

Electricity and Water CAN Mix - The RUS Water and Waste Program

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Water Programs of the Rural Utilities Service

The Water Programs, currently administered through the Rural Utilities Service (RUS), an Agency of the Rural Development Mission Area, United States Department of Agriculture (USDA) began over 60 years ago as a “New Deal” depression-era program of the Resettlement Administration with the Water Facilities Act of 1937. The first loan for \$1,600 was actually approved in fiscal year 1940 – sixty years ago. Through the years the Water Programs have grown and matured into one of USDA’s most successful rural development efforts. Statistics show that much has been accomplished exemplified by some impressive improvements which have been made in rural areas. Will the Water Programs’ success continue in the future? Clearly, the demand is there, but can RUS continue to adapt to the future needs in rural America. The short answer is “yes.”

Today, RUS furnishes more capital to rural water and waste disposal systems than any other single source

USDA’s Water Programs have made some notable changes over its long history. Just a few of the Water Programs’ highlights are:

- **Program Funds.** In just the past 25 years, coinciding with the passage of the Safe Drinking Water Act, 71 percent of the total loans and 83 percent of the total grants have been approved. In terms of dollars, more than 89 percent of the nearly \$23.5 billion in loans and grants all-time were approved over this period.
- **Interest Rates.** Rates were fixed at 5 percent for many years. Since 1982, we instituted a three-tiered interest rate structure – poverty, intermediate, and market – and is still in effect today. All rates are subject to change quarterly, but the rate borrowers pay is fixed for the life of the loan. Borrowers can choose the rate in effect at either loan approval or loan

closing. They always choose the lowest rate! The poverty rate is fixed at 4.5 percent. The market rate is set using the 11-Bond Index published in the *Bond Buyer*. The intermediate rate is halfway between the poverty and market rates. Currently the market rate is 5.75 percent and the intermediate rate is 5.125 percent.

Even though rates may change, the lending rates will always be at or below the market. Subsidized – yes, but still a very good investment for the government.

- Rural Area Definition. Some things do not change. The program has used basically the same rural area definition for more than 25 years. Rural and rural area means any area not in a city or town with a population in excess of 10,000 inhabitants, according to the latest decennial census. With a significant number of applications on hand and the fact that larger communities have much more access to commercial credit markets, an increase in the population limit for rural areas eligible for RUS Water and Waste Disposal funding is not anticipated. The demand for funds in communities of 10,000 and under will most likely grow faster than the Agency's budget.
- Technical Assistance Programs. Yes, Water Programs can adapt. A new era for the water and waste disposal loan and grant programs began in August 1980 when USDA entered into the first Rural Water Circuit Rider contract with the National Rural Water Association (NRWA) – only 21 circuit riders covering 26 states. This was the Agency's first endeavor to pay others to help rural water systems. Circuit riders provide on-site technical assistance primarily in the areas of treatment, operations, maintenance, management/finance, and funding. The program has been highly successful, a model for other RUS-funded programs as well as programs in other agencies. The current contract covers all the Continental United States, some with two circuit riders. Beginning in 1989, the program was expanded, and now all 48 States have circuit rider coverage.

In 1985, Congress authorized a Technical Assistance and Training (TAT) grant program to assist small towns and rural areas solve problems encountered with their water and wastewater systems. Under this program, the NRWA, Rural Community Assistance Program (RCAP), and the National Drinking Water Clearinghouse have received the largest grants

since the program's inception in 1988. In 1990, the technical assistance programs were expanded with the authorizations of the Solid Waste Management grant program. This small grant program is available to non-profit organizations to provide technical assistance on solid waste issues to rural communities. The demand for circuit rider-type technical assistance will continue to grow as the requirements for certified system operators expand.

- Water 2000. Water 2000 is an initiative to target federal investment to rural communities with the most serious drinking water quality, quantity, and dependability problems. The premise is that all rural residents need safe, dependable drinking water at an affordable price. Water 2000 originated from a roundtable in 1994 organized by the Secretary of Agriculture that focused on the needs of rural Americans who lack safe drinking water in their homes. This session was prompted by the recognition that the lack of clean, safe water often means the difference between a high or low incidence of diseases and infections, good or poor health, no or adequate fire protection, and economic vitality or stagnation in America's rural areas. Since 1995, over \$2 billion have been invested in rural communities to support this initiative, and approximately \$500 million more from other sources have been invested.

Water 2000 is a fitting wrap up for our first 60 years. It brought together the RUS mission and resources with the people who needed the assistance the most. It is also a fitting beginning for the next century. Although the initiative will not reach its ultimate goal, it achieved a significant portion of it. But more importantly, it focused the resources and efforts in a direction that hopefully will continue in the future. During the period – FY 97-99 – we estimate that about 260,000 rural residents each year have received safe drinking water from RUS-financed systems.

- Electronic Age. Almost all automation of the program has been accomplished during the past 25 years and most of that affects customers over the past 10 years. Borrowers are now able to make their payments using a Preauthorized Debit system, and electronic funds transfer is used for most advances of loan and grant funds. Water and Environmental Programs has become a leader in the Rural Development mission area through its web site, providing a wide variety of information that is easily accessible to millions of people.

- **Budget Changes.** Changes in the way funds are appropriated for Water and Waste Disposal loans and grants beginning with Fiscal Year 1996 permitted the Agency to transfer funds between loans and grants. Today, Congress only appropriates budget authority – that is the funds needed for grants plus an amount estimated to cover the interest rate subsidy and expected losses for loans. For example, during Fiscal Year 1999, each \$100 in loans only used \$16.52 in budget authority. By using this proportion, funds can be shifted to where they are needed the most. One state may have a need for more grant funds to fund a few very needy projects, while another state has more need for loan funds. Rural Development State Directors can shift their allocations to meet the needs of their state(s). It appears that this system is working very well and will likely continue in the new future.
- **Grant Funds.** Before May 1992, the only ones who could benefit from grants were farmers, ranchers, and rural residents. Therefore, applicants had to devise a system, usually with higher user rates for businesses, commercial, and institutional customers so that they would pay the full cost of improvements and the grant benefit would be directed to farmers, ranchers, and rural residents. The regulations did allow very small businesses, those using a residential-sized water meter, to also benefit from grants. Since the authorizing law and implementing regulations changed, rural businesses and all other classes of users can now benefit from grant funding. The change does not preclude grantees and borrowers from charging different rates to different types of users so long as they do not discriminate against protected groups like race, age, and national origin.

Further expansion for grant eligibility is unlikely in the near future. The demand for grants is already way beyond the Agency's means.

- **Supervised Credit.** Because the recipients of water and waste disposal assistance are often new systems, or at least relatively small ones, an important objective of the program has always been to provide supervised credit – helping applicants and borrowers establish and maintain effective billing and collection procedures, operational policies, and bookkeeping methods. Quarterly reports may be required for a while after loan closing, and audits or annual reports are required depending on the size of the operation. The RUS requires these reports – yes, but they are really just good business. We like to think that governing boards

want this information anyway. Also, while we have forms, borrowers can submit the information in their own format. It's the information that's important, not the format. The effectiveness of this aspect of the program is reflected in the low delinquency rate – typically between 1 percent and 2 percent – and the extremely low loss rate – less than one tenth of one percent over the last 60 years.

The realities of staffing limitations are hitting RUS hard in this area. The remaining staff simply do not have the time to spend on supervised credit. Much of this work is being shifted to the technical assistance providers like the circuit riders and the trend is expected to continue.

- **Other Credit/Graduation.** Applicants must be unable to finance their proposed project from their own resources or through commercial credit at reasonable rates and terms. Also, borrowers agree to refinance (graduate) their loans when they can obtain credit through commercial or cooperative sources at reasonable rates and terms. These requirements have remained the same since close to the inception of the program.

It may not be popular, but it has been effective in several ways. The “Other Credit” requirement keeps the program dollars focused on the small, needy and often less influential applicants. Graduation opens up access to other funds. RUS will never have enough program funds to meet the needs of rural America alone.

- **Repayment Record.** Rural water and wastewater systems pay their bills. Less than 1 percent are delinquent on their loans and this represents about 0.1 percent of the principal owed to the Agency. Also, since the inception of the program less than one-tenth of one percent (0.1 percent) of the amount loaned has been written-off. This repayment record is the envy of most lenders. It is believed that this has been achieved because rural folks work hard to be successful and make exceptional efforts to honor their commitments. Also, credit should be given to the dedicated staff delivering the Water Programs as well as the system of technical assistance.

- Technical Issues. During the past 25 years, the water industry has changed at relatively the same pace as the rest of the economy. There is no reason the industry should not continue to experience and benefit from automation, treatment technology, materials, and process improvements.

Automation has provided the most visible change for customers. Twenty-five years ago, only the largest municipal water system could afford a computer system and the desktop personal computers (PCs) did not exist. Today the cost of automation is easily within reach of the smallest water systems. Today, we take computers for granted, especially in the areas of meter reading, billing, system planning, operation and maintenance, reporting, and record keeping. The Environmental Protection Agency (EPA) now provides the public access to water system reports and a wealth of water research information via the World Wide Web. Some water systems operate their own web sites.

Over the next 25 years, automation will enable any customer to do all the following electronically and more:

- ⇒ Access their billing information and water usage history,
- ⇒ Pay their bills, review the quality of water in their system real time,
- ⇒ Participate in board meetings from the comfort of their home,
- ⇒ Receive notification of system operational conditions,
- ⇒ And, of course, email the operator when their water smells funny.

The system operators should be looking forward to future automation improvements as well. Supervisory Control and Data Acquisition (SCADA) is just now becoming cost effective for small rural water systems. In the next 25 years, SCADA will be a requirement of all systems to provide top-quality service at the best price. We expect that systems will be larger, more complex, subject to more regulation and reporting, and will be operated with fewer persons. Automation will reduce the operators' need to perform repetitive tasks, such as manually backwashing filters and driving hundreds of miles just to check pump stations. With this assistance, operators will be able to monitor the status of systems from a central location, to refine operations to minimize costs, and to identify and solve many problems before the

customers are affected. Operators will routinely obtain assistance from equipment manufacturers electronically. All operators have mixed feelings about improvements in testing capabilities. Each testing improvement seems to expose additional elements that must be monitored, disclosed, and treated. The benefit of these improvements means the quality of water delivered to the customer is the best in history, and will continue to improve.

Consulting engineers have moved from drafting tables to Computer Aided Design (CAD) in the past 25 years. In the next 25 years, engineers will have access to an unprecedented abundance of information on products, treatment technology, and research to plan and to design water systems. Cost information from across the country will be available for refining project cost estimates. Construction administration will be routinely coordinated over the web including payment estimate processing, change order approvals, shop drawing reviews, photo record filing, and so forth.

Construction methods and equipment have advanced significantly in the past 25 years, and the rate of improvement in these areas will only increase. Contractors must be very creative to survive. Their efforts in the past have been nothing short of phenomenal in building and rehabilitating water systems. Gains in productivity and availability of more specialized equipment are a certainty.

Manufacturers are providing equipment and materials that are significantly better or that did not exist 25 years ago. Motors run more efficiently. Formulation of new materials or combination of materials is serving previously unmet needs. Manufacturing facilities are less polluting. The manufacturers continued research and innovation will provide additional solutions in the future.

With all the changes in the past 25 years and what will likely happen in the next 25 years, many critical components of successful water system development and operation will remain unchanged. Better tools will be available to evaluate options, to perform repetitive tasks, to monitor and control system process, and in general to assist owners in being successful. The challenge will be for all the parties involved to use these additional tools effectively in performing their functions.

- ⇒ Board members will continue to be responsible for making those critical policy decisions, for hiring quality staff, for providing a work environment that simulates staff growth and development, and protecting the system investment for the long-term delivery of a quality product to each and every customer.
- ⇒ Operators must maintain state-of-the-art skills to oversee system operation.
- ⇒ Consulting engineers must be knowledgeable in the true needs of rural water systems and the alternatives available, and skilled in the effective application of automation tools.
- ⇒ Contractors must meet the challenges on both ends of the spectrum, more remote locations and more congested locations.
- ⇒ Manufacturers must strengthen their inclusion of feedback from the system owners in the development and refinement of products.

So, what roles have we seen rural electric cooperatives become involved with rural water and waste water? Just how do rural electric and rural water mix?

Let us review the possibilities:

- Ownership of facilities. This would be the most complete involvement. We haven't seen much of this. It seems that for one reason or another, rural electric cooperatives do not own water and wastewater facilities. We believe that we only have loans with one REC. There are many RECs that have formed or helped to form other entities to own facilities.
- Operation and maintenance (O&M) services. Several RECs contract with rural water and wastewater systems for O&M services. They may only do billing or billing and bookkeeping. Or, they may totally operate and maintain the facilities. Systems with an RUS water or sewer loan must continue to own the facilities and must retain control, but they can contract for O&M. Control usually is exhibited by setting user rates, making decisions on capital improvements, and the ability to terminate the O&M contract for cause.
- Management services. Just like O&M, RUS water and sewer borrowers can contract for management services. An REC could be the contractor.
- Assistance in developing water and wastewater systems. RECs have helped many systems to develop. Roles might include: helping to assess the needs, be the leader in informing the

public through informational meetings and use of the media including the REC newsletter, provide maps and mailing lists, offer REC facilities for meetings, and contribute financial and technical assistance to get a project started.

- Merger assistance. Frequently in rural areas there are many small water and sewer systems. Small systems usually do not have the resources to do any more than serve the residents for which they were constructed. They lack the will and/or know-how to fill in the gaps that need service between them. They often can not respond fast enough to opportunities to serve new businesses. They are afraid they will loose control if they talk with neighboring systems to work together. There are many ways that small systems can work together to gain some of the efficiencies of a larger system. They can form purchasing groups to purchase supplies at quantity discounts, combine operations under a single manager, or actually merge either into a new organization or one or more systems merging into a surviving system. RECs, many of which have first-hand experience with mergers, may be well suited to help the water systems in their community.

A good source of information may already be in the REC office. The publication, “Community Involvement Opportunities in Water-Wastewater Services, The Final report of the NRECA/CFC Joint Member Task Force on Rural Water and Wastewater Infrastructure, February 1995,” is a great source of information. The RUS water and waste disposal programs are administered at the local level by USDA Rural Development State and local offices. Names, telephone numbers and information about the programs may be found by visiting the RUS Water and Environmental Programs Web site: <http://www.usda.gov/rus/water/>.

So much has been accomplished in rural America’s drinking water and wastewater systems during the first 60 years of USDA’s Water and Waste Programs. We, at RUS, unanimously agree that the job is not done, and look forward to working with our funding partners to meet the exciting challenges the future holds. The RECs can be a part of meeting these challenges.

BIOGRAPHICAL SKETCH

LAURENCE BOWMAN

Larry Bowman became the Chief of the Program Development Branch Water and Waste Disposal Division, Farmers Home Administration (FmHA), in September 1985. his current title is Chief, Policy and Initiatives Branch, Water and Waste Programs, Rural Utilities Service. From 1982 to 1985, he was a loan specialist in the Water and Waste Disposal Division of FmHA. In early 1992 the Water and Wastewater programs and staff were transferred to the Rural Development Administration (RDA) and in late 1994 the programs and staff were transferred to the newly created Rural Utilities Service (RUS). RUS is a merger of the Water and Waste Disposal programs of the former RDA and the Electric and Telecommunications programs of the former Rural Electrification Administration. Thus, for the first time USDA utility lending programs are in one agency.

Mr. Bowman is a native of Fostoria, Ohio, and a 1969 graduate of The Ohio State University with a B.S. Degree in Agricultural Economics and a 1980 graduate of The American University with a Masters Degree in Public Financial Management.

He joined FmHA in 1968 as a student trainee in Tiffin, Ohio. He later served as an Assistant County Supervisor, County Supervisor, Property Management Specialist, and Chief of Community Programs -- all in Ohio.

Mr. Bowman also has been the program manager for the Rural Water Circuit Rider Technical Assistance Program from 1982 through 1995.

Glendon Deal, Linda Scott, and Dick Kelly of the RUS staff contributed.

Rural Utilities Service Water and Waste Disposal Programs

The Water and Waste Disposal (WWD) programs of the Rural Utilities Service (RUS) are administered at by USDA Rural Development state and local offices located throughout the country. The programs include loans, grants, and technical assistance to assist rural communities with their drinking water and waste disposal needs. The following is a brief summary of the programs:

Water and Waste Disposal Loans

WWD loans are made to develop drinking water and waste disposal (including sanitary sewer, solid waste disposal, and storm drainage) systems in rural areas and towns with a population not in excess of 10,000. Funds are available to public entities such as municipalities, counties, special-purpose districts, Indian tribes, and corporations not operated for profit including cooperatives. Loans may be made for up to the useful life of the facilities financed, state law limitation on the borrower, or 40 years, whichever is less. Interest rates are set quarterly based on a municipal bond index. All loans are fixed-rate loans at the lower of the interest rate in effect at the time of loan approval or the time of loan closing. RUS may also guarantee water and waste disposal loans made by banks and other eligible lenders. Applicants must be unable to finance their needs or obtain credit from commercial sources.

FY 2000 estimated funding: \$800 million for direct loans and \$75 million for guaranteed loans

Water and Waste Disposal Grants

WWD grants are made to reduce water and waste disposal costs to a reasonable level for rural users. Grants may be made for up to 75 percent of eligible project costs in some cases. The median household income of the service area must be below the state's nonmetropolitan median household income. The same types of applicants are eligible for grants as are for loans. Funds are set aside for Alaska Native Villages, Colonias along the U.S.-Mexico border, Native American tribes, and empowerment zones/enterprise communities.

FY 2000 estimated funding: \$500 million

Technical Assistance Programs

Technical Assistance and Training (TAT) grants are made to nonprofit organizations to provide technical assistance and training to associations on a wide range of issues relating to the delivery of water and waste disposal service. The technical assistance and training may be provided for rural communities with a population of 10,000 or less. Private, nonprofit organizations that have been granted tax-exempt status from the Internal Revenue Service may be eligible for grant funds provided they can demonstrate the ability, background, experience, legal authority, and actual capacity to provide technical assistance/training on a regional basis to small, rural communities. Grant funds may be used to assist communities and rural areas identify and evaluate solutions to water or wastewater problems, improve facility operation and maintenance activities, or prepare funding applications for water or wastewater treatment facility construction projects. Pre-applications must be filed with Rural Development between October 1 and December 31.

Solid Waste Management (SWM) grants are made to public and private nonprofit organizations for providing technical assistance and training to associations to reduce or eliminate pollution of water resources and improve planning and management of solid waste facilities. This assistance provided by the grantees is available in rural areas and towns with a population of 10,000 or less. Application procedures are the same as TAT grants.

FY 2000 estimated funding: \$16 million for TAT grants and \$2.7 million for SWM grants

Since the inception of the WWD program in 1940, through FY 1999, 39,101 direct loans for \$16.7 billion and 21,071 grants for 7.2 billion have been made throughout the country. Through the end of FY 1999, 7,700 borrowers owed \$6.3 billion in principal. Over the past few years only about 1 percent of borrowers had loans behind schedule at any point in time representing an average of about 0.1 percent of the principal outstanding. Over the years less than 0.1 percent of the amount loaned has been written off.

RURAL UTILITIES SERVICE Water and Environmental Programs

Water and Waste Disposal (WW) Programs

- As of January 1, 2000, there were 16,222 loans outstanding with an unpaid principal balance of \$6.3 billion. This represents a total of 7,677 borrowers nationwide. These loans are administered through the National Office WEP division by local Rural Development personnel.
- In FY 1999, approximately 750,000 people living in rural areas began drinking safe water from water systems financed by WW loans and grants.
- A 1% delinquency rate has remained steady in recent years.
- Write offs equal 1/10 of 1% of the total principal loaned since the inception of the program.
- Approximately 32% of WW borrowers participate in the Preauthorized Debit (PAD) payment method.
- During FY 1999 the following WW obligations were made:

Program Type	Number Made	Amount Obligated
Direct WW Loans	900	\$721.4 million
Guaranteed WW Loans	7	\$5.8 million
WW Grants	816	\$517.8 million
Technical Assistance & Training (TAT) Grants	11	\$15.8 million
Solid Waste Management (SWM) Grants	31	\$2.7 million
306C WW Grants	38	\$22.3 million
Alaska WW Grants	14	\$8.7 million
National Disaster Water Grants	1	\$17,500
TOTAL	1,818	\$1.3 billion

- Direct Loans and Grants General Information
 - Funds are allocated State.
 - Rural Development State Directors may transfer up to 25% between direct loan and grant funds.
 - Funding breakdown for a typical project is as follows:
 - ☐ 45% RUS loan funds
 - ☐ 34% RUS grant funds
 - ☐ 21% represents funding from other sources including applicant contributions
- Typical New Construction Projects:

	<u>Cost</u>	<u>Users Served</u>	<u>Population Served</u>
➤ Drinking Water Systems	\$ 2 million	400	1,080
➤ Sanitary Sewer Systems	\$2.5 million	200	540
- Most projects (80%) are to improve existing facilities. (The remaining 20% is used for new facilities and line extensions.)
- Loan and grant purposes – construct or improve drinking water, sanitary sewer, solid waste, and storm drainage facilities.
- Since the beginning of the program in 1940 through FY 1999,
 - 39,000 loans have been made for a total of \$16.7 billion,
 - 21,000 grants have been made for a total of \$7.2 billion, and
 - WW financial assistance has provided an estimated 25 million people with safe drinking water from their kitchen taps, and approximately 12 million people with sanitary sewer hookups for their homes.

Rural Development

Water Programs

Rural Utilities Service



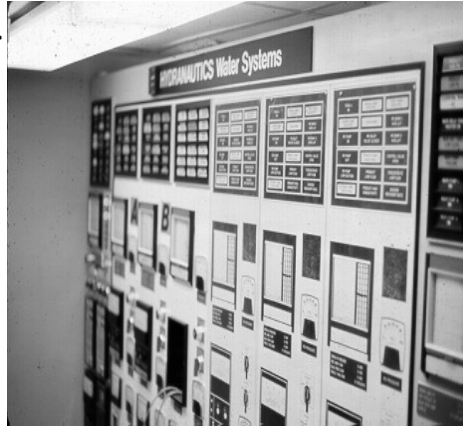
Eligible Facilities



- Drinking Water
- Sanitary Sewer
- Solid Waste Disposal
- Storm Drainage

Typical Projects

- New Rural Water System
- Rural Water Extensions
- Rural Water Improvements



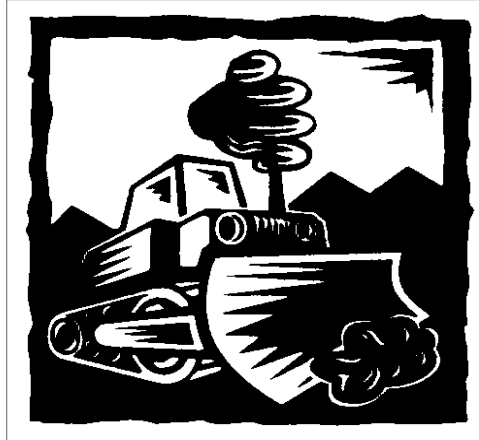
Typical Projects



- Small town water-sewer system
- Small town water-sewer improvement

Typical Projects

- Landfill
- Trash trucks
- Transfer station



Typical Projects



- Storm drainage
- Separate storm and sanitary sewers



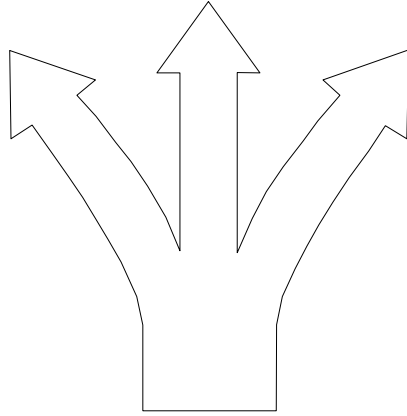
Planning

- Inventory assets
- Inventory needs
- Inventory wants

(then you can start)



Alternatives



- All reasonable
- Use existing assets
- Reasonable growth
- Reasonable fire protection
- On-site solutions

Interest Rates

Current: Jan. 2000

- Poverty - 4.5%
- Intermediate - 5.125%
- Market - 5.75%

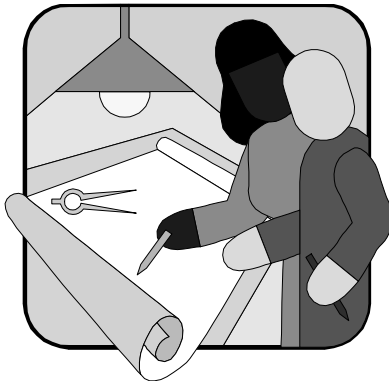
Rural Electric Cooperatives

The Possibilities

- Ownership
- Operation & Maintenance
- Management Services
- Assistance in developing facilities
- Merger Assistance

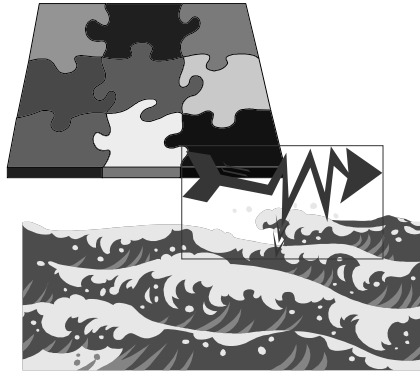


Information Sources



- NRECA/CFC Joint Member Task Force on Rural Water and Wastewater Infrastructure, February 1995
- www.usda.gov/rus/water

So ...



Water
and
Electricity
can
mix

Questions



Rural Development

**Water
Programs**

Rural Utilities Service

