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DRINKING WATER

Key Quality Assurance
Program Is Flawed and
Underfunded

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Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity to discuss our report on states' sanitary survey programs, which we recently completed for this Subcommittee.¹ While the Environmental Protection Agency (EPA) has not established minimum requirements for sanitary surveys, the agency recommends that these periodic inspections of public drinking water systems be performed at least every 3 years and that they cover all components of water systems--including the systems' sources of water, facilities, and equipment--as well as their operations and maintenance.

Concerned that financial problems may be leading many states to cut back on sanitary survey programs, you asked that we examine (1) whether sanitary surveys are comprehensive enough to determine if public water systems are capable of providing good-quality drinking water and (2) what the results of surveys reveal about the operations and condition of water systems nationwide. Our report provided answers to these questions and observations on how the funding problems affecting EPA's overall drinking water program have affected states' ability to conduct sanitary surveys.

Mr. Chairman, the following summarizes the key findings in our report:

- On the basis of a nationwide questionnaire and our review of 200 sanitary surveys conducted in four states--Illinois, Montana, New Hampshire, and Tennessee--we found that sanitary surveys are often deficient in how they are conducted, documented, and/or interpreted. Specifically, 45 states omit one or more of the key elements of surveys, such as inspections of the water distribution system or reviews of water system operators' qualifications. Additionally, some states do not require documentation of the inspection of items or of the surveys' results, and results are sometimes interpreted inconsistently by surveyors.
- States' questionnaire responses indicated that problems associated with the soundness of water systems' infrastructures are largely found among smaller systems--a tendency confirmed by the 200 sanitary surveys we reviewed. Many of the surveys we reviewed also showed that, regardless of systems' size, deficiencies previously disclosed frequently went uncorrected.

The gap between the needs and available resources of states'

¹Drinking Water: Key Quality Assurance Program Is Flawed and Underfunded (GAO/RCED-93-97, Apr. 9, 1993).

drinking water programs, estimated in the hundreds of millions of dollars annually, has severely affected states' capabilities to conduct sanitary surveys. The problem is compounded by the lack of any minimum requirements on how surveys are to be conducted and documented. State drinking water officials explained to us that in the absence of such requirements, it makes more sense to emphasize other activities that are subject to greater oversight by EPA than to emphasize sanitary surveys. The result, however, has been that a key benefit of surveys--identifying and correcting problems before they become larger problems affecting water quality--has often not been realized. To address these problems, we have made a number of recommendations (discussed later in this testimony), but we believe that effective action will depend on resolving the drinking water program's acute funding shortage.

BACKGROUND

The Safe Drinking Water Act of 1974 established a national program to ensure that all public water systems meet minimum standards to protect public health. The act directed EPA to establish (1) national drinking water standards or treatment techniques for contaminants that could adversely affect public health and (2) requirements for monitoring the quality of drinking water and for ensuring proper operations by and maintenance of water systems.

The act also gave EPA the authority to delegate to states, which meet certain requirements, the primary responsibility for enforcing the drinking water program, commonly referred to as "primacy." To assist states in developing and implementing their own drinking water programs, the act authorized EPA to provide grants to states and directed the agency to help them administer their programs.

EPA's regulations require, among other things, that states with primacy develop and implement sanitary survey programs for periodically inspecting public water systems. While EPA has published guidance to assist states in developing such programs, the agency's regulations do not specify what states must do during the surveys or how often states must conduct them.

According to EPA, a sanitary survey is an on-site review, evaluation, and/or inspection of the water source(s), facilities, equipment, operations, and maintenance of a public water system for the purpose of determining its adequacy for producing and distributing safe drinking water. EPA has defined two classes of sanitary surveys. A Class I survey is a comprehensive evaluation of all of a water system's components and operations, including maintenance, conducted routinely, at least every 3 years. A Class II survey is limited to specific components or operations and is conducted "as needed." Our report focused on Class I

surveys because their broad coverage (1) provides useful information on the condition of a water system and (2) can reveal potential problems before water quality is actually affected.

We reported in July 1992 that sanitary surveys are "one of the most effective tools that states can use to help ensure compliance and correct problems before they become serious."² Evaluating all of the components and operations that the agency recommends be evaluated during a survey can also significantly reduce the risk that consumers will drink contaminated water. In addition, a sanitary survey can provide an opportunity for regulators to establish a field presence with the owners and operators of water systems and to educate them about proper monitoring and sampling procedures, as well as about any upcoming changes in regulations.

COMPREHENSIVENESS OF SURVEY PROGRAMS IS INCONSISTENT

Our review disclosed problems in the scope of many sanitary surveys, their documentation, and the reporting and interpretation of their results. Regarding the scope of surveys, state drinking water officials in 45 of the 48 states conducting Class I sanitary surveys³ reported to us that their surveys typically do not evaluate one or more of the key components and operations that EPA recommends be evaluated. Only 26 states, for example, reported that they "always or almost always" include in a sanitary survey an inspection of the water distribution system. Only 14 states reported that they "always or almost always" evaluate a water system's management during a survey.

Surveys in some states were particularly limited. For example, Utah responded that it "always or almost always" evaluates only 3 of the 14 items that EPA recommends be evaluated in a sanitary survey. Items that the state reported are not "always or almost always" evaluated during a Class I survey include the water system's operations, the cross-connection control program (which ensures that contaminated water and potable water are not mixed), and operators' qualifications.

In some cases, there may be legitimate reasons for omitting certain elements from a sanitary survey--perhaps because of the type of water source, the design of a particular system, or the type of water treatment performed. However, according to EPA's sanitary survey course coordinator, evaluations of the water

²Drinking Water: Widening Gap Between Needs and Available Resources Threatens Vital EPA Program (GAO/RCED-92-184, July 6, 1992).

³Alabama and Washington do not conduct Class I sanitary surveys.

distribution system, the cross-connection control program, operators' qualifications, and most of the other recommended elements are virtually always warranted.

Documentation of surveys' results is needed so that state officials can assess the surveys' adequacy and inspectors can follow up on the problems detected. However, many of the documents we reviewed in Illinois, New Hampshire, and Tennessee contained incomplete entries or nondescriptive language, making it difficult to assess what the inspector found. Documentation was particularly incomplete in Montana, which does not require detailed reports of surveys' results: County inspectors' reports frequently consisted of a simple statement such as, "The system looks OK." Importantly, only 30 percent of Montana's surveys disclosed deficiencies, while 97 percent of the other three states' surveys--where documentation was more complete--disclosed deficiencies. We believe this disparity raises questions about the accuracy and completeness of Montana's documentation, and about the reliability of the conclusions of the inspectors' final reports.

We also found variation in how surveyors interpret survey results. For example, in New Hampshire, surveyors at two different water systems reported that storage tank vents needed screens to protect the water from contamination, but only one rated the deficiency as "significant." The difference in the ratings is important because, according to a New Hampshire drinking water official, significant deficiencies are followed up on to ensure that corrections are made while other deficiencies are not. Concerned about such inconsistencies, New Hampshire recently developed criteria to guide surveyors on what actions to take when specific types of deficiencies are detected.

MANY SYSTEMS HAVE PROBLEMS THAT COULD AFFECT WATER QUALITY

While most public water systems appear to be delivering safe drinking water to consumers, many systems have deficiencies that could affect the quality of drinking water. Smaller systems are in the greatest need of major improvements. Some larger systems, however, also need to upgrade their operations to ensure that they can continue to provide safe drinking water.

The most frequent deficiency cited in states' responses to our questionnaire was inadequate cross-connection control programs. States reported that these programs are inadequate for about 20 percent of their large water systems and 50 percent of their small systems. Other problems often cited, particularly among smaller water systems, involved (1) deficiencies in equipment maintenance and records, (2) shortfalls in water systems' general management and operations, and (3) inadequate protection of water sources.

The questionnaire responses were confirmed by our analysis of the 200 sanitary surveys in Illinois, Montana, New Hampshire, and Tennessee. In total, 161 of the 200 reports disclosed one or more deficiencies. While these deficiencies primarily involved problems with water systems' operations and maintenance, 60 involved problems with the systems' water supply, treatment equipment, distribution system, or other aspects of their infrastructures. Small systems accounted for 56 of the 60 cases in which deficiencies in a system's infrastructure were cited.

Inadequate water sources, along with the failure to protect existing water sources from potential contamination, were cited in 28 of the surveys we reviewed. The surveys reported wellfields subject to flooding; well casings that terminated too close to the ground to prevent the infiltration of surface water; and sewers, septic systems, and other potential sources of contamination located near wells.

The 200 surveys also revealed that efforts to ensure that deficiencies are corrected have often been limited. Of the 161 surveys we examined in which deficiencies were cited, about 60 percent cited deficiencies that had already been identified in previous surveys.

Citing resource constraints, state officials told us that they can only follow up on the most important deficiencies--ones that actually affect water quality--to ensure that corrective actions are taken. New Hampshire officials further explained that until recently, the state focused on performing surveys--an activity EPA monitors--not on ensuring that disclosed deficiencies were corrected--an activity EPA does not monitor.

Recognizing the futility of performing surveys showing the same deficiencies time after time, New Hampshire recently implemented a computer tracking system for deficiencies. Under this system, public water systems that do not respond after deficiencies are cited in survey reports are automatically identified for follow-up actions that can include administrative orders, administrative fines ranging from \$300 to \$5,000, or referral to the state attorney general's office for litigation. According to the New Hampshire drinking water program manager, this new system has demonstrated to water system operators that the state is serious about following up on deficiencies and that, as a consequence, operators' efforts to correct deficiencies have improved significantly.

FUNDING A KEY BARRIER TO CORRECTING PROBLEMS

We believe that the problems identified in our report are serious but correctable. To improve the quality and comprehensiveness of sanitary surveys, we recommended that EPA

(1) work with states to establish minimum requirements governing the manner in which surveys should be conducted and documented, (2) assist states in developing criteria to guide inspectors in interpreting the results of surveys and assist states in identifying appropriate actions to be taken when specific types of deficiencies are detected, and (3) augment the agency's efforts to provide to states' inspectors formal training in conducting sanitary surveys. We also made recommendations to help ensure that deficiencies detected during sanitary surveys are followed up on and corrected in a timely manner.

Addressing these problems, however, will require confronting the extreme shortage in funding affecting the drinking water program as a whole. As our July 1992 report explained, EPA adopted a strategy last year formally acknowledging that at least in the near term, states will be unable to fulfill all of their responsibilities. The strategy therefore sets priorities in the drinking water program to ensure that it can adequately pursue the activities deemed most important in protecting public health. One effect of EPA's strategy was to downplay sanitary surveys, by requiring only that states "maintain some capability to perform sanitary surveys" by employing "a small number of individuals with the technical expertise needed to respond to emergencies and perform a limited number of sanitary surveys."

Our July 1992 report pointed out that while it was understandable that EPA drinking water officials would try to help the states by setting priorities among their responsibilities, it was clear that some key activities in the drinking water program would not receive sufficient attention. The report cited the lower priority given sanitary surveys as a particular problem, noting out that they "traditionally formed the backbone of state drinking water programs." It asked that the Congress consider modifying EPA's drinking water budget request to a funding level more consistent with the agency's own risk-based determination that the program deserves high priority.

We believe the acute funding shortage in the drinking water program is a major contributor to the problems affecting state sanitary survey programs, and its resolution will need to be part of any realistic solution. We also believe that the Safe Drinking Water Act's impending reauthorization will provide an opportunity for the Congress and the executive branch to work together not only in determining how limited funds can best be spent so that essential activities such as sanitary surveys are performed, but also in reexamining the larger issues that have helped create the widening gap between the needs and available resources in EPA's drinking water program.

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Mr. Chairman, this completes my prepared statement. I would

be pleased to respond to any questions you or other members of the Subcommittee may have.



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