Rural Water Supply and Sewer Systems: Background Information

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Summary

The Safe Drinking Water Act and the Clean Water Act impose requirements regarding drinking water quality and wastewater treatment in rural areas. Approximately 27% of the U.S. population lives in areas defined by the Census Bureau as rural. Many rural communities need to complete water and waste disposal projects to improve the public health and environmental conditions of their citizens. Funding needs are high (at least $50 billion, according to EPA surveys). Several federal programs assist rural communities in meeting these requirements. In dollar terms, the largest are administered by the Environmental Protection Agency, but they do not focus solely on rural areas. The Department of Agriculture's grant and loan programs support significant financial activity and are directed solely at rural areas. Meeting infrastructure funding needs of rural areas efficiently and effectively is likely to remain an issue of considerable congressional interest.

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Introduction

The public health and environmental requirements of two federal laws are primarily driving projects in rural, as well as non-rural, areas for drinking water and wastewater treatment. The Environmental Protection Agency (EPA) administers both laws.

For **the quality of drinking water supply**, requirements of the Safe Drinking Water Act (SDWA) apply to public water supply systems, whether government-owned or privately owned. Under this law, EPA regulates the quality of drinking water provided by community water supply systems, which are defined as those having at least 15 service connections. Community water supply systems serve approximately 282 million persons; 20 million persons also get their drinking water from non-community systems (such as wells that serve individual homes, schools, or factories), which are not subject to the act.

Regulated water systems provide drinking water to 90% of Americans. The vast majority of systems are small and privately owned, although most people are customers of large, publicly owned systems. The smallest water systems (serving fewer than 3,300 persons, many serving small clusters of homes) account for 85% of all systems and a similar percentage of systems in significant noncompliance with drinking water regulations. Most very small systems have no credit history and have never raised capital in financial markets. Small to medium systems (serving 3,301 to 50,000 persons) are institutionally more capable than smaller systems, yet they also face financing challenges. The smallest of these have limited access to financial markets and creditworthiness more sensitive to local economic conditions than larger systems.

Community water supply systems currently are subject to a number of drinking water regulations issued by EPA under the SDWA. Federal regulations limiting levels of contaminants in treated water are implemented by local water suppliers. These require, for example, system monitoring, treatment to remove certain contaminants, and reporting. New regulations are being developed that are likely to impose additional compliance burdens on these systems within the next few years, and costs of meeting these requirements are a growing concern to water suppliers and policymakers.

EPA estimates that compliance with the regulations already promulgated will provide millions of people protection from numerous industrial chemicals, microbes, and other contaminants in public water supplies. However, to comply, many cities and towns must invest in capital equipment, operation and maintenance, and increased staff technical capacity. Recent regulations with particularly costly implications for small towns include water filtration, lead control, arsenic control, and inorganic and organic contaminant control.

In 2007, EPA reported that small community water systems (serving up to 3,300 persons) have funding needs of $59.4 billion (19% of the total national need) to provide safe drinking water. Although small systems account for only 9% of the population served, more than 82% of all systems with reported funding needs are small communities, EPA said.[1]

[1] U.S. Environmental Protection Agency, *Drinking Water Infrastructure Needs Survey and Assessment*, Fourth Report to Congress (EPA 816-R-09-001), Washington, DC, February 2009.

For **wastewater treatment**, requirements of the Clean Water Act (CWA) apply to all communities that discharge municipal sewage waste into the nation's waters. About 74% of wastewater treatment and collection *facilities* serve small communities (defined as those with a population of 10,000 or less), yet those facilities only serve 12% of the U.S. *population*. Under the CWA, all municipalities were to achieve secondary treatment of municipal sewage (equivalent to removing approximately 85% of wastes from the municipal wastestream), or more stringent, where that is required to meet local water quality standards, by July 1, 1988. Unlike the Safe Drinking Water Act, regulatory requirements under the CWA have been fixed for some time. The issue for many cities is continuing efforts to finance improvements that have been known for several years.

When the CWA's 1988 deadline arrived, EPA estimated that 87% of all cities achieved compliance, including 86% of rural systems. However, of the 2,097 cities that did not achieve compliance and were subject to EPA enforcement and/or penalties, 80% serve fewer than10,000 persons.

EPA reported in 2008 that cities throughout the country (of all sizes) would require nearly $203 billion for wastewater facilities to meet water quality standards. EPA estimated that funding needs for small communities' projects (populations less than 10,000) were $17 billion. Facilities in the smallest communities (fewer than 1,000 persons) represent 23% of small community facility needs. Small communities reported greater needs for new sewers and treatment plant upgrades to secondary treatment than for other types of facilities.[2] As with meeting drinking water needs, EPA has estimated that, because small systems lack economies of scale, their customers face a particularly heavy financial burden. The smallest cities are likely to experience the largest overall percentage increases in user charges and fees as a result, EPA has said.

Federal Assistance Programs

The federal government administers a number of programs that assist rural communities in developing water and waste disposal systems. The most prominent are programs of the Department of Housing and Urban Development (HUD); the Appalachian Regional Commission (ARC); the Economic Development Administration (EDA); EPA; and the U.S. Department of Agriculture (USDA).[3]

HUD administers assistance primarily under the Community Development Block Grant (CDBG) program, in Title I of the Housing and Community Development Act of 1974, as amended. Total FY2009 appropriations were $4.6 billion. CDBG funds are used by localities for a broad range of activities intended to result in decent housing in a suitable living environment. Water and waste disposal needs compete with many other public activities for this assistance and are estimated to account for 10% to 20% of CDBG obligations. Program policy requires that at least 70% of funds must benefit low/moderate-income persons. According to data from HUD, in recent years, water and sewer improvement projects have accounted for 9%-10% of all CDBG funds nationally. Thirty percent of CDBG funds are allocated by formula to the states for distribution to small

[2] U.S. Environmental Protection Agency, *Clean Watersheds Needs Survey*, 2004 Report to Congress, Washington, DC, January 2008.

[3] For information, see CRS Report RL30478, *Federally Supported Water Supply and Wastewater Treatment Programs*, coordinated by Claudia Copeland.

communities and may be available for rural community projects. The larger portion of total CDBG funds, 70%, is allocated by formula to metropolitan areas and cities with populations of 50,000 or more and statutorily defined urban counties and thus does not assist rural areas directly.

The ARC assists with programs and projects to provide basic facilities essential to economic growth in the Appalachian regions of 13 states. Investments are concentrated in areas with significant potential for future growth as well as in areas that suffer the greatest distress. States recommend projects for assistance. In FY2009, the ARC was funded at a level of $75 million, budgeted primarily for area development assistance, covering a range of community-based projects including basic infrastructure, business, and human development. Historically, environmental projects have received about 5% of these ARC economic and human development funds.

EDA provides project grants for construction of public facilities, including water and sewer systems, to alleviate unemployment and underemployment in economically distressed areas. Development grants provide for infrastructure projects that foster industries and commercial businesses that provide long-term employment and are part of approved overall economic development programs in areas of lagging economic growth. Economic development grants can be used for a wide range of purposes and frequently have a sewer or water supply element. In FY2009, EDA's public works grants were funded at $283 million.

In historic terms, the largest federal program for wastewater treatment assistance is administered by EPA under the Clean Water Act. Since 1973 Congress has appropriated $78 billion in assistance under this act. Total FY2009 funding was $4.7 billion. Funds are distributed to states under a statutory allocation formula and are used to assist qualified projects on a priority list that is determined by individual states. Prior to 1989, states used their allotments to make grants to cities and other localities. Now, however, federal funds are used to capitalize state loan programs (State Revolving Funds, or SRFs), and project loans are made according to criteria in the CWA. Over the long term, the loan programs are intended to be sustained through repayment of loans to states, thus creating a continuing source of assistance for other communities. Rural and non-rural cities compete for funding; rural areas have no special priority, nor are states required to reserve any specific percentage for projects in rural areas.

Some small communities and states with large rural populations have had problems with the CWA loan program. Many small towns did not participate in the previous grants program and are more likely to require major projects to achieve compliance with the law. Yet many have limited financial, technical, and legal resources and have encountered difficulties in qualifying for and repaying loans. They often lack an industrial tax base or opportunities for economies of scale and thus face the prospect of very high per capita user fees to repay a loan for the full cost of sewage treatment projects. Still, small communities have been participating in the clean water SRF program: an estimated 23% of the $58 billion in SRF assistance since 1989 (representing 63% of all assistance) has gone to communities with less than 10,000 population.

In 1996, Congress enacted Safe Drinking Water Act (SDWA) amendments which authorize federal capitalization of state loan programs to help public water systems finance improvements needed to comply with federal drinking water regulations (P.L. 104-182). This new drinking water SRF program (DWSRF) is similar in structure to the CWA SRF program. Elements that differ under the DWSRF include authority for states to make both loans and grants, to assist both privately and publicly owned community water systems, and to provide loan subsidies to economically disadvantaged communities. To give states flexibility in meeting infrastructure

needs, the law allows a governor to transfer as much as 33% of the annual DWSRF allotment to the CWA SRF, or an equivalent amount from the CWA SRF to the DWSRF. For FY2009, Congress appropriated $2.8 billion for SDWA SRF assistance.[4] According to EPA, 37% of total assistance since 1996 (representing 72% of all assistance agreements) has gone to systems serving fewer than 10,000 persons.

USDA Water and Waste Disposal Programs

Grants and loans (direct and guaranteed) for water and wastewater projects are available through rural development programs of the U.S. Department of Agriculture (USDA). Funds are limited to communities with population of 10,000 or less. Communities must be denied credit through normal commercial channels to be eligible for assistance. USDA prefers making loans; grants are made only when necessary to reduce average annual user charges to a reasonable level. The split between loans and grants is about 72-28; the ratio of water to sewer projects has been about a 60-40 split in recent years. USDA also makes grants to nonprofit organizations to provide technical assistance and training to assist rural communities with their water, wastewater, and solid waste problems.

Prior to enactment of the 1996 farm bill (the Federal Agriculture Improvement and Reform Act of 1996, P.L. 104-127), these USDA grants and loans, as well as other USDA rural development assistance to businesses, industries, and communities, were authorized as separate programs. In P.L. 104-127, Congress endorsed an Administration proposal to consolidate 14 existing rural development grant and loan programs into three categories for better coordination and greater local involvement. The program is called the Rural Community Advancement Program (RCAP). The three components are the Rural Utilities Service (RUS, providing assistance for water and wastewater disposal, solid waste management, and emergency community water programs), Rural Community Facilities, and Rural Business and Cooperative Development.

Under RCAP, USDA state offices work with state and local governments, Indian tribes, and private and community organizations to prepare a strategic plan for delivering RCAP assistance to each state. The key concept in RCAP is to involve state and local stakeholders in strategic planning, so that federal assistance will address local priorities more effectively.

The 1996 farm bill did not alter the basic features or statutory requirements of the water and waste disposal grant and loan programs, which are administered through a network of state and local offices. USDA headquarters allocates program funds to the Rural Economic and Community Development state offices through an allocation formula based on rural population, poverty, and unemployment. District RECD offices actually administer the programs. Since 2001 USDA has provided more than $9.1 billion to more than 7,400 rural water and wastewater systems, benefitting more than 6.3 million people. Subsequent farm bills in 2002 (P.L. 107-171) and 2008 (P.L. 110-246) have not significantly modified USDA's rural water and waste disposal assistance programs. The 2008 law extended authorizations for grants and loans through FY2012.

[4] For information, see CRS Report RS22037, *Drinking Water State Revolving Fund (DWSRF): Program Overview and Issues*, by Mary Tiemann.

Water and Waste Disposal Grants

Grants for the development costs of water supply and waste disposal projects in rural areas are authorized under the Consolidated Farm and Rural Development Act. An eligible project must serve a rural area which is not likely to decline in population below that for which the project was designed, and it must be designed and constructed so that adequate capacity will or can be made available to serve the reasonably foreseeable growth needs of the area.

Grants may not exceed 75% of the development cost of a project and should only be used to reduce user costs to a reasonable level. Grants are only made after a determination of the maximum amount of loan that a community can afford and still have reasonable user rates. Grants, which typically provide 35-45% of project costs, may be used to supplement other funds borrowed or furnished by applicants for project costs and may be combined with loans when the applicant is able to repay part, but not all, of the project costs. Eligible applicants may include municipalities, authorities, districts, certain Indian tribes, and similar organizations. Priority is given to projects serving populations of less than 5,500.

Water and Waste Disposal Loans

The Rural Development Act of 1972 authorized the Rural Development Insurance Fund under the Consolidated Farm and Rural Development Act. Among other activities, this fund is used for loans to develop storage, treatment, purification, or distribution of water or collection, treatment, or disposal of waste in low-income rural areas.

Loans are made to public bodies, not-for-profit organizations, Indian tribes on federal and state reservations, and other federally recognized tribes for projects needed to meet health or sanitary standards, including clean water standards and SDWA requirements. Loans are repayable in not more than 40 years or the useful life of the facility, whichever is less. USDA makes either direct loans to applicants or guarantees up to 90% of loans made by third party lenders. Borrowers are required to refinance (graduate) to other credit when they can obtain the needed funds from commercial sources at reasonable rates and terms.

Loan interest rates are based on the community's economic and health environment and are designated poverty, market, or intermediate. Poverty interest rate loans are made in areas where the median household income (MHI) falls below the higher of 80% of the statewide nonurban MHI, or the poverty level, and the project is needed to meet health or sanitary standards; by law, this rate is set at 60% of the market rate. The market rate is adjusted quarterly and is set using the average of a specified 11-bond index. It applies to loans to applicants where the MHI of the service area exceeds the statewide nonurban MHI. The intermediate rate applies to loans that do not meet the criteria for the poverty rate and which do not have to pay the market rate; by law, this rate is set at 80% of the market rate. (For current interest rates, see http://www.usda.gov/rus/water/int-rate.htm.)

Beginning with USDA's FY1996 appropriation, Congress consolidated the water and waste disposal grant and loan appropriations in a single Rural Utilities Assistance Program, consistent with the approach taken in the 1996 farm bill to consolidate delivery of rural development assistance. In FY2009, regular appropriations provided $538 million for the core water and waste disposal grant and loan program. USDA estimated that, counting both appropriations and repaid loan monies still available, those funds would support $1.6 billion in program activity. In

addition, Congress appropriated $1.38 billion for this USDA program in FY2009 supplemental funds as part of the American Recovery and Reinvestment Act, P.L. 111-5.

In dollar terms, the largest federal programs that solely assist water and waste disposal needs are administered by EPA. FY2009 appropriations for the clean water and safe drinking water SRF programs total $7.5 billion (counting both regular appropriations and supplemental appropriations under P.L. 111-5). They do not focus solely on rural areas, however. USDA's grant and loan programs also support significant financial activity and are directed entirely at rural areas. Still, funding needs in rural areas are high (at least $50 billion, according to EPA surveys), and there is heavy demand for funds. At the end of FY2007, USDA reported a $2.4 billion backlog of requests for 928 water and wastewater projects. Meeting the infrastructure funding needs of rural areas efficiently and effectively is likely to remain an issue of considerable congressional interest.

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