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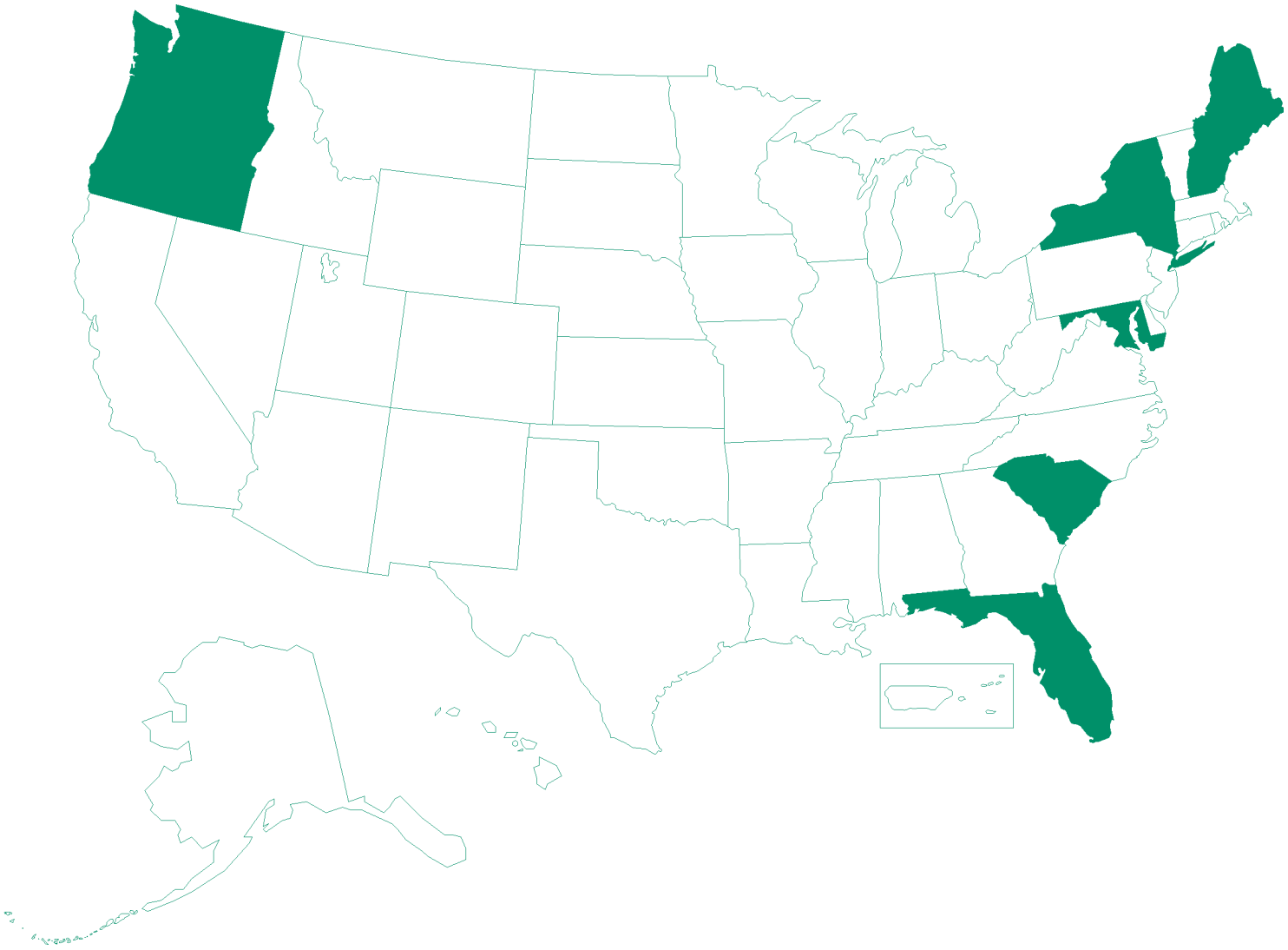
The Drinking Water State Revolving Fund Program

Case Studies in Implementation
III. Disadvantaged Communities



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1. Introduction: SDWA and Disadvantaged Communities

One of the key provisions of the 1996 Safe Drinking Water Act (SDWA) Amendments is the Drinking Water State Revolving Fund (DWSRF[1]) program. Through the DWSRF, states can provide below-market interest rate loans to publicly and privately owned community water systems (CWSs) and nonprofit noncommunity water systems (NCWSs) for necessary infrastructure improvements. Under the DWSRF program, states may establish separate eligibility criteria and special funding options for economically disadvantaged communities.

Section 1452 of the SDWA defines a disadvantaged community as "the service area of a public water system that meets affordability criteria established after public review and comment by the State in which the public water system is located." Under this section, states may provide additional subsidies (including forgiveness of principal) to communities that meet the established criteria, or that are expected to meet these criteria as a result of a proposed project.

The amount of loan subsidies that a state can provide to its disadvantaged communities is limited to 30 percent of the state's capitalization grant. In addition to providing subsidies, states may extend the term of DWSRF loans to disadvantaged communities. Under §1452(f), states may extend the loan term from 20 years to 30 years after the date of project completion, provided that the repayment period does not exceed the design life of the project. States cannot provide disadvantaged assistance for loans made under the set-asides (i.e., source-water protection activities.)

States that choose to establish a disadvantaged community program must describe the program in their intended use plans (IUPs). EPA's Final *Drinking Water State Revolving Fund Program Guidelines* (February 1997) require that the program description include:

(1) A definition of disadvantaged community,

(2) The total amount of the capitalization grant that may be used for providing additional subsidies,

(3) To the maximum extent practicable, an identification of systems that will receive additional subsidies and the amount, and

(4) A description of affordability criteria that the state will use to determine the level of disadvantaged assistance.

[1]For consistency, the acronym DWSRF is used throughout the paper even though some states use other acronyms to describe their programs.

The Program Guidelines also specify that "loan subsidies under this provision cannot be banked for future use." Thus, a state may not take more than 30 percent from its capitalization grant for loan subsidies, even if it did not use the full 30 percent from previous fiscal years' grants.

This report provides a resource for states that are interested in establishing or modifying a drinking water assistance program for disadvantaged communities. Section 2 of the report discusses affordability criteria for purposes of defining a disadvantaged community. Section 3 of the report provides an overview of the disadvantaged community programs currently being implemented in eight states:

- Florida
- Maine
- Maryland
- New Hampshire
- New York
- Oregon
- South Carolina
- Washington

Each summary provides a description of the program's key elements, information on methodologies used to determine the amount and type of assistance that may be provided, the steps taken to determine the long-term impacts of disadvantaged assistance on the Fund, and examples of systems that have benefited from the disadvantaged community program. Section 4 presents general observations.

In addition to the sections described above, the report has three appendices:

- Appendix A provides additional information on poverty measurement.

- Appendix B summarizes the specific portions of the IUPs for 13 additional states that address affordability and disadvantaged communities.

- Appendix C contains illustrations of selected program components from the case study states.

2. Defining a Disadvantaged Community

No universal definition of "disadvantaged community" is available for public policy purposes. Different federal and state programs may establish different criteria. Different terms—such as distressed, challenged, or impoverished—also are used to designate communities as economically disadvantaged.

Section 1452 of the SDWA defines a disadvantaged community as "the service area of a public water system that meets affordability criteria established after public review and comment by the State in which the public water system is located." The challenge of defining a disadvantaged community is left to the individual states.

A disadvantaged community generally is defined in socioeconomic terms, and median household income (MHI) is a typical measure. MHI can be used to assess the impact of utility rate increases, measured as a percentage of MHI. Income data also are used to identify people and households living below the poverty level, which is defined by the U.S. Department of Health and Human Services.

Other social indicators, such as unemployment rates, also can be used to measure a community's degree of distress, socioeconomic condition, or potential need. Trend data can be useful to identify areas that are declining or improving over time. Generally, a correlation is expected among the typical indicators of community distress.

Affordability Criteria for Identifying Disadvantaged Communities

Affordability is among the primary ranking criteria identified by Section 1452(b)(3) of the SDWA for use in prioritizing funding under the DWSRF program. In determining the priority of funding, a State's IUP shall provide, to the maximum extent practicable, that priority for the use of funds be given to projects that:

> i. address the most serious risk to human health;
>
> ii. are necessary to ensure compliance with the requirements of this Title [SDWA] (including requirements of filtration); and
>
> **iii. assist systems most in need on a per household basis according to State affordability criteria** [bold added]

Separate provisions apply to disadvantaged communities. As already noted, states may provide additional subsidies (including forgiveness of principal) and extend the term of loans to communities that meet the established criteria that define a disadvantaged community, or that are expected to meet these criteria as a result of a proposed project.

Many states have already developed affordability criteria for determining whether a particular small system should be eligible for a variance from requirements specifying a maximum contaminant level (MCL) or treatment technique. Section 1415(e) of the SDWA required EPA to publish information to assist the states in formulating affordability criteria for this purpose. According to the statute, this information was to be developed by the EPA in consultation with the states and the Rural Utilities Service (RUS) of the U.S. Department of Agriculture. Pursuant to the SDWA, EPA published *Information for States on Developing Affordability Criteria for Drinking Water* in February 1998 (EPA 816-R-98-002).

As discussed in *Information for States*, affordability assessment typically involves two levels of analysis. The first measures household affordability or ability to pay, and often is used for screening purposes. In other words, systems falling below a specified level are subjected to further tests of affordability. A conventional household affordability measure is the ratio of annual user charges (AUC) to annual MHI:

$$\frac{\text{AUC}}{\text{Annual MHI}} = X \textit{ percent}$$

where:

X = a household affordability threshold

The established threshold can be compared to actual data to determine whether affordability is a potential concern. Among the variations of this formula are (1) including water *and* wastewater charges in the numerator, (2) using average (mean) household income in the denominator, and (3) weighting the measures to capture poverty effects.

Another type of affordability analysis shifts attention from the household's ability to pay to the water system's capacity to finance operations. Financial ratio analysis often is used to assess the financial health of a water system for lending and other purposes.

The distinction between household and water system affordability becomes blurred for a number of reasons. A system's ability to secure financing from external sources, for example, may depend on general indicators of the financial health of the community (that is, household income measures). In other words, household-level indicators sometimes are used to measure water system financial capacity.

Information for States also provides a general framework for considering system-level affordability based on the generalized flow of resources to, from, and around water systems (see Exhibit 2.1). This framework can be used to understand sources of revenues available to different types of water systems. The key elements of the model are:

- *Water systems.* Considers water systems of different sizes and ownership characteristics.
- *Water users.* Includes residential and nonresidential water customers who support water system costs through rates and other charges.

- *Communities.* Identifies the lowest level of local government within which the water system provides service (for example, cities, counties, and districts). Although some communities own and operate systems, the distinction between communities and water systems is important.

- *Private-sector capital.* Includes bank loans, equity (stock), and other sources of private capital or financial support that can be provided to the water system. Private-sector sources of capital may not improve affordability if they add substantially to debt costs.

- *Public-sector capital.* Includes grants, loans, subsidies, and other sources of public capital or financial support that can be provided to the water system. When it helps reduce total costs, public-sector capital can improve affordability.

- *Socioeconomic conditions.* Income, employment, and other socioeconomic indicators measure the general ability of households in a water system's service territory to pay for water service.

Available resources will vary by system type (community or noncommunity) and ownership (public or private). The implication is that affordability assessment criteria might also vary by system type and ownership.

Information for States also provides a general framework for an affordability analysis that builds on this understanding of resource flows (see Exhibit 2.2). Household affordability is perhaps the most basic and essential element of the framework, assuming the desirability of supporting the true cost of water through user charges. The framework also suggests a variety of additional indicators for analyzing affordability.

Exhibit 2.1
Generalized Resource Flows To and From Water Systems

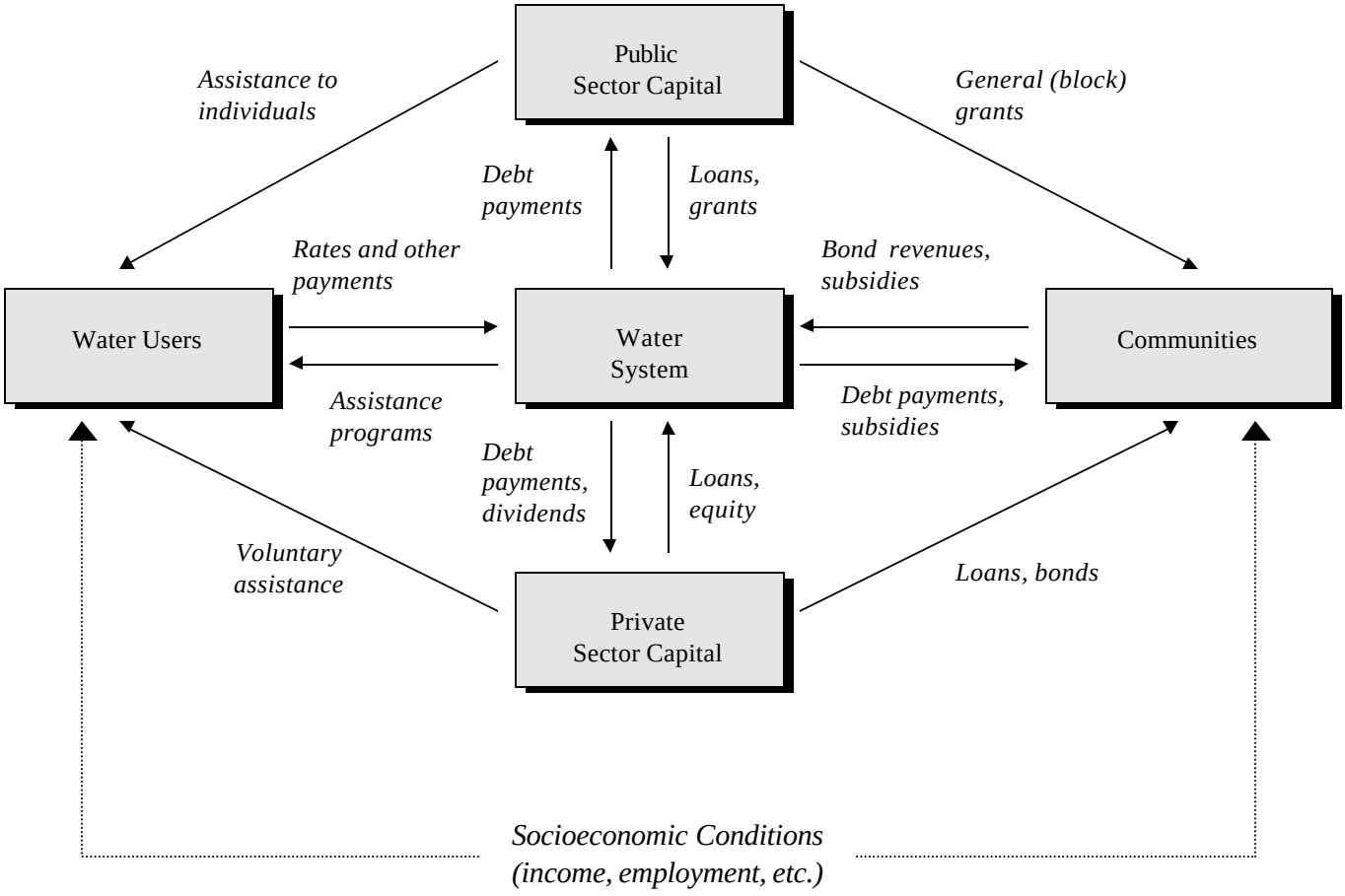


Exhibit 2.2
System-Level Affordability Indicators

Category	Focus	Level of Analysis	Selected Indicators
Household affordability	Rate impact on the capacity of water users (particularly residential users) to support the full cost of water service (including debt repayment) through user charges.	Households	• Ratio of user charges to income • Ratio of user charges to income relative to income levels • Percentage rate increase (rate shock)
Financial capacity	The financial structure of the water system, including internal sources of capital, key financial ratios, and business planning capability.	Water system	• Ratio of revenues to expenditures • Ratio of net income to revenues • Ratio of assets to liabilities • Debt-service coverage • Composite indicators of financial health • Market test for goods and services (noncommunity systems)
Access to private capital	Ability of the water system to arrange financing (such as a bank loan) through private sector equity and debt markets.	System (or parent entity) and private capital markets	• Credit and bond ratings • Debt and debt capacity • Market test
Eligibility for public capital	Ability of the water system to secure financing (grants or loans) from local (community) or nonlocal (DWSRF and other programs) public sources.	System (or parent entity) and public capital markets	• Credit and bond ratings • Priority rankings • Eligibility test
Fiscal conditions	Fiscal stress on the community in terms of the condition of local government finances and competing demands for capital and operating expenditures.	Relevant local government	• Debt as a percentage of market property value • Tax revenues as a percentage of market property values • Property tax collection or delinquency rate • Local expenditures per resident • Opportunity costs associated with water system expenditures
Socio-economic conditions	General socioeconomic conditions related to household affordability, priority for public funding, and fiscal distress.	Service territory	• Median Household Income • Percent below the poverty level • Percent unemployment • Composite indicators of distressed communities

Source: U.S. Environmental Protection Agency, *Information for States on Developing Affordability Criteria for Drinking Water* (1998).

Data Sources

Quantitative measures of disadvantage require valid and reliable sources of data. Several data sources are available to help identify low-income populations:[2]

- U.S. Census Bureau Current Population Reports, Series P-60 on Income and Poverty. In addition to using U.S. Census-defined parameters for measuring income and poverty, it is important to consider state and regional low-income and poverty definitions where appropriate.

- Local resources such as community and public outreach groups, community leaders, and state universities (e.g., economic departments).

- State and local agencies such as departments of taxation and employment. Other agencies may be able to provide additional data on economic indicators such as the status and level of public services provided to community members (e.g., health care, education, infrastructure, etc.) and the dependence of the parts of the community on natural resources for subsistence.

- Commercial database firms that collect and market statistical demographic information.

- Location/distributional tools such as maps, aerial photographs, and geographical information systems (GIS).

- Local income surveys that involve community members in defining their communities. Such efforts are effective in obtaining the most current available data on income and poverty levels.

Using standardized measures and readily available data obviously simplifies program administration and achieves a degree of equity across communities. However, some programs might incorporate other assessment tools, such as local income surveys to establish a community's status. This may be especially important for communities whose pockets of poverty are masked by aggregate statistics.

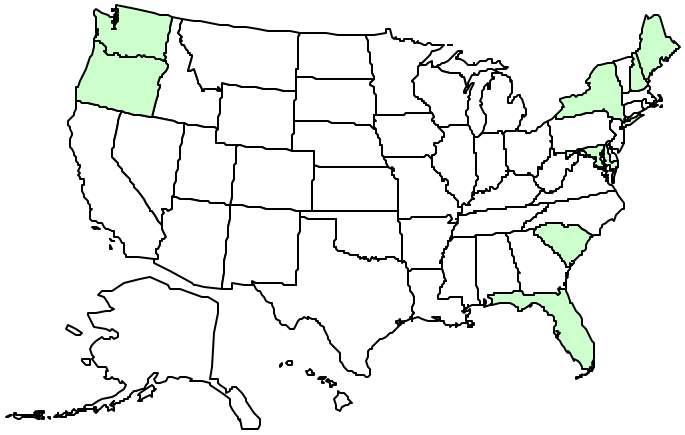
[2] *U.S. EPA, Final Guidance for Consideration of Environmental Justice in Clean Air Act 309 Reviews (July 1999, http://es.epa.gov/oeca/ofa/ej_nepa.html).*

3. State Case Studies

States that establish assistance programs for disadvantaged communities must describe the programs in their IUPs. In addition to the IUPs, some states have published resource documents on DWSRF and other funding programs, methodologies used in funding, and summaries of funding experience.

This section reviews the disadvantaged community components of the DWSRF programs in eight states:

- Florida
- Maine
- New Hampshire
- New York
- Maryland
- Oregon
- South Carolina
- Washington



A brief description of each state program is provided along with an overview of implementation experience. Information was compiled from published sources, including the state IUPs and Web sites, as well as state personnel.

Florida

Program Description

Florida plans to use 15 percent of the total funds available, or 30 percent of the capitalization grant, whichever is less, for assistance to disadvantaged communities. A financially disadvantaged community is defined as a municipality, county, or agency that has a public water system (PWS) service jurisdiction served by a CWS and has an MHI less than the statewide average as reported in the most recent decennial census or other verifiable determination (i.e., local survey).

Florida provides assistance to disadvantaged communities for pre-construction and construction activities in the form of principal forgiveness[3] and extended loan terms (up to 30 years). Standard loans are provided for a term of 20 years at an interest rate equal to 60 percent of the market rate.[4] Principal is forgiven only for projects that address a public health risk or for which a compliance

[3] The term principal forgiveness is used throughout this paper when referring to the type of assistance where a portion of the total loan amount is forgiven.

[4] The interest rate is calculated on a quarterly basis using the average rate reported in "Bond Buyer 20 – General Obligation Bond Index" for the previous 3 months.

priority was assigned. For pre-construction activities, including project planning and design, principal forgiveness is available only to small (serving 10,000 or less), rate-based CWSs unless the project is based, in part, on consolidation or regionalization. In addition, each sponsor may have the principal forgiven for only one pre-construction project, at 85 percent of the estimated post-allowance project costs.[5] Principal forgiveness for construction activities is either 65 percent or 85 percent of the estimated post-allowance costs, depending on the MHI and financial burden ratio,[6] as defined by the Florida Administrative Code. In any fiscal year, no single project sponsor may exceed $750,000 or 25 percent of the available funds for disadvantaged communities; whichever is less. It is possible that the principal for a portion of the project's cost will be forgiven, but the system will not receive a loan for the balance. In this case, the difference in funding must be provided by another source. Generally, a combination of principal forgiveness and loan funding is provided.

Implementation Experience

As of December 3, 1999, Florida had awarded $6.5 million to 13 disadvantaged communities through the DWSRF program. At that time, Florida had awarded a total of $63.8 million in funding under the program.

Florida has found that very small communities typically cannot afford consultants to plan and design their projects. Since planning and design must be completed before a project can be placed on the fundable portion of the priority list, Florida also offers assistance for pre-construction activities. Alternatively, allowances may be used to cover certain expenses that the system is unable to cover in the short run, such as planning and design. DWSRF funds generally are disbursed on a cost-incurred basis. An allowance is a portion of the funds that is received up front. Allowances may be used to cover initial planning, administrative costs, and engineering expenses. Section 62-552.420 of the Florida statute discusses the three types of project allowances and the limitations on each type (see Appendix C).

Because the disadvantaged community program will create a funding option for many systems that otherwise might be ineligible for financial assistance, there is a heightened fear of default. Florida is developing a contingency plan in the event that some of the small, privately held systems default on their DWSRF loans. The plan likely will be an extension of the program that Florida Rural Water developed to help small systems meet operator certification requirements. This consists of a cadre of retired operators who provide free technical support to small systems throughout the state. The DWSRF plan will create a pool of trained individuals who can step in and run a water system if necessary.

[5] Post-allowance project costs are allowable costs for post-allowance activities (i.e., construction, procurement of equipment and materials, land acquisition, demolition, and technical services after construction bid opening) and contingency and, for projects to be funded with loans, capitalized interest, loan repayment reserve, and loan service fee.

[6] The financial burden ratio is based on the debt service (including the DWSRF loan) and the relationship between the community MHI and the statewide average. When the MHI $\geq$ 80 percent of the statewide average, the financial burden ratio criterion is 1.0 percent. When the MHI < 80 percent of the statewide average, the financial burden ratio criterion is 0.5 percent.

Although no legal requirement or agreement requires coordination among state agencies in developing funding packages, Florida's Bureau of Water Facilities Funding works closely with other state funding sources to facilitate the application process for water systems and to help ensure that each system receives the maximum public funding available. The state holds regular meetings to discuss funding distribution.

Florida recognizes that there will be an impact on the total amount of money available for DWSRF loans as a result of its disadvantaged community program. However, the state is not worried about the long-term health of the Fund. The disadvantaged community provision in SDWA is tied to federal capitalization, which is scheduled to occur through fiscal year 2003. When capitalization grants end, so will Florida's disadvantaged community program. Florida is confident, therefore, that the viability of the Fund will never be in jeopardy.

Community Example

Cross City

In March 1999, Cross City, a small CWS serving approximately 1,000 customers, was awarded $142,313 in disadvantaged assistance for pre-construction activities. Decisionmakers believed it would not be possible to fund a project of this size solely through other sources. In consultation with Florida Rural Water Association, Cross City was encouraged to consider the DWSRF program for the project. The proposed project involves the construction and improvement of drinking water facilities to correct existing problems, improve reliability, enable more efficient operation and maintenance, and meet future growth demands over the useful life of the facility. Due to the community's disadvantaged status, Cross City qualified for 85 percent principal forgiveness. As of the publication of this report, construction funds allocated to this project totaled $3.6 million, of which $3.0 million was awarded in the form of principal forgiveness. The remaining portion was provided in the form of a 30-year loan at 3 percent interest. Additional DWSRF assistance will be sought to complete the construction portion of this $4.0 million project.

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Maine

Program Description

Maine plans to use up to 30 percent of its capitalization grant for loan subsidies to systems in disadvantaged communities each year. A disadvantaged system is defined as a public drinking water system whose year-round residential water consumers have an MHI of up to $28,227 (the MHI for non-metropolitan Maine).

The loan terms for disadvantaged systems depend on the customers' MHI, the system's actual rate, and the goal rate (termed the Maximum Water Rate Goal, or MWRG). Repayment period, interest rate, and amount of principal forgiveness are calculated in an effort to keep the system's water rates at or below the MWRG. For systems with an MHI between $22,582 and $28,227, the MWRG is determined by multiplying the MHI by 1.6 percent. For systems with an MHI of $22,581 or less, the MWRG is equal to the MHI times 1.4 percent. To help systems achieve the MWRG during repayment of the loan, the loan term is first extended from 20 to 30 years. Next, subsidies in the form of principal forgiveness are provided at a maximum level of 75 percent of the requested loan amount. Maine waives loan fees for systems that qualify for principal forgiveness. If the MWRG still cannot be achieved, the remaining 25 percent will be loaned interest free. (The standard interest rate for DWSRF loans is 2 percent below the market rate, as determined by the Maine Municipal Bond Bank.)

There are limitations on the type and amount of assistance that disadvantaged communities can receive. Because source water protection loans are not eligible for principal forgiveness, they can only receive loan terms that are less than the standard rate, but no lower than 0 percent. Non-community, non-profit water systems may receive principal forgiveness only if sufficient funds remain after qualifying CWS projects have been financed. A system of this type may receive no more than 50 percent of the estimated project costs in principal forgiveness, and the proposed project must be designed to resolve an enforcement action.

To demonstrate eligibility for disadvantaged community assistance, systems may either use 1990 Census data or a survey of their customer population's current income. Guidelines and assistance in conducting income surveys are provided free of charge. Surveys are reviewed to ensure that an appropriate response rate is achieved and that systems do not simply target low-income areas within their service territory. Maine has refused disadvantaged assistance to several systems that have presented misleading income surveys.

Implementation Experience

The demand for assistance to disadvantaged communities has generally exceeded the funds available for this purpose. Program coordinators report, however, that the first-come, first-served basis that guides the application process has worked fairly well; most disadvantaged systems that are prepared to begin construction receive funding. As of December 31, 1999, the program had provided $4.4 million in forgiven principal to 14 disadvantaged communities. This amounts to about 25-26 percent of Maine's annual capitalization grant, and about a third of total loans for each year. On average, disadvantaged systems received 69 percent principal forgiveness. Coordinators regret that, because federal funds became available only in 1997, systems that were slow to make improvements to comply with the Surface Water Treatment Rule were rewarded with principal forgiveness.

Maine coordinates the DWSRF program with the Department of Economic and Community Development, the Maine Rural Development Council (MRDC), HUD's Community Development Block Grant program, and the Rural Utility Service's grant and loan program. In this way, the state can assist more disadvantaged communities and ensure that as many communities as possible get the financial help that they need to make necessary infrastructure improvements.

Maine recognizes that offering principal forgiveness will have a long-term impact on the DWSRF. As stated explicitly in the IUP, the allocation proposed for 1999 will reduce the future amount of funds available to the DWSRF by $2.1 million, plus the lost interest earnings. Although program staff members have not undertaken a detailed analysis of the long-term impacts, they have begun entering data into the *State Revolving Fund (SRF) Planning Model* provided by the EPA. Program coordinators hope that there will be less demand for funds for disadvantaged systems in the future. Disadvantaged systems are currently using funds from the DWSRF and other grant and loan programs to convert from surface water sources to ground water sources, and many are able to build entirely new systems or components. It is hoped that these systems will need funding only for smaller scale projects in the future, rather than for complete upgrades or new construction.

Community Examples

Winter Harbor Water District

Winter Harbor is a small coastal community with a population of about 700 people served by a newly created water district (purchased from a private owner). At the time of the purchase, the households served by the system were under a boil water order. The system was out of compliance with the Surface Water Treatment Rule, relied on a source of questionable quality, used no filtration, and provided inadequate disinfection. DWSRF and Maine Rural Development Council (MRDC) funds paid for the construction of a well, pump station with treatment, transmission line, and storage tank.

With an MHI of $19,712, Winter Harbor is considered a disadvantaged community. At the time of the water system's purchase, water bills were $300 per household annually.[7] The water bill threshold established in Maine's intended use plan was 1.4 percent of MHI, or $276 per year. The gap between the threshold and actual water bills qualified Winter Harbor for maximum disadvantaged assistance. This assistance included principal forgiveness for 75 percent of the requested loan amount; the remaining 25 percent of the loan was provided interest free. The $1.1 million DWSRF loan made it possible for Winter Harbor to switch its water supply from a non-potable surface water source to a ground water source with adequate disinfection and storage while offering affordable rates.

Ashland Water and Sewer District

Before making improvements to its drinking water system, the town of Ashland drew its raw water from a surface source. But the system was plagued by infrastructure problems. The facility that treated the drinking water was defective. The inside of the system's storage tank was covered with lead-based paint, and the tank's roof was collapsing. MRDC helped fund the development of a new groundwater source and the construction of a

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[7]Maine uses a basis of 2,000 cubic feet of water consumed per calendar year quarter for water rate calculations.

transmission main.

Downtown Ashland has an MHI of only $13,638. Water bills were $320 per year, compared with a threshold of about $191 per year. Ashland received maximum disadvantaged assistance from the DWSRF, packaged with an additional $25,000 from MRDC, to retrofit the aging storage tank. Forgiveness of $73,541 of a $98,865 DWSRF loan and a 0 percent interest rate on the remainder of the loan allowed the system to ensure safe storage of Ashland's drinking water and keep water bills near the 1.4 percent threshold.

Maryland

Program Description

Maryland plans to use up to 30 percent of its capitalization grant for loan subsidies to disadvantaged communities, depending on how many applicants qualify for disadvantaged assistance each year.

To be considered as disadvantaged by the state, a Maryland community must meet at least one of three criteria. It must be:

a) An area served by a small system (less than 10,000 residents) where the annual average water system user rate per equivalent dwelling unit (EDU) exceeds the target user rate (TUR) for that community, or

b) A community (small or large) where the MHI is less than 70 percent of the MHI of non-metropolitan counties in Maryland, or

c) A water system (small or large) where the average user rate per EDU must increase by at least 20 percent to achieve the financial capacity to repay the loan.

Maryland subsidizes disadvantaged communities based on whether the users of the system can afford to pay for system improvements. A system's TUR is the threshold beyond which the user rate burden on a community is considered unaffordable. The TUR is calculated as 1.0 percent to 1.25 percent of the communities' MHI, depending on the level of the MHI. The details of the formula used to determine a system's TUR are provided in Appendix C.

Subsidies are provided to disadvantaged community systems in a sequential order until the TUR is achieved. Five levels of assistance are provided:

1) Increasing the term of the loan from 20 to 30 years.

2) Reducing the interest rate of the loan from 45 percent to 30 percent of market rate.[8]

[8] In the first 2 years of Maryland's program, the standard DWSRF interest rate was 60 percent of the market rate, and the rate for disadvantaged systems was reduced to 45 percent of the market rate. In December 1999, the standard rate

3) Providing state grant funds or seeking grants from other agencies.

4) Further reducing the interest rate of the loan.

5) Forgiving all or a portion of the loan debt. (To qualify, census data or a local income survey must document that the community is impoverished or unable to repay the loan due to existing levels of indebtedness or other socioeconomic factors or conditions.)

Implementation Experience

Maryland identifies disadvantaged communities when it develops its priority project list. The type and amount of assistance each of these systems will receive is determined once the application has been reviewed in detail for financial capacity, prior to loan closing. The eligibility criterion, (a), (b), or (c) that qualifies a system as disadvantaged is generally used to determine the type of assistance that the system will receive. Systems that qualify under criterion (a) (Type A systems) are the only type eligible for principal forgiveness, along with other forms of assistance based on the five sequential levels of subsidies outlined above. Type B and C systems are offered extended loan terms and reduced interest rates, as well as assistance through other funding programs.

At the time this report was prepared, loans to two disadvantaged communities, totaling $2.6 million, had closed in Maryland. One loan went to a Type B system and the other went to a Type C system. One elected to take a 30-year term with an interest rate of 45 percent of the market rate (reduced from the 1998 standard rate of 60 percent of the market rate), the other a 20-year term, also with an interest rate of 45 percent of the market rate. The choice of a 20-year loan term meant that the second system had to raise rates by 13 percent to ensure that it could repay the loan on time. Though one intent of the program is to help communities avoid rate shock, the balance between rate increases and extended loan terms is the choice of the system. Two Type A systems were identified as eligible for principal forgiveness, but had not received final approval from the state board. Maryland's DWSRF program coordinator stressed that principal forgiveness will be offered under the DWSRF program only to systems that truly need the assistance to maintain affordable rates and financial capacity. About 10 other loan applicants for fiscal year 1999-2000 may fall into one of the three disadvantaged system categories, but a final determination cannot be made until project costs are more certain and the state has undertaken detailed financial analyses.

The DWSRF program works hand-in-hand with Maryland's Drinking Water State Grant program to provide disadvantaged systems with the most affordable funding package available and to ensure the long-term health of the Fund. The state-funded Drinking Water State Grant program is administered by the Department of the Environment. If the DWSRF program does not have enough funds to responsibly assist a disadvantaged system, the Drinking Water State Grant program can provide the balance of the project cost. The State Grant program uses the project priority list developed for the DWSRF program. Although the State Grant program has the authority to fund any project on the list, grant coordinators usually choose to fund projects

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was dropped to 45 percent of the market rate and the disadvantaged community rate was reduced to 30 percent of the market rate.

according to the priorities designated for the DWSRF. The cooperation between these two programs is especially successful because they are administered by the same agency.

Since the disadvantaged community program has yet to offer any principal forgiveness, the effect on the total amount of DWSRF funds has been negligible. Maryland does not expect its current disadvantaged community program to have an impact on the long-term health of the Fund. Although the Department of the Environment projects that about $285,000 will be lost through principal forgiveness in the current year, a $10 million transfer from the Clean Water SRF program will more than make up for this loss. The Department uses a standard cash flow model to analyze the potential impacts of offering principal forgiveness on the DWSRF program. Cash flow projections are outlined each year in Maryland's capitalization grant applications.

Community Example

Town of Thurmont

With funds from Maryland's DWSRF Disadvantaged Community Assistance program, the Town of Thurmont (population 4,400) will complete a major water system upgrade. The project involves upgrades to two pump houses, a new filtration system, new chlorination equipment and basin, associated piping, electrical work, and a building addition. The project also entails the construction of a new well house, a 200,000-gallon storage tank, and 2,000 feet of 12-inch water main connecting to a mountain reservoir. The project cost will be covered by $2.24 million in DWSRF funds.

A financial analysis determined that the town would have to increase its water rates by more than 20 percent if the loan were offered under the standard terms. Based on the State's criterion (c), Thurmont could be considered a disadvantaged community and, therefore, qualified for an interest rate of 45 percent of the market rate (2.41 percent plus 0.5 percent administration fee) and a term of up to 30 years. The town opted for the low interest rate but a 20-year term. The favorable interest rate allowed the system to increase its water rates by a relatively affordable 13 percent. Households now pay $159 per year for water service and will enjoy the public health benefits of a thoroughly upgraded water system. Without the low interest rate customer bills would have risen to $179.

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New Hampshire

Program Description

New Hampshire plans to use the maximum amount allowable from its capitalization grants to provide subsidies to disadvantaged communities and systems. The state defines a disadvantaged system or community as a "community public water system or community that serves residents whose median household income is less than the statewide median household income." Furthermore, to qualify for assistance, at least half of the residential units served by the water

system must be occupied at least 6 months of the year by households whose MHI is less than the state MHI.

Subsidies are provided in the form of principal forgiveness. Communities identified as disadvantaged on the project priority list are eligible for forgiveness of 15 to 30 percent of their loan principal, depending on affordability considerations. To calculate the amount of forgiveness for which a disadvantaged community is eligible, New Hampshire uses an affordability index that serves to measure the impact of a project on a disadvantaged community. The index is calculated by dividing the estimated user rate at project completion by 1 percent of the community or community system's MHI. However, New Hampshire does not finalize the amount of forgiveness that a community will receive until the project is complete.

Loan rates and terms under the disadvantaged community program are the same as those for standard project loans. Interest rates are calculated at the time of execution of the loan agreement based on the prevailing market rate and the loan repayment period selected by the applicant. Applicants may choose one of four repayment periods ranging from 5 years at 25 percent of the market rate to 20 years at 80 percent of the market rate.

Implementation Experience

At the time this report was prepared, New Hampshire was not using a full 30 percent of its Fund for disadvantaged assistance. The 30 percent cap on the amount of principal forgiveness available to an individual system could mean that some communities would still be unable to afford much-needed improvements, leading them to seek another source of public funding. However, 50 percent of the communities that have received commitments are eligible for principal forgiveness.

The New Hampshire Department of Environmental Services (NHDES) works closely with other grant and funding programs, including the Community Development Block Grants program, the Rural Development Administration, and the Farmers Homes Administration, to ensure that all subsidies received through other programs are considered in the calculation of affordability. The resulting figure is then used to determine the amount of disadvantaged assistance that is provided to a community.

Using a financial model developed by the state, New Hampshire predicts that the maximum net long-term effect of the disadvantaged community program over 27 years will be a reduction in funds totaling $1.9 million plus lost interest. To see this impact, the state ran the model at 0 percent forgiveness and at 30 percent forgiveness (see Exhibit 3.1).

Community Example

Town of Bristol

Prior to improvements, the Town of Bristol was in violation of NHDES Env-Ws 370, a state law requiring water systems to maintain at least two groundwater sources, each with the capacity to meet or exceed average daily demand. The

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existing secondary well system was incapable of servicing the water system due to deficiencies in pressure and quantity. The cost of installing a new well to replace the old one was estimated at $358,000. Bristol is a small community of approximately 2,900 residents, with an MHI significantly below the statewide level. The town received a DWSRF loan in the amount of $153,356 and a Community Development Block Grant for $204,644 to complete the project. Bristol's disadvantaged status also qualified the town for 15 percent forgiveness on the DWSRF loan, reducing the total loan amount to a more affordable $130,353, which the community will repay over 5 years.

Exhibit 3.1

New Hampshire's Cash Flow Model for FY98 IUP

SRF LOANS TO WATER SYSTEMS WITH 0 PERCENT FORGIVENESS

Program funds	FY 1997 loans	FY 1998 loans	FY 1999 loans	FY 2000 loans	FY 2001 loans	FY 2002 loans	FY 2003 loans	**Totals**
Federal funds	13,754,800	7,121,300	7,613,800	7,000,000	7,000,000	7,000,000	7,000,000	56,489,900
State match-20%	2,750,960	2,136,390	1,522,760	1,400,000	1,400,000	1,400,000	1,400,000	12,010,110
Set-asides	(3,121,557)	(2,919,732)	(2,832,333)	(1,050,000)	(1,050,000)	(1,050,000)	(1,050,000)	(13,073,622)
Grants (0%)	0	0	0	0	0	0	0	0
Total available	**13,384,203**	**6,337,958**	**6,304,227**	**7,350,000**	**7,350,000**	**7,350,000**	**7,350,000**	**55,426,388**
5-year loans	(1,721,735)	(147,749)	(1,323,888)	(1,543,500)	(1,543,500)	(1,543,500)	(1,543,500)	(9,367,372)
10-year loans	(82,500)	(0)	(819,550)	(955,500)	(955,500)	(955,500)	(955,500)	(4,724,050)
15-year loans	(1,370,655)	(0)	(252,169)	(294,000)	(294,000)	(294,000)	(294,000)	(2,798,824)
20-year loans	(10,209,317)	(6,190,209)	(3,908,621)	(4,557,000)	(4,557,000)	(4,557,000)	(4,557,000)	(38,536,147)
Annual interest rate								
5-year loans	1.40%	1.32%	1.19%	1.19%	1.19%	1.19%	1.19%	
10-year loans	2.80%	2.64%	2.38%	2.38%	2.38%	2.38%	2.38%	
15-year loans	4.20%	3.95%	3.56%	3.56%	3.56%	3.56%	3.56%	
20-year loans	4.48%	4.22%	3.80%	3.80%	3.80%	3.80%	3.80%	
Total of payments back to SRF over 27-year period								**76,058,312**

SRF LOANS TO WATER SYSTEMS WITH 30 PERCENT FORGIVENESS

Program funds	FY 1997 loans	FY 1998 loans	FY 1999 loans	FY 2000 loans	FY 2001 loans	FY 2002 loans	FY 2003 loans	**Totals**
Federal funds	13,754,800	7,121,300	7,613,800	7,000,000	7,000,000	7,000,000	7,000,000	56,489,900
State match-20%	2,750,960	2,136,390	1,522,760	1,400,000	1,400,000	1,400,000	1,400,000	12,010,110
Set-asides	(3,121,557)	(2,919,732)	(2,832,333)	(1,050,000)	(1,050,000)	(1,050,000)	(1,050,000)	(13,073,622)
Grants (30%)	(4,015,260)	(1,901,387)	(1,891,268)	(2,100,000)	(2,100,000)	(2,100,000)	(2,100,000)	(16,207,915)
Total available	**9,368,943**	**4,436,571**	**4,412,959**	**5,250,000**	**5,250,000**	**5,250,000**	**5,250,000**	**39,218,473**
5-year loans	(1,967,478)	(931,680)	(926,721)	(1,102,500)	(1,102,500)	(1,102,500)	(1,102,500)	(8,235,879)
10-year loans	(1,217,963)	(576,754)	(573,685)	(682,500)	(682,500)	(682,500)	(682,500)	(5,098,402)
15-year loans	(374,758)	(177,463)	(176,518)	(210,000)	(210,000)	(210,000)	(210,000)	(1,568,739)
20-year loans	(5,808,745)	(2,750,674)	(2,736,035)	(3,255,000)	(3,255,000)	(3,255,000)	(3,255,000)	(24,315,454)
Annual interest rate								
5-year loans	1.40%	1.32%	1.19%	1.19%	1.19%	1.19%	1.19%	
10-year loans	2.80%	2.64%	2.38%	2.38%	2.38%	2.38%	2.38%	
15-year loans	4.20%	3.95%	3.56%	3.56%	3.56%	3.56%	3.56%	
20-year loans	4.48%	4.22%	3.80%	3.80%	3.80%	3.80%	3.80%	
Total of payments back to SRF over 27-year period								**52,472,317**

New York

Program Description

In federal fiscal years 1998, 1999, and 2000, New York allocated 30 percent of its capitalization grant amounting to over $14 million annually to providing loan subsidies to disadvantaged communities. The state has proposed to allocate the same amount in FY 01. A disadvantaged community is defined as "one in which the public water system service area meets established affordability criteria."

All drinking water projects are first reviewed to determine eligibility for funding and scored based on the state's priority ranking system.[9] Communities whose drinking water projects score above the funding line may then be evaluated for financial hardship; a separate financial hardship application is required. The hardship application gathers information on the following:

- Existing population of the project service area.
- Number of equivalent dwelling units (EDUs) to be served, including commercial, institutional and industrial users, and the basis on which they were calculated.
- Existing annual debt for the system.
- Existing annual operation and maintenance (O&M) costs.
- Estimated annual O&M costs based upon completion of the project.
- Annual financial reports, audited if available, for the previous 3 years.
- An analysis of project alternatives for cost effectiveness.
- Estimated project costs.
- Any other funding sources for the project, including detail on whether such funding is a grant or a loan, and if a loan, its interest rate, term, and annual debt payment.

New York determines hardship by comparing the projected service charge (PSC) and the target service charge (TSC) for a typical household. Financial assistance beyond the regular subsidized interest rate is determined based on affordability criteria. Projects eligible for hardship assistance are ranked in priority order based on their project priority ranking scores. Eligibility for hardship assistance is contingent on the satisfaction of the following requirements:

- The project must be listed on the Project Readiness List or the Multi-Year List with an IUP score greater than or equal to that of the project with the lowest score (excluding bonus points) eligible to be funded (funding line) from the current Project Readiness List.

[9] See *Prioritizing Drinking Water Needs: A Compilation of State Priority Systems for the Drinking Water State Revolving Fund Program.* http://www.epa.gov/safewater/dwsrf/priority.html

- Hardship assistance is available only for drinking water projects for which the notice for construction to proceed was issued on or after April 1, 1997. Debt issued between July 1, 1993 and March 31, 1997 is eligible for refinancing only through standard DWSRF loans.

- Total project costs may not exceed $10 million, and projects may not be segmented in order to qualify for hardship assistance.

- Principal forgiveness will not be made available to system service areas with an MHI greater than the statewide average MHI ($32,965 at the time this report was prepared).

- Only CWSs are eligible for hardship assistance.

- Privately owned CWSs are eligible only if regulated by the Public Service Commission.

Hardship assistance may include a 30-year, reduced interest rate loan (as low as 0 percent) to bring the PSC down to the TSC level.[10] If an interest-free loan does not provide sufficient funding to reach the TSC, up to $2 million or 75 percent of the eligible project cost may be awarded in principal forgiveness to make up the difference. If a system is eligible for principal forgiveness, the loan portion is always distributed first. No fees are charged on assistance to disadvantaged communities.

Implementation Experience

As of the writing of this report, New York had closed 47 hardship assistance agreements out of a total of 126 DWSRF funding agreements. Hardship or disadvantaged assistance represented approximately one-fifth of total obligated funds. Forty-two of the recipients were eligible for principal forgiveness, and five received straight loans. The average interest rate on loans to qualifying communities ranged from 3.2 to 3.3 percent.

All calculations for requested funding amounts are based on projections. A system that underestimates the amount needed may apply for an increase, however, New York will accommodate such increases in the form of a loan only. To further promote accuracy in estimates, the loan portion of a DWSRF award is always distributed first. A system that overestimates its need will lose part of the amount that otherwise would have been forgiven.

New York encourages DWSRF program applicants to coordinate funding with other agencies, such as the U.S. Department of Agriculture Rural Development (RD) Office and the Department of Housing and Urban Development. Systems will receive additional priority ranking points for co-funding their projects. Furthermore, when determining the percentage of principal forgiveness for which an applicant is eligible, funding from other sources does not factor into the $2 million/75 percent cap. State-level coordination with other programs is done only on a project-by-project basis, to ensure that the combined funding does not meet or exceed 100 percent of project costs. In addition, New York used funds from the Governor's 1996 Clean Water/Clean Air Bond Act to

[10] The TSC is determined by calculating a percentage of the MHI. The PSC is the projected annual cost of the project per EDU including existing debt service, projected debt service, and project O&M costs.

provide direct assistance (i.e., grants) for projects in disadvantaged communities. The Clean Water/Clean Air Bond Act provided $355 million in funding, of which $90 million was in grants, to assist drinking water systems. All $90 million was obligated prior to the state's allotment of federal funds for loan subsidies.

New York leverages DWSRF funds 3 to 1. Consequently, the Fund is growing more rapidly than in states that do not leverage. New York expects long-term impacts on the Fund to be minimal as a result of its leveraging structure, however, no detailed financial analyses had been conducted.

Community Example

Village of Unionville

The water system serving the Village of Unionville was antiquated, and portions of the system were in dire need of replacement. Village officials began working with the U.S. Department of Agriculture's RD Office to obtain financial assistance for the project. When it became apparent that the RD grant would be insufficient to meet total project costs, the Village turned to the New York State Environmental Facilities Corporation (EFC) and the DWSRF program. The DWSRF co-funded the project and the Village also received a $823,379 grant from RD toward the project's total cost of nearly $1.8 million. The contributions of federal and state resources provided the capital needed to replace the old mains and, install new pumps and a well, and thereby greatly reducing the risk of microbial contamination.

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Oregon

Program Description

Oregon defines a disadvantaged community as "a publicly owned water system whose average drinking water user rate exceeds 1.75% of the (most up-to-date and accurate) median household income for the area (city or county) in which the water system resides." Up to 15 percent of each capitalization grant will be made available to qualifying applicants in the form of principal forgiveness.

The terms of a standard DWSRF loan are 20 years at an interest rate set quarterly at 80 percent of the "State and Local Bonds Rate" for the last week of the preceding quarter as listed in the Federal Reserve Statistical Release H.15 (519). Disadvantaged communities receive loans at 1 percent interest, with terms extending up to 30 years. Additionally, the lesser of $250,000, 25 percent of the total DWSRF loan amount, 33 percent of the total project funding, or an amount that does not reduce water rates below 1.75 percent of the MHI for the water system may be distributed to eligible applicants in the form of principal forgiveness for design or construction projects. Planning projects are limited to the lesser of $20,000 or 33 percent of the total DWSRF loan

amount. Private systems are eligible for disadvantaged assistance only if they are regulated by the Oregon Public Utility Commission and can show that they could not obtain private funding.

Implementation Experience

Oregon recently made changes to its disadvantaged assistance program based on lessons learned in the initial years of DWSRF program implementation. Based on recommendations from the state's Drinking Water Advisory Committee, Oregon amended the definition of a disadvantaged community and the types of assistance offered to eligible applicants. The old definition of a disadvantaged community was "one whose average water cost for a residential customer in the service area of the water system is at least the state average for like systems (which have recently undergone a construction project) after the proposed project improvements are completed and currently meets at least two of the criteria listed below.

- The debt for CWSs that operate water systems only is at least $250 per capita or for both water and wastewater systems, the debt is at least $500 per capita.

- The water system includes at least 51 percent low and moderate income persons as defined by the most recent census data or approved local survey.

- The residents of the CWS have documented financial burden due to a recent (within past 2 years) national or state disaster. Documentation of unreimbursable expenses—a minimum of $25 per capita—is also required."

Members of the Drinking Water Advisory Committee felt that a definition based on a formula that compared water rates to MHI would be a truer test of affordability.

The other major change that Oregon made was the addition of principal forgiveness. The state found that some systems really needed principal forgiveness in order to afford the necessary improvements to bring them into compliance. Furthermore, the state recognized that the Fund would continue to grow, albeit at a slower rate, even if some principal was forgiven.

As of 1999, about half of the loans issued in Oregon went to disadvantaged communities. These loans comprised 57 percent of the total funding issued under the state's DWSRF program. Oregon has not determined exactly what the long-term impacts of this assistance will be on the Fund, however, the state does not anticipate any problems with the Fund continuing to revolve into the future.

Oregon coordinates the DWSRF program with other loan programs to maximize assistance to disadvantaged communities. A financing package may include a direct loan from the DWSRF and loans or grants from other department programs. State officials indicated that they work with other state and federal funders and communities to identify the appropriate source or sources of funding.

The four programs that compose the state's funding effort are:

- DWSRF Program

- Special Public Works Fund
- Community Development Block Grants (CDBG)
- Water/Wastewater Financing Program

In addition, the state operates a Bond Bank for the Special Public Works Fund and the Water/Wastewater Financing Program. An overview of the four major funding programs is provided in Exhibit 3.2. Program details are provided in Appendix C.

Oregon balances loans to disadvantaged communities and loans for other eligible projects to maximize the DWSRF and still assist financially distressed communities in need of system improvements.

Community Example

City of Carlton

The City of Carlton is a beneficiary of the highly coordinated funding programs for drinking water systems in Oregon. The Oregon State Health Division issued a Notice of Violation and Remedial Order to Carlton because of the drinking water system's inability to treat water in conformance with the requirements of the Surface Water Treatment Rule. The order required the city to provide filtration and disinfection to meet the requirements of the rule. To achieve compliance and meet current demands, Carlton received a $2.7 million funding package to design and construct a new treatment plant, chlorine contact facilities, and a treated water storage reservoir, as well as to replace 9,400 feet of transmission main.

A small, impoverished community, Carlton is home to approximately 1,860 people, nearly 55 percent of whom have a low or moderate income. Funding the needed improvements would have raised the city's debt per capita to approximately $1,165, far above the disadvantaged community threshold at the time of $500.[11] Furthermore, Carlton's Water System Master Plan identified a larger project to accommodate future growth, increasing the chances of the city incurring additional debt and associated rate increases in the near future. Taking these and other factors into consideration, Carlton was awarded a $1,988,625 DWSRF loan at 1 percent interest and a $660,000 grant through the Water/Wastewater Financing Program. A detailed staff report on the City of Carlton is provided in Appendix C.

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[11] Carlton received its funding prior to the revisions to the disadvantaged assistance program.

Exhibit 3.2

Oregon's Key Funding Programs: Overview

Program	Purpose	Funding
Safe Drinking Water Revolving Loan Fund (DWSRF)	To provide funding to drinking water systems to comply with the SDWA, i.e., to protect the public health. It is intended to help community and nonprofit, non-community drinking water systems plan, design, and construct drinking water projects and to further public health protection goals.	The loan interest rate is set quarterly at 80 percent of the "State and Local Bonds Rate" for the last week of the preceding quarter. For disadvantaged communities, the interest rate is 1 percent. The loan term is no longer than 20 years. However, for disadvantaged communities, the loan term may be as long as 30 years. No loan can exceed the useful life of the facility being built. Principal forgiveness of up to $250,000 is available to disadvantaged communities if needed.
Community Development Block Grants (CDBG)	The national objective of the program is the development of viable urban communities by providing decent housing and a suitable living environment and expanding economic opportunities, principally for persons of low and moderate income. Oregon's objectives include: ❒ Improving the availability and adequacy of public facilities and infrastructure. ❒ Conserving the existing housing supply and improving housing conditions. ❒ Increasing the supply of housing affordable to low- and moderate-income persons. ❒ Increasing business and employment opportunities.	Oregon receives about $15 million in federal funds annually to grant to non-entitlement cities and counties for eligible community development projects. The state awards roughly 37 percent of available funds to community facilities, 20 percent to housing rehabilitation, 38 percent to water and sewer projects, and 5 percent to public works for new housing.
Water/ Wastewater Financing Program	To provide financing for the construction of public infrastructure needed to ensure compliance with the SDWA and the CWA. It is intended to assist local governments, which have been hard hit with state and federal mandates for public drinking water systems and wastewater systems.	Grant funds are available based upon economic need of the municipality. Cities can obtain a grant if their rates are above average and a loan if they have adequate security to repay. The maximum loan term is 25 years, but loans are generally made for 20-year terms. The maximum loan financed with state funds is $500,000. The maximum loan financed with state revenue bonds (Oregon Bond Bank) is $10,000,000. Loans are generally repaid with utility revenues, general funds or voter-approved bond issues. The maximum grant amount is $500,000. The grant/loan amounts are determined by a financial analysis based on demonstrated need and the applicant's ability or inability to afford additional loans.
Special Public Works Fund	To provide loans and grants to construct public infrastructure to support industrial/manufacturing and eligible commercial (activity that is marketed nationally or internationally and attracts business from outside Oregon) development. End result is to create jobs, especially family-wage jobs. Municipalities are eligible if they have a firm business commitment or if they want to add capacity to municipal systems to attract new businesses. The program funds water, sewer, roads, airports, and other infrastructure projects.	Grant funds are available based upon economic need of the municipality. Cities can get a grant if their rates are above average and a loan if they have adequate security to repay. The maximum loan term is 25 years. (The norm is 20 years.) The grant/loan amounts are determined by a financial analysis based on a demonstrated need and the applicant's ability or inability to afford additional loans (same as water/wastewater program). Loans are generally repaid with utility revenues, local improvement districts, general funds or voter-approved bond issues. Funds of up to $250,000 per project may be awarded to distressed communities without a firm business commitment.

Source: Oregon Economic and Community Development Department.

South Carolina

Program Description

South Carolina defines disadvantaged systems as public water systems that meet criteria based on the MHI of the water system's service area and the level of the current or proposed user charge. Disadvantaged systems are subdivided into two levels. A Level 1 Disadvantaged Community System must have a service area MHI less than the state MHI ($26,256). Level 2 Disadvantaged Community Systems must first meet the criterion for Level 1 systems. In addition, the proposed project must necessitate a rate increase that would result in a user charge that is higher than the target user charge. The target user charge is defined as the annual residential user charge for water, based on 6,000 gallons per month, equal to at least 1.4 percent of the applicant's MHI.

Level 1 Disadvantaged Community Systems are eligible for loan extensions from 20 to 30 years at the standard interest rate. Level 2 Disadvantaged Community Systems are first given loan term extensions up to 30 years. If, after the extension, user charges still exceed the target level, the interest rate is reduced incrementally, to a minimum of 0 percent, until the target level is achieved. If a project is still considered unaffordable after the maximum available interest rate subsidy, assistance is provided in locating other potential funding sources.

Private for-profit systems are not eligible under the South Carolina DWSRF program. Nonprofit private corporations established under Title 33, Chap. 35 of the Code of Laws of South Carolina are eligible.

Implementation Experience

During the first 2 years of the program, the criteria for Level 1 Disadvantaged Community Systems were quite strict. Unless the system's service area had an MHI of less than 80 percent of the State MHI, the system had to be located in a county with a relatively high unemployment rate, or the current or proposed annual user charge had to exceed 1.25 percent of the applicant's MHI. South Carolina loosened the eligibility requirements for the third year because systems that the state believed to need special assistance were not falling into the eligibility categories.

At the time this report was prepared, no loans had been given to disadvantaged systems in South Carolina. However, two applicants under consideration were likely to be offered 30-year loan terms or reduced interest rates. The absence of loans to disadvantaged systems stems mainly from a lack of demand for loans in comparison to grants. Since South Carolina's disadvantaged system program does not offer principal forgiveness, other funding options, such as grants from the Farmers' Home Administration, Community Development Block Grants, and grants authorized by the State legislature, have been more attractive to disadvantaged communities. Furthermore, the DWSRF application process can seem unnecessarily cumbersome to small systems applying for only small amounts of money. Several systems have qualified for special assistance under the DWSRF disadvantaged program, but chose to accept funds from alternative sources instead.

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For systems that choose to work with the disadvantaged assistance program, South Carolina will aid in finding other funding sources to complement the funds available from the DWSRF program. DWSRF loans may be packaged with state drinking water grants (administered by the Budget Control Board) and Community Development Block Grants.

Because South Carolina does not offer principal forgiveness and loan amounts to disadvantaged systems are likely to be small, administrators believe that the long-term impacts of disadvantaged community assistance on the Fund will be negligible. As the state begins providing loans to disadvantaged systems, staff will enter data into the EPA's *State Revolving Fund (SRF) Planning Model* to make more detailed projections.

Washington

Program Description

Washington defines a disadvantaged community as one whose MHI falls below 80 percent of the county's MHI. To maintain the long-term integrity of the program, Washington does not offer principal forgiveness as a form of loan subsidy. The standard DWSRF loan is for a 20-year term at a fixed rate of 3.5 percent. Disadvantaged communities that have an MHI at or below 80 percent of the county MHI receive loans at a reduced interest rate of 2.5 percent. Disadvantaged communities at or below 50 percent of the county MHI are offered interest-free loans and may request a 30-year payback period.

Washington also has a "Distressed County" designation based on unemployment history. Although Washington considers the distressed county designation to be distinct from that of disadvantaged communities, a disadvantaged community with an MHI greater than 50 percent of the county MHI and a distressed county are eligible for the same assistance: a reduced interest rate of 2.5 percent. An economically distressed county is one with a 3-year history of unemployment 20 percent greater than the statewide average. Unemployment data used to make determinations are collected annually by the Washington State Employment Security Department. For 1999 DWSRF applications, 23 of the 39 counties in the state (predominantly rural counties) were on the "Distressed Counties" list. The list is updated annually.

Implementation Experience

Since the inception of the DWSRF program, Washington has provided $23.8 million in loans to 48 systems. Nineteen percent of this amount has gone to nine disadvantaged communities.

Interest rates ranged from 3 to 4 percent, as compared to 4 to 5 percent[12] for most other applicants. None of the systems elected a 30-year repayment period. A number of systems in Washington also have qualified for special assistance under the distressed county criteria. The State has generally been satisfied with the number of systems qualifying for special loan terms.

Washington focuses its program on small, privately owned systems, which tend to have the most difficulty achieving compliance and do not have access to many of the funding sources available to larger, municipally owned systems. After establishing the disadvantaged communities assistance program, the state found that many of these small, private systems did not have the resources to conduct accurate income surveys to prove that they should be considered disadvantaged. Consequently, the Public Works Board now conducts income surveys for potential loan recipients who are likely to qualify as disadvantaged communities. Since the systems are quite small, and the one-page surveys are simply mailed to customers, the Board has been able to carry out this task without additional funding. (See Appendix C for a copy of Washington's income survey and a description of the survey process.)

Since Washington does not plan to offer principal forgiveness, the state has not undertaken a detailed analysis of the potential impact of disadvantaged community assistance on the long-term health of the Fund. Reduced interest rates and extended loan terms are unlikely to decrease the amount of money available to revolve.

To put together funding packages for disadvantaged systems, the DWSRF program has worked with several other lending agencies that focus on community development. There is also a vast number of programs indirectly coordinated with the DWSRF program through Washington's Infrastructure Assistance Coordinating Council. This organization has produced a manual and held workshops to publicize information concerning the various grant and loan programs for community needs, including drinking water system improvements.

Community Examples

Alderbrook Estates Mobile Home Park

Alderbrook Estates, a private mobile home park on the outskirts of Olympia, received a $150,266 DWSRF loan to complete various water system improvements. A survey conducted by Washington's Public Works Board indicated that the park's MHI was less than half the county's MHI, qualifying the system for a 3-percent interest rate on the loan (2 percent less than the basic rate offered to regular loan applicants at that time). The loan includes a 3-percent loan fee and will be repaid over 20 years. The owner of Alderbrook Estates provided a 10-percent local match, which was required during the first and second years of the DWSRF program, but was not required for the third year.

A preliminary proposal consisted of upgrading source water treatment and replacing the aging, undersized distribution network. Through consultation with the DOH Southwest Regional Office and the nearby city of Tumwater, a decision was made to abandon the system's two wells

[12] During the first 2 years of the DWSRF program, the interest rates offered to disadvantaged communities were 1 to 3 percent lower than the basic interest rate, depending on the MHI of the customer population and the term of repayment. The basic rate was not fixed and ranged between 4 and 5 percent in 1997 and 1998.

and connect to Tumwater's municipal system. The connection and the replacement of deficient distribution lines will relieve the iron and manganese problems. Installing a master meter with backflow prevention and capping existing wells upon completion of the project also will help ensure the safety of Tumwater's drinking water. Meters installed on each of the 60 units will help the system track individual water use and encourage water conservation. Additional benefits of the project include repaired asphalt, re-coating of streets throughout the park, and an additional fire hydrant.

City of South Bend

The City of South Bend water system received a DWSRF loan of $1 million and an additional $1.7 million from other funding sources to construct a new membrane treatment facility. The MHI of South Bend was less than 80 percent of the statewide MHI, which made the system eligible for an interest rate of 4 percent on its DWSRF loan, reduced from the 1998 standard rate of 4.35 percent. The loan will be repaid over a 20-year period. The project includes interior process piping, site piping modifications, finished water pumps, water treatment plant controls and telemetry, a 3-Phase/480 volt electrical service, stand-by generator, safety equipment, and a new treatment plant building. The project will protect South Bend against contaminants entering the drinking water system and enable the system to meet existing disinfection requirements with no changes to its current distribution configuration.[13]

City of Stanwood

The DWSRF program and the City of Stanwood joined forces to fund construction of a new well house, install 500 gallons-per-minute pumping equipment (plus all electrical and telemetering equipment necessary for operations), and lay approximately 600 feet of ductile iron pipe. A DWSRF loan for $265,458 was issued to the community, and $29,594 from other sources covered the remainder of the project cost. Since the Stanwood service population's MHI was less than 80 percent of state MHI, the interest rate was reduced to 3 percent from the 1998 standard interest rate of 4.35 percent. Stanwood will repay the loan over a 10-year period. The project will replace the existing well, which is perforated, does not have a seal, and is less than 25 feet from a creek in a pasture. As a result of the project, Stanwood will gain a potable drinking water source, eliminate existing wellhead problems, and greatly reduce the risk of contamination from outside sources.[14]

For More Information

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http://www.doh.wa.gov/ehp/dw/Our_Main_Pages/DWSRF.htm

[13] Washington State Department of Health. *The Water Tap*. February 1999.
[14] *Ibid.*

4. Conclusion

States that seek to target assistance to communities in need must develop program eligibility criteria based on affordability. These criteria may, in turn, be used to calibrate the level of assistance provided. In other words, an indicator of distress or disadvantage may be used as an initial screen for eligibility and to determine the type or level of assistance. A target, or threshold, MHI may be established. MHI is the most frequently used indicator, but a variety of other indicators also are available to decisionmakers.

As shown in Exhibit 4.1, nearly all of the states reviewed in this report use MHI and some affordability threshold to determine eligibility for disadvantaged assistance. Maryland also uses rate shock as an eligibility criterion, and Washington considers unemployment characteristics.

While many states will accept income surveys in place of census data to determine eligibility for disadvantaged assistance, communities often find that the potential benefits of conducting a survey do not justify the cost. To ensure that all communities are evaluated with accurate and current data, Washington's Public Works Board, which runs the DWSRF program jointly with the Department of Health, conducts income surveys. All communities in which the MHI is expected to be less than 50 percent of the state MHI are surveyed.

The type and level of assistance provided to disadvantaged systems generally takes one of four forms (see Exhibit 4.2):

- Longer loan term. Extending the loan term can greatly reduce individual principal and interest payments. The total amount of interest paid, however, will be greater. Nearly all of the states studied offer loan terms of up to 30 years. New Hampshire is unique in that the terms for disadvantaged communities are the same as those for standard loan recipients.

- Low-interest loan. The actual interest rate may be pegged or graduated based on the level of need (the greater the level of distress, the lower the interest rate). The difference between the interest rate and the cost of capital is subsidized. All states reviewed except New Hampshire and Florida offer reduced interest rates to disadvantaged communities.

- No-interest loan. A no-interest loan requires only the repayment of principal. The cost of capital is entirely subsidized.

- Forgiveness of principal. Part of a loan’s principal balance can be entirely forgiven, which has the effect of providing a grant through loan subsidy mechanisms. South Carolina and Washington do not offer any principal forgiveness. Maryland is the only state reviewed in this report that intends to offer 100-percent principal forgiveness.

The various types of assistance are often combined. For example, in most of the states reviewed in this report, principal forgiveness may be combined with a low-interest loan.

In addition to the DWSRF program, a number of other state and federal funding programs are available to water systems, particularly rural water systems. EPA's Environmental Financial Advisory Board and the Environmental Finance Center Network have published a document entitled *A Guidebook of Financial Tools: Paying for Sustainable Environmental Systems*, which contains detailed information about potential funding sources.[15] A majority of these programs are intended to assist low-income or disadvantaged rural communities. The states also have grant and loan programs that can be used in addition to or in lieu of DWSRF program funds.

The DWSRF programs of most states in this report are coordinated closely with other funding programs. Some states have one particular program that they typically package funds with, such as Maryland's State Drinking Water Grants program and the Maine Rural Development Council, but Oregon has several. Oregon's DWSRF program is carefully coordinated with three other programs to maximize the amount of assistance available to disadvantaged communities. A federal program that states commonly work with is the Department of Housing and Urban Development's Community Development Block Grants program.

Most of the states reviewed did not have a well-established procedure for analyzing long-term impacts on the Fund, but states are taking other measures to ensure the fund's long-term health. For example, Florida ties its disadvantaged program to federal capitalization of the DWSRF program, currently scheduled to occur through fiscal year 2003. When capitalization ends, so will Florida's offer of disadvantaged assistance. Maryland is protecting the future of its Fund by transferring the maximum allowable amount from the CWSRF to the DWSRF program. Meanwhile, South Carolina and Washington are avoiding net losses to their Funds by not offering principal forgiveness at all. A revised version of EPA's SRF Planning Model will be made available to States later this year. This model will assist States in predicting the impact of a disadvantaged community program and other program decisions regarding the long-term functioning of revolving funds.

A review of case studies indicates that disadvantaged community funding can make a substantial difference in terms of improving compliance, getting needed projects underway, and maintaining affordable water service. Many solutions require a comprehensive, integrated, and long-term approach. Some of the most successful illustrations show how different types of funding (including grants and loans) can be provided collaboratively with different agency programs.

As experience with disadvantaged community assistance under the DWSRF grows, more information will become available about methods, experiences, and results. Information on how several additional states handle affordability and disadvantaged assistance is provided in Appendix B of this document. Additional information about the DWSRF program in general, can be found on EPA's DWSRF program Web site.[16]

[15] *A Guidebook of Financial Tools: Paying for Sustainable Environmental Systems* is available online at http://www.epa.gov/efinpage/guidbk98/index.htm

[16] The DWSRF program Web site is located at http://www.epa.gov/safewater/dwsrf.html.

Exhibit 4.1
Eligibility Criteria for Disadvantaged Assistance

State	MHI (project area)	Affordability[17]	Affordable Rate Determination		Other Criteria
			Community MHI	Target User Rate (TUR)[18]	
Florida	< state MHI				Must be a CWS
Maine	≤ state nonmetro MHI ($28,227) (yr-round residential customers)	User rates are used to determine the level of assistance, but not as an eligibility requirement.	$22,582-$28,227	1.6% of MHI	
			≤ $22,581	1.4% of MHI	
Maryland	< 70% state nonmetro MHI; OR…	…User rate > TUR and a small system (< 10,000); OR System average user rate will have to increase by ≥ 20% to enable repayment.	< 70% nonmetro. state MHI	1% of MHI	
			≥ 70% ≤ 130% nonmetro. state MHI	1% - 1.25% of MHI (sliding scale)	
			≥ 130% nonmetro. state MHI	1.25% of MHI	
New Hampshire	< state MHI	User rates are used to determine the level of assistance, but not as an eligibility requirement. (Amount of assistance is calculated at conclusion of the project by dividing the resulting user rate by 1% of project area MHI).		≤ 1% of MHI	≥ 50% of residences served by the system must be occupied at least 6 months of the year by a population meeting the criterion.
New York	For principal forgiveness: < state MHI ($32,965)	Projected user rate > TUR	$0 - 24,725	1% of MHI	1) Must be a CWS 2) Separate hardship application required 3) Private systems eligible only if regulated by the Public Service Commission 4) Maximum project cost eligible for hardship assistance = $10 million
			$24,726 - 39,557	$247 + (MHI - 24,725) x .0235	
			≥ $39,558	1.5% of MHI	

[17] In some states, the criteria listed in the affordability column are used to determine a system's eligibility for the Disadvantaged Community Assistance program; in others these criteria are used to determine the type and amount of loan subsidies.

[18] The term "Target User Rate" will be used throughout this table to represent a state's concept of an affordable rate, despite the varying terms used by the states.

Exhibit 4.1 Continued

State	MHI (project area)	Affordability[19]	Affordable Rate Determination		Other Criteria
			Community MHI	Target User Rate (TUR)[20]	
Oregon		Average user rate > TUR		1.75% of MHI	Private systems are eligible only if regulated by the Public Utility Commission
South Carolina	Level I: < state MHI ($26,256) Level II < state MHI , AND	Level II: …Projected user rate > TUR		1.40% of MHI	Project sponsor must be a county, municipality, special purpose district, or non-profit corporation established under Title 33, Chap. 35 of SC code
Washington	≤ 80% county MHI, OR ≤ 50% county MHI, OR... Note: MHI data must be based on 51% of households in system's service area.				…Located in a county with a three-year history of unemployment greater than the statewide average (a "Distressed County").

[19] In some states, the criteria listed in the affordability column are used to determine a system's eligibility for the Disadvantaged Community Assistance program; in others these criteria are used to determine the type and amount of loan subsidies.

[20] The term "Target User Rate" will be used throughout this table to represent a state's concept of an affordable rate, despite the varying terms used by the states.

Exhibit 4.2
Types of Assistance Provided

State	Interest Rate	Loan Term	Principal Forgiveness	Other Forms of Assistance
Florida		Extended to a maximum of 30 years.	Principal forgiveness totaling 65% or 85% of the estimated post-allowance project costs may be awarded for construction projects for which a public health risk or compliance priority is assigned. Principal forgiveness may be provided to rate-based CWSs for pre-construction activities at 85% of allowances as long as the community MHI is less than the statewide average and a public health risk component is associated with the project.	
Maine	Reduced to a minimum of 0% for the loan amount that is not covered by principal forgiveness. (Standard DWSRF rate is 2% below the market rate.)	Extended to a maximum of 30 years.[21]	Subsidies, in the form of principal forgiveness, are available to CWSs at a maximum level of 75% of the requested loan amount. After all qualifying CWS projects have been financed, non-profit, NCWSs may receive a maximum of 50% principal forgiveness if there are sufficient funds.	The Loan Origination and Loan Servicing Fees will be waived for systems that qualify to receive principal forgiveness.
Maryland	Reduced from 45% of market rate to 30% of the market rate, or lower if necessary to reach the TUR. (Only if extending the loan term does not allow system to achieve the TUR)	Extended to a maximum of 30 years.	Principal forgiveness for all or a portion of the loan debt may be available if none of the other types of financial assistance allow the system to achieve the TUR.	Assistance will be provided in locating additional funding.
New Hampshire			Subsidies for infrastructure projects, in the form of principal forgiveness, are available at 15% to 30% of the total loan amount to help the system achieve the TUR.[22]	

[21]Purchase of land or conservation easements by disadvantaged community systems using set-aside funds can only be accomplished with a loan for a maximum term of 20 years at an interest rate at or below the Standard Project Rate, but no lower than 0 percent.

[22]Subsidies from the DWSRF disadvantaged community assistance program will reflect the contribution from other sources of assistance, resulting in a subsidy that does not exceed the amount that the system would be eligible for under this program alone. No principal forgiveness is offered for source water protection activities.

Exhibit 4.2 Continued

State	Interest Rate	Loan Term	Principal Forgiveness	Other Forms of Assistance
New York	Reduced to a minimum of 0% to allow the system to reach the target user rate (TUR). (CWSs only. Recipients must demonstrate ability to repay)	Extended to a maximum of 30 years.	Up to $2 million or 75% of the eligible project cost, whichever is less, may be forgiven to help the system achieve the TUR[23] if an interest-free loan does not provide sufficient funding.	All fees waived for disadvantaged communities
Oregon	Reduced to 1%. (In the case of private systems, only those regulated by the Oregon Public Utility Commission are eligible for this interest rate.)	Extended to a maximum of 30 years.	Design and/or construction projects: the lesser of $250,000, 25% of the total DWSRF loan amount, 33% of the total project funding, or an amount that does not reduce water rates below 1.75% of the MHI for the water system service area. Planning projects are limited to the lesser of $20,000 or 33% of the total DWSRF loan amount.	The state works with applicants to determine the most appropriate source(s) of funding -- 4 separate funding programs are coordinated by one state agency.
South Carolina	Reduced from the standard interest rate for the fiscal year to a minimum of 0% to reach the TUR. (Only if an applicant qualifies as a Level 2 Disadvantaged Community System, and extending the loan term does not allow the system to achieve the TUR)	Extended to a maximum of 30 years. (Levels 1 and 2)		Assistance will be provided in locating additional funding. (Level 2)
Washington	Reduced from 3.5% to 2.5% or 0%, depending on MHI of applicant's service area.	Extended to a maximum of 30 years. (Only for systems meeting the criterion for 0% interest rates.)		

[23]Principal forgiveness will not be made available to systems with an MHI greater than statewide average of $32,965.

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5. Resources

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Appendix A
Information Resources on Poverty

Table A-1
The Poverty Measure: A Brief History

The Social Security Administration (SSA) began publishing poverty statistics in the early 1960s, using a poverty measure developed by staff economist Mollie Orshansky. This measure had a set of poverty thresholds for different types of families that consisted of the cost of a minimum adequate diet (Orshansky used the Economy Food Plan, the least expensive of the four food plans designed by the U.S. Department of Agriculture in 1961) multiplied by three to allow for other expenses. The threshold value for the base year 1963 for a family of two adults and two children was about $3,100. To determine a family's poverty status, its resources, defined as cash income before taxes, were compared with the appropriate threshold.

In 1965 the Office of Economic Opportunity adopted the SSA thresholds for statistical and program planning purposes; in 1969 the U.S. Bureau of the Budget (now the U.S. Office of Management and Budget) issued a statistical policy directive that gave the thresholds official status throughout the federal government. The Census Bureau took on the job of publishing the official annual statistics on the number and proportion who were poor (the poverty rate) by comparing the thresholds to estimates of families' cash income before taxes, based on information from the Current Population Survey taken annually in March. It first issued poverty statistics in August 1967. For these comparisons, the thresholds are updated annually for price inflation and so are not changed in real dollar terms; in other words, the 1997 threshold value of $16,050 for a family of four (two adults and two children) represents the same purchasing power as the 1963 threshold value of about $3,100 for this type of family.

For further reading: Gordon M. Fisher, "The Development and History of the Poverty Thresholds," Social Security Bulletin 55, no. 4 (Winter 1992): 3-14 and Focus 19:2: Revising the Poverty Measure.

Source: Institute for Research on Poverty, University of Wisconsin-Madison (http://www.ssc.wisc.edu/irp/).

Table A-2
Poverty Thresholds and Poverty Guidelines

Since December 1965, there have been two slightly different versions of the federal poverty measure: the poverty thresholds and the poverty guidelines.

The poverty thresholds are the statistical version of the poverty measure and are issued by the Census Bureau; they are used for calculating the number of persons in poverty in the United States or in states and regions.

The poverty guidelines are the administrative version of the poverty measure and are issued by the Department of Health and Human Services (HHS); they are a simplification of the poverty thresholds and are used in determining financial eligibility for certain federal programs.

A major reason for issuing guidelines distinct from the poverty thresholds is that the thresholds for a particular calendar year are not published in final form until late summer of the following calendar year. If poverty guidelines were not issued, HHS and other agencies would have to use two-year-old data in determining eligibility for programs during the first half of each year.

Both the poverty thresholds and the poverty guidelines are updated annually for price changes using the Consumer Price Index for All Urban Consumers (CPI-U).

The HHS poverty guidelines are used in setting eligibility criteria for a number of federal programs. Some programs actually use a percentage multiple of the guidelines, such as 125 percent, 150 percent, or 185 percent. This is not the result of a single coherent plan; instead, it stems from decisions made at different times by different congressional committees or federal agencies.

Some examples of federal programs that use the guidelines in setting their eligibility criteria are:

- In HHS: Community Services Block Grant, Head Start, Low-Income Home Energy Assistance
- In the Department of Agriculture: Food Stamps, Special Supplemental Nutrition for Women, Infants, and Children
- (WIC), Emergency Food Assistance (TEFAP), the National School Lunch and School Breakfast programs
- In the Department of Energy: Weatherization Assistance, Department of Labor: Job Corps, some other employment and training programs under the Job Training Partnership Act
- In the Legal Services Corporation: Legal services for the poor

Certain relatively recent provisions of Medicaid use the poverty guidelines; however, the rest of that program (accounting for roughly three-quarters of Medicaid eligibility determinations) does not use the guidelines.

Table A-2 (continued)

Absent from the list of programs using the guidelines are Supplemental Security Income, the Earned Income Tax Credit program, the Social Services Block grant, the Department of Housing and Urban Development's means-tested housing assistance and, while it existed, Aid to Families with Dependent Children (AFDC), although about a dozen states linked their AFDC need standards at least nominally to the poverty guideline.

Some state and local governments have chosen to use the federal poverty guidelines in some of their own programs and activities. Examples include state health insurance programs, financial guidelines for child support enforcement, and determination of legal indigence for court purposes. Private companies such as utilities, telephone companies, and pharmaceutical companies have also adopted the guidelines in setting eligibility for their services to low-income persons.

This description is adapted from Gordon M. Fisher, 'Disseminating the Administrative Version of the Federal Poverty Measure in the 1990s,' paper presented June 6, 1996, at the annual meeting of the Sociological Practice Association, Arlington, Va. Gordon Fisher, a program analyst in the Office of the Assistant Secretary for Planning and Evaluation in the Department of Health and Human Services, has been responsible since 1982 for preparing the annual update of the poverty guidelines.

Source: Institute for Research on Poverty, University of Wisconsin-Madison (http://www.ssc.wisc.edu/irp/).

Table A-3
How the Census Bureau Measures Poverty

Following the Office of Management and Budget's (OMB's) Statistical Policy Directive 14, the U.S. Census Bureau uses a set of money income thresholds that vary by family size and composition to detect who is poor. If a family's total income is less than that family's threshold, then that family, and every individual in it, is considered poor. The poverty thresholds do not vary geographically, but they are updated annually for inflation using the Consumer Price Index (CPI-U). The official poverty definition counts money income before taxes and does not include capital gains and noncash benefits (such as public housing, medicaid, and food stamps). Poverty is not defined for people in military barracks, institutional group quarters, or for unrelated individuals under age 15 (such as foster children). They are excluded from the poverty universe--that is, they are considered neither as "poor" nor as "nonpoor."

Source: Dalaker, Joseph, U.S. Census Bureau, Current Population Reports, Series P60-207, Poverty in the United States: 1998, U.S. Government Printing Office, Washington, DC, 1999. (http://www.census.gov/hhes/poverty/povdef.html).

Table A-4
Poverty Rates Based on Alternative Income Definitions.

	Persons in Poverty (1,000)	Poverty Rate
Income Before Taxes		
1. Money income excluding capital gains (current measure)	30,754	11.3
1a. Money income less taxes without earned income credit (EIC)	33,250	12.3
1b. Money income less taxes with EIC.	28,445	10.5
2. Definition 1 less government cash transfers	51,026	18.8
3. Definition 2 plus capital gains	50,593	18.7
4. Definition 3 plus health insurance supplements to wage or salary income	48,974	18.1
Income After Taxes		
5. Definition 4 less social security payroll taxes	51,338	18.9
6. Definition 5 less federal income taxes (excluding the EIC)	51,660	19.1
7. Definition 6 plus the (EIC)	47,502	17.5
8. Definition 7 less state income taxes	47,868	17.7
9. Definition 8 plus nonmeans-tested government cash transfers	29,929	11.0
10. Definition 9 plus the value of Medicare	29,146	10.8
11. Definition 10 plus the value of regular-price school lunches	29,134	10.7
12. Definition 11 plus means-tested government cash transfers	26,638	9.8
13. Definition 12 plus the value of Medicaid	25,620	9.5
14. Definition 13 plus the value of other means-tested government noncash transfers	22,315	8.2
14a. Definition 13 plus the value of other means-tested government noncash transfers less medical programs	23,014	8.5
15. Definition 14 plus net imputed return on equity in own home	20,611	7.6

Notes: Total number of persons was 271,059,000 in 1998. Poverty Thresholds Based on CPI-U-X1. For explanation of definitions see Appendix B of source.

Source: U.S. Census Bureau, March 1999 Current Population Survey (http://www.census.gov/hhes/poverty/poverty98/table6.html).

Table A-5
Poverty Areas

In 1990, more than 1 in 5 Americans -- or 52 million -- lived in a "poverty area." Poverty areas are census tracts or block numbering areas (BNA's) where at least 20 percent of residents were poor in 1989. (See the box on page 2 for a definition of census tracts and BNA's). Just over two-thirds of poverty area residents lived in a metropolitan area. In some of these areas, poverty was especially widespread, as 40 percent or more of residents were poor. About 1 in 25 Americans lived in such a tract or BNA, known as an "extreme poverty area."

Poverty Areas: Characteristics

- Poverty areas have high concentrations of poor persons. But that doesn't mean that everyone living in them is poor. In fact, the majority of the Nation's poverty area residents (69 percent) were above the poverty line in 1989.

- As the graph below shows, Whites made up more than half of the population living in poverty areas. However, they comprised a higher proportion of those living outside such areas. This was not the case for Blacks and Hispanics. Four times as many Blacks and three times as many Hispanics lived in poverty areas than lived outside them.

- Workers living in poverty areas earned an average of only $15,521 during 1989, much less than the $23,122 earned by those living outside such areas. At the same time, persons in poverty areas were over three times more likely than nonpoverty area adults to have received public assistance income that year (10 percent compared with 3 percent).

- Unemployment in poverty areas was more than twice as high as in nonpoverty areas (12 percent versus 5 percent). In addition, those in poverty areas were more likely not to have worked at all in 1989 (38 percent compared with 27 percent). Conversely, persons in nonpoverty areas were more apt to have worked year-round, full-time (43 percent versus 30 percent).

- Families in poverty areas were nearly twice as likely as those elsewhere to have a female householder (29 percent versus 13 percent) and less likely to be maintained by a married couple (65 percent compared with 83 percent).

- One in twenty-five poverty area families consisted of seven or more persons. In nonpoverty areas, only about 1 in 75 families were that large.

- For 29 percent of poverty area householders, high school was the highest level of education completed; the same was true of a similar proportion of their counterparts who lived outside poverty areas. But poverty area householders were less apt to have furthered their education. For instance -- Fifteen percent had attended college without obtaining a degree. Ten percent more had a bachelor's as their highest degree earned. The corresponding proportions for householders residing outside poverty areas were higher: 21 and 25 percent, respectively.

Table A-5 (continued)

- Eleven percent of persons in poverty areas had a self-care or mobility limitation. In other words, they had been suffering from a health condition for at least the last 6 months, which made it difficult for them to take care of personal needs (such as bathing or dressing) or go outside the home alone. The corresponding rate in nonpoverty areas was 6 percent.

- Poor homeowners, rather scarce outside poverty areas (where they made up about 5 percent of all homeowners), were considerably more prevalent inside poverty areas, where they comprised 15 percent.

- Almost 1 in every 4 renters living in poverty areas spent at least half their 1989 household income on gross rent (contract rent plus the cost of utilities) in comparison to only 16 percent elsewhere.

- The South, home to 34 percent of the Nation's total population, contained 48 percent of its poverty area residents. This was because 30 percent of Southerners lived in poverty areas -- the highest percentage of any region. The corresponding rate was 19 percent in the West, 17 percent in the Midwest, and 15 percent in the Northeast.

Source: Economics and Statistics Administration, U.S. Department of Commerce, *Poverty Areas* (June 1995) (http://www.census.gov/socdemo/www/povarea.html).

Table A-6
Information on Current Poverty Rates

The U.S. Census Bureau analyzes poverty annually, based on the Current Population Survey (CPS). These data are used for the official poverty estimates. The March 1999 supplement, reporting data on conditions in 1998, contained the following highlights:

- The poverty rate for the United States dropped to 12.7 percent in 1998, down from 13.3 percent in 1997. The number of poor dropped significantly also, to 34.5 million people, down from 35.6 million people in 1997.

- The number of poor children and their poverty rate decreased as well. In 1998, 13.5 million or 18.9 percent of people under 18 years of age were poor, down from the 14.1 million and 19.9 percent reported for 1997. This was the first time the child poverty rate has been significantly below 20 percent since 1980.

- The poverty rate also decreased for Hispanics: 25.6 percent were poor in 1998, down from 27.1 percent in 1997.

- The poverty rate declined among Whites not of Hispanic origin: 8.2 percent were poor in 1998, down from 8.6 percent reported for 1997.

- The poverty rate for Blacks did not change between 1997 and 1998. At 26.1 percent in 1998, it remained at the lowest level since 1959.

- The South's poverty rate declined to a new record low of 13.7 percent in 1998, down from 14.6 percent in 1997. The number of poor in the South declined to 13.0 million in 1998, down from 13.7 million in 1997.

- Outside metropolitan areas, the number of poor people as well as the poverty rate declined. In 1998, 14.4 percent of people outside metropolitan areas were poor, down from 15.9 percent in 1997.

- The average income deficit for poor families (the average dollar amount needed to raise a poor family out of poverty) was $6,620 in 1998; this was statistically unchanged from 1997.

- In three states the poverty rate changed significantly, based on the 2-year moving averages of 1997-98 with those for 1996-97. The poverty rate dropped in New Mexico and Virginia, while North Dakota showed an increase.

Source: U.S. Bureau of the Census, *Poverty in the United States: 1998* (March 1999 Supplement) (http://www.census.gov/hhes/www/povty98.html).

Table A-7
1998 Poverty Thresholds by Household Size

		Related Children Under 18								
	Weighted average	None	One	Two	Three	Four	Five	Six	Seven	Eight or more
Nine people or more	33339	36100	36275	35793	35388	34723	33808	32980	32775	31513
Eight people	28166	30010	30275	29730	29253	28575	27715	26820	26593	
Seven people	25257	26833	27000	26423	26020	25270	24395	23435		
Six people	22228	23320	23413	22930	22468	21780	21373			
Five people	19680	20275	20570	19940	19453	19155				
Four people	16660	16813	17088	16530	16588					
Three people	13003	12750	13120	13133						
Two people	10634									
One person	8316									

Source: U.S. Bureau of the Census http://www.census.gov/hhes/poverty/threshld/thresh98.html .

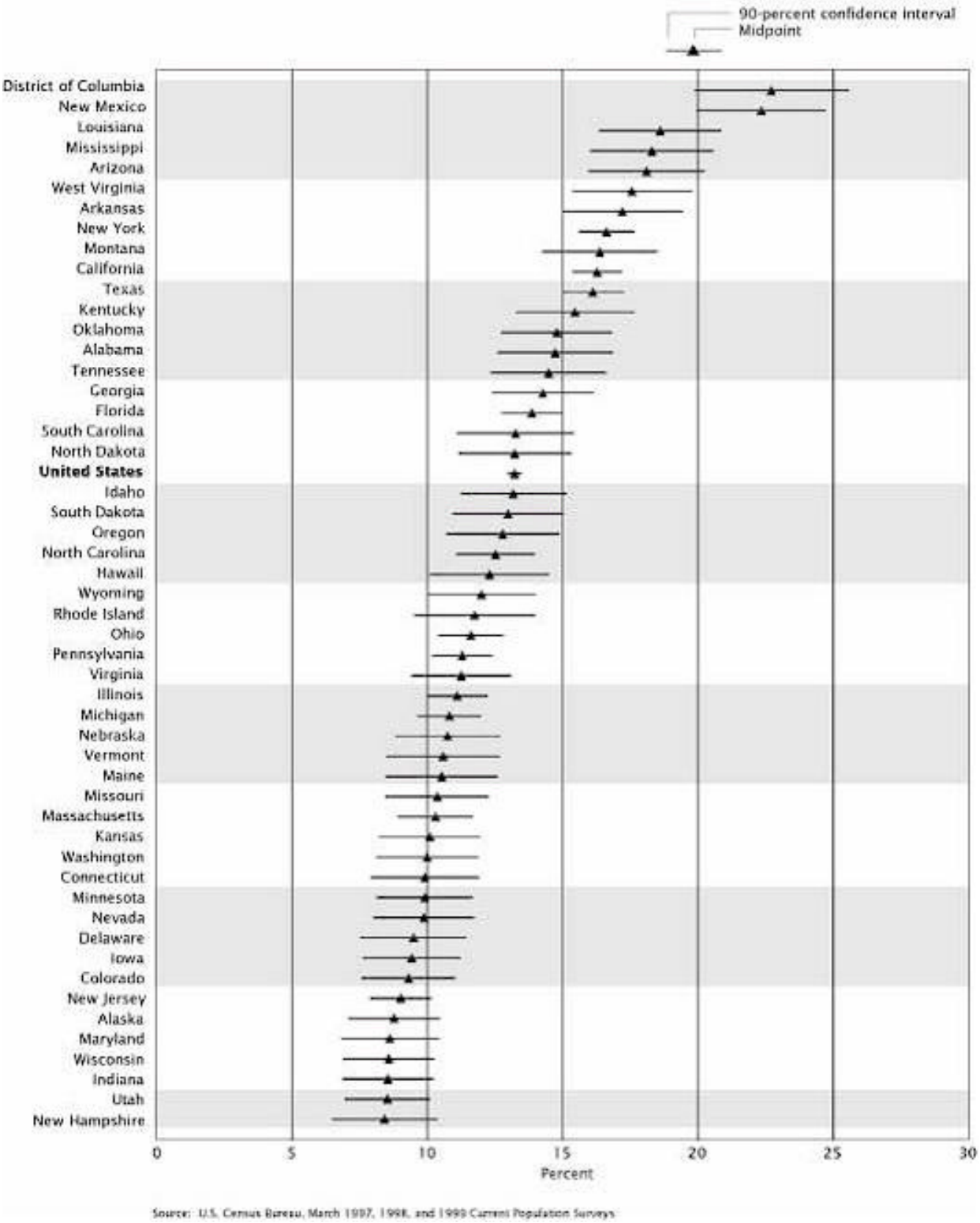
Table A-8
1999 Health and Human Services Poverty Guidelines for the 48 Contiguous States and the District of Columbia

Size of family unit	48 Contiguous States	Alaska	Hawaii
1	$ 8,240	$10,320	$ 9,490
2	11,060	13,840	12,730
3	13,880	17,360	15,970
4	16,700	20,880	19,210
5	19,520	24,400	22,450
6	22,340	27,920	25,690
7	25,160	31,440	28,930
8	27,980	34,960	32,170
For each additional person add	2,820	3,520	3,240

For family units with more than 8 members, add $2,820 for each additional member. (The same increment applies to smaller family sizes).

Source: Federal Register, Vol. 64, No. 52, March 18, 1999, pp. 13428-13430.
http://aspe.hhs.gov/poverty/99poverty.htm

Three-Year Average Poverty Rates, by State: 1996, 1997, and 1998



Source: U.S. Census Bureau, March 1997, 1998, and 1999 Current Population Surveys

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Appendix B

Drinking Water State Revolving Fund Intended Use Plans Affordability and Low-income/Disadvantaged Communities

Review of Thirteen State IUPs as of December 1999

States included in this overview:

- California – 1998 Final
- Colorado – 1998 Final
- Michigan – 1999 Final
- Minnesota –1999 Final
- Montana – 1999 Draft
- New Jersey –1999 Final
- North Carolina – 1998 Draft
- North Dakota – 1998 Final
- Ohio – 2000 Final
- Pennsylvania – 1999 Final
- Vermont – 1999 Draft
- Virginia – 1998 Final
- Wisconsin – 1999 Final

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California, 1998 Final

Affordability

p. 24:
Affordability is the first variable considered for bonus ranking points. Bonus points are used only in ranking projects within a category. Bonus points do not move a project from a lower ranked category to a higher one. Category is much more important for funding than bonus points. The method for determining affordability "compares the median household income (MHI) level of the community served by the proposed project to the statewide median household income level. Communities that are below the statewide average median household income level would receive additional ranking consideration. This would give poor communities a higher ranking within a category than communities with higher income levels."

MHI of Service Area	Ranking Points
Greater than the statewide MHI	0
90%-100% of statewide MHI	5
80%-89% of statewide MHI	10
70%-79% of statewide MHI	15
60%-69% of statewide MHI	20
Less than 60% of statewide MHI	25

Disadvantaged Communities

p. 11:
The third entry under the subsection "Types of Financial Assistance Available" is:
"3. Disadvantaged Communities
As provided for by state and federal statutes, disadvantaged communities may be eligible for additional financial assistance in the form of lower interest rates, extended repayment periods, or forgiveness of principal (subsidy). The loan terms and conditions will be as follows:

- The applicant must be a public agency.
- 0% interest rate shall apply to a maximum of $7.5 Million per project with the balance at the regular 50% of the average interest rate paid by the state on general obligation bonds issued in the prior calendar year.
- The loan repayment period will be 5 years for planning loans and up to 30 years (if needed) for construction loans as long as it doesn't exceed the expected design life of the project.
- The applicable interest rate for both planning loans and construction loans will be 0%.
- The maximum amount of additional financial subsidy to be awarded to a single public water system in any one fiscal year shall not exceed $1,000,000.

- The maximum amount of principal forgiveness per project is 80 percent for categories A through G, 65 percent for projects in categories H through L, and 50 percent for projects in categories M through O.
- In addition to the $1,000,000 maximum total, forgiveness of principal will not be awarded in excess of $10,000 per service connection."

p. 17:
Chapter 5 of the IUP: "Disadvantaged Communities"

"California statutes state that the Department may provide additional financial assistance to 'disadvantaged communities' if such communities cannot afford to repay the full amount of the loan needed to fund the proposed project. The assistance (in addition to a zero interest loan) may include extending the repayment period to 30 years (but not to exceed the design life), forgiveness of some or all of the loan principal, or some combination thereof….If the entire service area of the public water system does not meet the criteria for a disadvantaged community, the system is not eligible for additional financial assistance….The offer of additional assistance will be dependent upon the disadvantaged community's ability to repay a loan. Thus, factors such as household income levels, current and projected monthly consumer water charges, and the cost of the proposed project become determining factors."

Whether a disadvantaged community qualifies for additional assistance is determined after the Department of Water Resources completes it evaluations. (See Figure 2 for process.) Report states that although the Department intends to help disadvantaged communities it will avoid excessive awarding of subsidies and try to strike an appropriate balance in order to sustain an ongoing and viable loan program.

Colorado – 1998 Final

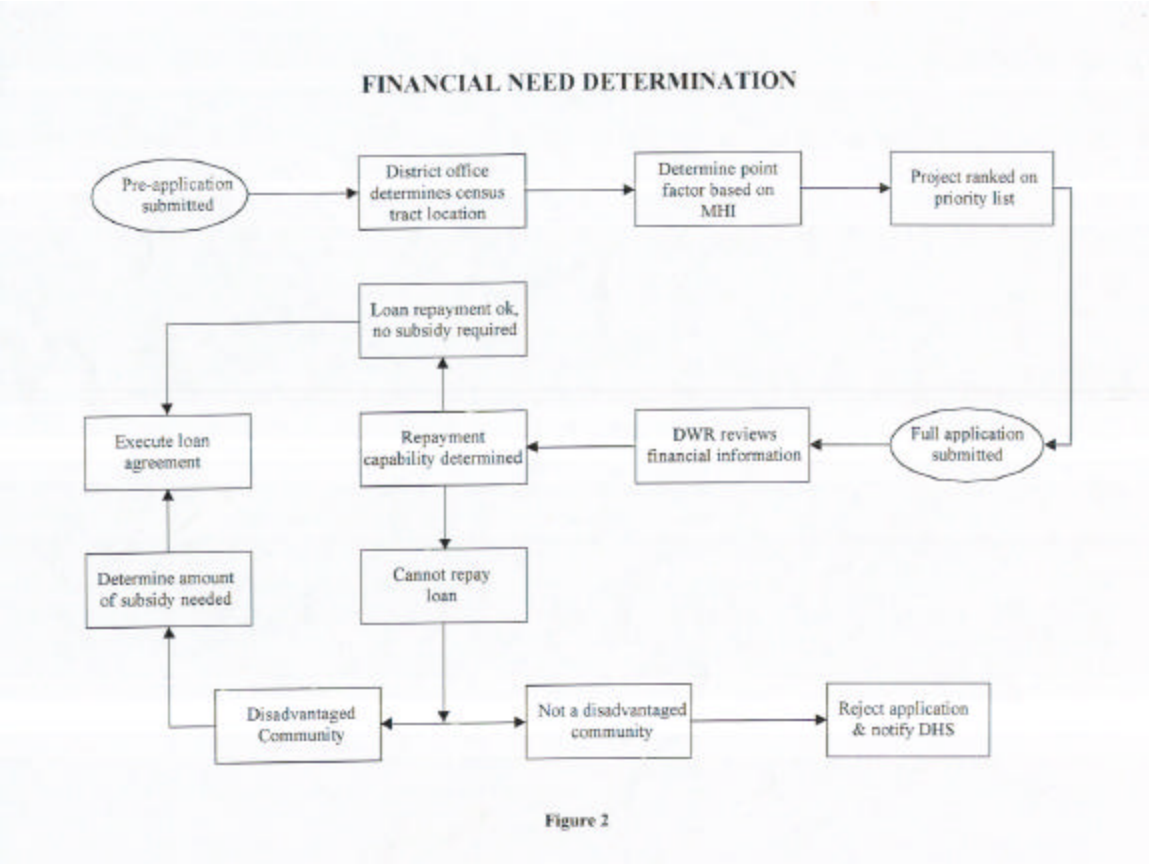

Figure 2

Affordability

p. 8:
Under subhead Priority Point Assignments Within Each Category
"(2) Financial Need. Points shall be assigned to water systems in accordance with the following 'financial need criteria' established by the state.
(a) ability to pay (annual water service fee as a percentage of median household income):
Over 3.0% 20 points
Over 2%; up to 3.0% 15 points
Over 1%; up to 2% 10 points
(b) local burden (total project cost per equivalent residential tap):
Over $5,000 20 points
Over $3,500 15 points
Over $2,000 10 points"
[104 maximum possible points]

Disadvantaged Communities

No specific mentions.

Michigan – 1999 Final

Affordability

pp. 12-13:
"VIII. CRITERIA AND METHOD FOR DISTRIBUTION OF FUNDS – PROJECT LOANS…
The DWRF must…give priority to projects that:…
- Assist systems most in need according to the state's affordability requirements"

Disadvantaged Communities

p. 7:
"IV. LONG-TERM GOALS
…D. To develop strategies within the DWRF to assist smaller, economically disadvantaged communities in meeting drinking water standards."

p. 8:
"V. SHORT-TERM GOALS
…B. To review and promote the disadvantaged community assistance and streamline the requirements for submitting local user charge information."

pp. 13-14:
"IX. DISADVANTAGED COMMUNITY STATUS
Disadvantaged community status is determined by the DEQ based on information submitted with a supplier's project plan. To qualify, an applicant must [meet the definition of municipality, have a median annual household income less than 120% of the state's, and the costs of the project must be borne by customers in the service area. One of four more conditions (based on household income and poverty status) must also be met.]
…The major benefits for qualified communities include extension of loan terms to 30 years, 50 additional priority points, and assistance to help defray the costs of preparing project plans."

Minnesota – 1999 Final

Affordability

p.5:
"**VI. Drinking Water Revolving Fund Goals**…
The descending order of loan priority is to…3) assist systems in most financial need.
[Note: Three total goals are listed.]

Disadvantaged Communities

p. 2:
"**II. Projects to be Funded**…
D. Disadvantaged Community Criteria
…an applicant is considered a disadvantaged community and eligible for supplemental assistance from the DWRF to reduce its loan principal if it meets the following criteria:
1) the project receives public health priority points under Minnesota Rules part 4720.9020,
2) the total project costs (including annual debt service and operation and maintenance) exceed 1.4% of median household income, and
3) the applicant also applies to all other federal and state financial assistance programs for which it is eligible.

…A single applicant cannot receive more than $500,000 in supplemental assistance. The total amount of supplemental assistance provided in a single year cannot exceed $2,000,000 or 10% of the federal capitalization grant, whichever is less."

p.5:
"**VI. Drinking Water Revolving Fund Goals**…
The descending order of loan priority is to…3) assist systems in most financial need.
[Note: Three total goals are listed.]

Montana – 1999 Draft

Affordability

p. 9:
"**Criteria and Method Used for Distribution of Funds**
…The financial impact of the proposed project on the system users will be considered as one of the ranking criteria. The communities most in need of low interest loans to fund the project will be awarded points under the affordability criterion."

p. 10:
"**Summary of Ranking Criteria for Drinking Water SRF Priority List**
…5. Affordability – 20 points maximum"
[Note: approximately 350 points possible?]

p. 15:
"**Appendix 2: Ranking Criteria for Drinking Water SRF Priority List**
…5. Affordability (Only one applicable – maximum 20 points)
Expected average household combined water and sewer user rates, including debt retirement and O&M are:
- greater than 3.5% of MHI – 20 pts
- between 2.5% and 3.5% (inclusive) of MHIU – 15 pts

- between 1.0% and 2.5% (inclusive) of MHI – 10 pts
- 1.0% or less of MHI – 5 pts"

[Note: approximately 350 points possible?]

Disadvantaged Communities

p. 11:
"**Short-term goals**
…5. To obtain maximum capitalization of the funds for the state in the shortest time possible while taking advantage of the provisions for disadvantaged communities and supporting the set-aside activities not directly in the loan portfolio."

p. 12:
"**Subsidies to Disadvantaged Communities**
…A community is considered economically disadvantaged when its combined monthly water and wastewater system rates are greater than or equal to 23.2% of the community's Median Household Income (MHI). If the community has only a water system, the percentage is 1.4% of the community's MHI…To assist these economically disadvantaged communities, the Drinking Water SRF loan program will provide qualifying communities a waiver of the loan loss reserve fee, which will result in an annual 1.0% interest rate reduction on the project loan. The total amount of reduced interest rate loans that the Drinking Water SRF will make under any single capitalization grant will be limited to 20% of that capitalization grant….Qualifying disadvantaged communities also are eligible for extended loan terms, up to 30 years, provided the loan term does not exceed the design life of the project."

New Jersey – 1999 Final

Affordability

pp. 4-8:
"II. Ranking Methodology…
A project must be assigned points from Category A to be eligible for ranking, points assigned from the remaining categories are in addition to the points received in Category A….
D. Affordability…
Affordability is the degree of need for financial assistance based upon the New Jersey median household income compared to the municipal median household income (MHI). Affordability is determined by the following formula:
Municipal MHI/Statewide MHI x 100 = Affordability Factor
Points are assigned as follows:

1. Affordability factor of 100 or greater	0 pts
2. Affordability factor from 85 through 99	15 pts
3. Affordability factor from 66 through 84	30 pts

4. Affordability factor less than or equal to 65 80 pts
…The NJDEP has determined that for the purposes of the DWSRF Program, a municipality whose median household income is 35% or more below the State's MHI, shall be considered a Disadvantaged Community, and will receive 80 priority points, which are proportionately greater than the other affordability factor points….A weighted MHI will be calculated for a project sponsor whose water system serves more than one municipality…"

Disadvantaged Communities

pp. 4-8:
"II. Ranking Methodology…
A project must be assigned points from Category A to be eligible for ranking, points assigned from the remaining categories are in addition to the points received in Category A….
D. Affordability…

…The NJDEP has determined that for the purposes of the DWSRF Program, a municipality whose median household income is 35% or more below the State's MHI, shall be considered a Disadvantaged Community, and will receive 80 priority points, which are proportionately greater than the other affordability factor points….

North Carolina – 1998 Draft

Affordability

p.1:
"2A. Short-term goals…
Through the application of affordability criteria described in the DWSRF program rules, the state intends to further the probability, on a short term basis, that systems with critical public health or compliance needs and accompanying financial needs will evolve as the applicant's to be funded from the DWSRF….
2B. Long-term goals
…through the offering of below market rate loans for projects, the state is striving to promote safe and affordable drinking water."

Disadvantaged Communities

p. 3:
"3. Financial Status of DWSRF…
3C. Other Status Information…
These policies and procedures adopted and implemented to date preclude any "no interest" or "forgiveness of principal" loans to disadvantaged communities. After the capacity development guidelines are finalized and the state has initiated its comprehensive capacity development program, a change in policy for disadvantaged communities may be considered."

P. 11:
"9. Disadvantaged Community Program
…Awarding funds with reduced or no repayment would limit the State's ability to address the tremendous infrastructure need. The state has elected not to award funds on a "no interest" or "forgiveness loan" basis. This policy may be revisited after the impact of the Capacity Development program on North Carolina public water systems and their respective funding sources is known.
The State has recognized the need for some local units to have access to grant funds. Accordingly, the State Clean Water and Natural Gas Critical Needs Bond Act of 1998 provided just over half of the grant funds for applicants with municipal bond ratings below 75. These local units of government have difficulty borrowing funds from the open market for water supply and infrastructure improvement needs. The same public health and compliance rating criteria for the SRF program is utilized in determining critical infrastructure needs under this State program."

North Dakota – 1998 Final

Affordability

p. 4:
"C. Criteria and Method for the Distribution of Funds
Priority Ranking System
…The priority ranking system contains the following [9 total] main categories:…3) affordability;…The priority ranking system is designed to ensure that DWSRF funds are focused on projects that address the most serious risks to human health, rectify SDWA compliance problems, and assist those systems most in need based on affordability considerations."

p. 12:
"F. Short- and Long-Term Goals
…The objectives of the NDDH's DWSRF program include…assisting systems to ensure affordable drinking water,…"

Attachment 2:
"Priority Ranking System for Financial Assistance through the Drinking Water State Revolving Loan Fund (DWSRF) Program…
[Category 3] Affordability – Select One From Each Category (Maximum Points = 25) [maximum total points, 200]
A. Community Water Systems
1. Relative income index – ratio of local annual median household income (AMHI) to the state nonmetropolitan AMHI (based on 1990 census data)

<50%	10
50% to 60%	9
61% to 70%	8

71% to 80% 5
81% to 90% 3
91% to 100% 1

2. Relative water rate index (future) – ratio of expected average annual residential user charge for water service resulting from the project, including costs recovered through special assessments, to the local AMHI

>2.5% 9
2.0% to 2.5% 8
1.5% to 1.9% 5
1.0% to 1.4% 3
0.5% to 0.9% 1

3. Relative water index (present) - ratio of present average annual residential user charge for water service, including costs recovered through special assessments, to the local AMHI

>2.5% 6
2.0% to 2.5% 5
1.5% to 1.9% 4
1.0% to 1.4% 2
0.5% to 0.9% 1

B. Nonprofit Noncommunity Water Systems

1. Relative income index – ratio of local or service area AMHI to the state nonmetropolitan AMHI (based on 1990 census data)

<50% 10
50% to 60% 9
61% to 70% 8
71% to 80% 5
81% to 90% 3
91% to 100% 1

2. Percentage revenue increase required to offset project cost

>100% 9
75% to 100% 8
50% to 74% 5
25% to 49% 3
10% to 24% 1

3. Relative water service cost index – ratio of present water service expenditures to total operating expenses

>20% 6
15% to 20% 5
10% to 14% 4
5% to 9% 2
2% to 4% 1”

Disadvantaged Communities

p. 6:
"D. Set-Aside Activities…
Optional Project Set-Asides
Under the SDWA, states may provide additional loan subsidies (i.e., reduced interest or negative interest rate loans, principal forgiveness) to benefit communities meeting the definition of "disadvantaged" or which the state expects to become disadvantaged as the result of the project. A disadvantaged community is one in which the entire service area of a PWS meets affordability criteria established by the state following public review and comment. The value of subsidies cannot exceed 30% of the amount of the federal capitalization grant for any fiscal year. By January 6, 1998, the EPA is required to provide guidance to assist states in developing affordability criteria….No disadvantaged community program is proposed in this IUP…."

Ohio – 2000 Final

Affordability

p. 9:
"Water Supply Revolving Loan Account Project Priority System…
The WSRLA Project Priority System ranks submitted projects primarily according to three factors:

- Human health risk
- Compliance with federal and state SDWA requirements
- Affordability"

p. 30:
"Appendix E WSRLA Project Priority System
All eligible projects will be rated with respect to six categories to determine their ranking and selection for funding under the WSRLA. These categories are:…
5. Affordability"

p. 34-36:
[Appendix E]
"Affordability Criteria
…One of the best indicators of affordability is the environmental/health utility burden placed on a household (i.e. the cost of water/sewer service). A higher degree of financial burden will be placed on water systems with relatively lower populations because the user base will be smaller over which the cost of the utility service is recovered. Per household analysis is relevant in that household costs of infrastructure improvements are a function of the population size of the community or service area.
Not all public water systems have sewer systems associated with them and some public water systems have no rate structure on which to base comparisons. Therefore it was necessary to develop a means to evaluate affordability in these circumstances, and to set some default limits for public water systems with no economic data. The options are presented below.

If entity is an eligible water system that does not have a rate structure… - 20 points
If combined Water and Sewer Benchmarks (1990) are <Annual Combined Water and Sewer Rates (1997) – 20 points
If the Combined Water and Sewer Benchmarks (1990) are > or = Annual Water and Sewer Rates (1997) – 0 points
For systems with <u>only</u> an existing water system
If the Water Benchmark (1990) is < Annual Water Rate (1997) – 20 points
If the Water Benchmark is > or = Annual Water Rate (1997) – 0 points
For systems with <u>only</u> an existing sewer system
If the Sewer Benchmark (1990) is < Annual Sewer Rate (1997) – 20 points
If the Sewer Benchmark (1990) is > or = Annual Sewer Rate (1997) – 0 points

<u>Sewer and Water Benchmark Values</u>
The affordability analysis is performed through an economic screening, which measures the financial impact of the rate structure on a residential user of household. This is accomplished through a comparison of the current annual cost per residential user to a sewer and/or water benchmark…" [explanation of benchmarks follows]

Disadvantaged Communities

p. 1:
"<u>Summary of Changes to the DWAF in 2000</u>
Substantial progress has been made toward the development of rules to provide for subsidies in addition to other financial assistance afforded to disadvantaged communities by the Water Supply Revolving Loan Account (WSRLA)."

p. 3:
"<u>Drinking Water Assistance Fund's Long-Term Goals</u>…
8. Improve the types of small and disadvantaged community assistance to reduce the financial burden imposed on low income customers;"

p. 13:
"<u>Disadvantaged System Assistance</u>
The WSRLA has the authority under federal and state law to offer additional forms of financial assistance to systems, which have been classified as disadvantaged
Ohio EPA recognizes the need for development of this type of assistance to be provided as an alternative to qualified systems. Rules are being developed at this time to implement this program. As rules are enacted and the program is enabled, Ohio EPA will be providing a disadvantaged community program."

Pennsylvania – 1999 Final

Affordability

p. 3:
"III. Criteria and Method Used for Distribution of Funds…
B. Rationale for Providing Different Types of Assistance and Terms
Pennsylvania's financial assistance policy is based upon the communities' ability to repay loans…

1. The minimum interest rate allowable for any loan is 1%. The maximum rates are determined by comparing the unemployment rate of the county in which the project is located to the statewide average unemployment rate…If the county unemployment rate exceeds the statewide average by 40% or more, the maximum interest rate allowable is 1% for the first five years of the term and 25% of the interest rate the Commonwealth must pay for bonds it has issued to finance the program for the remainder of the term.
2. For projects located in counties where the unemployment rate exceeds the statewide average rate by less than 40%, the maximum interest rate is 30% of the state bond issue rate for the first five years of the term, and 60% of the state bond issue rate for the remainder of the term. Projects in counties that have an unemployment rate below the statewide average receive maximum interest rates equal to 60% of the bond issue rate and 75% of the bond issue rate for the first five years and the remainder of the term respectively.
3. Interest rates may be set lower than the maximum if the PIIA Board determines that the community is so financially distressed that repayment of the loan is unlikely if the project were financed at the county interest rate maximums. If the Board determines that the community may not be able to repay the loan even if it were offered at 1% for the entire term, the Board may offer the system a supplemental grant, using Commonwealth funds.
4. Reduced interest rates and limited supplemental grants allow many systems to undertake needed water facility improvements/construction that would not be feasible otherwise…
5. The financial planning undertaken for the Fund includes the use of the PIIA affordability analysis to determine loan terms and repayments…

p. 5:
"III. Criteria and Method Used for Distribution of Funds…
C. Priority and Allocation of Assistance…
Pennsylvania utilizes a financial capability analysis to determine the financing offer to applicants. This capability analysis takes into consideration 15 variables based upon the communities annual financial statements submitted to the Department of Community and Economic Development. These variables include financial, burden/effort/capacity and socio/economic factors…
These socio-economic factors are weighted with the adjusted 1990 median Household Income (MHI) to determine the percent of the MHI that should be available for payment

of water service. This will be expressed as a percentage between 1 and 2 percent and is what we believe to be the range of what other similar systems are paying for water service. Where a particular project will fall within the 1 to 2 percent is dependent upon the socio-economic factors discussed above and the adjusted MHI.

Once a 'target' user rate has been determined, the project and operation and maintenance costs are factored against the available users and a resulting user rate developed. Should the resulting user rate be higher than what is determined that similar systems are paying, the interest rate is adjusted down to as low as 1% per annum and the repayment term can be extended to as long as 30 years if necessary to bring the user rates to within acceptable levels. This will constitute Pennsylvania's Disadvantaged Community Program, which is more fully described later in this document."

p. 8:
"VI. Goals of the DWSRF Program in Pennsylvania
A. Long-Term Goals…

4. To assist communities with financial difficulties in meeting required drinking water standards. Low interest loans for the eligible project costs will be available to assist these communities. Other types of assistance are available to improve the marketability of local debt instruments. The goal is to provide, without replacing other funds reasonably available, the type and amount of assistance necessary to make the project affordable, consistent with the long-term health of the DWSRF."

Disadvantaged Communities

p. 5:
"III. Criteria and Method Used for Distribution of Funds…
C. Priority and Allocation of Assistance…
Pennsylvania utilizes a financial capability analysis to determine the financing offer to applicants. This capability analysis takes into consideration 15 variables based upon the communities annual financial statements submitted to the Department of Community and Economic Development. These variables include financial, burden/effort/capacity and socio/economic factors…
These socio-economic factors are weighted with the adjusted 1990 median Household Income (MHI) to determine the percent of the MHI that should be available for payment of water service. This will be expressed as a percentage between 1 and 2 percent and is what we believe to be the range of what other similar systems are paying for water service. Where a particular project will fall within the 1 to 2 percent is dependent upon the socio-economic factors discussed above and the adjusted MHI.

Once a 'target' user rate has been determined, the project and operation and maintenance costs are factored against the available users and a resulting user rate developed. Should the resulting user rate be higher than what is determined that similar systems are paying, the interest rate is adjusted down to as low as 1% per annum and the repayment term can be extended to as long as 30 years if necessary to bring the user rates to within acceptable

levels. This will constitute Pennsylvania's Disadvantaged Community Program, which is more fully described later in this document."

p. 6:
"IV. The Impact of Funding Decisions…
B. Disadvantaged Communities
Based on the definition of Pennsylvania's intended use of this program (see Section VIII), the financial impact to the fund corpus will be a delay in receiving loan principle and interest repayments. This program use does not diminish nor reduce the corpus of the fund. The actual federal investment will remain the same over the long term of the DWSRF program."

p. 10:
"VIII. Description of How Pennsylvania Will Define a Disadvantaged System

PIIA utilizes a financial capability analysis that compares various community specific demographic data to similarly situated communities across the Commonwealth to determine a percent of the community's adjusted Median Household Income (MHI) that should be available to pay for water service. The amount that should be available to pay for water service by residential customers will range from one to two percent of the community's MHI dependent upon the specific socio-economic factors that are provided by the Pennsylvania Department of Community and Economic Development. This process aids in an equitable distribution of residential user rates.

Should the estimated resulting residential user rates be higher than similar systems, even after PIIA has provided the most favorable funding package available, based upon criteria set forth in the PIIA act and regulations and further described in this document under III.C. 'Priority and Allocation of Assistance,' these systems would be considered 'disadvantaged' for the purpose of term extension from the normal 20 years to a term of up to up to, but not to exceed 30 years repayment of principle and interest. Systems qualifying for term extensions must exceed the user rate(s) found in similar systems by at least 25%, according to the PIIA financial capability model. The terms will only be extended to a point that will allow the residential user rate to fall to a level not less than 25% more than what similar systems are paying for the cost of water service, as determined by the demographic analysis and financial capability analysis.

Two projects identified on the IUP listed in this grant application have repayment terms beyond 20 years."

Vermont – 1999 Draft

Affordability

p. 15:
V. Priority Ranking System

…Priority in funding will be given to projects that address the most serious risk to human health…and assist systems most in need according to State affordability criteria….
A. Priority Ranking System Scoring Criteria…
The non-technical criteria are:…
6. Financial Need/Affordability."

p. 19
"6. Affordability
Affordability only considers income because it is the most fundamental predictor of a household's ability to pay and which is represented by the **median community household income** statistic. Affordability is based on a comparison of state community median household income (SCMI) to the median household income (MHI) of the water system or of the town(s) in which the system exists….
Formula: (Community MHI /SCMI) x 100 = X

X < 60	35 points
60<= X < 70	25 points
70<= X < 80	15 points
80<= X < 90	10 points
90<= X < 100	5 points
100 <= X < 120	2 points
X >= 120	0 points

Disadvantaged Communities

p. 2:
"Short Term Goals and Objectives…
7. Actively promote and pursue funding for all eligible systems, especially systems serving disadvantaged communities…that do not have adequate technical, managerial, or financial resources to come into or maintain compliance, and to provide safe drinking water."

pp.10-11:
"F. Disadvantaged System Program
…The disadvantaged system program is intended to provide longer loan terms and principal forgiveness to water systems that have a relatively low income and relatively high water user costs….A water system is considered disadvantaged when both of two conditions are satisfied. First, the municipality in which the water system is located or the users of the water system must have a median household income below the average of the community median household incomes of the state. Second, the water system must have an annual household water user cost greater than 1.25 percent of the median household income after construction of the proposed water supply improvements….Disadvantaged systems are eligible to receive loans up to 30 years in length and receive interest rates of no more than plus three (+3) percent but not less than minus three (-3) percent…."

pp. 21-22:

"6. Bypass Mechanisms…
d. Disadvantaged Community
Disadvantaged communities can elect to be bypassed if they are not able to receive principal forgiveness because the 30 percent annual maximum has been reached…"

Virginia – 1998 Final

Affordability

No specific references to affordability are found in this IUP.

Disadvantaged Communities

p. 5:
"Financial Health…
In the disadvantaged program…loan subsidies in the form of principal forgiveness will decrease the loan funds available; however, principal forgiveness coupled with a comprehensive business plan…will reduce the demand on the loan fund by insuring the long term well being of the water works."

p. 9:
"1452(k) Local Assistance and Other State Programs (15%)…
A. Loans to water systems for (1) Land Acquisition/Conservation Easements (2) Incentive Based Voluntary Protection Measures and (3) Petition Program
…The interest rate would be 4%; disadvantaged waterworks may receive a 3% interest rate. The term of loan is 20 years. Principle forgiveness is not allowed under the 1452(k) loans."

Wisconsin – 1999 Final

Affordability

p. 3-4:
VI. Method and Criteria for Distribution of Funds…
3) assist systems most in need on a per household basis according to state affordability criteria.
…Projects will be granted additional points if the project is associated wit a system considered most in need of financial assistance on a per household basis. A public water system must have a population less than 10,000 and a median household income less than or equal to 80% of the state's median household income to qualify for any points related to financial need."

Disadvantaged Communities

p. 7:
"VIII. Disadvantaged Communities
The SDWLP offers a lower interest rate to local governmental units, which meet two eligibility criteria. This rate is 33% of the State's market rate, those local governmental units, which do not meet the two criteria, receive loans at 55% of the State's market rate. The two eligibility criteria are:

1) the local governmental unit's population must be less than 10,000; and
2) the local governmental unit's median household income (MHI) must be 80% or less of the State's MHI.

Although federal regulations allow for up to 30% of the Capitalization Grant to be used for loan subsidies, Wisconsin will not be making loan subsidies below a further reduced interest rate in order to preserve as much of the loan monies as possible to meet the high demand for assistance. As Wisconsin's disadvantaged communities program is not offering principal subsidies, there is no limit on how many communities may qualify."

Appendix C
Program Components of Case Study States

- Attachment 1: Florida State Code: Project Allowances
- Attachment 2: Details of Oregon's Key Funding Programs
- Attachment 3: Staff Report on Oregon Disadvantaged System
- Attachment 4: Washington Public Works Board Income Survey

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ATTACHMENT 1

Florida State Code: Project Allowances for DWSRF Loans

62-552.420 Project Allowances.

Certain allowances shall be included in the allowable project cost at the request of the project sponsor. However, the costs of acquiring land, including easements and rights-of-way; acquiring existing public water systems; and purchasing capacity in an existing public water system shall be excluded from the adjusted post-allowance project costs for the purpose of establishing allowances. Allowances shall be used in lieu of reimbursement for incurred costs. When administrative and engineering allowances are disbursed under a pre-construction loan or pre-construction grant, the project sponsor shall be ineligible to receive the same allowance disbursements under a construction loan or construction grant for the same project. The amount of the disbursements under a construction assistance agreement shall be established by subtracting the amount previously disbursed under a pre-construction agreement from that allowable under the construction assistance agreement. When a construction project is funded with a combination of a grant and a loan, the financial assistance shall have both grant and loan components. The grant percentage established under rule 62-552.370(1)(b) or (c), F.A.C., shall be applied to each allowance to determine the grant portion under such combined grant and loan assistance. The loan portion of administrative and engineering allowances shall be for the remainder after subtracting the grant portion from the total of each allowance. There shall be no loan portion for a planning allowance since no pre-construction loans shall be made in conjunction with pre-construction grants.

(1) The allowance for administrative expenses shall not exceed the following:

(a) For pre-construction loans and pre-construction grants, the maximum allowance that may be requested shall be $12,000 regardless of the adjusted post-allowance project costs.

(b) For construction loans and construction grants, the allowance shall not exceed 0.6% of the adjusted post-allowance project costs. However, the maximum allowance that may be requested for projects with adjusted post-allowance project costs not exceeding $2,000,000 shall be $12,000.

(2) The allowance for engineering work performed before construction bid opening shall not exceed the following:

(a) For pre-construction loans and pre-construction grants, the allowance shall not exceed the larger of the allowance listed under “Engineering Amount” for the range in costs or the amount calculated using the percentage listed under “Engineering Amount” multiplied by the estimated adjusted post-allowance project costs as given in the table below. The amount of the allowance shall be subject to the adjusted post-allowance project costs limitation of $2,000,000 under rule 62-552.350(1) or 62-552.360(6), F.A.C., respectively.

Adjusted Post-allowance Project Costs	Engineering Amount
Less than $500,000	10.3% or $ 21,000
At least $500,000 but less than $1,000,000	8.5% or $ 52,000
At least $1,000,000 but less than $2,000,000	7.5% or $ 85,000
At least $2,000,000 but less than $5,000,000	6.8% or $ 150,000

At least $5,000,000 but less than $10,000,000	6.4% or $ 375,000
At least $10,000,000 but less than $50,000,000	6.0% or $ 640,000
At least $50,000,000	5.7% or $3,000,000

(b) For construction loans and construction grants, the allowance shall not exceed the larger of the allowance listed under "Engineering Amount" for the range in costs or the amount calculated using the percentage listed under "Engineering Amount" multiplied by the estimated adjusted post-allowance project as given in the table under paragraph (a) above.

(3) The allowance for planning work under a pre-construction loan or a pre-construction grant shall be independent of other allowances for engineering work and administrative expenses under this rule section. The amount of the allowance shall be subject to the adjusted post-allowance project costs limitation of $2,000,000 under rule 62-552.350(1) or 62-552.360(6), F.A.C., respectively. The planning allowance shall not exceed the larger of the allowance listed under "Planning Amount" for the range in costs or the amount calculated using the percentage listed under "Planning Amount" multiplied by the estimated adjusted post-allowance project costs as given in the table below:

Adjusted Post-allowance Project Costs	Planning Amount
Less than $1,000,000	4.4% or $15,000
At least $1,000,000 but not more than $2,000,000	3.9% or $44,000

(4) Disbursement of allowances shall be as follows:

(a) For pre-construction grants and pre-construction loans, one-half of each of the administrative and the planning allowances shall be disbursed on request of the project sponsor after a financial assistance agreement is signed. The remaining one-half of each of the administrative and the planning allowances shall be disbursed on request of the project sponsor and after the environmental review under rule 62-552.700(3), F.A.C., has been completed. One-half of the engineering allowance under a pre-construction loan or pre-construction grant agreement shall be disbursed upon request of the project sponsor after the environmental review under rule 62-552.700(3), F.A.C., has been completed. The remaining one-half of the engineering allowance shall be disbursed upon request of the project sponsor after completion of the plans and specifications.

(b) For construction grants and construction loans, administrative and engineering allowances shall be disbursed on request of the project sponsor after a financial assistance agreement is signed. Planning allowances shall not be included in construction loans or construction grants.

(5) Increases to allowances shall be subject to the procedures for obtaining a priority for funding under either rule 62-552.655 or 62-552.680(1), F.A.C., and to the following:

(a) There shall be no increase in the amount of a planning allowance.

(b) An increase, if requested, to the administrative or engineering allowance shall be according to the following:

1. An increase in an allowance initially included in a pre-construction loan or pre-construction grant shall be available only when a project has been planned and designed according to the schedule incorporated into a pre-construction assistance agreement and only in conjunction with a construction loan or construction grant that provides funding for facilities

designed under the pre-construction loan or pre-construction grant. The amount of an allowance increase shall be established by subtracting the allowance based upon the originally estimated costs for post-allowance activities documented in the pre-construction assistance agreement from the allowance based upon the adjusted post-allowance project costs established upon execution of the final procurement contract for which the design was funded under the pre-construction assistance agreement. The costs included in such final adjusted post-allowance project costs shall be in the award amount(s) for the construction related contract(s) included in the project scope as described in the construction assistance agreement, regardless of whether project funding has been segmented under rule 62-552.500(1)(d) or 62-552.600(1)(b), F.A.C.

a. When an increase in post-allowance project costs occurs for a project funded first with a pre-construction grant that has not been limited by the $2,000,000 maximum adjusted post-allowance project costs imposed by rule 62-552.360(6), F.A.C., and then funded with a construction grant for any part of the project, an increase to grant participation in engineering and administrative allowances shall be made at the 85% grant participation level for that part of the project being funded with the construction grant.

b. When an increase in post-allowance project costs occurs for a project funded first with a pre-construction grant that has been limited by the $2,000,000 maximum adjusted post-allowance project costs imposed by rule 62-552.360(6), F.A.C., and then funded with a construction grant for any part of the project, an increase to grant participation in engineering and administrative allowances shall be made at the construction grant participation level for that part of the project being funded with the construction grant.

c. When a project funded first with a pre-construction grant that has been limited by the $2,000,000 maximum adjusted post-allowance project costs imposed by rule 62-552.360(6), F.A.C., and then is funded with a construction grant for any part of the project, grant participation in that part of the engineering and administrative allowances previously disallowed by the $2,000,000 maximum shall be available on request. Such grant funding shall be made at the construction grant participation level for that part of the project being funded with the construction grant.

2. An increase in an allowance initially included in a construction loan or construction grant shall be available when the amount of all construction related contract awards exceeds the estimate documented in the construction assistance agreement. The amount of an allowance increase shall be established by subtracting the allowance based upon the originally estimated costs for post-allowance activities documented in the construction assistance agreement from the allowance based upon the adjusted post-allowance project costs established upon execution of the final procurement contract. The costs included in such final adjusted post-allowance project costs shall be in the award amount for the construction related contracts included in the project scope as described in the construction assistance agreement, regardless of whether project funding has been segmented under rule 62-552.500(1)(d) or 62-552.600(1)(b), F.A.C.

(6) Decreases to allowances shall be made by amendment to the financing agreement which the Department shall prepare and provide to the project sponsor for execution subject to the following:

(a) The amount of any decrease under pre-construction grants or pre-construction loans shall be established as follows:

1. When planning is not completed as required by a financing agreement, the amount of the decrease shall be established by eliminating all remaining undisbursed allowances from the pre-construction grant or pre-construction loan amount.

2. When planning is completed but facilities are not designed as required by a financing agreement, the amount of the decrease shall be established as the engineering allowance for the incomplete design work based on the estimated adjusted post-allowance costs documented in the completed facilities plan. The decrease shall be applied to all remaining undisbursed allowances under the pre-construction loan or pre-construction grant. If necessary, the decrease shall be recovered in conjunction with a construction loan or construction grant that provides funding for any part of the designed facilities. Allowances are subject to further adjustment under paragraph (b) below.

(b) The amount of any decrease to allowances under construction grants or construction loans shall be established by subtracting the allowance based upon the adjusted post-allowance project costs established upon execution of the final procurement contract from the allowance based upon the originally estimated costs for post-allowance activities documented in the construction assistance agreement. The costs included in such final adjusted post-allowance project costs shall be in the award amount for construction related contracts included in the project scope as described in the construction assistance agreement, regardless of whether project funding has been segmented under rule 62-552.500(1)(d) or 62-552.600(1)(b), F.A.C.

1. When a decrease in post-allowance project costs occurs for a project funded first with a pre-construction grant that has not been limited by the $2,000,000 maximum adjusted post-allowance project costs imposed by rule 62-552.360(6), F.A.C., and then funded with a construction grant for any part of the project, a decrease to grant participation in engineering and administrative allowances shall be made at the 85% grant participation level for that part of the project being funded with the construction grant.

2. When a decrease in post-allowance project costs occurs for a project funded first with a pre-construction grant that has been limited by the $2,000,000 maximum adjusted post-allowance project costs imposed by rule 62-552.360(6), F.A.C., and then funded with a construction grant for any part of the project, a decrease to grant participation in engineering and administrative allowances shall be made only if the costs drop below the maximum and then the grant decrease shall be made at the 85% grant participation level for that part of the project being funded with the construction grant.

Specific Authority 403.8532, FS.
Law Implemented 403.8532, FS.
History- New 4-7-98, Amended 8-10-98, Amended 7-20-99.

ATTACHMENT 2

Oregon's Key Funding Programs: Details

Program	Eligible Applicants	Eligible Projects	Loans	Grants	Technical Assistance	Criteria	How To Apply
Safe Drinking Water Revolving Loan Fund (DWSRF) (Federal)	Cities, counties, water districts, private and non-profit water systems (Statute)	Construct, expand or rehabilitate water systems to comply with the Safe Drinking Water Act. (Statute)	Up to $2 million in direct loans. (Rule)	None (Statute)	Loans for planning, preliminary engineering, final design and specifications. (Statute)	Projects must assist a system in complying with the Safe Drinking Water Act. Must submit a Letter of Interest for consideration. (Statute)	Periodic ranking process (Statute) Phone: (503) 986-0123
Community Development Block Grant (CDBG) (Federal)	Non-metropolitan cities & counties (Statute)	Construct, expand or rehabilitate public water & sewer systems to meet federal and state mandates (Federal statutes allow other projects, but state rules limit projects to the above.)	None (Statute)	$750,000 maximum, up to 100% of cost for construction (Rule)	Grants for preliminary engineering, preparation of master plans, and other applicable engineering studies (Statute)	Area served by project must be at least 51% low- and moderate-income residents. Grants are from federal funds. Projects must meet a number of federal requirements. (Statute)	Year round Phone: (503) 986-0123
Water/ Wastewater (W/W) Financing Program Also see Oregon Bond Bank	Same as SPWF (Statute)	Construct areawide water & wastewater improvements. (Statute) Mandated by EPA, State Health Division or DEQ. (State statute allows other projects. Rules limit uses.)	$500,000 maximum. Works with Oregon Bond Bank (below) (Rule)	Only when loans are not feasible. (statute) Up to $500,000. (Rule)	Same as SPWF (Statute)	Must be out of compliance with federal or state rule, regulation or permit. (Rule)	Year round Phone: (503) 986-0123

Table (continued)

Program	Eligible Applicants	Eligible Projects	Loans	Grants	Technical Assistance	Criteria	How To Apply
Special Public Works Fund (SPWF) Also see Oregon Bond Band Includes Community Facilities Account	Cities, counties, ports, water & sewer districts, Indian tribes. (Statute)	Construct and expand public water & sewer systems, roads, rail lines, docks, and airport facilities, leading to business location or expansion. Construct and expand community facilities. (Statute)	$1 million maximum, up to 100% of cost, with firm business commitment. Estimate of 6.0% interest. (Rule) Up to 25-year term. (Statute) Works with Oregon Bond Bank (below)	Only when loans are not feasible. Up to $500,000 with a firm business commitment and $10,000 per job. Up to $250,000 for distressed areas. (Rule) No direct grant for community facilities (Statute)	Up to $10,000 grant for $20,000 loan for preliminary engineering. Must be less than 5,000 population. (Statute)	$10,000 per job, 30% of new jobs must be family-wage jobs. Oregon Economic and Community Development Department has a list of distressed areas. (Rule)	Year round Phone: (503) 986-0123
Oregon Bond Bank (A part of the SPWF and W/W/ above)	Same as SPWF (Statute)	Same as SPWF and W/W/ (Statute)	$10 million maximum. Up to 100% of cost, market interest rate. (Rule) Up to 25-year term. Recipients must be creditworthy. (Statute)	Cost of issuance and debt service reserve paid. (Rule)	None (Rule)	These loans are made in conjunction with the SPWF and W/W. (Statute)	Year round Phone: (503) 986-0123

Source: Information sheet provided by Oregon Economic and Community Development Department

ATTACHMENT 3

Staff Report on Oregon Disadvantaged System
Case study provided by Oregon

Carlton, Oregon Water/Wastewater Financing Program, Safe Drinking Water Revolving Loan Fund

Application Number: APP532

Amount: $2,648,625

Purpose: Design and Construction of Water System Improvements

Recommendation:

	Amount Requested	Amount Recommended
Amount Requested	$2,545,625 (100%)	
Direct Loan		$1,988,625 (75%)
Water/Wastewater Grant		660,000 (25%)
Total	**2,545,625 (100%)**	**2,848,625 (100%)**
Other Funds	135,000	135,000
Total Project Cost	**$2,680,625**	**$2,783,625**
Non-Cash Grant		0

Need:

On June 24, 1994, Carlton was issued a Notice and Violation and Remedial Order from the Oregon State Health Division. The Order was issued to the city for the drinking water systems inability to treat water in conformance with the Safe Drinking Water Act's Surface Water Treatment Rule requirements. The order requires the city to provide filtration and disinfection that meets these requirements.

Solution:

The city will design and construct a new treatment plant, chlorine contact facilities, transmission main and a treated water storage reservoir. This project is in conformance with the city's Water Master Plan which was approved by the Oregon Health Division on September 9, 1997. The city needs to obtain the necessary funding to implement the improvements.

Financial Need:

Please refer to the Financial Analysis prepared by Tom Meek at the end of this staff report.

Disadvantaged Community:

The Safe Drinking Water Revolving Loan Fund has established guidelines for determining eligibility for disadvantaged status. Carlton meets this criteria. A waiver

dated April 15, 1999, was approved by the department to allow the Disadvantaged Community Status.

Waiver Needed:

The maximum grant under the Water/Wastewater Financing Program is $500,000. The proposed financing package for this project includes a $660,000 grant from the Water/Wastewater Financing Program. The waiver is approved and enclosed with this staff report.

Conditions Of Award:

Based upon the following analysis, we recommend that the City of Carlton ("Borrowcr") be awarded
$2,648,625, consisting of a $1,988,625 direct loan from the Safe Drinking Water Revolving Loan
Fund, and a grant of $660,000 from the Water/Wastewater Financing Program, subject to the following conditions:

1. The Loan shall be payable from the General Fund of the Borrower and shall be a lull faith and credit obligation of the Borrower, which is payable from any taxes which the Borrower may levy within the limitations of Article XI of the Oregon Constitution.
2. The principal of and interest on the Loan shall be payable from the revenues of the: Borrower's Utility System ("System") which remain after payment of operation and maintenance costs of the System (the "Net Revenues"). The Borrower hereby grants **t~** the State a security interest in and irrevocably pledges its Net Revenues to pay all of the obligations owed by the Borrower to the State under the Loan Agreement. Pursuant to ORS 288.594, the pledge of the Net Revenues hereby made by the Borrower shall be valid and binding from the date of this Loan Agreement.
3. The borrower shall not incur any obligations payable from or secured by alien on and pledge of the Net Revenues that is superior to the Loan.
4. The Borrower shall not incur any obligations payable from or secured by a lien on and pledge of the Net Revenues that is on a parity with the Loan unless the Net Revenues exceed one hundred twenty percent (120%) of the annual debt service on the Loan and the additional obligations proposed to be issued by the borrower. Prior to the issuance of any obligations that are proposed to be issued on a parity with the Loan, the Borrower shall deliver to the department a certificate demonstrating that the requirements of this paragraph are satisfied.
5. The Borrower shall charge rates and fees in connection with the operation of the System which, when combined with other gross revenues, are adequate to generate Net Revenues each fiscal year at least equal to one hundred twenty percent (120%) of the annual debt service due in the fiscal year on the Loan and any additional obligations issued on a parity with the loan pursuant to paragraph 4 above.
6. The Borrower may establish a debt service reserve fund to secure obligations that are issued on a parity with the Loan pursuant to paragraph 4 above, provided that such debt service reserve fund is not pledged to the payment of the debt service on such obligations unless the Net Revenues of the System are deposited into such debt service reserve fund only after provision is made for the payment of debt service on the Loan during the current fiscal year.

7. The Net Revenues pledged pursuant to paragraph 2 above and hereafter received by the Borrower shall immediately be subject to the lien of such pledge without physical delivery or further act, and the lien of the pledge shall be superior to all other claims and liens whatsoever, except as provided in paragraph 3 above, to the fullest extent permitted by ORS 288.594. The Borrower hereby represents and warrants that the pledge of Net Revenues hereby made by the Borrower complies with, and shall be valid and binding from the date hereof pursuant to OF.S 288.594.

8. The Loan shall amortize for a period of 30 years.

9. The Loan interest rate shall be 1%.

10. The Borrower shall adopt a water rate increase, effective no later than the completion of the Project, which will be adequate to cover the operation and maintenance costs of the improved System, all debt service (including the Loan) and any required debt reserves for obligations secured by the Net Revenues of the System, and any set-asides for System replacements. The Borrower shall deliver to the State a copy of the ordinance or resolution of the governing body of the Borrower, certified by an Authorized Officer of the Borrower, which authorized such rate increase.

11. From and after the completion of the Project, Borrower shall set and maintain water rates for water supplied by the System that generate revenues sufficient to cover (i) the operation and maintenance costs of the improved System, (ii) all debt service (including the Loan) and any required debt reserves for obligations secured by the Net Revenues of the System, and (iii) any set-asides for System replacements. The Borrower shall deliver to the State a copy of the ordinance or resolution of the governing body of the Borrower, certified by an Authorized Officer of the Borrower, which authorized such rates.

If the residential water rates set by Borrower at construction completion or within 5 years are not at or above the statewide average of $30.71 per 7,500 gallons, the parties agree that the terms of the Loan and Note shall, as of the Project completion date, be modified as follows:

(i) the Loan shall accrue interest at the rate of four and one tenth percent (4,1%) per annum and

(ii) the Loan shall be reamortized so that it shall fully amortize by the twentieth anniversary of the Loan Closing Date.

Except as so modified, the terms of the Loan and the Note shall remain the same. At Lender's request, Borrower shall execute and deliver to Lender such additional agreements documents and instruments as Lender deems necessary to reflect the change in the terms of the Loan and Note described above. Such additional agreements, documents and instruments may include, but are not limited to, an amendment to the Note or a replacement note.

12. The scope of work for this project must include the preparation and implementation of two six month rounds of lead and copper testing at the customer tap, quarterly testing for nitrates, and a test for inorganics. The project

must also include the development of a written monitoring plan and coliform monitoring plan and site map, an Emergency operations Plan, Water Conservation Program Plan, Cross Connection Program and an overall Water System Operations Manual. In addition the operator in responsible charge must be certified for water treatment at the correct level for the new treatment plant to be constructed within six months of commencement of operation, as required by the letter dated April 27, 1999, from the Oregon Hea1th Division.

13. The obligation of the State to make any disbursement(s) under the Loan Agreement is subject to receipt by the State of documentation of the following, all in form and substance satisfactory to the State:

A. Approval of the project for construction by the appropriate state regulatory agency.

B. Binding commitment(s) for all funds necessary to carry out the project.

C. Engineering Agreement for the project.

14. The project may not be advertised for bid by the Borrower unless the State has received the following documentation:

A. Oregon Health Division approval of the construction plans and specifications for the project.

B. At least ten (10) days before advertising for bids, bid documents must be sent to the state for review and approval by the State.

15. The Borrower shall provide a bid tabulation and notice of award following the selection of the successfu1 bidder for the project.

___X___ Approve project and recommendation as submitted

_____ Approve project and recommendation with the following modifications:

Betty Pongracz, Manager
Valley/Mid-Coast Team
6/10/99

_____ Approve project and recommendation as submitted

___X___ Approve project and recommendation with the following modifications:

Subject to waiver of $500,000 grant maximum from Water/Wastewater Fund to allow $660,000 grant.

Yvonne L. Addington, Manager
Finance Team
6/10/99

The project analysis and engineering feasibility sections of this report were prepared by Mary Baker. The financial feasibility section of this report was prepared by Tom Meek. Please refer to the enclosed final application from the City of Carlton for more information.

Project Description:

On June 24, 1994, the City of Carlton received a Notice of Violation and Remedial Order from the Oregon Health Division. The order was issued to the city for the drinking water systems inability to treat water that meets the Safe Drinking Water Act requirements. More specifically the flocculation and treatment stages of the treatment process cannot treat water adequately at designed flows, the filtered water turbidity of 1.0 NTU may not be able to be achieved from both filters and the disinfection contact time is insufficient. Overall, the treatment plant is credited with a 1.25 log reduction and the disinfection process is credited with a 0.57 log-reduction of particulate matter and *Giardia lamblia* cysts. A 3.0 log reduction is required and the plant can only achieve a 1.82 log-reduction.

The Order required the city to construct the needed improvements to bring the system into compliance by July 1, 1995. The Oregon Health Division is working with the city to extend the compliance date identified in the Remedial Order.

With the assistance of a $30,000 Community Development Block Grant the city hired KPFF Consulting Engineers to prepare a Water System Master Plan. This plan was approved by the Oregon Health Division on September 9, 1997. The plan identifies a larger improvement project but the city has only selected to construct the $2,783,625 project which is needed to achieve compliance and meet the current needs of the community. The remaining improvements needed for future capacity building total $554,840 are not part of this project.

The Master Plan identified the Community Development Block Grant program as one source of design and construction funding. However, eligibility with this program has not been determined. The city's water system serves the East Carlton Water Association and the Valley View Water District. In order to qualify for the Community Development Block Grant program, the entire service area, including the outside water district and association must be comprised of primarily low to moderate income persons. This information has not been obtained at this time.

Eligibility:

Carlton submitted a "Letter of Interest" for the 1997 (SD066) and 1998 (SD205) funding wider the Safe Drinking Water Revolving Loan Fund. Their requests were reviewed and both scored high enough and were selected for the 1997 and 1998 funding cycles. The final amount recommended of $1,988.625 will come from the 1997 program year.

Engineering Feasibility:

Genera1 Background:

The Water Mater Plan was prepared by KPFF Consulting Engineers and approved by the Oregon Health Division. The project includes a 500,000-gallon clear well, a one-million-gallon-per-day treatment plant, replacement of a 10 inch transmission main with 9,400 lineal feet of 16 inch main line, and a one-million-gallon treated water reservoir. The proposed design and construction engineering fees are calculated to be 10.1% of the construction plus construction contingency costs. These fees are reasonable.

Proposed Improvements:

The Safe Drinking Water Revolving Loan Fund will be combined with $135,000 of local funds and one other unidentified source of funds to complete the financing package for this project.

Activity	Safe Drinking Water Revolving Loan Fund	Local	Total
Legal	0	10,000	10,000
Final Design	175,000	0	175,000
Construction Engineering	55,625	0	55,625
Administration	0	15,000	15,000
Treatment Plant	570,000	90,000	660,000
Clear Well	270,000	0	270,000
Property Acquisition	0	20,000	20,000
Transmission Main	750,000	0	750,000
Reservoir	600,000	0	600,000
Construction Contingency (10%)	228,000	0	228,000
TOTAL	$2,648,625	$135,000	$2,783,625

Readiness to Proceed:

The city anticipates commencing with design by May 1999 and hopefully begin construction by March 2000. The city will need to secure all sources of funds for the construction project before this project is advertised for bid

Environmental Review Board:

The Oregon Health Division will have to prepare and process an environmental review record for the project before any construction funds can be released from this Safe Drinking Water Revolving Loan Fund award.

Loan Administration:

The city will retain the Mid-Willamette Valley Council of Governments to administer the project.
The Council of Governments will be procured through an intergovernmental agreement.

Engineering:

The engineering firm to perform the design and construction engineering will be procured according to state law.

Land Use Compatability:

The raw water intake structure, raw water storage, treatment plant and most of the transmission line are located outside the city's urban growth boundary. All the proposed water system improvements are consistent with the city's land use comprehensive plan. The city may have to obtain a Conditional Use Permit from Yamhill County for the one acre of land to be acquired for the new reservoir.

Prevailing Wage Rates:

The Oregon Bureau of Labor and Industries wage rates (BOLI), and labor standards provisions will apply to this project.

Land Acquisition:

One acre of land needs to be acquired for the new reservoir. The acquisition of this laud must comply with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.

Recommendation by Source:

Sources			**Uses**	
Water/Wastewater Financing Program	Grant	$660,000	Construction	$2,280,000
Safe Drinking Water Revolving Loan Fund	Loan	$1,988,625	Engineering	$230,625
City Funds		$135,000	Administration	$15,000
			Legal	$10,000
			Construction Contingency	$228,000
Total		$2,783,625	Land Acquisition	$20,000
			Total	$2,783,625

Findings:

The Valley/Mid-Coast Team and the Finance Team have investigated the Safe Drinking Water Revolving Loan Fund and Water/Wastewater Financing Program project discussed in this report, and on behalf of the Oregon Economic Development Department, finds that the infrastructure project complies with ORS 285B.560 through 285B.599.

Financial Structure

Safe Drinking Water Revolving Loan Fund, Direct Loan	$1,988,625
Water/wastewater Financing Program, Grant	$660,000
Total Award	$2,648,625

The loan will be secured with a pledge of the Utility Fund. The loan will also be secured by the city's full faith and credit pledge of its General Fund subject to the limitations of Article XI of the Oregon Constitution.

History/Methodology/Waiver of Guidelines:

Carlton originally applied for a Safe Drinking Water Revolving Loan Fund loan of $1,825,625.

By the end of April, the size of the Carlton loan had increased to $1,988,625 for a cost per user of approximately $103 per year. The city consented to this financing plan.

Carlton is a poor community. Of its population, 54.8% is of low and moderate income. Regardless of the justification for rate increases, rate increases must be minimized, and ad the methods available to minimize the impact of rate increases must be maximized. See Waiver of Guidelines, enclosed.

In the meantime, by mid-May the Carlton award had increased to $2,648,625 because of the Health Division's addition of a new reservoir. It is estimated that the total project cost will be $2,783,625. The remaining $135,000 will be funded by local city funds.

By making a grant of $660,000, the need to keep user rates at an affordable level can be accommodated.

Financial Summary

A financial summary for the city is enclosed, The city has managed its resources with frugality and
has limited its debt load, It has one direct debt obligation dating from 1990 when the city issued General Obligation Swimming Pool Bonds to finance the demolition and reconstruction of a swimming pool. The city can redeem these bonds on or after December 1, 2000 with the final scheduled maturity in 2006.

Disadvantaged Community Status:

a. Rates: The city now charges a base rate of $21 for inside city users and $23 for outside city users, with a third rate of $14.87 for users on the Valley View system, a private association of 41 residential owners located outside the city limits. Our award is conditional upon adoption of water rates adequate to cover operation, maintenance, debt service reserves, and set asides, estimated in excess of $31 per 7,500 gallons per month.

b. Debt per capita: With the addition of this debt, per capita debt for the Utility Fund will be approximately $1,165, which is above our disadvantaged community threshold of $500.00,

c. Income: Of the city's residents, 54.8% are low and moderate income. This indicator is above our guideline for a disadvantaged community, which is that at least 51% of the community must be of low and moderate income.

d. Disaster area: The residents have not documented a financial burden due to a recent national or state declared disaster.

e. Conclusion: The community is considered a disadvantaged community.

Operation of the Utility Fund:

a. Does the water system produce an annual budget?

Yes. Annual budgets are required by Oregon law. Rates charged by the city and the cash needs of the Utility Fund are reviewed as part of this process.

b. Does this water system undertake periodic financial audits?

Yes. Comprehensive Annual Financial Reports are required by Oregon Law and are completed by the city on a fiscal basis.

c. Connections:

The system has 744 connections, which does not meet our bond bank guideline of at least 1,500. This represents some risk to the system repayment due to the impact of the loss of users representing a larger percentage of the system revenue than it would for a larger system.

d. Review of the Utility (Enterprise) Fund:

The table below reviews the performance of the combined Utility (Water and Sewer) Fund and Utility (Water and Sewer) Debt Service Fund for the last three years:

Performance Review	**1996**	**1997**	**1998**
Beginning Fund Balance	$ 544,516	$ 450,165	$ 455,581
Operating Revenues	306,431	351,131	448,527
Operating Expenditures	(407,761)	(351,901)	(315,040)
Non-Operating Revenues	6,979	6,186	12,091
Transfers	0	0	0
Ending Fund Balance	450,165	455,581	601,159
Income Before Transfers	(94,351)	5,416	145,578
Operating Ratio	1.33:1	1.00:1	0.70:1

In 1998, revenues increased, reflecting a 3.5% water rate increase and a renegotiated contract with the Valley View Water District. While 1997 and 1998 Enterprise Fund operations provided revenues sufficient to cover expenses, the 1996 statement indicates a net loss of $94,351 centered primarily in increased operating supplies and maintenance expenses. A non-operating source of funds ($36,485 annually) was derived from depreciation of fixed assets acquired by a federal grant, and is included in the Non-operating revenues shown above.

These funds carry approximately $843,125 in self supporting debt at the present time. Annual debt service on an Oregon Water Resources Department Water System Revenue Bond, issued in 1984 to construct a water treatment facility, was $16,006 in 1998 and increases each year until it is paid out in 2005. A Rural Economic and Community Development Revenue Installment Sewer pond, issued in 1992, required $10,373 principal payment in 1998, with annual principal payment increases until it is paid out in 2012. It was used along with a State Revolving Fund Loan for improvements to the city's sewer system. The Oregon Department of Environmental Quality State Revolving Fund Loan was reduced by $12,506 in 1998 with payout in 2012. 1998 principal payments totaled $38,885. Revenues for these payments were collected from taxes and user fees.

At the close of the year Jane 30,1998, the combined enterprise funds had a cash and cash equivalents balance of $337,964, which is more than twelve months operating expenses, based on that year's financial report.

The three-year average of external revenues to total revenues is 27.39%, which fails to meet our guideline of 20% or less.

Net Direct Debt Service, which was created by swimming pool reconstruction, was 5.44% of General Fund Revenues, which is above our guidelines of 5% or less.

The 82% of debt scheduled to be retired in the next ten years meets our guideline of at least 60%.

The city estimates Water Fund balances, revenues and expenses upon completion of the project as follows:

Total number of Equivalent Dwelling Units	744
Estimated rate per Equivalent Dwelling Unit	$32.39
Total Revenue (annual) 24,850 x 12 months =	$298,200
Personal Services	$114,593
Materials and supplies	$61,400
Existing Debt Service	$37,302
Cash available	$84,905
Payments for $1,988,625 at 1% for 30 years	$77,055
Funds available after debt service	$7,850
Debt Service Coverage Ratio	1.1:1

The city meets the required debt service coverage ratio for a Safe Drinking Water Revolving Loan Fund loan of 1.1:1.

Rates/Affordability/Interest Rate:

After completion of the project, upon full implementation of our required rate covenant and debt service of $77,055 per year, it is estimated that average monthly rate per Equivalent Dwelling Unit will be $3,239 per month.

These tables measure the affordability of the city's suggested rates:

A Measure of Affordability	Rate	County Per Capita Income/Month	Index
Probable rate at completion	32.39	$1,694.17	1.91%

A Measure of Affordability	Rate	Three-Person Household Low Income Threshold/Month	Index
Probable rate at completion	32.39	$1,858.33	1.74%

A Measure of Affordability	Rate	Median Household Income/Month	Index
Probable rate at completion	32.39	$2,124.42	1.52%

A typical affordability range utilized by many states is from 1.25 to 1.75%. The project as originally proposed exceeded this range and the rates could not be considered affordable. However, the city had stated that its ratepayers would pay the rates necessary to fund annual debt service of $77,055 and requested that the department proceed on that basis.

This analysis distinguishes income measures for purposes of disadvantaged community status and income measures for purposes of affordability. The distinction that the Amendments draw between "advantaged" and "disadvantaged" is apparently aimed at the ability of the community to raise capital. Hence, given the myriad of ways a community can raise capital, measuring a median is relevant.

The Financial Capacity Assessment tools implemented by most states also require that "affordability" be measured. Median household income is halfway between the rich and poor. Water rates are the most regressive method of raising funds available to a

community. Hence, the ability of the rich to "afford" a given rate is irrelevant. A more relevant measure of affordability is the impact of a given rate on low income ratepayers. The department has recently refined its analysis on how to measure "affordability." We have always used per capita county income to measure affordability. We now measure affordability against the low-income threshold as well. The impact of rates and rate increases always fall heaviest on the poor.

As mentioned above, 54.8% of Carlton's population is of low and moderate income.

Moreover, because it is believed that the extant project does not solve all of the city's drinking water problems, the ratepayers may well have to incur more debt in the near future.

Holding annual debt service on this loan to $77,055 ameliorates, albeit minimally, cash demands on ratepayers of limited means.

In order to hold the annual debt service at $77,055, the maximum loan the department can make is $1,988,625. This in turn necessitates a grant of $660,000 and a waiver of the department's Water/Wastewater Financing Program Guidelines. See enclosed.

Creditworthiness Criteria:

A list of the indicators of creditworthiness for the city is enclosed. Out of 20 applicable indicators, the city meets 16.

The three-year average of external revenues to total revenues is indicated as 27.39% which is above our 20% guideline. This number has declined during the three years averaged, from 28.11% to 25.94% in 1998.
Net Direct Debt Service is 5.44% of General Fund Revenues, above our guideline of 5%. This debt service is due to swimming pool removal and reconstruction and is scheduled to be retired in 2006. The % of debt to be retired in 10 years is projected at approximately 82.18%, easily meeting our guideline of a minimum of 60%.

This system has 744 connections, which is below our guideline of 1,500, and the top ten ratepayers account for 15.78% of the total revenues for 1997 compared to our guideline of 15%. These measures indicate some risk associated with the loss of any major ratepayers to the total revenues of the system. The top ten ratepayers include a water district with 41 residences, a trailer park, an apartment building, and an elementary school, which tend to mitigate this risk due to multiple users involved with each entity. There are two commercial users in this group, a meat packer and a poultry farm, but their water usage is proportionally much higher than their rates and expected, to remain at current levels.

The last three years average of accounts receivable is 28.74% of revenues compared to our 15% guideline. This ratio has declined from 40.51% in 1996 to 15.95% in 1998, trending toward our guideline, and indicating a reduction in the risk associated with high accounts receivable balances and slow turn times.

The unemployment rate for the area is 4.10% which is below the state average of 5.10%.

The city's per capita income is $20,330, which is 87.97% of the state per capita income and above our guideline of 85% of the state average.

The financial analysis of Carlton indicates meeting 16 of the 20 guidelines, and represents an acceptable risk for the Safe Drinking Water Revolving Loan Fund.

Need for Grant Funds:

A loan of $1,988,625 leaves a shortfall of $660,000. The project qualifies for a grant of $660,000 from the Water/Wastewater Financing Program. The award should contain a grant of $660,000 from the Water/Wastewater Financing Program, subject to waiver of the Water/Wastewater Financing Program Guidelines. See enclosed.

Security:

As security for the loan, the city will offer a pledge of its Utility Fund. The department's interest in the Utility Fund would be at parity with the Oregon Water Resources Department Water System Revenue Bond issued in 1984, the Rural Economic and Community Development Revenue Installment Sewer Bond issued in 1992, the State Revolving Fund Loan, and the Oregon Department of Environmental Quality State Revolving Fund Loan. The loan documents will contain coverage requirements to protect our interests in regard to other loans.

The city will also offer its full faith and credit pledge of its General Fund subject to the limitations of Article XI of the Oregon Constitution.

The security is adequate.

Cost Comparison:

In the following table, we compare funding through the department's program to financing the city would obtain without the department's program;

Comparison	Safe Drinking Water Revolving Loan Fund	Non-Safe Drinking Water Revolving Loan Fund
Project Amount	$2,648,625	$2,648,625
Grant Amount	660,000	0
Debt Service Reserve	0	264,863 52,973
Issuance Costs	0	
Total Loan Amount	$1,968625	$2,966,461
Interest Rate	1.00%	5.35%
Term (in years)	30	30
Payment	$77,055	$161,260
Interest Earnings	0	$14,170
Total Payments	$2,311,650	$4,412,700
Total Anticipated Savings	$2,101,050	

Summary/Issues

I recommend the $1,988,625 Safe Drinking Water Revolving Loan Fund arid $660,000 Water/Wastewater Financing Program award for the City of Carlton.

Enclosures:
Underwriting Indicators
Final Application
Loan Amortization Schedule

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ATTACHMENT 4

The Washington State
Public Works Board
Drinking Water State Revolving Fund (DWSRF)
2000 – Income Survey

Water System Applicant:

Instructions:
This water system may be eligible for a lower interest rate for a DWSRF loan to rehabilitate the water system. In order to quality for the reduced rate, a majority of residents served by the water system must have incomes that are below the county's median income level.
To determine if the water system qualifies, a random sample of residents must complete the survey form below and return it to the Public Works Board. You have been selected to participate in that survey. The survey is anonymous, and we request that you help us retain that status by returning the survey in the enclosed envelope and not add any identifying information.

Survey Questions

1. Does this household receive its drinking water from the system?
   Yes ___ No ___ (If no, then do not answer any other questions)

2. How many people live in this household? _____

3. What was the household's total income during 1999? _____

- The number of people in the household should equal the number of people who lived in the residence for at least six months of the year.
- The income reported here should be the same as reported on tax returns.

Thank you for your time and assistance. Please call John LaRocque at (360) 586-2523 if you have any questions about this survey or the DWSRF.

The Washington Public Works Board's Income Survey procedure is as follows:
1) Borrower (water system) provides a mailing list of customers.
2) Public Works Board picks a random sample from the list.
3) If the "universe" is less than 100, the Board requires at least 25 responses; if the universe is more than 100, the Board requires fifty responses. (If response rate is too low, surveys will be re-mailed, but a second mailing has not been necessary to date.)
4) The Board mails the surveys, collects them, and tabulates the results.