

Small Systems Implementation Workgroup

November 4-5, 1998

Washington, D.C.

MEETING SUMMARY

November 4, 1998

I. Welcome (Peter Shanaghan, EPA Headquarters)

Peter Shanaghan began this meeting by having all the Workgroup members introduce themselves and state their affiliations. Mr. Shanaghan thanked all the members in advance for their participation on this Workgroup. He noted that the recommendations from the previous Small Systems Implementation Working Group were very valuable to EPA, and helped shape the *Guidance on Implementing the Capacity Development Provisions of the SDWA* and *Information for States on Implementing the Capacity Development Provisions of the SDWA*.

II. Ground Rules and Mission Statement (Peter Shanaghan, EPA Headquarters)

A. Ground Rules

Each Workgroup under the National Drinking Water Advisory Council (NDWAC) must follow certain ground rules. These include in part: (1) each Workgroup will have a mission statement; (2) the membership of each Workgroup will be balanced; (3) each Workgroup will have at least one NDWAC member and an assigned EPA staff member; (4) members can send an alternate if they cannot attend a meeting; (5) consensus opinions will be sent to NDWAC (not EPA), although members can file minority opinions; and (6) sufficient notice of meetings will be provided to the public and NDWAC members.

Public participation is encouraged and members of the public will be granted time to comment throughout the agenda.

B. Mission Statement

The mission statement for this Workgroup reads:

To advise the NDWAC on the specific challenges currently facing various types of small Public Water Systems (those systems serving <10,000 persons but with special emphasis on economically and socially disadvantaged systems serving <500 persons); the challenges likely to face these systems over the next 5-10 years; and strategic options that USEPA and the States should consider to assist small systems in meeting the public health protection objectives of the SDWA.

Peter Shanaghan suggested that one of the goals for the Workgroup will be to develop strategic recommendations for EPA and the States that will help them assist small systems. The Workgroup can meet this goal by:

1. *Describing* small systems in terms of size, ownership, source, and financial and operational characteristics.
2. *Determining* exactly what the regulatory requirements are for all types of small systems.

3. *Developing* strategic options that will allow systems to meet statutory and regulatory requirements now and in the future.

C. Comments on the Mission Statement

Dave Siberg questioned the meaning of the phrase "socially disadvantaged systems." Mr. Shanaghan explained that this phrase tries to capture the issues of environmental equity and environmental justice. By including the phrase "socially disadvantaged systems," the mission statement addresses the fact that there are areas and pockets of the population where the lack of services, or the lack of adequate service, is a social as well as economic issue.

Some members questioned why the statement uses <10,000 to define small systems. This came from the definitions in the Safe Drinking Water Act (SDWA).

D. Proposed Workgroup Products

With direction from the Workgroup, The Cadmus Group will develop:

1. A small system typology.
2. A summary of existing small system requirements and issues.
3. A summary of projected small system requirements and issues for the next 5-10 years.
4. Strategic options for EPA and States to consider in helping small systems meet the public health protection objectives of the SDWA

III. Opportunities and Challenges for Small Systems (Ian Kline, The Cadmus Group)

The Workgroup members were asked to State the opportunities and challenges facing small systems. One common sentiment was that each opportunity also presents a unique challenge.

A. Summary of Opportunities

The Workgroup provided a long list of opportunities open to small systems. These were summarized into the following broad categories:

- State Revolving Funds
- Consumer education and expectations
- Capacity development
- Training and technical assistance
- Restructuring (e.g. consolidation, mentoring, enhanced managerial and operational capabilities, regionalization, privatization)
- Attention on small systems
- Regulatory flexibility

B. Summary of Challenges

The Workgroup provided an even longer list of challenges facing small systems. These were summarized into the following broad categories:

- Source water quantity/quality/protection.
- Affordability/pricing issues.
- Current and future compliance.
- Capacity development.

- Long-term and least cost planning.
- Employee training and certification.
- Setting priorities.
- Local policies or parochialism.
- Aging infrastructure.
- Competing or differing agendas and priorities among agencies.
- Changing demographics (declining or increasing populations).
- Financing availability.
- Availability of low-cost and low maintenance technologies.
- Lack of accessibility (e.g. geographic, language).
- Focusing the message (i.e information overload).
- Elimination of barriers to implementing technical assistance and providing funding.

C. Additional Comments

Kirk Leifheit commented that most of the discussion centered around community water systems. He asked that the Workgroup keep the noncommunity systems in mind since the opportunities and challenges facing these systems may be different than the ones listed.

Peter Shanaghan thought it might be productive to have Bill Diamond (EPA Headquarters, Office of Water, Standards Division) speak at the next meeting to discuss how regulatory standards are set.

IV. Small System Component Slide Show (Patricia Hertzler, The Cadmus Group)

Patricia Hertzler presented a slide show of small system components, including pictures of raw water sources and treatment, storage, and distribution systems. Most of the photographs were taken during the 1995 Drinking Water Infrastructure Needs Survey.

The slide show led to a discussion on fire flow and how costs are recovered in the States that require this type of protection. The group discussed the impact that fire flow requirements have on small systems; distribution line issues, such as appropriate pipe size and the incremental costs of requiring larger pipe to accommodate future growth; and the barriers to consolidation presented by distribution system differences.

V. Data Sources (Ralph Jones, The Cadmus Group)

Ralph Jones described three national level data sources that provide information on the characteristics of small systems.

A. Community Water System Survey (CWSS)

The CWSS was completed in 1995 and examined the operating and financial characteristics of small systems. It was a national probability sample stratified by source (ground, surface, and purchase water); size (by population); and ownership (public, private, and ancillary).

B. The 1995 Drinking Water Infrastructure Need Survey (Needs Survey)

The Needs Survey determined the infrastructure needs of small systems on a nationwide basis. The survey of small drinking water systems used a national probability sample. It was stratified only by size (by population for systems with <3,300 served); and source (ground or surface water).

C. The Small Drinking Water Information System (SDWIS)

SDWIS is a census of all community and noncommunity water systems. SDWIS uses data reported by States to gather inventory and compliance data.

D. CWSS and Needs Survey Comparison

	Sample Size (Serving 25-3,300)		Stratification	Sample Design	Stage 1	Stage 2
	Eligible	Respondents				
Needs Survey	539	537	Size - <3,300. Source - ground or surface.	2 stage cluster design. Engineers visited and inspected each system in a cluster.	Randomly selected clusters (counties). 1 cluster/State.	Randomly selected systems within the cluster.
CWSS	2,438	1,226	Size- all categories. Source - ground, surface, or purchase. Ownership - public, private, or ancillary.	2 phase single stage design. Stratified random sampling.	Screener phase - randomly selected over 4,000 CWSS listed in SDWIS and verified ownership and other information.	Questionnaire Phase - mailed out questionnaire to randomly selected systems from the screener phase.

E. Limitations of the Data and Sources of Error

Each of the data bases is limited by the subject matter of the particular survey. Since the Needs Survey and the CWSS were completed for different purposes. The survey's objectives defined the data that were gathered.

The use of the data by this Workgroup will depend on the questions that the Workgroup attempts to answer. The group can also identify data gaps and point out why the gaps are significant.

There are a variety of different sources of potential error in any database. If the data come from the survey of a probability sample, there is sampling error, which can be measured. There also may be error caused by non-response (e.g., failure to get responses from all respondents, or failure of some respondents to answer all of the questions). Finally, there is measurement error. Human respondents may give inaccurate information, or biased answers; or there may be data entry errors when items are coded and entered into a database.

F. Quality Assurances

The data in SDWIS are reviewed through data verifications. State records and system records are reviewed on-site and compared to the SDWIS database. In addition, individual reviews of key variables are performed.

The CWSS was checked through computerized data edits and individual reviews of key variables. Individual systems were contacted for further quality checks.

The Need Survey data were gathered on site by experienced and qualified engineers. The data were checked through reviews of every questionnaire and by computerized data edits. Cadmus also held a debriefing with the Needs Survey Workgroup members following the completion of the survey.

VI. Characteristic of Small Systems (Ralph Jones, The Cadmus Group)

Ralph Jones presented information on small system characteristics that had been drawn from the CWSS, the Needs Survey, and SDWIS. Dr. Jones talked about ownership characteristics; source water protection; operating characteristics, including type of source, treatment, storage (treated and untreated), and distribution systems; operator certification; and financial characteristics.

November 5, 1998

I. Safe Water From Every Tap (Jackie McDonald, National Research Council)

Jackie McDonald from the National Research Council, discussed the Report entitled *Safe Water From Every Tap: Improving Water Service to Small Communities*. This report was prepared in 1996 by the National Research Council's Committee on Small Water Supply Systems.

Safe Water From Every Tap: Improving Water Service to Small Communities made three broad recommendations:

1. Improve finances and management of small systems
2. Improve operator training
3. Streamline testing for new technologies

The report identified the problems of providing water to small communities. Since there are many correlations between this report and the 1996 SDWA Amendments, *Safe Water* can be a primer for the issues facing the Workgroup. It provides good background material on the types of water systems and the problems facing those systems. Copies of the report were distributed to all working group members. The full text of the report can also be found on the National Academy web site, <http://www.nas.edu>.

II. Perspectives from the Field (Patricia Hertzler, The Cadmus Group)

Patricia Hertzler presented a slide show of photographs taken during the 1995 Needs Survey. The Needs Survey consisted of visits to over 500 small water systems nationwide, including approximately 60 Native American drinking water systems and 5 Alaskan systems. The intent of the Needs Survey was to determine documented drinking water infrastructure needs.

Although the overall infrastructure replacement costs were staggering, the Needs Survey indicated that there is great potential for improving drinking water quality at relatively low cost. Examples of such improvements are well head protection and backflow prevention.

The 1999 Drinking Water Infrastructure Needs Survey will have an approach similar to the 1995 Needs Survey. The 1999 Survey will be a clustered sample with at least one cluster per State. The questionnaire has been clarified and will be available on the web.

III. Consensus Items

A. Small System Characterization Report

The Workgroup unanimously agreed to have Cadmus prepare a report that examines small system characteristics and incorporates the data in the CWSS, Needs Survey, and SDWIS database. The report will describe and define the universe of small systems, individual system types, regulatory requirements and other challenges these systems face, and data needs. Cadmus was asked to create an objective resource document on the entire universe of water systems that can then be used by the Workgroup to further characterize (qualitative characterizations) small systems.

The report will include graphs with explanatory text explaining the graphs, tables with statistics, distribution diagrams within size categories, and, if possible, a breakdown of data by State and Region. A draft report will be ready for workgroup review by January 7, 1998.

Individual Workgroup members also requested data on:

- a. Rates vs. reserves for same size systems with and without treatment (i.e. the impact of rates for each source type, with and without treatment).
- b. Staffing - full time vs. part time and paid vs. unpaid. CWSS (or Needs Survey) was limited to "treatment plant operators." Want to examine this issue for broader categories of operators.
- c. Level of capitalization broken down by ownership type, size within ownership type, and treatment within ownership and size categories. There is a report like this out of California for electric utilities.
- d. Is there a standard level of service?
- e. Comparison of per capita costs based on consumption, including information on cost allocation.
- f. Pricing for government/municipal systems vs. private systems.
- g. Sources of financing.
- h. Technical assistance the systems receiving and who is providing this assistance.
- i. Historical data including average age of systems, when systems were formed, and changes in system size over time.
- j. Statistics on management, including the types of management structures being used, how the systems are managed, and who is managing these systems.
- k. Technical and financial definitions of a failing system and a problem system.
- l. Statistics on purchased water.
- m. Collection rates.

B. Future Meetings

<u>Date</u>	<u>Time</u>	<u>Purpose</u>
January 21, 1998	10:00-12:00 am est	Conference call to provide comment on the Cadmus report
March 1-2, 1999	TBD	Meeting in Washington, D.C.