

112

Status and Implications
of the Safe Drinking Water Act Amendments

In June 1986, the Safe Drinking Water Act Amendments were enacted in Public Law 99-339. These amendments outlined a schedule for the Environmental Protection Agency (EPA) to promulgate new standards for contaminants in drinking water and new rules for drinking water treatment and underground injection of hazardous wastes. The amendments were in response to increasing concern over the chemical contamination of drinking water supplies and groundwater and the slowness of the EPA to promulgate drinking water standards.

The cost of implementing the new provisions will consist of capital costs to upgrade treatment facilities and program management costs to implement the expanded program. These costs are due to three major requirements of the amended Act. First, a total of 83 contaminants will now be regulated by the Safe Drinking Water Act. Up until the 1986 amendments, EPA had regulated fewer than 25 contaminants. Second, a list of contaminants that are not regulated but are of potential concern, will have to be monitored periodically by public water systems. Third, many surface water supply facilities will now be required to filter their water and all public water supplies, except those with variances, will be required to disinfect their water. In addition, the requirements of the amendments will now be applicable to systems other than the 60,000 community water systems currently regulated.

A large portion of the capital costs required to upgrade treatment facilities will be borne by small public water systems. These small systems (serving less than 3300 people) are presently responsible for 93 percent of all violations of the Act. They account for 97 percent of all public water systems yet serve only 10 percent of the population served by public systems. Since these small systems serve a small number of people, the per capita costs of complying with the new monitoring and treatment requirements may be extremely high.

The cost of compliance ultimately depends on the final rules and standards promulgated by the EPA. More stringent regulations will require greater capital investment for improved treatment technologies, equipment, or development of alternative supplies. Since the EPA has not yet developed many of the required standards or promulgated many of the new rules, the cost of implementing these provisions is difficult to determine.

By June 1, 1989 the EPA was required to promulgate standards for 83 regulated contaminants. As of June 1, there are 8 final standards for volatile organic chemicals and proposed standards for only 38 more contaminants. It is not known when the standards for the remaining 37 contaminants will be proposed or when the proposed standards for the 75 contaminants will be finalized.

By January 1, 1988 the EPA was required to develop a list of unregulated contaminants that must be tested for in public water supplies at least once every 5 years. The EPA has produced a list of 84 unregulated contaminants. It is now the responsibility of each public water system (or the state) to run a test for these contaminants.

By January 1, 1988 EPA was required to promulgate rules that would determine when filtration was required by systems that use a surface water supply. The EPA is in the process of developing the Surface Water Treatment Rule. This rule sets criteria for the need for filtration based on a "CT value" which is based

primarily on disinfectant levels. As stipulated by a court order, the EPA must have this rule promulgated by June 19, 1989.

By June 1, 1989 EPA was required to promulgate rules requiring disinfection of all public water supplies and specifying criteria for variances of this rule. They are presently working on this criteria.

Since the rules are still being developed, the capital costs to facilities of implementing these rules are unknown. All five Upper Mississippi River Basin states have indicated that it is too early to determine the capital costs of upgrading treatment facilities. Furthermore, even when the rules are finalized the costs will vary by facility based on the existing equipment, the water quality problem, and the feasible alternatives to comply with the regulations. For example, a large water supply system that has contaminants in one well may choose to abandon the well, blend the water with high quality water to dilute the level of contaminants, or treat the water. Since different alternatives will be available to the water systems, the capital costs of compliance will be case-specific.

In an attempt to quantify the impacts of the Safe Drinking Water Act Amendments, the National Council on Public Works Improvement estimated that nationally, between 5 and 10 billion dollars per year will be required for capital improvements. As previously discussed, the cost to the Basin states is not determined, but a needs assessment study conducted for the Minnesota Department of Trade and Economic Development gives an idea of the magnitude of capital improvement costs. The study surveyed the state's water supply systems to determine the funding requirements of these systems. A total of \$42.8 million is required to remedy health-related problems (\$4.5 million), to develop new water supplies (\$2.3 million), and to upgrade and renovate water supply facilities (\$36 million). These capital costs reflect only the costs of meeting existing standards and do not include costs that will be necessary in order to comply with the new amendments.

The non-capital cost to the states of implementing the new provisions of the Safe Drinking Water Act have been estimated in a survey conducted by the Association of State Drinking Water Administrators (ASDWA). These costs are for increased monitoring, inspection, and enforcement. The survey by ASDWA estimates that total start-up costs to implement the new rules will be approximately \$200 million over a period from 1987 to 1992. From 1993 on, additional annual costs are estimated to be approximately \$130 million per year. Currently states expend approximately \$96 million per year on drinking water programs. States contribute two-thirds of this amount and federal grants constitute the rest.

Of the five Basin states, Illinois, Iowa, Minnesota, and Wisconsin responded to the ASDWA survey. Preliminary data from the survey shows that the four Basin states will spend an estimated \$21.2 million in start-up costs from 1987-1992. Annual implementation costs after 1992 are estimated to be \$14.6 million. Following is a breakdown of estimated implementation costs per state.

	<u>Start-up costs</u> (1987 - 1992)	<u>Annual costs</u> (after 1992)
Illinois	\$1,550,897	\$4,274,300
Iowa	\$231,000	\$736,500
Minnesota	\$8,338,478	\$5,635,166
Wisconsin	\$11,115,460	\$3,967,410
	<u>\$21,235,835</u>	<u>\$14,613,376</u>

To offset the costs of the expanded safe drinking water programs several of the Basin states have examined or proposed service fees or other funding mechanisms. A report by the Minnesota Department of Health outlines the following potential funding mechanisms: 1) cost-of-service fee for water testing and inspection for each public water supply, 2) service connection fee for each customer connected to a community public water supply, 3) fee based on the quantity of water used by each customer of a community water supply, and 4) annual operating fee. [The Minnesota Legislature just recently decided not to use fees to fund the expanded program. The funds will have to be appropriated in the biennial budget.] Wisconsin has been exploring the option of charging fees for certain laboratory services, water use, operating permits, plan review, and high capacity wells. In addition, an annual fee per household is being considered to fund drinking water and wastewater related programs. Iowa already charges fees for construction review and operating permits for community and noncommunity supplies. These fees could be increased to fund the expanded program.

In addition to determining funding mechanisms, the states are determining the need for increased staff and laboratory services as well as the mechanisms that will be used to implement the new regulations. For example, the Minnesota Department of Health determined that 15 additional full-time staff were needed and that the number of monitoring samples and laboratory analyses conducted by the state would increase significantly. Rather than increase funding for enforcement of monitoring requirements, the state has decided to have state staff conduct the increased monitoring for volatile organics. It is estimated that the expanded program will annually cost an average of \$3.6 million over the next four years as compared to the existing \$1.2 million program. While the existing program involves 1000 water supply systems that are regulated for 23 parameters, the expanded program will involve 3000 community systems that are regulated for 83 parameters and 9000 noncommunity systems that are regulated for 2 parameters. (Englund, June 14, 1989)

While the Basin states have examined the costs of implementing the new regulations and potential funding sources, they have little data on the capital costs for facility improvement. Since capital costs are case-specific and dependent on the final EPA rules, these costs may not be known for another year or two since EPA is still developing the new rules.

The states have estimated that implementation costs will likely be \$21.2 million from 1987 to 1992. While the capital costs have not been estimated, they will be considerably higher than the implementation costs. It is estimated that the Minnesota water systems presently need \$42.8 million just to upgrade existing systems and develop new water supplies. In addition to this \$42.8 million, there will now be the added costs of installing treatment equipment or developing alternate supplies to comply with the stricter requirements of the Safe Drinking Water Act Amendments. The capital costs of compliance are expected to be high, but there is presently no estimate of this cost for any of the five Basin states.

References

- Association of State Drinking Water Administrators (ASDWA), State Costs of Implementing the 1986 Safe Drinking Water Act Amendments - Preliminary Results, Arlington, Virginia, February 1989.
- Englund, Gary, Chief of Public Engineering, Section of Water Supply and Engineering, Minnesota Department of Health, Personal communication, June 14, 1989.
- Environmental and Energy Study Conference (EESC) House-Senate Floor Brief, "Conference Report on Safe Drinking Water Amendments of 1986," April 25, 1986.
- Minnesota Department of Health, Proposals For Alternative Funding For Water Supply Monitoring and Surveillance in Minnesota, St. Paul, Minnesota, December 1988.
- Minnesota Department of Trade and Economic Development, Needs Assessment Study of Water Supply Systems in Minnesota, St. Paul, Minnesota, June 1988.
- National Council on Public Works Improvement, The Nation's Public Works: Report on Water Supply, Washington, D.C., May 1987.
- National Water Alliance, Water: Today's Agenda - A Challenge For The President and Congress, Washington, D.C., April 1989.