fee structure proposed by the task force would be enough to supplement current state and federal funding if those sources are continued. However, Hammer notes, the \$4 million would not address the construction upgrade needs of small waterworks. Jerry Oakes, executive director of the Virginia Rural Water Association, calls permit fees "a good idea," but cautions that the \$4 million they would generate represents only a "fraction" of financing needs and should not be thought of as a solution to the overall problem.

Alternatives Suggested by the VDH

The 1990 General Assembly directed the VDH to study alternatives for funding state primacy. In the resulting report, a VDH task force subcommittee chaired by Tom Gray narrowed a list of several options down to six "most viable" alternatives, each of which could fund part or all of the projected needs.

- Annual operational permit fee—the same concept as that proposed by the Drinking Water Task Force. The VDH report notes that variations could be used for imposing fees, which could generate as much as \$5.7 million annually.
- Water-use/water-withdrawal fee—the same concept as HB1115. The VDH suggests
 that a sliding scale, with a lower fee per 1,000 gallons for larger systems, might be
 an option. A scale of 2.5 cents to 4.5 cents per 1,000 gallons could bring in as much
 as \$6.7 million annually.
- Water utility tax—would not involve a rate change as would a water-use fee. Many large-utility directors would prefer this to a water-use fee because it would be labeled a tax and customers would know the state was responsible. The VDH estimates that a 2.5 percent tax could generate about \$6.4 million per year.
- Sales tax—would repeal the retail sales tax exemption for drinking water. The VDH estimates that a 4.5 percent sales tax on water would generate about \$5 million for SDWA administration.
- Two possible VDH fees—charged to waterworks for routine services, would generate partial funding for SDWA administration. A construction permit/plan review fee equal to three percent of waterworks construction costs would provide about \$2.4 million per year. An inspection/sanitary survey fee could generate from \$1.2 million to \$1.4 million annually.

The report on these alternatives has been submitted to the Senate Finance and House Appropriations committees. The 1991 assembly took no action on the issue.



Paying for Waterworks Upgrades—Most Agree to Disagree

The proceeds from the water-use fee proposed in HB1115, estimated at \$20 million annually, would have been put into a separate account in the VDH'S Virginia Water Supply Revolving Fund to be used for three purposes:

- Forty percent for low- or no-interest loans to municipal and privately owned waterworks.
- Forty percent for "hardship" grants for municipal and privately owned waterworks serving 3,300 or fewer customers and unable to generate revenue for necessary upgrades.
- Twenty percent for the VDH to provide technical assistance to waterworks and administer federal law.

HB1115, which was carried over by the 1990 assembly, died in the 1991 assembly. The concept of water-use fees had several supporters, including the VDH, Virginia Water Project, and and the Virginia Section of AWWA, but also met with opposition among large-utility operators, many of whom believe fees should be used only to pay the costs of retaining primacy.

Many large-utility operators believe water-use fees should be used only to pay the costs of retaining primacy.

Water-use fee supporters

Allen Hammer says the VDH has recommended that the Virginia Water Supply Revolving Fund be financed at a rate of at least \$10 million per year since the fund was created in 1987. "A water-use fee is still a viable alternative for increasing the revolving fund," Hammer believes. The Virginia Section of the AWWA voted in 1989 to support the concept of a water-use fee, but with the contingency that the proceeds be used solely for the costs of retaining state primacy.

In 1989, the Virginia Water Project issued a study of financing alternatives including water-use fees that would "spread costs more equitably without raising fees to a prohibitive level for low-income users." VWP and VDH data indicate that state water use is about 585 million gallons per day. At that rate, the VWP study estimates, a user fee of 6 cents per 1,000 gallons of water would generate \$12.8 million per year for the revolving loan fund, at a cost of only about \$9 per household, per year. Instead of an across-the-board, statewide user fee as proposed by HB1115, the VWP recommended fees based on water system size and per-capita income of each system's customers. VWP's Chuck George, co-author of the study, says, "In Virginia, we don't yet pay the real cost of our drinking water. It still comes to customers very cheaply."

"In Virginia, we don't yet pay the real cost of our drinking water."

What's wrong with water-use fees?

Charlie Crowder of the Newport News Waterworks has criticized the idea of imposing water-use fees to pay for small waterworks upgrades. "Such a fee could reward undeserving and mismanaged systems and their customers, who should pay for their own improvements," he says.

"A water-use fee could reward undeserving and mismanaged systems."

Crowder points out that the Newport News Waterworks has many poor customers, just as do small, rural water systems. A 10 cent per 1,000 gallon charge could cost the Newport News Waterworks \$1.6 million per year, which could translate into a 5.4 percent increase in rates for residential customers.

Charlie Crowder has offered the following recommendations concerning water suppliers and their financial needs:

- A state agency should be authorized to develop comprehensive plans for the orderly use and future development of state waters, including provisions that localities benefiting from interjurisdictional transfers or reservoir projects should pay a fair share for the benefits received.
- State permitting procedures should restrict construction of waterworks with marginal design and operation.
- Waterworks should be self-supporting.
- The Virginia Resources Authority should be strengthened, if necessary, to provide loans, not grants, to communities meeting hardship criteria.
- In any event, the state should retain primacy.

Herb Evans of the Chesterfield County Public Utilities Department was one of two members of the Board of Trustees of the Virginia Section of AWWA to vote against supporting HB1115. "A fee structure of this sort would mean that customers served by large utilities would pay for upgrades of small utilities," Evans noted. "As an employee of a large utility, I have a responsibility toward our local taxpayers." The Chesterfield County waterworks, which has 74,000 meters in service, estimates that it will need to finance about \$7 million in upgrades during the next five years to comply with federal regulations.

William E. Cox of the Virginia Tech Civil Engineering Department conducted research, funded by the Water Center, on the costs of SDWA compliance. "There are no easy solutions left," says Cox, who does not oppose water-use fees, but does pose some thoughts on the need for fiscal fairness in implementing such fees. "A water fee or tax of some kind makes sense if it's not discriminatory," he commented. "Taxing large systems to pay for upgrades of small systems is not always fair—some large-system customers may be worse off than the ones they would be subsidizing."

"A water fee or tax makes sense if it's not discriminatory."

This problem would be partially offset by the fact that the largest users of water are institutions, not individuals, Cox notes. Inequities would be further offset, he says, if such fees were levied only on withdrawals that exceed a waterwork's base withdrawal amount (the amount that is charged at the system's minimum rate), because low-income customers tend to use less water than other customers.



Two Funding Methods

Two of the methods proposed for helping waterworks pay for upgrades needed to comply with the federal law are imposing water-use fees and repealing exemption of water from the state sales tax. The following comparison of the two methods is based on a water-use fee of \$0.10 per 1,000 gallons and a state sales tax of 4.5 percent.*

A major Virginia waterworks supplied data on typical per-household water use: 9,350 gallons per month; residential water rates: \$1.99 per 1,000 gallons; and water sold: 1.457 million gallons per month (mgm).

Customer charges:

Water-use fee:

9,350 gallons/month x 0.10/1,000 gallons = fee of 0.94/month, 11.22/year.

Sales tax on water:

1.99/1,000 gallons x 9,350 gallons/month = 18.60/month charge; 18.60/month x 4.5% sales tax = 0.84/month tax, 10.08/year tax.*

Funds accrued:

Water-use fee:

0.10/1,000 gallons x 1,457 mgm = 145,700/month or 1.7 million/year.

Sales tax on water:

1.99/1.000 gallons x 1.457 mgm x 4.5% = 130.470/month or <math>1.56 million/year.*

(*The sales tax is divided by a funding formula between the state and localities. Tax revenues shown here would be subject to the existing funding formula.)

Should General Funds Pay for Waterworks Upgrades?

In its review of HB1115, the Drinking Water Protection Fund Task Force concluded that a water-use fee or any special assessments on waterworks "would constitute a regressive utility tax on drinking water. In reality, it would simply transfer money from the customers of the larger, urban water systems (many of whom are themselves fiscally stressed) to aid the smaller, rural water systems, whose customers may or may not be fiscally stressed." The task force reported that financial aid to waterworks in the form of loans, or grants for exceptional hardship cases, should be funded by all state taxpayers out of general state revenues, "just as other societal needs are funded." The 12-member task force recommended allocating \$5.2 million annually from state general funds to the water supply revolving fund.

The task force recommended allocating \$5.2 million from state general funds for loans and grants to waterworks.

Since the establishment of the revolving fund, the VDH has continuously requested an increase in state general fund allocations. In August 1991, the VDH presented a draft resolution to the Water Commission, proposing that the commission support \$10 million for the revolving fund. Since the state budget deficit became a reality in 1990, support for large allocations from general funds has dwindled. Del. Watkins Abbitt of the Water Commission, one of the patrons of HB1115, says, "Taking \$10 million out of the general fund to help waterworks is a great idea, but the money is just not there.

We have to find a source outside the general fund." Abbitt still supports HB1115 as a source for funding both waterworks upgrades and maintaining primacy.

"We have to find a source of money outside the state's general fund. The money's just not there."

Although the revolving fund is designed to help small waterworks, some of their representatives are divided on the idea of using general revenues. Edward Vassar of the Association of Virginia Water Companies, composed of privately owned systems serving 100-2,000 customers, served on the Drinking Water Protection Fund Task Force. He approved of the task force report "in general," but did not support allocating \$5.2 million from general funds for the revolving loan fund, primarily because private waterworks cannot access the fund. "Virginia should have a wateruse charge," Vassar commented, noting that several states already have such fees to fund system upgrades. On the other hand, Jerry Oakes of the Virginia Rural Water Association and also a task force

member, supported the \$5.2 million allocation proposal. Oakes' association, composed of publicly owned systems serving fewer than 10,000 customers, does not support the idea of imposing water-use fees to increase the revolving fund because "we aren't sure that small municipal systems would have the know-how to access those loans."

The Virginia Water Project had supported a \$10 million allocation from state general funds before the budget deficit hit home. However, Jason Gray of the VWP, who served on the task force, termed that group's \$5.2 million allocation proposal "irresponsible" because no advice was given on where to find the money. In a written response to the task force report, Gray offered suggestions:

- Cut costs elsewhere in the state budget.
- Increase the state sales tax by 1/2 of one percent.
- Remove the exemption of the sale of water from the state sales tax.

State-Funded Sources of Waterworks Loans and Grants

Currently, only three state-funded sources of loans and grants are available for waterworks in need of construction money:

- •Virginia Water Supply Revolving Fund— Low- to no-interest loans are available through this VDH fund, which was established by the 1987 General Assembly and receives state appropriations of \$100,000 per year. Municipalities that accept loans have to offer security, usually in the form of revenue bonds. As of September 1991, \$150,000 had been designated for use by one state locality. By October 15, a total of \$5.4 million had been requested by localities during 1991, with only \$250,000 available in the fund.
- •Virginia Water Project, Inc.— This entity, which provides assistance to low-income, rural communities in need of water and sewerage facilities, received \$415,000 from the General Assembly during FY 1991. Only half of this money will be used for for water supply improvements.
- •Virginia Resources Authority— Created by the General Assembly in 1984 to assist localities with water, wastewater, and solid waste financing needs, the VRA has loaned a total of \$101 million to waterworks in 11 localities, with loans ranging from \$400,000 to \$31 million. With a bonding cap of \$400 million and about \$225 million in outstanding bonds, the VRA's bonding authority currently is about \$174 million.

Safe drinking water for some Virginia citizens may be at a crossroads. This issue is of immediate importance.

- Virginia water utilities must find ways to pay for upgrades to comply with federal standards and paying for compliance may be beyond the means of many of Virginia's 1,500 small water systems.
- The State Department of Health is currently without the financial resources to maintain its administrative authority over drinking water law and to help small water systems comply.
- The 1992 General Assembly may be compelled to make difficult financial and legislative decisions about these drinking water issues to protect public health in the Commonwealth.
- This publication presents the ongoing debate concerning options for financing Virginia's compliance with federal drinking water law and maintaining state control of drinking water.
- The Water Center hopes this forum will assist Virginia's citizens and decision makers in better understanding the issues and some of the options favored by professionals responsible for providing safe drinking water.

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