Capacity Development Hits Its Stride

by Mark Kemp-Rye
Water Sense Editor

It has been two years since Congress passed the Safe Drinking Water Act (SDWA) Amendments. To coincide with this anniversary, the U.S. Environmental Protection Agency (EPA) has announced “an array of tools that states, water systems, and the public can use to protect drinking water.”

One of the most eagerly awaited of these tools has been the guidance for capacity development.

What is capacity development?
According to the recently released EPA document “Guidance on Implementing the Capacity Development Provisions of the Safe Drinking Water Act Amendments of 1996,” water system capacity development is defined as:

. . . the process of water systems acquiring and maintaining adequate technical, managerial, and financial capabilities to enable them to consistently provide safe drinking water. The SDWA’s capacity development provisions provide a framework for states and water systems to work together to ensure that systems acquire and maintain the technical, managerial, and financial capacity needed to meet the Act’s public health protection objectives.

Peter Shanaghan, small systems coordinator at EPA, sees capacity development as being especially important for small systems, where the majority of compliance problems occur. In an article in the May 1998 AWWA Journal, he writes, “By the late 1980s and early 1990s, it was clear that small systems were having difficulty keeping up with the rapidly expanding SDWA-mandated regulations. There was also growing recognition of a significant need to repair and replace basic infrastructure, apart from any regulatory mandates.

“A few states,” he continues, “were implementing ‘viability’ initiatives, which sought to promote small system compliance and otherwise address small system problems by ensuring that systems had the underlying technical, managerial, and financial capacity. These programs showed great promise, and the concept of small system Continued on page 3

Stretching Small System Dollars
It Isn’t Hard If You Follow a Few Suggestions

by Alan D. Soelter, Bartlett & West Engineers, Inc., Topeka, KS and Ellen G. Miller, Ellen Miller Group, Lenexa, KS

Safe water 365 days a year. Consistent pressure day and night. No odor. No color. No stains on clothing, dishes, pans, or bathtubs. No service interruptions. Above all, low water rates.

Sound familiar? Whether your water system serves 35 people or 10,000, that’s what customers want.

So how is a hard-pressed public water supply to deliver all that? By reducing expenses and maximizing income.

These days, there is another reason to refocus on stretching dollars: Capacity development requirements under the reauthorized Safe Drinking Water Act (SDWA) of 1996. According to the July, 1998 final guidance from the U.S. Environmental Protection Agency, “water system capacity is the ability to plan for, achieve, and maintain Continued on page 11
Capacity Development Is A Full-Time Job

“So, it’s going to be a capacity development theme issue?” asked one of the early reviewers of this issue of Water Sense.

“I guess it is,” I responded.

To be honest I didn’t really plan it that way. Sure, I knew there were going to be several articles with capacity development as either an explicit or implicit theme. But, I hadn’t thought about this particular edition as having a unifying subject until the reviewer asked me the question.

In many ways, I realized as I thought about this further, the mission of the National Drinking Water Clearinghouse (NDWC) is remarkably similar to the goals of capacity development. The National Drinking Water Clearinghouse assists small communities by collecting, developing, and providing timely information relevant to drinking water issues.

Further, Water Sense and On Tap, the NDWC’s two newsletters, strive to “deliver information about technical, financial, managerial, maintenance, operation, and health issues to small communities and those who work with them to supply safe drinking water.” In short, we try to help people operate their water systems more effectively. And that sounds a lot like capacity development to me.

What’s in this Issue?

In the current Water Sense are several articles that will, we hope, be of use to states and communities trying to implement capacity development plans. Noted water authority, Ellen Miller, provides a piece called “Stretching Small System Dollars: It Isn’t Hard If You Follow a Few Suggestions” that gives concrete examples of how water systems can save precious dollars.

Our Promotions Editor Jamie Knotts investigates a new software package in his article “New EPA Software Helps Small Communities.” (See page 8.) He also gives some important “dos and don’ts” for those interested in grant-writing and seeking funds from outside sources.

Conservation is the central topic of an upcoming On Tap. (The Winter 1998 issue will be available by late November.) Not wanting to miss out on a good idea, we explore conservation themes in the article “A Capacity Development Approach to Water Conservation” by Contributing Writer Michelle Moore (see page 6) and in a table showing how water system leakage can cost a great deal of money (see page 7).

Several NDWC products related to finance and management are highlighted in this issue (see pages 10 and 16). And, finally, I contribute a story called “Capacity Development Hits Its Stride.” Essentially an overview of capacity development on the second anniversary of the amended SDWA, this will serve as a summary for readers not familiar with a capacity development and, perhaps, a refresher for those already in the know.

Don’t Be a Stranger

As always, I encourage you to drop us a line or give us a call here at the NDWC. Our mailing address and phone number are listed at the left. You may reach me directly by dialing extension 5523 from the main number or via e-mail at mkemp@wvu.edu. I look forward to hearing from you and wish you the best in reaching your capacity development goals.

Mark A. Kemp-Rye
Water Sense Editor
Capacity Development Hits Its Stride

Continued from page 1

viability emerged as a major consideration in early discussions about SDWA reauthorization.”

Finance and Management Are Two Key Components

Because Water Sense deals with financial and managerial matters, this article will focus on those two aspects of capacity development. (A good discussion of a technical assistance program can be found in the Summer 1998 issue of On Tap, another National Drinking Water Clearinghouse publication. See the end of this article for more information on how to obtain a copy of On Tap.)

EPA considers financial capacity to be “a water system’s ability to acquire and manage sufficient financial resources to allow the system to achieve and maintain compliance with SDWA requirements.” A system’s ability can be assessed by answering the questions found in the following three categories:

- **Revenue sufficiency**: Do revenues cover costs? Are water rates and charges adequate to cover the cost of water?
- **Credit worthiness**: Is the system financially healthy? Does it have access to capital through public or private sources?
- **Fiscal management and controls**: Are adequate books and records maintained? Are appropriate budgeting, accounting, and financial planning methods used? Does the system manage its revenues effectively?

Managerial capacity, on the other hand, is “the ability of a water system to conduct its affairs in a manner enabling the system to achieve and maintain compliance with SDWA requirements,” and refers to “the system’s institutional and administrative capabilities.” Key issues and questions for managerial capacity include:

- **Ownership accountability**: Are the system owners clearly identified? Can they be held accountable for the system?
- **Staffing and organization**: Are the system operators and managers clearly identified? Is the system properly organized and staffed? Do personnel understand the management aspects of regulatory requirements and system operations? Do they have adequate expertise to manage water system operations? Do personnel have the necessary licenses and certifications?
- **Effective external linkages**: Does the system interact well with customers, regulators, and other entities? Is the system aware of available external resources, such as technical and financial assistance?

If a system can answer each of these financial and managerial questions with a “yes,” it will be said to have adequate capacity.

Who answers all these questions?

One of the many interesting components of the SDWA is that it gives a great deal of leeway to the states to develop their own programs. “In most respects,” Peter Shanaghan observes, “states are completely free to accomplish these objectives in whatever way is most appropriate for them.”

The regulations also say that a state must seek public advice on various strategies when preparing capacity development plans, among them: (1) how will the state identify and rank water systems that need capacity improvements? (2) how will the state assist water systems in complying with drinking water standards as well as encourage them to work together and to support training and certification of system operators? and (3) how will the state measure progress in improving the capacity of drinking water systems?

It is up to each state to identify public representatives and involve them in these discussions. The SDWA recognized that each state has unique needs and challenges and that public input is helpful. Each state must consider and include, as appropriate, the public’s most helpful ideas in its capacity development strategy. (See the end of this article for more information on getting involved.)

How do states fund capacity development?

According to EPA officials, the majority of states are financing their capacity development strategies through set-asides available under the drinking water state revolving fund (DWSRF). A

Continued on page 4
Continued from page 3

state may set aside up to 10 percent of its DWSRF to address capacity development, as well as source water protection, and operator certification. (See the Spring 1998 Water Sense for an update on DWSRF activities.)

If the funding for capacity development is readily available under the SDWA, the penalties for noncompliance are definite and non-nonsense. (See the sidebar below for a timetable.)

EPA is authorized to withhold 20 percent of a state’s DWSRF if that state does not have the legal authority to require new water systems (i.e., those commencing operation after October 1, 1999) to demonstrate technical, managerial, and financial capacity with respect to National Primary Drinking Water Regulations.

In the following years, noncompliance by a state means it will lose 10 percent of its DWSRF in fiscal year 2001, 15 percent of DWSRF in fiscal year 2002, and 20 percent of DWSRF each of the subsequent years.

Water Systems Should Be Run Effectively

Over the last few years, several people involved with water infrastructure have called for water systems to be run more like businesses and for capacity development plans to incorporate fundamental business ideas. John E. Cromwell, III, manager of water supply with Hagler Bailly, an energy and environmental consulting firm, has been a strong proponent of the business approach.

“Many water systems were formed at a time when the costs of providing water service were low and sources of change were few,” observes Cromwell. “In many instances, economic and demographic conditions were booming, higher quality water resources were relatively more abundant, and treated water was less expensive to produce at small scale. Without significant costs or other pressures, there was little incentive to focus on the business aspects of the operation. However, the future now holds the prospect of significant changes that have generated concerns for the ‘viability’ or ‘capacity’ of water systems.

“In a changing world,” he continues, “the only means of demonstrating that a business will be viable in the future is through a forward-looking ‘business plan.’ A business plan presents a two-sided analysis. It consists of a plan for spending money to produce a product or service; and a plan for recovering sufficient revenues from sales to pay for periodic capital investments and routine operating expenditures. The bottom line question is a fundamental budget question: whether the ‘inflows’ can be assured to match the ‘outgoes,’ given the challenges of the future.”

Cromwell stresses that financial capacity is of paramount importance. “Although there are many facets to consider in evaluating a water system’s viability or capacity, they are all reflected ultimately in the system’s finances. Technical and managerial capabilities require capital and human resources that have associated costs. Whatever else is involved in delivery of these resources, there must be, at minimum, a sustainable means of paying for them. That’s the bottom line to the business view of capacity.”

Having the Right Team Is a Key to Success

To David Siburg of the Kitsap Public Utility District in Poulsbo, Washington, having the right people and the right plan is critical. He says, “ultimately, a successful capacity development plan is founded on a winning team. Technical and financial shortfalls can generally be resolved through creative solutions by people

Continued on next page
Building a Winning Team

In a recent article, David R. Siburg, general manager of the Kitsap Public Utility District, identified three capabilities common to small systems that are able to resolve challenges and problems. He found that successful system managers had instilled attitudes of:

• quick response to problems,
• rapid adaptation to external influences, and
• a willingness to take risks with new ideas.

These managers were effective at developing short- and long-term goals and in maintaining discipline and focus. They encouraged staff to be problem-solvers and to continue learning and applying new methods to their activities. Successful managers constantly reinvented how they did things and how the organization was structured to achieve their system’s objectives and mission.$

Source: Washington Department of Health
A Capacity Development Approach to Water Conservation

EPA Guidelines for Conservation Planning

by Michelle Moore
NDWC Contributing Writer

Water conservation not only prolongs supplies, it also reduces operating costs and decreases energy use for drinking water systems. Managers may know that certain practices will benefit their operations, but they often need advice on how to achieve water- and energy-saving results. In August, the U.S. Environmental Protection Agency (EPA) released guidelines to assist utilities in creating workable conservation plans.

The guidelines are set up as broad suggestions so that they will be appropriate for all community water systems, large and small. They are organized into six parts:

1. The introduction, which includes:
   • integrating water conservation and infrastructure planning,
   • state roles, current state programs, and
   • a capacity development approach for very small systems.

2. An overview of the organization, contents, and guidelines for water systems.

3. The basic guidelines, meant for water systems serving populations of 10,000 or fewer, with the following conservation recommendations:
   • universal metering,
   • water accounting and loss control,
   • costing and pricing, and
   • information and education.

4. The intermediate guidelines are for water systems serving between 10,000 and 100,000 people. They suggest:
   • water-use audits,
   • retrofits,
   • pressure management, and
   • landscape efficiency.

5. The advanced guidelines are for water systems serving more than 100,000 people, recommending:
   • replacements and promotions,
   • reuse and recycling,
   • water-use regulation, and
   • integrated resource management.

6. Six alphabetical appendices that provide supporting information, including:
   • detailed descriptions of conservation measure,
   • conservation benchmarks,
   • acronyms and a glossary,
   • information resources,
   • funding sources, and
   • state contacts.

The EPA guidelines encourage all systems to consider a range of practical planning methods

and conservation measures. States may determine which is more suitable, a statewide or case-by-case basis, for their particular conservation plans.

Conservation Strategies are Encouraged

Section 1420 (c) of the Safe Drinking Water Act (SDWA) requires states to have a capacity development strategy in place by August 2000, for their public water systems to remain eligible for state revolving loan funding (SRF). This concept is based on each state’s assessment of the needs and capabilities of its small water systems.

It pairs conservation planning with making the most of a system’s present technical, managerial, and financial capacity.

The SDWA provides up to a 10 percent set-aside from a state’s SRF allotments to develop and implement a capacity-development strategy for water systems.

Conservation planning can be funded from this 10 percent set-aside and, moreover, states have the option of requiring individual water systems to prepare conservation plans as a condition of qualifying for SRF loans.

System size, water availability, and climate were considered in the EPA’s voluntary guidelines. Special considerations for small systems were included, since their financial and personnel conditions may be restricted.

Capacity Development Overlaps Other Suggested Practices

Some of the basic elements of capacity development overlap other conservation practices suggested in the EPA guidelines. For instance, technical capacity development—maintaining adequate source water, infrastructure, and knowledge and implementation for the system’s needs—is linked with basic water conservation practices, such as universal metering, water accounting and loss control. All planning guidelines from the EPA suggest that utilities address leak detection, metering, pricing, and public education.

States that already have conservation requirements do not necessarily have to incorporate them in their DWSRF programs; however, several states do include conservation-related regulations as a prerequisite for loans. As of late 1997, 22 states had incorporated some kind of water conservation plans into their DWSRF programs. The guidelines urge system managers to check state and local regulations before embarking on any specific conservation programs. It would be wise for all small water system managers to begin preparing for these possible requirements. $
Leakage Can Be Costly

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Leakage estimates based on 50psi pressure

Source: Drapar Aden Associates

On Tap Explores Conservation

On Tap is dedicating the entire Winter 1998 issue to water conservation in small communities. Water is not an unlimited resource and as the expense of water treatment and need for infrastructure repairs rise, drinking water prices increase. Water conservation measures make environmental and financial sense.

Included in this issue are a review of the new U.S. Environmental Protection Agency (EPA) Water Conservation Plan Guidelines, and a fact sheet that looks at the conservation measures EPA recommends for small drinking water systems—universal metering, water accounting and loss control, costing and pricing, and public education.

On Tap continues its two-year series on implementation of the Safe Drinking Water Act Amendments of 1996, as well as an ongoing state-by-state technical assistance for small systems series.

Other articles look into conservation education for children and, xeriscaping, which involves creating water-efficient landscapes. The newsletter offers two pages of conservation sources and Web sites, as well as many helpful free and low-cost publications.

On Tap, a quarterly National Drinking Water Clearinghouse (NDWC) publication, explores the technical, regulatory, and managerial side of small community drinking water systems. The Winter issue will be out the end of November.

For a free subscription to On Tap, call the NDWC at (800) 624-8301 or (304) 293-4191. You may also download On Tap from our Web site at http://www.ndwc.wvu.edu.
Common sense says that if you are submitting a federal grant application, you want it to be the best it possibly can be. After all, proposal writing is a complicated and time-consuming process, and you want the result of your labor to be a funded project.

Beginners to grant writing or those with limited experience can now use a powerful, free software program to help them learn more about grant writing. The U.S. Environmental Protection Agency’s (EPA) new online, Internet-based grant writing tutorial helps users understand the federal grant writing process and, thus, make their applications more competitive.

**Leveling the Playing Field for Small Communities**

Developed as a joint project between EPA Region 5 and Purdue University, the EPA Grant Writing Tutorial is an interactive, user-friendly, software program. The software can help small community officials and others who submit federal grants applications understand the complicated and—at times—confusing federal applications.

Michael Bland heads up the EPA’s Software Development Section and says the new software will make a difference for small communities when they apply for federal funding.

“Small communities have a hard time finding out how to locate the right federal funds,” he says, “and they also have difficulties in understanding the submission process and applications. We wanted to level the playing field to help them compete with larger communities who have project officers or staff members who regularly work on grant applications and know how it is done.”

“Let’s face it, the federal laws and regulations are full of jargon and are not very easy to understand,” Bland says. “In this software, we’ve broken the application process down into easy to understand terms with examples and basic, easy-to-follow explanations.”

**Accessing the Tutorial**

EPA and Purdue University have made it easy for anyone with Internet capability to access the software. The tutorial can be downloaded onto any computer connected to the Internet. Because the files are hypertext markup language (html) code, they can be used on either an IBM-compatible or a Mac computer through an Internet browser. No additional software is needed to use the files.

The tutorial can also be accessed directly from EPA or Purdue’s Web sites without downloading the files. This is especially handy for users who may not want to download the files for space or security reasons.

In addition to the Web-based versions, copies of the tutorial program are available on CD-ROM that will also contain several new EPA Region 5/Purdue University software programs.

**What’s in the software?**

Ethel Crisp is a member of the EPA Region 5 Environmental Justice Regional Team and served as the technical contact/lead on this project. She says the tutorial will be a great help to potential grantees and to the EPA.

“This tutorial software program will coach users step-by-step through a grant-writing process and help them learn to write high quality grant applications,” Crisp says. “For each step and each component of a grant application, the tutorial offers samples of successful products, line-by-line instruction, and an electronic worksheet for drafting sample sections.

“Electronic versions of all major grant forms are included, with line-by-line help features and guides to completion,” she says. “The background, authority, and major concerns of each

Continued on next page
The software is divided into nine sections. Each includes various exercises and tips to explore. Users should expect to spend several hours examining them.

- **The Introduction** provides an overview of the software and explains EPA’s reasons for developing the project.
- **The Enhancing a Proposal** portion explains the different sections of a typical grant proposal including the proposal summary, problem statement, project objectives, methods or design, evaluation, future funding, budget, and supporting materials. Helpful tips are provided within each topic.
- **The Program Specifics** section contains detailed information about three environmental grants administered by EPA that groups may apply for. In-depth information is available about the Environmental Justice, Environmental Education programs, and Environmental Justice Through Pollution Prevention Grants.
- **The Completing Forms** section exposes users to the different forms an applicant might be involved with during the grant application process. A help window describes what is needed for particular sections of the most common forms.
- **The Mock Grant Writing Activity** allows users to practice writing a grant proposal. Completed one step at a time, the activity allows users to compare their work with an actual grant proposal example.
- **The Examples** section contains real grant proposal samples for each of the three EPA-administered grants noted above.
- **The Reference, Resources/Contacts, and Glossary** sections offer supporting information such as links to EPA grant application forms and publications, other federal agency grants, federal and state grant sources, and definitions for technical terms used throughout the software.

**How has the software been received?**

EPA has found the software to be extremely popular even though it has just recently been made available. In its first 10 days of release, figures show that the software was downloaded more than 230 times.

**Reviewers Give Their Perspective**

Reviewers of applications who pass judgment on the merit of grant applications are often the best sources of helpful grant writing tips and techniques. From those in the know, the following words of wisdom could help you improve your grant application.

- “If I can’t understand the title, then I don’t fund it.”
- “If you haven’t told us what you want by the end of the third paragraph, chances are you’re not going to get it.”
- “Be thorough in your preparation and research before attempting to initiate contact with a funder.”
- “Statistics are important, but can be confusing. Use them when they set the stage and give a context for the project.”
- “Ideas need to stand out. If the format of the proposal helps accomplish that, then it is O.K. But fancy fonts and layout don’t carry much weight in and of themselves.”
- “If it is clear, concise, to the point, everything should be there without having to look for it. There should be meat on the bones but no fat.”
- “Start with clarity and no fluff. I remember one proposal that was just bullet format. It was clear, succinct and to the point. From a literary point of view, it was dull, but programmatically, it was clear and precise.”
- “We like to see more, rather than less, information in the budget. We want to see how our money will be used, how it will fit into the whole picture.”
- “I don’t like to see in-kind services in the budget when, often, it’s just a million volunteers licking stamps. It can be a bogus attempt to make a $300,000 budget look like a million dollars.”
- “What makes me crazy is an organization ignoring our guidelines.”
- “Don’t try to pull the wool over our eyes. Be honest and straightforward.”
- “I hate proposals in plastic or loose leaf binders with lots of tabs and indices. It’s also ecologically unsound.”

—From EPA Grant-Writing Tutorial
Managing a small drinking water system can be as complicated as keeping up with ever-changing regulations. An operator may possess great technical skill but need help maintaining records. And board members may come to their jobs with little background in the drinking water field.

The National Drinking Water Clearinghouse (NDWC) offers a selection of products to help water system board members and managers make their facilities more efficient. Listed below are a selection of reference materials available, some free of charge, others with a nominal cost.

The Drinking Water Handbook for Public Officials is filled with useful information to help public officials understand water systems. From basic operation and maintenance through the regulations affecting those systems, the Drinking Water Handbook, a 97-page book, may be the tool you have needed to keep your system running smoothly. Request item #DWBKMG09; it is free of charge.

The U.S. Environmental Protection Agency’s (EPA) Environmental Planning for Small Communities: A Guide for Local Decision Makers, a 159-page guide, offers ideas for creating a community environmental plan. Included are suggestions for developing a planning team, assessing needs, defining problem areas and creating strategies for solutions, as well as reviewing regulations, and organizing a workable plan that protects both local residents and the environment. Request item #DWBKMG14; the cost for the guide is $23.00.

Management of a Construction Project: An Opportunity and a Challenge can help municipal officials with decisions about hiring project managers, developing management plans, and encouraging a team approach to project management. The brochure is provided by the EPA and the National Small Flows Clearinghouse (NSFC). Request item #FDBRMG06; it is offered free of charge.

Practical Personnel Management for Small Systems provides insight on developing positive working relations with water system employees and customers. Request item #DWBKMG15; it costs $9.00.

Water System Self-Assessment for Homeowners’ Associations is designed to help homeowners’ associations—those that regularly supply drinking water to 15 or more hookups or 25 or more people—learn about financing and managing small drinking water systems. This EPA booklet offers solutions to help with some common problems faced by these groups. Request item #DWBLMG03; the booklet costs $3.90.

Self-Assessment for Small Privately Owned Water Systems was developed to help officials identify financial and managerial problems. The guide includes questionnaires to assess the systems’ financial condition and to ease corrections. Request item #DWBLMG01; it costs $4.10.

Water Board Bible: The Handbook of Modern Water Utility Management outlines strategies for water boards and council members to handle regulatory and financial questions. The book, which was produced by the Kansas Rural Water Association, also contains sample board problems and solutions, and a reading list for further help. Request item #DWBKMG05; the book costs $13.80.

Wellhead Protection Programs: Tools for Local Governments can assist officials in developing an effective wellhead protection program. The 77-page EPA book includes example programs from around the country, ideas for implementing a program, and management tools to make the program work. Request item #DWBKMG08; the cost of the book is $11.10.

To order any of the above publications or to receive a catalog of products and services, call the NDWC at (800) 624-8301 or (304) 293-4191. NDWC products also may be ordered via e-mail at ndwc_orders@ndwc.wvu.edu or, you may write to NDWC, West Virginia University, P.O. Box 6064, Morgantown, WV 26506-6064. Free items are limited to one each per order. Please allow three to four weeks for delivery. Postal charges are added to all orders.

New EPA Software Helps Small Communities

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“The reaction to the tutorial has been great,” Bland says. “Users have told us they think the program is tremendous. It explains the entire grant writing process from the beginning to the end, giving users the opportunity to compare successful applications.”

“This software is an example of government reinventing itself and being responsive to the needs of the people,” Bland says. “The program speaks in plain English and we think that’s what the American people want.”

To use the software online or download it to your computer, log on to EPA’s Software for Environmental Awareness Web site located at http://www.epa.gov/seahome/. Information is also available at this site about purchasing CD-ROM copies.
Stretcher Small System Dollars

Continued from page 1

Compliance with applicable drinking water standards. Capacity has three components: technical, managerial, and financial. Adequate capability in all three areas is necessary for a system to have “capacity.”

When do systems have to prove their “capacity” under the SDWA?
1. When a new system is established, or
2. When a system seeks funding under the drinking water state revolving fund (DWSRF), or
3. When the state’s mandatory capacity strategy focuses on them.

The buck stops with you, Mr. or Ms. Manager. Whether due to customer demands or SDWA capacity requirements, getting the most from your dollars is a must.

Money-Saving Steps Are Outlined

Daily, many small systems routinely save money in dozens of ways. Those pennies, dimes and dollars add up. (See sidebar at right.) Here are ten steps that a system can take to save money:

1. Refinancing and/or Prepaying Debt By the late 1990s, most systems have already refinanced as much debt as possible. But just in case you missed out, use today’s historically low interest rates to reduce payments. Those smaller payments help cash flow go farther. Do consult your bond covenants or financial advisor first.

It’s one thing to refinance, it’s another to prepay debt. Experts advise getting only callable (prepayable) loans. That advice really paid off for Castorville, California, Water District. The district has one of the highest densities in coastal Monterey County. Its 1,300 connections serve more than 6,000 people in one-half square mile.

Like hundreds of other small systems, it sold existing debt in the 1970s. “Working with a financial advisor, we reduced interest and shortened the pay period. We also took prepayments out of revenue and saved $500,000 in interest charges,” said General Manager Joseph (Jody) Lyons. Castorville then increased the amount of bonds to pay for a new 420,000 gallon storage tank that supplemented the existing one holding 600,000 gallons. The combination of refinancing and prepaying meant a 75 percent increase in storage at no extra cost.

2. Contracted Services Many small systems regularly contract out tasks. Why? To reduce personnel costs or avoid the expenses for trucks, backhoes, and other equipment. Contracted tasks include:
   - All or part of operations and maintenance (O&M),
   - Billing and customer account management,
   - Computer system maintenance, training, and upgrades,
   - Sampling, testing, and reporting,
   - Fleets and fleet maintenance,
   - Bookkeeping and accounting, and
   - Special programs, such as backflow prevention.

The Castorville Water District doesn’t own a backhoe or dump truck because they hire reasonably-priced contractors, when needed. Other contracted tasks include extending main lines, replacing valves, and installing meters. Meter pit installations are awarded annually after a competitive bidding process.

Using contractors keeps payrolls lean while reducing the costs of benefits. An operator certified for mandatory testing may be unaffordable for some smaller systems. Just make sure you’re doing it legally as far as the Internal Revenue Service (IRS) is concerned! Among other things, the bona fide contractor uses his or her own equipment, and instructs and trains employees. If in doubt, call your local IRS office.

3. Greater Efficiency The Sardis Water Association, just south of Little Rock, Arkansas, pumps, treats, and distributes groundwater to 4,500 connections in two contiguous counties. It has eight employees. General Manager Roger Moren has boosted efficiency through:
   - Upgrading computers and programs into an integrated system. Now the same data is used by all customer accounts and files. The new system handles customer billing and accounts, work orders, and scheduling maintenance. Payroll will be phased in later.

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Stretching Small System Dollars

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- Ceasing to print the second shutoff notice, saves about $10,000 per year in printing, mailing charges and clerical time. Now the first one has all needed information.
- Handheld meter readers that eliminate manually keying data.

If you thought audits meant only reams of paper and dollar signs, think again. More small systems have electrical or water audits performed. Using too many kilowatt hours per month? Does unaccounted-for water top 35 percent? An audit will show you how and where to save money.

Savvy design saves eight to nine hours per cycle in operator costs for Rural Water District 4 of Nemaha County, Kansas. The two well houses were set up to permit easy chlorination. “We can put in sodium hydrochlorite at the same time we’re injecting water and let it circulate in the well. Then, it sits before we pump it out,” said General Manager Leonard Nissen. “In older systems, you have to mix it in a tank.”

4. Owner Construction Are you upset with escalating contractor bids for construction projects? Some systems serve as their own general contractor, using in-house employees or short-term hires for the labor. The key is a consulting engineer whose design will get needed state permits along with fund approval.

Rural Water District 5 of Douglas County, Kansas buys water from nearby Lawrence for its 825 connections. Bartlett & West Engineers, Inc. designed a 10x12-foot booster station to keep pressure at a steady 130 pounds per square inch.

When the original bids—approximately $60,000—were too high, it was time to look at options. “We built the full package for less than 50 percent of the original bid,” General Manager Larry Wray stated. The project was completed for about $25,000. By doing it in-house, Wray could tailor some items to cut down on maintenance. Using vinyl-coated plywood, similar to that used in dairy barns, means only the door will need painting.

One state to the north, Iowa, is using owner construction on a broad scale. Escalating construction bids were resulting in unacceptably high user rates. Under the careful guidance of the state’s Rural Development office, larger water districts with several years’ worth of projects have set up in-house construction projects with their own staffing and equipment. (See sidebar on page 13.)

5. Buy-Sell Arrangements For decades, large and small systems have bought and sold water to one another. A 1995 survey of 569 water suppliers in a four-state area centering on Kansas City found that 40 percent pumped their own water, 52 percent bought from others and 8 percent used both methods. Thirty-nine percent sold water wholesale to other systems. (For more information on this, see “Wholesale Contracts: A Resource Option” by Ellen G. Miller, Elaine Tatham and Susan Hall in the November, 1996 issue of Journal AWWA.)

For some, buying water wholesale may be the only way to get safe drinking water. In the mid-1990s the only well for the City of Goff, Kansas, was abandoned due to excessive iron and manganese. “We made a 99-year contract with Goff to supply 2,400 gallons an hour,” said Leonard Nissen, general manager of newly-formed Rural Water District 4 of Nemaha County. A bypass connection was installed for use in emergencies, such as an electrical failure or fire.

Some small systems insist on going it alone. They don’t want to be completely reliant on another utility. But increasing regulatory and customer pressures may prompt more boards and city councils to look at buy-sell arrangements. They permit budget planning. They also assure local autonomy while cutting costs for building treatment plants and staffing them. (Just make sure your attorney looks at the contract before you sign anything!)

6. Cooperative Arrangements One growing trend is cooperative arrangements with nearby systems. Examples of cooperative arrangements include:

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“As part of long-range planning, look at what’s more important: Customers getting improvements or early payment of debt?”

Roger Moren, General Manager, Sardis, Arkansas, Water Association
Iowa’s Xenia Rural Water District is looking at joint purchasing with two nearby neighbors. They all use the same meter pit. “We can get a fairly good price break with a full semi trailer load of about 600,” commented Executive Director Dan Miller. “That quantity would last over a year.”

Membrane filtration is rare in the midwest, but that’s not stopping a Kansas municipality and rural water district. They’ve taken steps toward setting up a joint membrane filtration treatment plant. The City of Holton and RWD #3 of Jackson County have formed a new public wholesale water district. Members from both boards/councils will be selected for its 5-person board.

“We hope to be selling water in the year 2000,” said City Administrator Brad Mears. Currently, the two founding systems are the only two customers, but other participants may come in later. A rate increase for both entities is under discussion.

7. **New Construction Philosophy**

There’s been a major change in the way that Xenia Rural Water District approaches construction. In the old days, it used to build everything within one portion of a county—mains, lines, storage, etc.

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These days, reports Dan Miller, the district talks with communities in a new area. “We see if they want to obtain service,” he states. If there’s interest, a transmission main is designed to include future needs in rural areas. Then the main is built through the community; distribution lines are built as users sign up. “We start with what’s most feasible,” he continued, “and the biggest costs are up front.”

The benefit? Avoiding premature construction: When lines go in too early, your system foots the bill until customers come online.

8. **Free Labor** California’s Castorville Water District saves money by using a youth employment program. In cooperation with the local recreation district, the Castorville district will provide jobs for fully-subsidized teenagers during the summer, 1999. “I have the landscaping and other labor-intensive jobs,” reports Jody Lyons, “and they have the employees.”

9. **Emergency Plans** Many systems have informal buddy arrangements with nearby systems. In case of flood, hurricane, earthquake, tornado, or other disasters, they help one another. Knowing you can rely on someone else’s generator, backhoe, or employees keeps your costs down.

That’s how Clarence Cannon, Missouri, Wholesale Water Commission and some members save dollars. “Six of our 16 members have the same SCADA (Supervisory Control and Data Acquisition) system,” reported General Manager Liz Grove. The components are fairly expensive. Each member has bought one or two pieces of equipment, which are all stored in a joint inventory at the commission. The original inventory was funded by splitting the total cost six equal ways.

“With SCADA, if there’s a problem at a critical point, you can’t wait two days,” Grove stated. “You need it now.” The member who takes a piece from the joint inventory is responsible for replacing it.

10. **Game Plans** Deciding how to spend revenue isn’t easy. New regulations and rules, customer demands, reducing debt—how do you decide which expense comes first? By using the priorities in your long-range game plan.

In Arkansas, Roger Moren has one basic test: “As part of long-range planning, look at what’s more important: customers getting improvements or early payment of debt.”

The Sardis Water Association uses a five-year O&M budget which is reviewed annually. That budget fits under a long-range plan covering operations, debt service, reserves and improvements. An annual budget spells out what will be spent in each category.

Warning: Making a game plan or budget isn’t the same as actually using it. “Always keep a close watch on it,” Moren advises. “Don’t take for granted that things are happening. You can get tied up in everyday problems and forget to watch.”

Boards/councils, it’s up to you to watch those monthly financial reports. You want to know how much of this year’s revenue has been received and how much spent. And, you sure want to track this year compared to the previous five years. Statistical snapshots are helpful, but trends tell more.

**Help Is Often Just a Phone Call Away**

If your utility needs ideas about stretching dollars, help is only a phone call away. Sometimes your engineer is a good first call. These people know your system and have worked with you on large and small projects. Tip: Engineers are busy folks, give them plenty of lead-time; don’t expect instant advice.

Another source of help are the nation’s 45 state rural water associations. In addition to their free, federally-funded on-site technical assistance, many offer extra services such as conducting on-site water loss audits and energy audits. The regional office of your state’s drinking water primacy agency can also be a valuable source of information.

Other contacts include the American Water Works Association (AWWA) sections and the regional offices of the national Rural Community Assistance Program (RCAP) system. Most state AWWA sections have active small system programs, while (RCAP) offers rural communities technical and other assistance through six regional centers.

**Turn Customers Into Partners**

“Yes, we saved over 50 percent on the construction project,” said one rural water manager. “But even so, spending about $20,000 would make our community shudder. So we didn’t tell them anything.”

The problem: Keeping customers and community in the dark means they have no way to gauge the merit of your next rate hike or bond election.

The answer: Instead of treating customers as passive recipients of your water product, it’s time to start making them partners. Tell them what it
will take to upgrade aging systems or fulfill 1996 SDWA items such as:

- Operator certification and recertification
- Enhanced Surface Water Treatment Rule that requires tougher turbidity rates
- Disinfection byproducts
- Consumer Confidence Reports (the first one is due April – October 1999; one annually on July thereafter)

Effective partnership means information and education. If your system doesn’t tell its story, the grapevine will. Don’t force your customers to depend on gossip at Billy Bob’s Cafe or the Weekly Yell to find out what’s happening. Be proactive like the Xenia Rural Water District. In the summer of 1997, it sent a survey out to a sampling of its 4,000 customers and received a return rate of an extremely high 80 percent. Questions included possible new services such as reading meters versus the current self-read method, testing private wells, and help in capping old wells.

In the late summer of 1998, planning for a follow-up survey was begun. “We want to update and see if there’s anything new out there,” said Executive Director Miller. “We’re thinking about doing it every two to three years for several years. That will give us a benchmark.”

What’s the advantage of surveys? They provide the antidote to the chronic complainers. Board or council members and employees dislike being collared by irate customers, but worry that they represent everyone else. Surveys provide statistically reliable and valid information covering all customers.

### The Final Word

Small water systems, you have just one job: Provide a quality product that protects the public’s health.

What’s the rub? New regulatory requirements, aging systems, and changing customer expectations all require more revenue.

Getting new dollars is a challenge that has two key parts. First comes getting the most out of current dollars—and telling customers how you’re doing it. Then, getting their agreement for higher water rates or new debt.

The key to gaining customer approval is showing your customers how you stretch every dollar to cover operations, maintenance, debt service, and reserves. That’s when customers start to become partners, helping your utility achieve the future your community deserves.

For more ideas on saving money, try these sources:

- Your state rural water association. In addition to onsite technical assistance, several state associations perform electrical and water loss audits. For a list of the 45 state associations, phone the National Rural Water Association at (580) 252-0629 or visit their Web site at http://www.nrwa.org.
- Rural Community Assistance Program (RCAP). This national program offers rural communities technical and other assistance through six regional RCAPs. Contact the national headquarters at (703) 771-8636 or their Web site at http://www.rcap.org.

### Water 2000 Funds $155 Million for Water Projects

Eighty-seven rural communities in 38 states and Puerto Rico have been selected to receive $155.8 million in federal funds to upgrade the quality, accessibility, and dependability of their drinking water under the Administration’s Water 2000 Initiative.

According to a U.S. Department of Agriculture press release, this federal funding will trigger another $56.5 million that local water districts, county governments, state agencies, and other federal sources will provide.

At least 2.2 million rural Americans live with critical drinking water quality and accessibility problems, including an estimated 730,000 people who have no running water in their homes. Approximately five million more rural residents are affected by less critical, water problems, such as undersized or poorly protected water sources, a lack of adequate storage facilities, and antiquated distribution systems.

The National Drinking Water Clearinghouse (NDWC) offers a Water 2000 Information Package that provides articles about the Water 2000 program since its inception. To obtain your copy of the Information Package, call the NDWC at (800) 624-8301 or (304) 293-4191 and request item #DWBLGN35. Orders may be placed via e-mail at ndwc_orders@ndwc.wvu.edu.

The package is also available through our Web site at http://www.ndwc.wvu.edu.
Note: The free items listed below are limited to one of each per order. Actual shipping charges are added to each order. Call (800) 624-8301 or (304) 293-4191 to order products. NDWC products also may be ordered via e-mail at ndwc_orders@ndwc.wvu.edu. Please allow three to four weeks for delivery.

**Financing for Small Public Water Systems**
*Item #DWBLFN04*
This 20-page U.S. Environmental Protection Agency (EPA) report identifies the major potential funding sources for small communities and provides information on how to find funding.
*Cost: $2.90*

**Office of Ground Water and Drinking Water Publications**
*Item #DWBKGN23*
This 65-page book contains a listing of more than 400 available drinking water publications distributed free. Included are such items as fact sheets, technical assistance documents, youth educational materials, and scientific reports.
*Cost: $0.00*

**Improving the Viability of Existing Small Drinking Water Systems**
*Item #DWBKGN06*
This 48-page EPA document discusses ways other have successfully addressed problems common to small drinking water systems. Case studies, contacts, and suggestions for implementing state programs are included.
*Cost: $6.90*

**Yes, You Can: Two Small Towns Show How To Save Money and Water**
*Item #DWBRPE08*
This brochure outlines how the communities of Lorena, Texas, and Bern, Kansas, saved money and water through public education about conservation.
*Cost: $0.00*

**Methods for Assessing Small Water System Capability: A Review of Current Techniques and Approaches**
*Item #DWBLTR13*
This EPA manual was developed to help states understand and apply available methods for assessing water system capacity. It addresses small system capacity, provides examples of assessment methods, and explains system-level assessments for existing systems.
*Cost: $0.00*

**Benefits of Water and Wastewater Infrastructure**
*Item #DWBLRE06*
This 14-page booklet documents that the health and well-being of the American public, as well as the environment, the economy, and the future, depend on continued support and funding of water and wastewater infrastructure at all levels: federal, state, and local. Through a review of current literature, this report prepared by NDWC and the National Small Flows Clearinghouse, briefly outlines the necessity of having the federal government continue to support water and wastewater infrastructure.
*Cost: $0.00*