USDA: A Partner with Rural America
An Interview with Under Secretary Jill Long Thompson

Editor’s note: National Drinking Water Clearinghouse Program Coordinator Sanjay Saxena, Water Sense Editor Laurie Klappauf, and On Tap Editor Harriet Emerson interviewed U.S. Department of Agriculture (USDA) Under Secretary for Rural Development, Jill Long Thompson. Our discussion focused on budget issues, the Farm Bill’s Fund for Rural America, the involvement of rural electric cooperatives in rural water and wastewater activities, Water 2000, and the department’s vision for the future.

Long Thompson oversees USDA’s Rural Development mission area (formerly Rural Economic and Community Development), which encompasses three agencies that aid rural America:

Rural Utilities Service (RUS), Rural Business-Cooperative Service, and Rural Housing Service. (See chart on page 12).

Budget cuts pose a serious challenge to USDA’s ability to meet the needs of rural America, and throughout our discussion, Long Thompson emphasized that Rural Development programs play a major role in improving the quality of life for rural residents.

“As you know,” began Long Thompson, “there was a 31 percent reduction in water and waste loan and grant funds for fiscal year [FY] ‘96, and that does have a major impact because there is a huge unmet need in rural America for Continued on page 12

Electric Co-ops Expand Presence in Water

by P.J. Cameron
NDWC Staff Writer

The nation’s rural electric cooperatives can be a good resource for small drinking water systems looking for management and technical assistance, according to Joel McManus.

McManus is manager of community and economic development with the National Rural Electric Cooperative Association (NRECA), which is working with its more than 1,000 member cooperatives to increase their involvement in drinking water supply and wastewater treatment needs in the communities they serve.

A drinking water or wastewater system might consider turning to a co-op for assistance with a broad range of operations and management concerns, such as bookkeeping, long-term planning, and meter reading.

The cooperative’s involvement could be simply providing some helpful tips or it could be taking contractual responsibility for some aspects of a water system’s operations. It could even involve the cooperative’s outright ownership of the system. (See related article on page 6.)

McManus said there is a natural match between rural electric cooperatives and small water and wastewater systems, adding that cooperatives have 60 years of experience in providing utility service to rural customers.

“Electric cooperatives have a lot of similarities to drinking water and wastewater systems,” he said. Continued on page 4
Rate-Setting Tools Draw Interest

by P.J. Cameron
NDWC Staff Writer

Water Sense readers expressed great interest in our Fall 1995 article on computer rate-setting programs and spreadsheets for water and wastewater systems. That article featured three tools for computer rate-setting. (See an update on one of these programs on page 3.)

Once we realized there was strong reader interest in computer rate-setting tools, we invited readers to share additional information on the subject. Since then, we’ve learned of three rate-setting spreadsheets:

Garth Haslem, president of Crossroads Engineering, in Lehi, Utah, told us about RateCalc, a spreadsheet/workbook for drinking water systems.

Haslem said he developed the spreadsheet after finding that other programs and spreadsheets failed to fully consider systems—such as in agricultural, desert, or resort areas—with large seasonal fluctuations in water usage.

“In the West, for instance, people use a lot more water in the summer than in the winter,” Haslem said, adding that the software also accounts for variability in customer use, forecasting rates for low- and high-volume users.

Haslem said his company has used the software to recommend water rate structures to client water systems. He also said the company will sell the program to others and will extend a 30-day guarantee (see chart below).

We also learned of a spreadsheet being developed by the Hawaii section of the American Water Works Association (AWWA). Dallas Post, AWWA Small System program manager, explained that the Small Utility Rates and Financing (SURF) Interactive Spreadsheet is designed for very small communities, some so small that they may be operated by volunteer staff. It is designed for drinking water systems only.

“The spreadsheet is simply written and the accompanying booklet is easy to follow,” Post explained.

The SURF spreadsheet is currently being tested and is expected to be available to the public this fall. Post said he expects the spreadsheet will be available free of charge.

Additionally, Ken Veneron, deputy commissioner for public utilities in Henrietta, New York, told us of a “basic” spreadsheet he developed to calculate rates and perform simple forecasting for water and sewer systems.

Henrietta purchases treated water from the county water authority to supply its more than 9,000 connections.

“I can adjust rates to see what’s going to get us the amount of money we need,” Veneron said. “And hopefully the town fathers will go along with it.”

Veneron said the single-page spreadsheet he developed is all he needs to assess rates each year. He added that he would share a copy with anyone who calls him at (716) 359-7030.

Note: Water Sense does not endorse or recommend specific products. $
RateMod Program Now Available

A rate-setting and financial management computer program described in the Fall 1995 Water Sense is now available to the public.

The program, called RateMod, was developed by Michael Siegel, a Washington, D.C.-based consultant, in cooperation with the U.S. Environmental Protection Agency (EPA) and the Government Finance Officers Association.

Actually, Siegel's program has two versions—RateMod, for systems with fewer than 2,000 connections, and RateMod Pro, for systems with more than 2,000 connections or with large wholesale accounts or advanced cost-allocation needs.

The program can be used to set rates, as well as to monitor financial performance, schedule capital projects, and consider changes in the system's service area.

One person already putting RateMod to use is Jim Rudisill, city controller for Hendersonville, North Carolina.

"It allows me to do several 'what if' scenarios on both the water and sewer sides," Rudisill said. "For instance, it allows us to look at what kind of revenue various rate structures would generate."

He said the only other way to get such revenue estimates is to hire a consultant "for a lot more than this program costs."

Among RateMod's features is the ability to forecast water and sewer rates six years into the future. Siegel said other programs he has seen only forecast rates for two years. Siegel also explained that program users can set values for such factors as inflation to help estimate rates, or they can use preset values.

RateMod allows users to employ many rate structures, such as flat rate, minimum plus uniform volume rate, and minimum plus block volume rate. It also allows users to set different billing cycles, to factor in fire protection charges, and to set outside and wholesale rates.

Siegel said it is not the intent of the program to simply allow systems to look at rates once every six years and set them in stone. Rather, he explained, the program allows them to set rates for one or two years and also develop a longer-term forecast for planning purposes.

Siegel said EPA plans to work with its Environmental Finance Centers (EFCs) to offer training and support in the program's use. The first such offering, with the EFC at Syracuse University, will provide training for technical assistance providers in New York and New Jersey.

RateMod is available for $1,095; RateMod Pro is $1,595. Both versions come with three months of technical support, with the option to purchase an extended support plan.

RateMod and RateMod Pro require an IBM-compatible computer with Windows 3.1 and a minimum 8 megabytes RAM (memory).

For more information, contact Siegel at (202) 237-2455, or fax a request to him at (202) 237-2456. $
Electric Co-ops Expand Presence in Water

Continued from page 1

Why were co-ops created?

As the name implies, rural electric cooperatives are consumer-owned organizations that provide electrical service in predominately rural areas. Most do not generate power. Instead they purchase electricity, usually from other electric companies, and construct and maintain lines to extend service to rural residents and businesses.

The cooperatives were started shortly after the creation of the Rural Electrification Administration (REA) in 1935. At the time, only 11 percent of rural residents had electrical service. (In 1994, REA was consolidated with the Rural Development Administration’s water and wastewater programs to form the U.S. Department of Agriculture’s Rural Utilities Service [RUS].)

Today, rural electric cooperatives operate in all but four largely urbanized states, and their wires spread across 70 percent of the nation’s land. And nearly all the people living in the cooperatives’ territories now have electric service.

More recently, many cooperatives have taken an interest in economic development efforts in their individual communities.

Why are co-ops interested in water?

Some of these economic development efforts involve ensuring there is adequate drinking water and wastewater service to meet current needs and any future development.

“Unless we have clean water and safe wastewater disposal in our service areas, people and businesses will not be willing to locate in our communities,” wrote James A. Vann Jr., chairman of a task force that studied rural electric cooperatives’ involvement in water and wastewater services. Vann’s comments are included in a report, “Community Involvement: Opportunities in Water-Wastewater Services,” published by NRECA and the National Rural Utilities Cooperative Finance Corporation (CFC).

“By ensuring that adequate, affordable water-wastewater facilities are available within its service area to accommodate economic and industrial growth, a cooperative can also further enhance its financial viability,” Vann wrote. Additionally, improved water service can possibly result in reduced fire-protection insurance for local homeowners and businesses, he wrote.

Ernie Faucett also stresses the potential economic development benefits of co-ops helping local water systems. Faucett is vice president of operations and development for the Arkansas Electric Cooperative Corporation and is also chairman and founder of the Arkansas Rural Water Association.

“[Improving local economic conditions] means people come to and stay in the co-op’s territory, and it also keeps their children and grandkids from moving away,” Faucett said.

In the past 30 years, approximately 80 cooperatives have become involved in drinking water and/or wastewater service, according to the NRECA report, and many more cooperatives have expressed an interest in future involvement.

McManus said the lack of water or wastewater service, as well as problems with existing systems, are likely incentives for cooperatives’ involvement.

“Is there a problem with the system in terms of outdated equipment? Is there a financing need? Is there a service not being addressed?” McManus asked, adding that a “yes” answer to any of these questions could prompt the involvement of a cooperative.

How can co-ops help?

Cooperatives can provide water or wastewater systems with management expertise. Continued on next page

What is a ‘rural electric cooperative’?

The following definitions should prove helpful to Water Sense readers unfamiliar with the rural electric industry:

Rural Electric Cooperatives—As the name implies, co-ops are customer-owned, nonprofit entities that provide electricity and, in some cases, other services in predominately rural areas. Profits are distributed back to the customer-owners in the form of “capital credits” that are reflected as discounts on their bills.

National Rural Electric Cooperative Association (NRECA)—An organization that represents the interests of its more than 1,000 member cooperatives. NRECA lobbies on behalf of its members and provides insurance, employee training, and other services to its members.

National Rural Utilities Cooperative Finance Corporation (CFC)—A funding agency created by rural electric cooperatives to meet their financing needs. The CFC is a potential source of loan funding for water and wastewater projects that are somehow linked to a rural electric cooperative. CFC works closely with NRECA, but the two are separate organizations.

Rural Utilities Service (RUS)—The federal agency created in 1994 by merging the former Rural Electrification Administration (REA) and Rural Development Administration (RDA). RUS assists with the formation and funding of the national network of rural electric cooperatives. It also administers water/wastewater and telecommunications programs. $
Continued from previous page
They can also help identify new sources for project financing.

Co-op representatives assert that most of the staff expertise possessed by cooperatives is directly applicable to water and wastewater operations. The NRECA report states that cooperatives can improve management and operations of water and wastewater systems “simply by bringing existing skills to the business.”

The report touts the benefits derived from the economies of scale when operations of an electric co-op are combined with a water or wastewater system. For example, operational costs could be reduced by combining water system and electric utility billing.

Of the cooperatives already involved with water systems, most have signed agreements to provide all or some portion of the day-to-day management.

“The structure of the independent water system is still in place and its board continues to have oversight, but the co-op handles the management,” McManus said. These management tasks might include one or more of the following: billing, meter reading, maintenance, leak repair, new service connections, mapping, and other responsibilities.

Co-ops Offer Help with Project Funding

A cooperative can also assist a water or wastewater system with project funding.

Through a cooperative, a water system may even be able to utilize new funding sources, such as loans offered by CFC. The cooperatives created CFC in the early 1970s to serve their borrowing needs.

One CFC fund provides loans for economic development projects supported by individual cooperatives. These projects can include water and wastewater improvements.

Typically, a co-op would set up a nonprofit subsidiary to apply for CFC funding as an “associate member,” according to John Alexander, CFC senior utility consultant. The subsidiary would then provide funds to the water or wastewater system.

CFC funds are available at a variable monthly interest rate and at terms extending up to 30 years.

Alexander said there has been only a “modest” amount of CFC loan activity for water and wastewater projects, because many of the projects qualify for funding through the RUS Water and Wastewater Loan Program.

Alexander added that it is possible to use CFC funding to complement financing received through RUS and other funding sources.

The cooperative could also help water or wastewater systems through the application process for other federal sources. These sources include the RUS Rural Economic Development Loan and Grant Program; Community Development Block Grants, funded by the U.S. Department of Housing and Urban Development; and state revolving loan funds (SRFs) for wastewater, funded largely by the U.S. Environmental Protection Agency.

A cooperative might also help secure bond funding for a water or wastewater project. Through the cooperative’s involvement with CFC, the bonds could be issued with less expense and perhaps at a more favorable interest rate. The CFC could also help tie or pool several such projects into a single bond offering. This, too, could amount to a savings in the cost of issuing bonds.

NRECA’s economic development staff is available to assist cooperatives and water and wastewater systems with the various funding sources and their application processes. (Note the NRECA phone number at the end of this article.)

Some Potential Obstacles Exist

Almost every state has “enabling statutes” that allowed for the formation of electric cooperatives. Some of these state statutes restrict what activities co-ops can engage in other than their original purpose of supplying electrical service in their territories.

Some state statutes have no restrictions on co-ops’ direct involvement in water or wastewater projects. Other states require co-ops to establish separate, non-affiliated companies to handle any contracts or financial arrangements for water or wastewater projects.

And statutes in some states completely prohibit co-ops’ involvement—direct or indirect—in any activity not specifically related to supplying electricity.

The NRECA report provides an interpretation of each state’s enabling statute. The report cautions that other state laws, including public utility regulations, may also

Continued on page 6

A rural electric cooperative can help water systems locate financing sources to complete much-needed projects. Photo courtesy of Pioneer Electric Cooperative, Alabama.
Electric Co-ops Expand Presence in Water

Continued from page 5

restrict or prohibit some co-ops’ involvement in water and wastewater.

The report also suggests that co-ops may be leery of the number of state and federal regulations concerning water and wastewater service, but Arkansas’ Faucett countered that cooperatives are accustomed to working with complex regulations.

“There are instances where the local co-op may be the only group [in the community] with the expertise to deal with those water regulations,” he said.

Faucett went on to mention additional reasons why cooperatives may be reluctant to get involved in water and wastewater systems. He said a co-op’s staff may feel that adding the day-to-day responsibilities of running a water or wastewater system may be too much of a strain to its already busy workload. The co-op also may be concerned with the possible liability and financial risks of involvement.

Additionally, Faucett mentioned a scenario where a co-op takes over billing responsibilities for a water or wastewater operation. He said customer complaints about water and wastewater service would begin to be directed to the co-op staff, tying up their time and possibly resulting in negative customer perceptions of the co-op.

What if your system needs help?

Before investigating collaboration with a rural electric cooperative, a troubled water or wastewater system should first exhaust technical assistance and funding sources available for rural water and wastewater systems.

For instance, the National Rural Water Association offers free technical assistance, including its circuit rider program, to assist small systems. The National Drinking Water Clearinghouse (NDWC) can provide technical assistance and put troubled systems in contact with their state rural water office, as well as other assistance organizations. (The NDWC’s toll-free number is listed below.)

RUS, through its state and district Rural Development offices, might be an appropriate contact as well, especially if the system recently received an RUS loan or grant.

“RUS does a wonderful job of helping troubled systems,” Faucett said, recalling examples of how RUS staff members have helped systems work out revised debt payment plans and other solutions.

Faucett said next he would encourage the system to consider working with a local co-op, which may offer solutions to help the system work out its troubles on its own. He added that this could have the additional benefit of building positive bonds between the co-op and the system.

If the system does not appear able to work out its problems, the co-op staff may then recommend some form of management contract between the two or even that the co-op purchase the system.

Water and wastewater system managers who want to explore working with a local rural electric cooperative should contact McManus at NRECA at (703) 907-5500. For more information concerning the CFC loan fund, contact Alexander at (800) 424-2954.

For the number of your state Rural Development office, which administers RUS programs, or your state Rural Water Association office, contact the NDWC at (800) 624-8301. 

Involvement by Co-ops Can Vary

A rural electric cooperative’s involvement with a local water or wastewater operation is likely to be in the form of a contract to provide management or operations and maintenance services, according to Joel McManus of the National Rural Electric Cooperative Association.

These management functions could involve budgeting, accounting, long-term engineering and financial planning, setting customer rates, and personnel administration. Operation and maintenance services might include one or more of the following: meter reading, billing and payment processing, service connections, water sampling, repairing minor leaks, and staff training.

A co-op also might help the water or wastewater system with financial matters. This could include guaranteeing a loan, providing partial funding for the initial development of a project, or assisting with loan and grant applications for projects. The cooperative also might help the system monitor its whole financial position.

The expertise of a cooperative’s board members could be used to help establish new or upgrade existing water or wastewater service in a community or rural area. The board members could be successful in boosting public support for needed projects. In the same manner, the cooperative might assist two or more smaller systems through the process of merging into a single, more efficient operation.

Through ownership, a co-op might even take complete responsibility for financing, constructing, and then operating a water or wastewater system.
Alabama Co-op Helps Local Water Systems

Experience running utilities is the key to rural electric cooperatives’ ability to help small water and wastewater systems, according to Malloy Chandler, manager of the Pioneer Electric Cooperative in Greenville, Alabama.

Pioneer was instrumental in forming two water systems in its service territory and turning around two existing systems that were in dire financial condition. One was unable to meet an annual debt service payment to the Rural Utilities Service (RUS), and the other was in danger of not meeting its payroll.

The cooperative stepped in to take over management of the two troubled systems in 1989. Today both are in solid financial shape.

“It’s not magic. Instead, it’s 50 years of experience that has enabled our utility to stay strong financially, have cash reserves, and properly plan so we stay ahead of growth and maintenance problems,” Chandler said. “We’ve been able to take this bulk of utility knowledge and apply it to rural water utilities.”

Struggling Systems Lacked Knowledge

Chandler said it was lack of knowledge that led to troubles with the two existing water systems—one with 1,000 connections and one with 350 connections with construction underway to add another 800 connections.

The members of the systems’ governing boards were appointed without any training in how the systems should be operated, he explained.

“So you have three-person boards that know little about operating multimillion-dollar operations,” Chandler said, adding that the members were never informed of the importance of financial planning, maintaining cash reserves, or long-term planning.

He said such a scenario is OK when a system is new and there are few capital expenses, “but ultimately you’ll run into trouble.”

Pioneer Provides Management Skills

The board members of the two troubled systems were aware of Pioneer’s involvement in other area water systems. When their financial conditions became critical, the boards sought Pioneer’s help.

The two entered management contracts with Pioneer. The cooperative began running the day-to-day operations, as well as the financial and long-term planning, while the water boards maintained governing control, such as approving rate hikes.

One important task taken over by Pioneer, according to Chandler, was determining maintenance and capital reserve needs for the systems.

(See article on capital reserve funds in Fall 1995 Water Sense.) A system assessment can determine how soon various maintenance tasks must be completed and how soon different equipment will likely need to be replaced. Factoring in the projected cost of each item gives a good estimate of how much money should be placed in reserve.

When Pioneer’s staff determines more funding is needed to meet current expenses or reserve levels, they must convince the utility that a rate hike is needed.

“Sometimes it’s easy, sometimes it’s not,” Chandler admitted, but he said the water boards are more accepting of rate increase recommendations when they’re backed up with documentation.

He stressed that Pioneer has helped turn around the two systems, mentioning that—as of this writing—both were “in the black” for the year.

An Important Task: Seeking Outside Funds

Once system planning is completed and needed expansion and major replacement projects are highlighted, part of Pioneer’s responsibility is to identify potential outside sources for funding, according to Chandler.

This involves pointing out to board members whether traditional sources of funding could be used toward projects. The Pioneer staff also explains how the application process works.

“We actually do a good deal of the paperwork,” Chandler explained.

Beyond the traditional sources for drinking water funding, such as the RUS Water and Wastewater Loan Program, the Pioneer staff tries to identify some funding sources that typically aren’t utilized for water projects.

“Because we are involved in many avenues other than water system development, we are aware of more funding sources than the typical water board member or water project consulting engineer,” Chandler said. “We’re involved in economic development and utility expansion projects that bring us into contact with federal funds, which in certain circumstances can be used for water projects.”

Pioneer has used RUS loans and grants, tax-exempt bonds, and loans from the National Rural Utilities Cooperative Finance Corporation to finance water projects.

Chandler stressed pursuing other water project funding sources, such as various other RUS and Economic Development Administration programs that assist rural development.

“It’s a matter of being aware that there are other programs that can be used to assist water expansion,” Chandler said.
Florida Saves Water, Energy, and Money

by Laurie Klappau
Water Sense Editor

When striving to ease your system’s financial burden, don’t forget to look for ways to save money by working more efficiently.

Often this can be accomplished by reducing the amount of water lost by the system. Another way to work more efficiently is to reduce the electric bill.

A program in Florida helps water and wastewater utilities do both. The Florida Energy Efficient Water Project (FEEWP) provides water and energy audits for small systems. FEEWP then pays for any energy conservation or leak detection and repair activities undertaken as a result of the audits, as long as the money invested will be made up through energy savings in 10 years or less. These savings are verified by post audits of the systems.

“The program pays the bills for the ECMs at the participating system. The match provides plumbing repairs and installation in homes within the service area of the system that provided the match,” says Wheeler.

Since the program started in 1992, 48 Florida water or wastewater systems have participated, generating nearly $1 million in match money to repair or install plumbing in low-income areas.

One of the first participants was the drinking water system in the City of Palatka, which reduced its operating costs by nearly $44,000 per year. The $89,700 invested by FEEWP into the 5,000-connection system was repaid through energy savings in a little more than two years.

The program has even drawn the attention of the national headquarters of the Rural Community Assistance Program, which is looking at FEEWP as a model to emulate nationwide.

Program Is Team Effort, Easy To Enter

“Making the program work is a team effort,” notes Wheeler. She works out of Rural Resources, Inc. (RRI), which administers the FEEWP program by providing marketing, monitoring, and other day-to-day support.

The money for the program comes from oil overcharge penalties paid by several large oil companies. These funds are restricted to energy saving activities.

This funding is routed through the Tri-County Community Council, Inc. (TCCC), a community action agency that has had experience working with drinking water, wastewater, and low-income community projects.

The Florida Rural Water Association (FRWA) conducts the water audits and leak detection, and the University of Florida Center for Training, Research, and Education for Environmental Occupations (UF/TREEO) conducts the energy audits.

The Tallahassee Urban League, which monitors local nonprofits performing work for low-income residents throughout the state, is the link that funnels the matching funds to water or wastewater projects in the local community.

So far, the program has been made available to rural water or wastewater systems in Florida with more than 168 and fewer than 20,000 connections.

“The first step,” says Wheeler, “is a system says, ‘we want to be in this program.’” This requires a vote by the system’s governing body and an “opt-in” letter committing the system to pay $2,900 for the cost of the audits if it chooses NOT to take any conservation measures identified in the audits.

Next, Wheeler schedules the audits.

Continued on next page
Continued from previous page

**Water Audits Look for Losses**

The FRWA water audits determine the extent of water loss in a drinking water system.

And reducing a system's water loss can save money in a number of ways. It can help reduce wear on equipment, lower electricity bills and other operating costs for treating, pumping, and storing water, and perhaps even eliminate the need for capital improvements, according to water audit and leak detection training guides published by the National Rural Water Association. (See back page for ordering information.)

"We compare water pumped to water sold," says Gary Williams, executive director of the FRWA. This involves checking the accuracy of master meters and residential meters, documenting unmetered water uses, such as firefighting or line flushing, evaluating financial records, and estimating how much water is lost through leaks.

"If the water loss is greater than 10 percent, we target that system for extensive leak detection," says Williams.

In fact, a water audit by the FRWA found that the Palatka system was losing 29.8 percent of its treated drinking water. As a result of the audit, the FRWA recommended a leak detection effort, at a cost of $9,960. This was projected to save more than $13,500 per year, or more than $135,000 over 10 years.

A post water audit confirmed that the leak detection effort and hydrant repair reduced the water loss to 8.1 percent.

**Energy Audits Seek Savings**

The energy audits conducted by UF/TREEO look for ways to reduce electric bills by saving energy. The energy auditors review the efficiency of pumps, valves, and other equipment, as well as usage practices that might affect electric rates.

For instance, in water treatment plants, they might pay particular attention to motors that run a long time—half a day or more—or to the high service pumps that move the treated water to the distribution system.

"We may recommend they change the motor to a premium efficiency motor," says Jim Clifton, assistant director with UF/TREEO. These motors are more expensive, but they're also more efficient, so for heavily used pumps they are more cost-effective in the long run.

*Continued on page 10*

---

**Where can you go for help?**

While the Florida Energy Efficient Water Project is unique, it includes energy-saving activities that may be available in your area. For instance, most state Rural Water Associations conduct water and leak detection audits, and the National Rural Water Association (NRWA) publishes water audit and leak detection training guides (see below).

However, energy audits geared toward water and wastewater systems are not so common, according to Jim Clifton, assistant director with the University of Florida Center for Training, Research, and Education for Environmental Occupations (UF/TREEO).

"Electric utilities might do buildings or private residences, but they tend to shy away from water and wastewater systems," he says. "You really have to have a good understanding of what water and wastewater systems are all about. You can't just go in there with [electricity reading] meters—you'll miss the operational things. It's much different than a building or lighting audit."

Clifton says UF/TREEO has conducted training in other states on how to conduct energy audits, noting that technical assistance providers with an extensive water or wastewater background can often do these audits with appropriate training and guidance.

Private consultants also offer energy audits, though they're likely to charge a substantial fee.

The following publications provide helpful information for anyone wanting to learn more about conducting water audits, leak detection programs, or energy audits.

- A *Practical Guide to Energy Conservation Measures in Water Quality Systems*, published by UF/TREEO in 1989, helps drinking water and wastewater operators and maintainers identify areas where energy conservation measures may be implemented and how best to implement them. The 135-page guide is divided into a series of standard operating or maintenance procedures.


All three documents are available as one set for $12.50. To order, call UF/TREEO at (352) 392-9570, and ask for Tammy Gumbiner, ext. 129.

- Two training guides produced by the NRWA, *Water Audits: An Introduction* and *An Introduction to Water Loss and Leak Detection*, were specifically created for rural and small water systems. See the back page for ordering information from the National Drinking Water Clearinghouse (NDWC).

For the number of your state Rural Water Association, contact the NDWC at (800) 624-8301. $
Florida Saves Water, Energy, and Money

Continued from page 9

"In some cases, if a water or wastewater utility installs an energy efficient motor, they may get rebates from the electric utility," adds Clifton. He notes that Florida Power Corporation still offers rebates. (See article on next page.)

The process is similar at wastewater systems, even though some of the pumps or motors examined—such as those at lift stations on the collection system—may not always be obvious candidates for energy savings.

"People often don’t pay attention to these pumps until sewers back up," says Clifton.

But cleaning out grease and other accumulated "gunk" from the collection lines can often reduce the run times for these pumps, and again, save electricity.

And where pumps aren’t doing what they were designed to do, the auditors can sometimes propose ways to make them work "to design," says Clifton.

The timing of electrical usage also may offer the potential to save money.

"Depending on the electric utility and how much energy the water or wastewater utility is using, there may be significant advantages to using equipment during off-peak hours," says Clifton, referring to periods of the day when electric rates tend to be lower.

For instance, in Palatka, the auditors recommended that two of the system's eight pumps be run during non-peak hours—and not simultaneously—to lower electricity costs by as much as $1,700 per year.

Clifton admits that some energy audit practices involve some art as well as science. "Once you've done a few dozen audits, you know what works and what doesn’t."

Audits Identify Savings, Choices

After the water and energy auditors present their recommendations to a FEEWP advisory panel, FEEWP, in turn, makes a contract offer to the system. The offer proposes specific leak detection and ECMs, along with their anticipated costs, energy savings, and payback periods.

"In some cases, systems are already so energy efficient that we can't make an offer," says Wheeler. And with some of the smaller systems, FEEWP isn’t able to come up with measures that would have a payback of 10 years or less, because even relatively small ECM investments would not be able to impact the system’s utility bills enough to meet the 10-year payback requirement. In either of these cases, the system would owe nothing for the audit.

Once a contract offer is made, the water or wastewater system can accept all, part, or none of the contract.

If the system accepts none of it, the system simply owes $2,900 for the audits. And that is probably not a bad investment in itself, according to Wheeler. "The audits are a good management tool."

FEEWP pays for the ECMs and leak detection projects selected by the system. The system, in turn, pays half of this cost to FEEWP to improve low-income water or wastewater services. For instance, if the system accepts conservation measures and leak detection projects totaling $50,000, FEEWP will cover this entire amount. The system would contribute a separate $25,000 as their "match" to the local community.

In the case of Palatka, the ECMs recommended by

Continued on next page
the energy audit cost $79,757, but were projected to save the system about $30,000 per year. Taken together, the leak detection and ECMs implemented through FEEWP helped the Palatka water system reduce its energy consumption by 703,204 kilowatt hours per year, thereby reducing operation costs by about $43,600 per year. The Palatka system was allowed to meet its "match" requirement by replacing water lines in low-income areas. In most cases, however, this match must be made by a cash contribution. Wheeler says the program has continued to improve since Palatka first took part.

"In the first year, we saved $2 in energy costs for every dollar spent," she says, "and in the second year we saved $3.43 for every dollar spent." Third year figures are still being calculated.

But running a program like this requires money, and the oil overcharge funds that have been supporting the program are running out. FEEWP's mission for the next year is to look for new sources of funding, says Wheeler.

"We would also like to expand the program to include other improvements," she adds, pointing to water saving efforts, system expansions, or other activities, particularly for smaller systems.

For more information about FEEWP, contact Wheeler at (904) 386-3343.

A motor starter is checked for amperage, voltage, and power factor as part of an energy audit conducted by the University of Florida Center for Training, Research, and Education for Environmental Occupations (UF/TREEO). The auditor can determine if replacing or adjusting the motor would save on electric bills for a water or wastewater system. Photo courtesy of UF/TREEO

**Conservation Rebates: Here today, gone tomorrow?**

In recent years, many electric utilities offered rebates to water or wastewater systems purchasing energy efficient motors. But you may need to act soon if you want to take advantage of rebates that remain.

"Their popularity has been decreasing, and rebate programs are declining," says Linda Tillis, senior energy programs engineer with Florida Power Corporation, the state's second largest electric utility with more than a million customers.

"Many utilities are phasing them out because the regulations are changing," acknowledges Peter Barrer, P.E., president of Demand Management Institute. "In the past, utilities were regulated agencies, and they often had rebates because a regulatory agency said so."

But with recent restructuring of the electric utility industry, competitive forces have utilities reevaluating the cost-effectiveness of rebates or other energy conservation programs. The cost of rebates to promote conservation had often been balanced against the high cost of building plants if the utility needed to supply more electricity.

"In the past, it was cheaper to save a kilowatt hour than to build a new plant," says Barrer. But the cost of building new plants has been decreasing, says Tillis, making utilities rethink some of the traditional cost trade-offs.

Tillis sees many electric utilities moving away from rebates to providing more of an assistance role. For instance, they might help an industrial customer understand the payback of certain equipment, or they might offer to sell residential customers more energy efficient lighting.

Tillis says Florida Power Corporation still offers rebates for purchasers of high efficiency motors. At $1 per horsepower, the rebate is only intended to cover part of the cost difference between standard motors and the more expensive, more efficient ones (most motors for water or wastewater systems are 30 or more horsepower). Still, this rebate is down from $6 per horsepower last year.

All of these rebates or other technical assistance options vary from state-to-state and utility-to-utility, emphasizes Barrer.

His advice to systems trying to seek energy saving assistance from their electric utility:

"Call your local utility and ask 'What can you do for me?'"
USDA: A Partner with Rural America

continued from page 1

construction and improvement of water systems and sewage systems.”

She said USDA is trying to counter the impact of these cuts by continuing to provide technical assistance and finding ways to “pair” USDA funds with money from other sources, both public and private.

“Even though the dollars are less for construction and improvement costs, many times the technical assistance combined with some innovative thinking about how we can combine funds and leverage federal dollars can help the dollars that we do have go further and reach more communities.”

Long Thompson remains hopeful that some of these funds may be restored, citing the Clinton Administration’s efforts to fund rural programs.

“In fact, the President’s budget proposal for FY97 would support a water and waste disposal loan program of $800 million compared with $547 million in 1996, and then a grant program of $590 million, compared with $400 million for ‘96,” said Long Thompson.

This commitment to rural communities is also evident in the Fund for Rural America, created as part of the recently passed Farm Bill. (See article on page 15.)

“The Fund for Rural America authorizes $300 million—$100 million for each of the fiscal years ’97, ’98, and ’99,” said Long Thompson. This money will be divided between research programs and Rural Development.

“The funding in the Rural Development area would be used for water and waste, as well as for housing, so there’s no question that will help us with the huge backlog that we have in applications for money for water and sewer systems for rural communities,” said Long Thompson.

Block Granting Could Hurt Needy Areas

Other proposals under discussion, such as block granting funds directly to states, are less appealing to Long Thompson.

“I think that block granting works for certain kinds of programs,” she said. But she doesn’t think it would work as a replacement for what they do in the Rural Development area in USDA.

“It would constitute a real loss to rural communities in the country.”

In particular, she explained, block granting would reduce a state’s ability to leverage money as effectively as the federal government.

“The states that have the greatest need would be hit the hardest, because in order for a state to set up a revolving loan fund and offer a lower interest rate than market, they would have to have a high bond rating. A high bond rating is based on having a portfolio of communities and cities and towns that are very strong financially, and so there would always be the choice that the state would have to make—to keep the bond rating up you only include the cities that pose the least financial risk,” she said.

“And that means that you’re not going to be able to lend money at lower rates to the highest need communities. Because we have the U.S. Treasury backing whatever we do, we can offer lower interest rates and we leverage the dollars much further.”

In addition, she said, the USDA is able to provide cost-effective, technical assistance that couldn’t be matched by the states.

“We reach communities that are the hardest to reach—communities that simply cannot get financing from state sources or private sources.”

Continued on next page

Where do water and wastewater fit in USDA?

U.S. Department of Agriculture
Secretary Dan Glickman

USDA programs and offices

Rural Development Under Secretary
Jill Long Thompson

Rural Housing Service (RHS)

Rural Utilities Service (RUS)

Rural Business—Cooperative Service (RBS)

RUS funds the National Drinking Water Clearinghouse (NDWC), as well as water and wastewater loans and grants, technical assistance and training programs, emergency community water assistance efforts, rural water circuit riders, rural electric and telephone loans, and distance learning and medical link grants.

RUS water and wastewater programs are administered through an extensive network of state and district Rural Development offices. Over the past 30 years, USDA has provided $28 billion in loans and grants to fund almost 17,000 rural water and sewer projects, according to a 1995 General Accounting Office report.
Continued from previous page

**Coordination and Water 2000 Meet Needs**

Meanwhile, USDA is pursuing additional initiatives to connect financial resources with communities in need.

Long Thompson said USDA is currently working on a proposed regulation change that would streamline the RUS water and wastewater application process.

“The way we’re doing it is our state Rural Development staffs are working with other federal and state funding agencies to coordinate and redesign the application process and also to synchronize the funding schedules so that the grant awards and loans are made at the same time across agencies,” she said.

In particular, they’re trying to improve funding coordination with the U.S. Environmental Protection Agency (EPA), which provides funds for wastewater loans, and the Department of Housing and Urban Development, which offers grants for water, wastewater, housing, and economic development projects.

“We’re always, in addition to that, looking for ways to cut red tape—to standardize and simplify,” said Long Thompson.

The agency is also trying to target resources toward Water 2000 communities—which are those without safe drinking water.

“We still have about half a million homes in rural America that don’t have any running water, and then we have several million other homes that have water supply needs that do not meet EPA standards. So we have a real challenge to try to meet the President’s initiative—the Water 2000 initiative—of making sure that every home has running water by the time we go into the next century.”

**Role of Rural Electric Co-ops May Increase**

As the public and private sectors seek additional ways to combine existing resources to help small communities, Long Thompson foresees an increase in the involvement of rural electric cooperatives (RECs) in water and wastewater management.

RECs were originally created throughout most rural areas of the country in the 1930s to bring electricity—and later, telephone service—to farms and other remote locations. *(See article beginning on page 1.)*

“The rural electric cooperatives are an infrastructure, if you will, that’s already in place. It’s a network of community leaders, and they know how to bring a community together toward a common infrastructure goal,” said Long Thompson. “I don’t have any doubt that they will play an increasing role in the years to come.”

As a government agency, RUS provides loans to RECs, but the agency’s role in fostering REC involvement in water and sewer management is largely one of encouragement.

“We are very much interested in doing what we can to utilize the networks that are already out there for administering our water and waste program,” said Long Thompson.

“In many cases, they [RECs] are well-run businesses that serve customers in sparsely populated areas. They have figured out how to do that very well, and some of the same challenges that we had in getting rural America wired, we have in getting water and sewer to rural communities. Because [RECs] ... have shown good managerial ability in many locations, they are a natural for getting involved in other challenges.”

And improved managerial capabilities could also result in improved funding eligibility for some small water and wastewater systems, according to Long Thompson.

“We always encourage good, sound management practices, and we work to target funding to those communities and entities that not only have a need, but also have the ability to manage the funds well.”

**Agency Poised To Meet Challenges**

Long Thompson emphasized that Rural Development is committed to developing partnerships with other federal, state, and local governments and the private sector to address the costly challenges facing rural America.

“Probably the greatest challenge for rural areas in the next century is infrastructure. The greatest strength is the commitment that the people of local communities have to work to improve quality of life, employment opportunities, etc. The real strength in rural development lies with the local communities and the local governments,” she emphasized.

*Continued on page 14*
Drinking Water Act Rewrite Pending

As *Water Sense* goes to press, the Safe Drinking Water Act (SDWA) 1996 reauthorization appears to be on its way to becoming law.

If passed, the SDWA reauthorization should benefit small water systems in several ways, including increased federal funding for water projects through the funding of a drinking water state revolving loan fund (SRF).

The U.S. Senate unanimously approved an SDWA reauthorization bill last November, and the House of Representatives passed one in late June. The House and Senate are expected to work out differences in their two bills and send the resulting bill to President Clinton to be signed later this year.

The Senate and House bills both include provisions to fund SRFs for drinking water. These funds would operate much the same as the existing SRFs for wastewater projects. As loans issued from the SRF programs are repaid, that money is made available for additional loans.

Loans from the drinking water SRFs would help finance new water plants, upgrades to existing plants, and similar construction projects to help systems comply with SDWA regulations.

"The terms are fairly general as to what types of projects SRF funds could be used for," explained James N. Smith, executive director of the Council of Infrastructure Financing Authorities.

The Senate and House bills both authorize approximately $1 billion a year through fiscal year 2003 to start up, or capitalize, the drinking water SRF. However, Smith cautioned that the appropriations must be approved each year.

Both the Senate and House bills include SRF provisions that benefit small systems. The House version requires that 15 percent of SRF loan funds be made available to small systems. And both bills allow for an additional amount—up to 30 percent—to be set aside in the form of loan subsidies (grants) to water systems in "economically disadvantaged" communities.

In addition to the amount of federal funding to be appropriated for the SRF, there are some other issues awaiting House-Senate negotiation.

The Senate bill, for instance, allows states to shift a percentage of their drinking water SRF money into the wastewater SRF, and vice versa, to address the greatest needs. The House version does not allow such shifting.

The House and Senate must also decide whether water systems should be required to give customers annual reports identifying contaminants found in their drinking water and explaining their potential risks.

"The SDWA reauthorization has made it farther through the legislative process than any other major environmental bill considered this session," said Michael Keegan, a research analyst for the National Rural Water Association.

Keegan said two factors—Congress' interest in passing some important environmental legislation this session and the fact that there could be only about two months left in this year's Congressional calendar—should prompt the House and Senate to quickly work out their differences concerning the SDWA reauthorization and forward a compromise bill to the President.

Smith noted that Congress has already appropriated $725 million for the proposed drinking water SRF. But unless the SDWA reauthorization is signed by August 1, the appropriated money could be diverted to the existing wastewater SRF.

USDA: A Partner with Rural America

*Continued from page 13*

"We work as a partner. But the days when the federal government believed it could go in and change a community—those days are long behind us. The federal government doesn't have the resources. We just don't have the ability, and that approach probably never could work anyway.

"I think the role of USDA will be to ensure that whether you choose to live in rural America or urban America or suburban America, you have access to good quality health care and good quality education, and there are economic opportunities so that families and communities can prosper. My vision for the USDA Rural Development mission area is that we work as a partner with state and local government and the private sector to strengthen rural America."

Everyone Has a Role

So what can be done at the local level to ensure that USDA's Rural Development services and funds continue to be available?

"I think it's important for everybody to make their concerns known to their elected officials," advised Long Thompson. "That includes not just federal officials, but state and local.

"I firmly believe that while lobbyists play a role in the policy-making process, that elected officials work very hard to be responsive to their constituents, to the people who elected them to their position. There's probably nothing more effective than writing a letter to your elected official expressing your opinion."
New Fund To Boost Rural Development Efforts

The 1996 Farm Bill, approved by Congress and signed by President Clinton this spring, contains a special fund to address rural development needs, including drinking water and wastewater projects.

This fund—the Fund for Rural America—will provide $100 million in each of the next three years for programs within the U.S. Department of Agriculture’s (USDA) Rural Development mission area. (As explained in the previous issue of Water Sense, Rural Development is the new name for USDA’s Rural Economic and Community Development mission area.)

Jim Brownlee, communications coordinator for Rural Development, explained that the fund is not designed to establish new programs, but rather is “a much needed funding supplement for existing [Rural Development] programs.

“There’s a tremendous backlog of deserving applications—specifically for the water program,” he said. “Hopefully, these additional funds will help us reduce that backlog.”

Brownlee said funding priorities will also be given to rural housing needs for low-income people and the USDA’s Water 2000 initiative, which has identified communities that lack access to safe drinking water.

How Funds Will Be Distributed

One third of the Fund for Rural America is earmarked for Rural Development activities. Another third will be used for research grants to study agriculture and rural economic issues.

The remaining third will be divided between the Rural Development and research categories at the discretion of Agriculture Secretary Dan Glickman.

The Rural Development funding will be used to provide combinations of loans, grants, and loan guarantees for drinking water and wastewater projects, housing needs, economic development, and education and health care improvements in rural communities.

The funding for water and wastewater programs will be issued through the Rural Utilities Service (RUS) Water and Wastewater Loan Program. Brownlee said the funds will be distributed based on population and community income criteria currently used by RUS.

Brownlee said a portion of the economic development funds may also go toward water and wastewater projects when appropriate. “USDA intends to take advantage of every opportunity to address the areas of greatest need.”

Fund for Rural America monies are expected to be available beginning in January 1997.

Brownlee said a decision had not been made as to how the discretionary funds will be divided between the research and Rural Development categories or how funding will be divided among the various Rural Development priorities.

Farm Bill Emphasizes Flexibility

The Farm Bill also strives to reform the delivery of rural development programs with the formation of the Rural Community Advancement Program (RCAP)*, according to Brownlee.

“It’s a new strategy within USDA—to identify rural needs at the local level and then be flexible and innovative in addressing those needs in each state,” he said.

RCAP allows Rural Development officials at the state level to shift funding among three categories: rural community facilities, rural utilities, and rural business and cooperative development.

If one state has a pressing need for water project funding, for instance, it can shift up to 25 percent of the funds in the rural business development account to the rural utilities account, Brownlee explained.

For additional information concerning the Fund for Rural America, contact Brownlee at (202) 720-2091.

* The RCAP effort created by the Farm Bill is not related to the Rural Community Assistance Program (also called RCAP), a nonprofit national organization that provides technical and financial support to small communities.

Report Addresses Infrastructure Benefits

A report prepared by the National Drinking Water Clearinghouse (NDWC) and the National Small Flows Clearinghouse addresses the need for the U.S. government to continue to support the funding of water and wastewater infrastructure.

Called The Benefits of Water and Wastewater Infrastructure, the 14-page document discusses clean water’s benefits to health, economic development, environmental protection, standard of living, and technology development. Nearly 40 citations are used as examples throughout the report to suggest the need to continue funding to maintain and to improve environmental infrastructure.

“The report was prepared to support the position that infrastructure has a role to play in providing clean drinking water, proper sewage disposal, and economic development opportunities across the nation,” says Sanjay Saxena, NDWC program coordinator.

To order a copy of the free report, call the NDWC at (800) 624-8301, and request item #DWPCRE06.
Water Audit and Leak Detection Guides Available

Call (800) 624-8301 to order products. Please allow four to six weeks for delivery. A shipping and handling charge will apply to all orders.

- Water Audits: An Introduction
  Item #DWBLMG16
  Produced by the National Rural Water Association (NRWA), this guide helps you estimate the amount and cost of "unaccounted for" water in your system. The guide explains how to conduct a water audit, including how to review and assess records, check meters, and analyze and estimate water loss through a system. (1989, 39 pages)
  Cost: $2.75

- An Introduction to Water Loss and Leak Detection
  Item #DWBLM04
  This guide, also produced by the NRWA, is intended as an introduction to the complex task of performing a leak detection survey. Aimed at operators of rural and small water systems, it reviews the benefits of finding lost water and describes the different types of water loss. The guide also outlines steps to isolate and pinpoint leaks, including the use of maps, zone measurements, and appropriate equipment. (1989, 34 pages)
  Cost: $2.75

Training Workshop Includes Financial Advice

A train-the-trainer workshop will be held in August to help consulting engineers develop successful working relationships with small communities on environmental projects. Sponsored by the National Environmental Training Center for Small Communities (NETCSC), this course includes a section on identifying and managing financial resources.

"Working Effectively in Small Communities on Environmental Projects (for Consulting Engineers)" will be held August 28–29 in Minneapolis, Minnesota.

This two-day course provides an overview of the political, economic, and environmental challenges facing small communities. It is designed to help engineers evaluate and design appropriate environmental technologies and management systems.

One of four modules covered in the training, the Financial Packaging module identifies potential funding sources for environmental projects and strategies for budgeting, rate setting, and maintaining project viability.

The cost for the training is $290 per person and includes a training package consisting of an instructor’s guide and participants’ materials. For more information on this and other training programs available from NETCSC, contact Sandy Miller at (800) 624-8301, ext. 536.

What is NETCSC?

A "sister" organization of the National Drinking Water Clearinghouse, the National Environmental Training Center for Small Communities (NETCSC) is a nonprofit organization funded by the U.S. Environmental Protection Agency to help environmental trainers improve the quality of drinking water, wastewater, and solid waste services in small communities. In addition to sponsoring training curricula development and delivery, NETCSC offers a free newsletter, free or low-cost training products, and a training information hotline. For a free NETCSC information packet, call (800) 624-8301.

National Drinking Water Clearinghouse
West Virginia University
P.O. Box 6064
Morgantown, WV 26506-6064

ADDRESS CORRECTION REQUESTED