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New Life for Rural Texas

By Lou Ellen Ruesink, Editor, Texas Water Resources
Edna Mae Collins was tired of hauling water and carrying it into her house.

Her neighbors--those fortunate enough to have wells--were drawing water by hand from shallow, undependable wells. Others were hauling water from five miles away for their household use.

Many families were leaving the Brushy Community in Central Texas to live where they could have water piped into their houses.

By 1965 Mrs. Collins was convinced that her community was dying because it lacked a water supply. She set out on her own to obtain a community water system. Encouraged by her minister, she sent a letter to the Farmers Home Administration (FmHA) state headquarters in Temple.

That same year the Poage-Aiken Community Facilities Bill was passed, opening the way for rapid expansion of rural water systems as part of a national program administered through the FmHA. This federal legislation authorized FmHA to make loans and grants to organized groups of rural residents and operating water systems.

With help from the county supervisor in her local FmHA office, Mrs. Collins organized a nonprofit association with 48 others in the community. Each one agreed to pay $50 and to buy water from the association. The group hired a lawyer to apply for a charter as a nonprofit organization and an engineer to determine the technological and economical feasibility of supplying water to the community.

The FmHA county supervisor furnished information and advice and assisted in processing and securing a loan of $49,000. This was the maximum which could be borrowed and still maintain the minimum monthly charge per customer. The Brushy

Water Supply Corporation has up to 40 years to repay the loan in monthly payments of $240.

By 1970, FmHA had funded 600 systems in Texas similar to the Brushy Corporation; today Texas leads the nation with over 800 rural water systems representing an investment of $284 million. FmHA maintains 145 county offices in Texas to assist rural residents in securing low-interest loans for water and other rural needs.

Membership in the FmHA-funded systems in Texas ranges from as few as 8 members to 3,800 members communities of up to 10,000 can qualify for the rural water system loans. Eleven rural systems in the state have an annual operating revenue of more than $250,000. One of the largest is in Johnson County with a 1976 annual budget of $350,000 and seven full-time employees.

FmHA Requirements

Each system must adopt FmHA approved bylaws, meet FmHA construction and design standards, and send an annual financial report to FmHA. A 5-12 member board of directors is required to elect officers and hire employees to operate a system. The board must meet once a month and report to the membership at an annual meeting.

Mrs. Collins has served the corporation as secretary-treasurer of the board of directors and as bookkeeper throughout its 10-year existence. Her dining room doubles as the business office and her private telephone has been the only business and emergency number for the Brushy Water Supply Corporation.

Larger systems operate regular business offices and hire full-time secretaries and operators. The current emphasis for FmHA funding is for consolidation of systems and for additional loans to existing ones. Although approximately 100 systems serve less, 100 members is considered by FmHA to be the minimum to be economically sound.

The Brushy Community has enjoyed 10 years of safe, dependable water delivery. Membership has doubled to 100 members, and the community is boasting a new church, new houses, and several young newcomers. Although the system was built to serve a maximum of 250, original members must be assured of plenty of water and pressure before any new members are added to the system. A new membership or connection, now that the corporation is in existence, costs $100 plus the total cost of installation or connection.

According to Bill Lawson, Community Program Services, FmHA, only 20 out of 100 loans made by FmHA in 1976 were for new systems. The rest were for expansion or consolidation of existing systems. The FmHA loaned $16 million in 1976 in Texas for rural water and sewer systems, and authorized $8 million in grants.

Many areas of Texas are plagued with scarce water or water high in contaminants. Even when high quality ground water is available, costs of drilling and maintaining a well are

out of economic reach for most rural residents. The drilling alone for one well in the Brushy area costs up to $4,000.

Reliability of shallow wells has been sharply reduced due to increased water consumption and pollution. The solution to the problem of increased costs and ineffectiveness of private wells has been the establishment of community water systems serving all the residents of a given area. Systems obtain water from a variety of sources including treated water from nearby communities, private well water, and surface water from reservoirs and streams.

Health Standards

Because it sells water to at least 25 persons, the Brushy Water Supply Corporation is required to meet standards set by the Texas Department of Health Resources (TDHR) for public water systems. Most requirements are the same for large municipal systems as for small rural systems. Construction plans are reviewed by the TDHR and must conform with their current rules and regulations. Operation and maintenance standards are surveyed by TDHR field representatives and must meet state standards.

Water systems serving less than 4,000 families are required to send 4 samples per month to the TDHR for bacteriological analysis. Additional samples are required from larger systems and systems using surface water. In addition each system sends a chemical analysis sample annually.

Water systems which sell water to the public must be under the supervision of a trained waterworks operator at all times. A certification system has been established by the Texas Department of Health Resources and requires hours of training and examinations to qualify for or renew a license as well as to advance in certified grade level.

For instance, the Brushy system, since it has under 250 meters, is required to have a Class "D" operator. To become a Class "D" operator, an employee must have 10 to 20 hours of training and pass a written examination administered by the TDHR. The license must be renewed every two years, and renewal requires that the operator has received 10 additional hours of training. The Brushy system employs a licensed operator who works for more than one rural system in the county.

The Water Utilities Training Division, Texas Engineering Extension Service, has trained water works operators for the past 30 years. Short courses are conducted throughout the state at regular intervals. A staff of 14 training specialists is headquartered on the Texas A&M University campus.

Training and examination for a license to supervise a rural water system include:

- Uses of water and the amount needed
- Quality requirements for safe water (EPA)
- Use of chlorine in waterworks

- Sanitary protection of well water
- Protection and treatment of surface water
- Water storage and pumping
- Sanitary protection for distribution systems
- Value and interpretation of routine tests
- State rules and regulations

State Association

Mrs. Collins feels that the Brushy Corporation benefits from its membership in the Texas Association of Rural Water Corporations. Over half of the rural water systems in Texas have joined the Association to present a united front before the Texas legislature.

According to Neal Johnson, coordinator of the Association, two important issues which the Association has fought and won for all rural water systems are less stringent requirements for class "D" operators and simplified financial reports required by the Public Utilities Commission.

System certification by the Public Utilities Commission which assures systems of their present geographical area without encroachment by other water delivery systems has been another accomplishment of the Association.

Since 1969, the Association has actively campaigned for the exemption of nonprofit water systems from ad valorem taxes. This would give rural systems the same economic advantage now afforded the municipal systems of the state. Rural systems now pay as much as $25 per connection per year while all municipal systems are exempted from the tax. The Brushy system was not taxed until 1974, but now must pay over $300 per year for school taxes and $34 for county taxes.

As Association members, Brushy directors and employees are encouraged to attend Association-sponsored workshops on such topics as meeting the requirements of the Safe Drinking Water Act. It costs the system $.50 per member each year to belong to the Association.

The Association monthly newsletter keeps board members aware of technological and legislative developments. Liability insurance for officers and employees will soon be available through the Association for its membership.

Impact On Community

The impact of a water system on a community can be dramatic.

Residents enjoy better health because of improved sanitation and higher quality water. Convenience of indoor plumbing and pride in the homes and community are visible effects. In addition, installation of water systems stimulates employment opportunities and increases real estate values.

Although fire protection is not considered a major feature in installation of FmHA-financed systems, the accessibility to adequate quantities of water encourages construction of homes and businesses.

Dependable supplies of good quality water at reasonable and stable costs has been beneficial to health, quality of life and economic development of rural areas.

Mrs. Collins knows the value of a water system. Her community was dying without it.

Safe Drinking Water

Is the water safe to drink?" is a frequent question asked by Americans traveling abroad. But what about the water at home?

A federal law now addresses the question of safe drinking water in America. The Safe Drinking Water Act, passed in 1974, authorizes the Environmental Protection Agency (EPA) to determine and adopt national drinking water regulations which are applicable to all public water supplies.

Public water supplies include municipal and investor-owned systems as well as those non-community systems serving campgrounds or other transient facilities. A public water supply, as defined by the Act, provides water to the public for human consumption and serves 25 or more persons at least 60 days per year.

The Safe Drinking Water Act authorizes the EPA to establish interim regulations to be enforced until a study by the National Academy of Science (NAS) is completed. This study will determine the maximum contaminant levels allowable in drinking water to assure protection against known or anticipated adverse effects. A contaminant means any physical, chemical, biological, or radiological substance or matter in water.

The maximum contaminant levels determined by the NAS study will be enforced beginning in June, 1979, and will be final until new scientific or technical advances allow improvements.

Impact On Small Systems

The EPA completed a nation-wide inventory in 1975 on potential impacts of its regulations under the Safe Drinking Water Act. The agency speculated that the most severe impact of its drinking water regulations would likely fall on customers of small systems of less than 10,000 customers. Assuming costs of treatment and monitoring are passed directly to consumers, EPA envisions the monthly water bill for a household in the smallest systems may increase on the average between $10 and $14.

Systems can obtain temporary immunity from the regulations on the basis of economic hardship or technical difficulties. An exemption may be granted because of compelling reasons including economic factors. Exemptions carry a specific time limit for

compliance. The state must prescribe a formal schedule for the system to follow in alleviating the situation that brought about the exemption.

Official permission from a state or the EPA to disregard certain provisions of the law so long as this does not result in an "unreasonable" risk to health is called a variance. A water source may be of such good quality that it does not need treatment or may be so poor that no amount of treatment will make it comply. Either way, customers must be notified every three months if a system is permitted a variance.

Any failure to comply with a maximum contaminant level or prescribed treatment technique requires public notification at least once every three months. Notice goes to customers with their water bills and also must be issued to all area news media.

In some cases, a civil lawsuit may be brought against a system by the EPA, the state, or an individual citizen. If judgement is found against the system, it may have to pay a fine of up to $5,000 per day until it complies.

Many smaller systems may be forced to develop new sources of water, join regional systems, or purchase treated water rather than treat the present sources of water. For systems which can't afford to pay for required improvements, EPA can guarantee loans made to systems by private lenders of up to $50,000 per system, but cannot lend money directly.

Enforcement in Texas

According to Floyd H. Williams, Chief of State Drinking Water Program, Texas Department of Health Resources, quite a number of small water systems in Texas are going to have difficulty in meeting standards set by the EPA for fluorides or nitrates. While the fluoride found in high concentrations in Panhandle and Central Texas water has no known health effects other than mottling the teeth of children under 14, the nitrates can present some serious health problems, particularly to infants under six months of age.

Because Texas regulations and enforcement procedures are at least as tough as those of EPA, the Texas Department of Health Resources will have enforcement responsibility in the state. TDHR will be required to keep detailed records for EPA and will also be responsible for implementing a plan for provision of safe drinking water under emergency circumstances.

Enforcement of the Safe Drinking Water Act in Texas will cost the state taxpayers more in terms of monitoring and record keeping and may cause financial hardship for many small systems. It will also mean that wherever there is a Public water system, the water will be safe to drink.