OFFICE OF INSPECTOR GENERAL

Catalyst for Improving the Environment

Audit Report

EPA's Allowing States to Use Bonds to Meet Revolving Fund Match Requirements Reduces Funds Available for Water Projects

Report No. 2007-P-00012

March 29, 2007

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Abbreviations

CFR	Code of Federal Regulations
CWA	Clean Water Act
CWSRF	Clean Water State Revolving Fund
DWSRF	Drinking Water State Revolving Fund
EPA	U.S. Environmental Protection Agency
NIMS	National Information Management System
SDWA	Safe Drinking Water Act
SRF	State Revolving Fund

Cover photo: Waterfall (photo courtesy EPA)

U.S. Environmental Protection Agency
Office of Inspector General

2007-P-00012
March 29, 2007

At a Glance

Catalyst for Improving the Environment

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Why We Did This Review

We conducted this review to determine how U.S. Environmental Protection Agency (EPA) policies have impacted State revolving funds (SRFs) and the related water infrastructure funding gap. We focused on how EPA policies allowing States to use bonds repaid from SRF interest to meet the match requirement have affected funds available.

Background

The Clean Water and Drinking Water SRFs combined represent EPA's largest program. Congress created the SRFs to provide States with a continuous source of funding for needed water projects. The laws require States to contribute to the SRF a match of 20 percent of the Federal capitalization grant. In 2002, EPA identified that a significant funding gap exists between projected clean water and drinking water infrastructure needs and current levels of Federal, State, and local spending.

For further information, contact our Office of Congressional and Public Liaison at (202) 566-2391.

To view the full report, click on the following link:
www.epa.gov/oig/reports/2007/20070329-2007-P-00012.pdf

What We Found

EPA regulations and policies allowing States to use bonds repaid from SRF interest to meet SRF match requirements are resulting in fewer dollars being available for water projects. Twenty States have used the Clean Water SRF to repay bonds issued to meet the required fund match, and 16 of those States also did so for the Drinking Water SRF. Many States have issued bonds as general obligations of the State that could potentially be transferred to the SRFs, which could also significantly decrease the amount of funds available for future projects. Further, four States used short-term bonds for their State match and then retired those bonds from SRF funds within a week of issuing them. We acknowledge that States have funding limitations and depend on legislatures for funding. Nonetheless, the majority of States have been able to finance their 20-percent match without using bonds financed by the SRFs, and we believe this is a goal toward which all States should strive.

When Congress created the Clean Water and Drinking Water SRF programs, it intended that they would be ongoing sources of funding for water projects. The funds were to be used to allow communities to leverage and maximize resources. The expectation was that the funds would continue to grow into perpetuity. Current practices have resulted in an estimated $937 million less available for loans since the inception of the SRF programs. This results in fewer projects being started and completed, resulting in more systems having public health concerns.

What We Recommend

We recommend that the Assistant Administrator for Water revise its regulations and policy on State match options to no longer allow States to use bonds repaid from the SRF to meet State match requirements.

EPA stated that while it supports the State match policy decisions that were made at the inception of the programs, it also believes it is appropriate to assess the impacts under current conditions.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
INSPECTOR GENERAL

March 29, 2007

MEMORANDUM

SUBJECT: EPA's Allowing States to Use Bonds to Meet Revolving Fund Match Requirements Reduces Funds Available for Water Projects
Report No. 2007-P-00012

FROM: Melissa M. Heist Melissa M. Heist
Assistant Inspector General for Audit

TO: Benjamin H. Grumbles
Assistant Administrator for Water

This is our report on the subject audit conducted by the Office of Inspector General (OIG) of the U.S. Environmental Protection Agency (EPA). This report contains findings that describe the problems the OIG has identified and corrective actions the OIG recommends. This report represents the opinion of the OIG and does not necessarily represent the final EPA position. Final determinations on matters in this report will be made by EPA managers in accordance with established audit resolution procedures.

The estimated cost of this report – calculated by multiplying the project's staff days by the applicable daily full cost billing rates in effect at the time – is $402,233.

Action Required

In accordance with EPA Manual 2750, you are required to provide a written response to this report within 90 calendar days. You should include a corrective actions plan for agreed upon actions, including milestone dates. We have no objections to the further release of this report to the public. This report will be available at http://www.epa.gov/oig.

If you or your staff has any questions regarding this report, please contact me at 202-566-0899 or heist.melissa@epa.gov; or Janet Kasper, Director, Assistance Agreement Audits, at 312-886-3059 or kasper.janet@epa.gov.

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Chapter 1
Introduction

Purpose

In 2002, the U.S. Environmental Protection Agency (EPA) identified that a significant funding gap exists between projected clean water and drinking water infrastructure needs and current levels of Federal, State, and local spending. The primary objective of our audit was to explore how EPA policies have impacted State revolving funds (SRFs) and the related water infrastructure funding gap. We focused on how the following EPA policies affected funding available for water projects:

1. Allowing States to meet the 20-percent State matching requirements by issuing revenue and general obligation bonds repaid by the SRF.
2. Allowing State SRFs to assume the liability for repayment of general obligation bonds, which were originally intended to be paid from State general funds.
3. Allowing States to issue and repay State match bonds on a short-term basis (generally within 1 week).

Background

Congress created the Clean Water State Revolving Fund (CWSRF) in 1987 to provide States with a continuous source of funding to address water quality projects. Since its inception, the CWSRF has grown to become the largest Federal funding program for water infrastructure projects across the country. Similarly, in 1996, Congress created the Drinking Water State Revolving Fund (DWSRF) to provide States funding to protect human health and support the sustainability of our Nation's drinking water infrastructure. Combined, the two SRFs represent EPA's largest single program, accounting for about 50 percent of all of EPA's assistance award funds. There are 102 SRF programs nationally (all 50 States plus Puerto Rico, each operating a CWSRF and DWSRF).

SRFs Are Intended to Revolve Into Perpetuity

Since 2000, Congress has appropriated, on average, about $2.1 billion annually for the CWSRF and DWSRF combined – $1.25 billion for the CWSRF and $838 million for the DWSRF. Both SRFs are capitalized through annual Federal capitalization grants. States must provide matching funds equal to 20 percent of the Federal capitalization grants. States loan the SRF funds to communities to pay for water projects. Principal and interest repayments on the loans are recycled back into the program to fund additional projects. Congress intended that the revolving nature of these programs would yield an ongoing funding source, allowing the SRFs to revolve into perpetuity.

Notable Achievements

As of June 2005, States had loaned $52.7 billion from the CWSRF for nearly 16,800 projects. These projects were to maintain and improve publicly owned treatment works, mitigate non-point source pollution, and promote estuary management. States have provided an average of almost $4.5 billion annually in assistance to communities through the CWSRF since 2000.

From the DWSRF as of June 2005, States had loaned nearly $9.5 billion for nearly 4,400 projects. These projects were to ensure the continued provision of safe drinking water by helping public water systems fund infrastructure upgrades and by improving the institutional capabilities of those public water systems. The projects have included treating and distributing drinking water, rehabilitating wells, developing new sources of water, upgrading storage facilities, and consolidating water systems. States have provided an average of over $1.3 billion annually in assistance to communities through the DWSRF since 2000.

EPA Allows States Flexibility for Providing Required State Match

Consistent with the objective of providing States with maximum flexibility in designing and implementing their SRF programs, EPA allows States to provide the required 20-percent State match from a variety of sources. Seven such options are shown in the box; details on each option are in Appendix A. Most States are using general fund appropriations or general obligation bonds repaid with State general funds as the source of the required State match. Under the State general fund appropriation option, the States deposit into the SRF from State appropriations at least 20 percent of the Federal capitalization grant, which increases the amount of SRF funds available for loans to communities for water projects.

State Match Options Allowed by EPA

1. State Appropriation
2. General Obligation Bonds Proceeds
3. General Obligation Debt Repaid by SRF
4. General Obligation Bonds Placed in SRF
5. SRF Match Revenue Bond
6. Pledged Repayment from State Loans Program
7. Local Contribution

Source: EPA 832-B-97-003, *State Match Options for the State Revolving Fund Program*, February 1997

States are increasingly using bonds to come up with the funds to meet the match requirement. The State issues either revenue or general obligation bonds and deposits the bond proceeds into the SRF as the required State match:

- A **revenue** bond is issued by a municipality to fund a specific public works project and is supported by the revenues of that project.
- A **general obligation** bond is secured by the taxing and borrowing power of the municipality issuing it, rather than the revenue from a given project.

EPA allows the States to use the SRF interest earnings to retire the bonds. The SRF pays the debt service on the bonds, which consists of bond principal plus interest payments to retire the bonds.

Significant Water Infrastructure Funding Gap Remains

Our Nation faces several key challenges to ensure that our water bodies are clean enough to fish and swim in, and that our water is clean enough to drink. Our current wastewater and drinking systems are aging and nearing the end of their useful lives. Further, population is increasing. Also, current treatment standards may not be sufficient. EPA performed a study to gain a better understanding of these future challenges. The study included determining whether there is a quantifiable gap between projected clean water and drinking water investment needs over the 20-year period from 2000 to 2019 and current Federal, State, and local spending levels.

In its report *The Clean Water and Drinking Water Infrastructure Gap Analysis* (Gap Analysis), published in September 2002, EPA noted that a significant funding gap exists. Depending on the factors and assumptions used to calculate the 20-year gap, the total gap, including operation and maintenance costs,[1] ranges from:

- $31 billion to $271 billion for clean water
- $45 billion to $263 billion for drinking water

Those totals translate into an annual gap of $1.5 billion to $13.5 billion for clean water needs and $2 billion to $13 billion for drinking water needs. For further details on EPA's Gap Analysis, see Appendix B.

Scope and Methodology

We performed our audit in accordance with *Government Auditing Standards*, issued by the Comptroller General of the United States. We conducted our audit field work from August to October 2006. We gathered information from EPA Headquarters and all 10 EPA regions. We collected and analyzed data through June 30, 2005, related to clean water and drinking water SRFs for all 50 States and Puerto Rico. See Appendix C for further details on the audit scope and methodology.

[1] Operation and maintenance costs are not eligible for funding under the SRF programs.

Chapter 2
EPA's Allowing States to Use Bonds to Meet SRF Match Requirements Has Reduced Funds Available for Projects

EPA regulations and policies allowing States to use bonds to meet SRF match requirements are resulting in fewer dollars being available for water projects. Twenty States have used the CWSRF to repay bonds issued to meet the required SRF fund match. Sixteen of those States also did so for the DWSRF. Many States have issued bonds as general obligations of the State that could potentially be transferred to the SRFs and thus decrease fund availability. Four States used short-term bonds for their State match and then retired the bonds within a week of issuing them. EPA has allowed these practices to provide States with flexibility. However, when Congress created the CWSRF and DWSRF programs, it intended that they would be ongoing sources of funding for water projects. Current practices have resulted in an estimated $937 million less funds available for loans since the inception of the SRF programs. This results in fewer projects being started and completed, resulting in more systems having public health concerns. We acknowledge that States have funding limitations and depend on legislatures for funding. Nonetheless, the majority of States have been able to finance their 20-percent match without using bonds financed by the SRFs, and we believe this is a goal toward which all States should strive.

Laws Require 20-Percent State Match

When Congress established the CWSRF and DWSRF programs in 1987 and 1996, respectively, the purpose was to create a source of funds that would be available to communities for water infrastructure financing. The revolving nature of the programs was to ensure the continual growth of the funds and move the States toward self-sufficiency. The Clean Water Act (CWA) requires States to develop a priority list of projects based on public health and water quality goals. The Safe Drinking Water Act (SDWA) also requires that projects be prioritized to address the most serious risk to human health.

States are required to match the amount that EPA awards them in the capitalization grants by providing a 20-percent State match. According to the CWA, "the State will deposit in the fund from State moneys an amount equal to at least 20 percent of the total amount of all capitalization grants." The CWA provides for using the Fund "as a source of revenue or security for the payment of principal and interest on revenue or general obligation bonds issued by the State if the proceeds of the sale of such bonds will be deposited in the fund." Similarly, the SDWA requires that "the State deposit in the State loan fund from State moneys an amount equal to at least 20 percent of the total amount of the grant to be made to the State." Further, the law allows using amounts deposited in the SRF "as a source of reserve and security for leveraged loans."

While the CWA and SDWA allow States to sell bonds and use SRF revenue for repayment of the bonds, the laws do not specifically address using bonds to meet the required State match. EPA's CWSRF and DWSRF regulations allow selling bonds to meet the State match requirement. However, this business practice decreases the money available to the SRFs, and therefore contributes to the water infrastructure funding gap. Further, it is contrary to Congress' intent when it passed the laws that the SRFs continue to grow. Regarding the requirement for using State moneys for the match, EPA Office of Water has not defined the term "State moneys."

States Issue Bonds Repaid from SRF Interest for Required State Match

We identified 20 CWSRF programs[2] and 16 DWSRF programs[3] that have used bonds for the required State match and repaid the bonds from SRF funds. Appendix D provides a listing of these States. Specifically:

- State CWSRF programs issued approximately $1.1 billion in State match bonds. States made approximately $865 million in bond principal and interest payments from the SRF since 1989.

- State DWSRF programs issued approximately $325 million in State match bonds. States made approximately $72 million in bond principal and interest payments from the SRF since 1998.

Using bonds for State match reduces amounts available for loans in future years because the SRF uses interest earnings of the fund to pay principal and interest on the bonds. States deposit the bond proceeds in the SRF and use the funds for loans. However, interest earnings from these loans generally are not sufficient to cover debt service payments. For example:

[2] Wisconsin does not issue bonds for the specific purpose of providing State match for the SRF. The State issues general obligation bonds for multiple purposes and transfers a portion of the proceeds to the SRF for match. The State does not record a liability for the bonds issued but it does use SRF revenue to pay debt service on the bonds.

[3] Currently, there are 17 DWSRF programs that use State match bonds. Michigan DWSRF started using State match bonds after June 30, 2005, the timeframe for the scope of our audit.

Example of How SRF Loans Not Sufficient to Cover Debt

- Nevada issued $2,665,000 in State match bonds in 2003 and will pay off the entire principal plus interest of $485,572 from SRF interest revenue over a 10-year period.
- Although the SRF would earn interest on the loans issued from the bond proceeds, the interest Nevada earned on loans for 2003 averaged 3.1 percent and the interest rate on the bonds ranged from 2 to 4 percent.
- A 10-year loan of $2,665,000 at an interest rate of 3.1 percent would earn about $475,158 in interest revenue for debt service.
- The debt service on the remaining principal and interest of $10,414 would come from interest earned on other SRF loans and investments.
- As a result, $10,414 would not be available for Nevada to loan out for projects.

Source: EPA OIG review.

SRFs Assuming Repayment of State-Issued General Obligation Bonds

One State CWSRF program (Oregon) has transferred liability of general obligation bonds from the State to the SRF, and another State (Missouri) plans to do so. One of the options for State match available to the State is to issue general obligation bonds and deposit the proceeds into the SRF. The debt incurred from those general obligation bonds was meant to be paid by State general fund revenues, not the SRF, and the deposited proceeds were meant to remain in the SRF as capital for loans. However, since 1989, Oregon has transferred the liability for about $24 million of general obligation bonds to the CWSRF, and over $9 million in bond principal and interest has been paid by its CWSRF. Also, CWSRF programs for 20 States and DWSRF programs for 8 States have issued general obligation bonds that could potentially be transferred to the SRFs. If EPA continues to allow this practice, it could significantly increase the liability to the SRFs and decrease the amounts available for loans.

States Increasingly Issuing Short-Term Bonds

Another method that States use to fund the match is to issue short-term bonds that are repaid from the SRF generally within 1 week. We identified four CWSRF programs (Alaska, Louisiana, Michigan, and Oregon) and two DWSRF programs (Alaska and Louisiana)[4] that have done this. Michigan sometimes retired bonds used for the State match the same day it issued the bonds. Alaska and Oregon issued bonds for State match and repaid the bonds from SRF revenue the following day. Louisiana started the practice of using short-term State match bonds in 1995; the other States started using this practice since 2001. Of the total bond principal and interest payments from the SRFs since inception of the programs, the amount of short-term bonds issued and repaid from an SRF (based on "short-term" being defined as 1 week or less) was approximately $50 million

[4] Currently, there are three DWSRF programs that use short-term State match bonds; Michigan DWSRF started using short-term State match bonds after June 30, 2005, the timeframe for the scope of our audit.

from the CWSRF and $10 million from the DWSRF. These are funds that were not available for loans to communities.

Although the States technically meet their match obligation under the regulations when they use short-term State match bonds, in effect, no additional money is made available to be disbursed to communities for projects. The SRF does save on interest expense because the amount of interest accruing on the bonds is minimal, but the amount available for loans is actually reduced because of the cost of issuing the bonds. Oregon CWSRF plans on issuing $1.8 million for State match bonds in 2007 that will immediately be repaid from the SRF. Alaska plans on issuing $1 million in short-term bonds for both the CWSRF and DWSRF in 2007. Table 2-1 uses a hypothetical scenario to compare the amounts available for loans using general fund appropriations with amounts available using short-term State match bonds.

Table 2-1: State Match Bond Example

State Match from General Fund Appropriations:	
Available for loans prior to issuing bonds at 11/26/06	$10,000,000
State match from general fund	1,000,000
Available for loans at 11/27/06	$11,000,000
State Match from Short-Term Bonds:	
Available for loans prior to issuing bonds at 11/26/06	$10,000,000
State match bond issuance on 11/26/06	1,000,000
State match bond repayment on 11/27/06	(1,000,000)
Cost of bond issuance	(20,000)
Available for loans after bond issuance at 11/27/06	$9,980,000
Difference in Amounts Available for Loans	**$1,020,000**

Source: OIG Analysis of Hypothetical Data

Although the regulations do not stipulate minimum bond repayment terms for State match bonds, allowing States to retire State match bonds within a week of issuance is not consistent with the intent of the CWA. The legislative history in Senate Report 99-50 states:

> *Subsection (d)(f) of section 603 would allow a State to use the State Revolving Fund and its chief assets (future revenues from loan repayments) as a basis for issuing bonds for further revolving fund activity. Under such an arrangement, a State would be able to leverage outstanding loans made from an initial set of capitalization grants, and thus make available significant amounts of money much sooner than would otherwise have been possible.*

The above indicates the intent of bonds is to make money available sooner than otherwise would have been possible. Leveraging implies taking on significant debt in addition to the funds provided by the capitalization grant to provide increased capital for loans. Retiring State match bonds within 1 day, 1 week, or even 1 year reduces the amount immediately available to communities for water projects.

EPA Allows State Match Bonds to Provide States with Flexibility

State match bonds for the SRFs provide flexibility to States. The idea of allowing States flexibility is included in the legislative history. Allowing flexibility to States is also incorporated into the CWSRF regulations. Title 40, Code of Federal Regulations (CFR), Section 35.3100(a) states, "The agency intends to implement the State water pollution control revolving fund program in a manner that preserves for States a high degree of flexibility for operating their revolving funds in accordance with each State's unique needs and circumstances." This same language is included in the DWSRF regulations at 40 CFR §35.3500(c).

According to an EPA report that describes options for meeting the State match, "In keeping with the objective of providing states with maximum flexibility in designing SRF programs, the CWA allows states to provide match from a variety of sources." The report also notes that unfavorable economic conditions may influence how a State makes its match. CWSRF regulations at 40 CFR §35.3135(b)(2) state that "Bonds issued by the State for the match may be retired from the interest earned by the SRF (including interest on SRF loans) if the net proceeds from the State issued bonds are deposited in the fund." DWSRF regulations at 40 CFR §35.3550(g)(3) allow States to issue bonds for the match.

The Office of Water believes that States should have maximum flexibility in implementing the program – the ability to use bonds for State match is one of the mechanisms providing such flexibility. Office of Water staff stated that the financial reality is that currently many States have tight State budgets and cannot afford the match any other way. They stressed that if it were not for the bond option for providing the required State match, many States would not be able to make the match, and so eventually would not have an SRF program.

States Believe State Match Bonds Yield Benefits

According to the States that responded to our survey, the two main reasons States use bonds for State match are: (1) the State legislature is not providing the match or it is the only option available, and (2) the program could be self-supporting and thus not dependent on securing State appropriations for the match. For example:

- Alaska stated the legislature asked the program to find alternative funding because of significant revenue shortfalls for the State as a whole.

- Nevada selected bonds to keep the fund self-supporting and not dependent on State appropriations.

- North Dakota stated that bonds were a more reliable source of funds since appropriations require legislative approval and are not guaranteed to be renewed every session.

- Alabama stated that since 1991 the SRF only received partial match for the CWSRF and no match for the DWSRF, necessitating the issuance of bonds.

According to the survey responses, the two main benefits of using bonds for State match are: (1) the program does not negatively impact the State's general fund, and (2) bonds can be issued as needed (without having to wait for the State budgetary cycle). For example:

- Ohio stated that if it had to use general revenue funds, the program would be smaller and slower.

- Oklahoma stated that assuming other sources were available for State match, bonds benefit the program by allowing faster access to the capitalization grants, which maximizes interest earning on the capitalization grants for the program and gets projects under construction faster.

- Texas stated that this option provided more flexibility than the 2-year legislative cycle when an appropriations bill could be considered.

We acknowledge that States have funding limitations and depend on legislatures for funding. Nonetheless, the majority of States have been able to finance their 20-percent match without using bonds financed by the SRFs, and we believe this is a goal toward which all States should strive.

State Match Bonds Result in Less Funding, Higher Costs

Since the inception of the SRF programs through June 30, 2005, approximately $937 million worth of water projects have been unable to be started or completed because of the practice of States issuing bonds to meet the match requirement and then using the SRF to repay the bonds. The $937 million includes principal and interest payments on bonds. Table 2-2 provides data for the States that use bonds to meet the match requirement for the CWSRF and DWSRF:

Table 2-2: State Match Bonds Issued and Repaid

Fund	No. of States	State Match Bonds Issued	Principal Repayments	Interest Payments	Total Payments from SRF
CWSRF	20	$1.1 billion	$502 million	$363 million	$865 million
DWSRF	16	$325 million	$40 million	$32 million	$72 million
Total		**$1.4 billion**	**$542 million**	**$395 million**	**$937 million**

Sources: EPA's National Information Management System; Interest Payment Column Computed by OIG

Using bonds repaid from the SRF to fund the State match results in less funds being available for loans in future years when the SRF pays the debt service on the bonds. Further, some States essentially do not provide a match because they issue and retire State match bonds on a short-term basis. The bond proceeds are deposited into the SRF, but the bonds are repaid from revenue of the SRF within a week (sometimes the same day).

Many States have issued bonds that are general obligations of the State that could potentially be transferred to the SRFs. The SRFs could potentially assume the liability for the unpaid principal and interest payments due on the bonds, which were originally intended to be paid from State general funds. If EPA allows this practice, it could significantly increase the liability to the SRFs, and would not fall within the intent of the laws that the SRFs be a source of continuous funding.

One of the traditional benefits of the SRFs to the communities is the low or zero interest rate loans for water infrastructure projects. This interest savings provides communities with easier access to financing to achieve CWA and SDWA goals. It provides a savings not only to municipalities but, ultimately, to utility customers. Although not a solution to the funding gap, the SRFs provide a low-cost alternative especially important to small and disadvantaged communities. However, EPA's report on State match options (see Appendix A) shows that using bonds retired from SRF revenue results in the highest cost to both the SRF and the local communities. This cost results from potentially higher interest rates on loans because the States have to earn sufficient interest revenue to pay off the State match bonds. In response to our survey, several States acknowledged that using State match bonds does have an effect on loan rates charged to communities. For example:

- Alabama noted that because the loans are at below market rate, there is a deficiency that must be made up with either a reserve account or deposit of cash for subsidy. Without the market rate bonds to repay the program, the program would be free to charge any interest rate it wishes.

- Montana includes as part of its loan interest rate a 1-percent surcharge that is used to pay debt service on State match bonds.

Fewer Dollars Available Results in Reduced Environmental Benefit

Fewer dollars available to the SRFs ultimately results in fewer infrastructure projects being funded, resulting in decreased or delayed environmental protection. Reduced funding due to debt service payments on State match bonds impacts the public health benefits resulting from SRF projects. Congress designed the SRFs as financial tools to address infrastructure financing needs. The CWSRF funds projects that will: (1) clean up polluted streams, rivers, lakes, and estuaries; (2) protect drinking water supplies; (3) preserve recreational waters; and

(4) provide for safer fish and shellfish supplies. The DWSRF funds projects that ensure that citizens are provided with water that is safe to drink.

Although the SRFs provide infrastructure financing, the funds cannot address all of the capital infrastructure needs of communities. A significant funding gap exists between projected infrastructure investment needs and current Federal, State, and local spending levels. The CWA and SDWA require States to prepare an Intended Use Plan that identifies amounts available for projects and includes a priority list of projects for the upcoming year. The plans generally show that States have a higher demand for SRF funding than is available. For example:

- Oregon's CWSRF had $55 million available in its fiscal year 2006 but had $308 million worth of projects on its priority list. Of the 129 projects listed, Oregon only had funds for the 14 projects ranked the highest.

- Montana's CWSRF has $27 million available for loans in its fiscal year 2007, but has an estimated $157 million worth of projects waiting for funding during the next 2 fiscal years.

- Nebraska's DWSRF had $10 million available for loans in its fiscal year 2005 but $90 million worth of projects on its priority list.

Conclusion

Congress intended that the CWSRF and DWSRF programs would provide affordable water infrastructure funding to communities in perpetuity for public health issues. Congress also required that the States provide part of the funding through a match to the Federal capitalization grant. EPA's policy has been to allow flexibility in providing this match by providing several options. Some of these options involve issuing bonds that are repaid from the revenues of the SRF. Although the States and EPA believe that bonds repaid from the SRF offer benefits, using bonds for the required State match reduces the funding available for water projects. Fewer projects funded could result in more systems having public health concerns due to delays in obtaining financing.

Recommendation

We recommend that the Assistant Administrator for Water:

2-1 Revise its regulations and policy on State match options to no longer allow States to use bonds repaid from the SRF to meet State match requirements.

Agency Response and OIG Comments

EPA stated that while it supports the State match policy decisions that were made at the inception of the programs, it also believes it is appropriate to assess the impacts under current conditions. At the exit conference, the Director of the Office of Wastewater Management stated that the Agency plans to conduct a survey of the States to obtain a better understanding of current practices regarding State match and the impact changes to the State match policy would have on program implementation.

In responding to the draft report, the Assistant Administrator for Water stated that he was concerned that the conclusion that $937 million would be available for projects if the current policy was changed was speculative. During the exit conference, the Director of the Office of Wastewater Management further explained that he did not disagree with how the amount was calculated, but it is also necessary to consider the impact any change in the regulation may have on State implementation. There is the potential that State legislatures will not provide the matching funds, thereby limiting the States' ability to implement the program.

While a survey of the States may be beneficial to the Agency, we continue to believe the Agency should revise its regulations and policy on State match options to no longer allow States to use bonds repaid from the SRF to meet State match requirements. In responding to the final report, the Agency should include in its corrective action plan milestone dates for conducting a survey of the States as well as addressing the report recommendation.

Status of Recommendations and Potential Monetary Benefits

RECOMMENDATIONS						POTENTIAL MONETARY BENEFITS (in $000s)	
Rec. No.	Page No.	Subject	Status[1]	Action Official	Planned Completion Date	Claimed Amount	Agreed To Amount
2-1	11	Revise its regulations and policy on State match options to no longer allow States to use bonds repaid from the SRF to meet State match requirements.	O	Assistant Administrator for Water			

[1] O = recommendation is open with agreed-to corrective actions pending
C = recommendation is closed with all agreed-to actions completed
U = recommendation is undecided with resolution efforts in progress

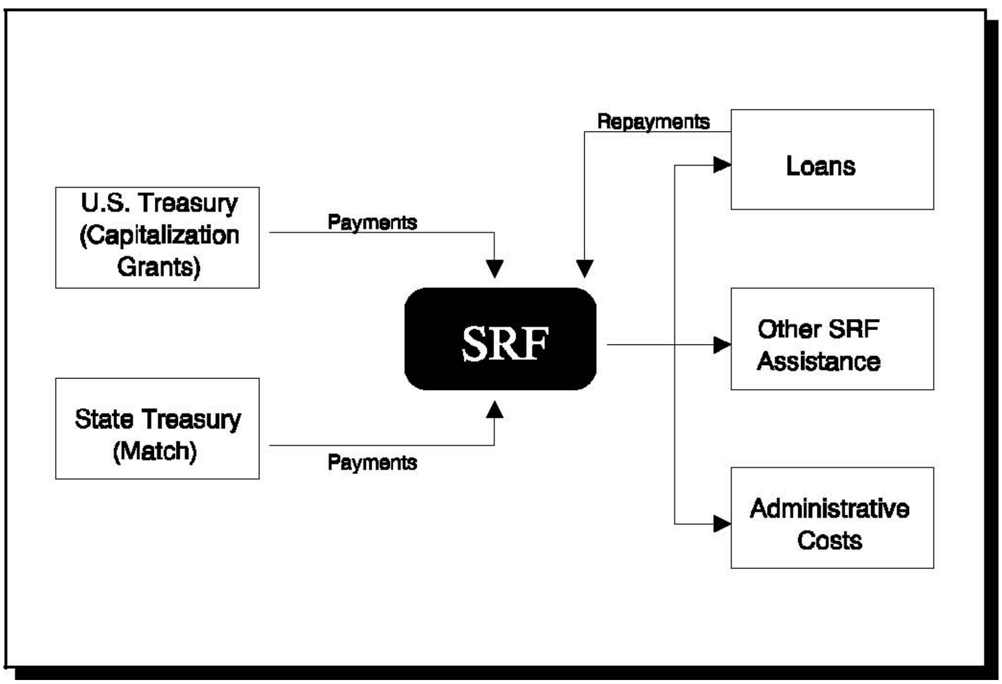
Details on SRF State Match Options

Discussed below are descriptions of the seven different State match options that EPA has allowed the States to use for the required 20-percent SRF State match. This information is described in detail in EPA's SRF State match report, EPA 832-B-97-003, *State Match Options for the State Revolving Fund Program*, February 1997.

1. State Appropriation Option

Most States have used general fund appropriations as the source of the required State match. Under this option, the States deposit into the SRF from State moneys at least 20 percent of the Federal capitalization grant, which increases the amount of SRF funds available for loans to communities for water projects. According to EPA's report, the fact that match deposits are usually cash deposits under this option provides a benefit to the program because interest earnings on the match funds remain in the SRF and will be available for loans or other financial assistance. EPA's report also asserts that States that capitalize their SRFs through appropriations will be rewarded over time with higher SRF funding levels. Figure A-1 below illustrates the flow of funds under this option:

Figure A-1: State Appropriation Option

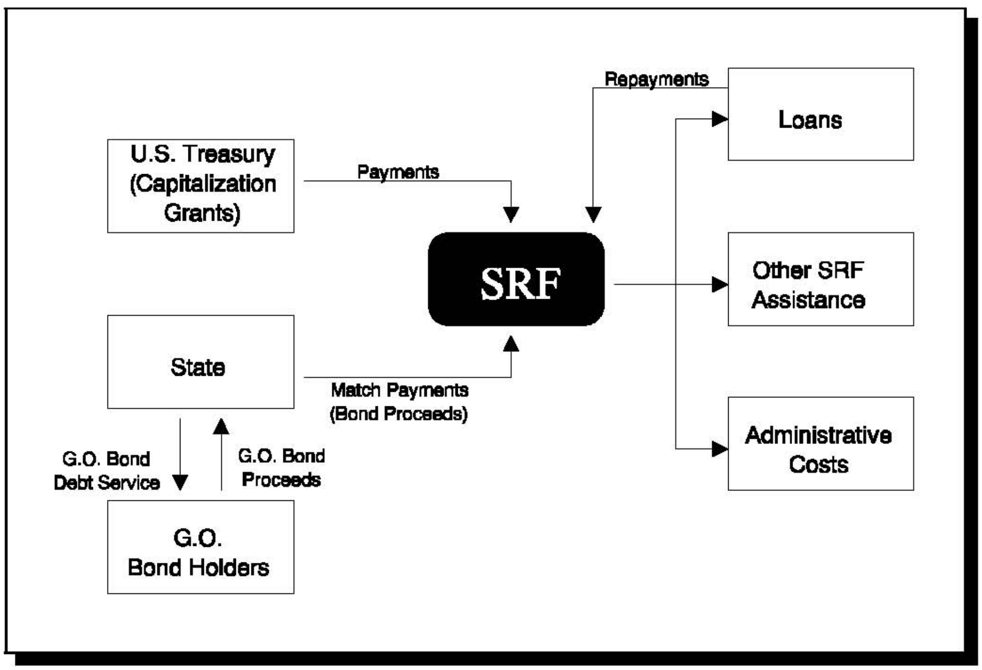


Source: EPA 832-B-97-003, *State Match Options for the State Revolving Fund Program*, February 1997

2. General Obligation Bond Proceeds Option

Some States issue general obligation bonds and deposit the proceeds into the SRF for the required State match. The general obligation bonds are backed by the "full faith and credit" of the State, which repays the general obligation bonds from future State revenues, such as taxes. Under this option, the SRF funds available for loans increase by the amount of the general obligation bond proceeds deposited into the SRF for the State match. EPA's report states that in contrast to the other bond options, under this approach bonds are not repaid from SRF interest revenues, so the match funds remain as capital available for eligible program uses such as loans. Figure A-2 below illustrates the flow of funds under this option:

Figure A-2: General Obligation Bond Proceeds Option

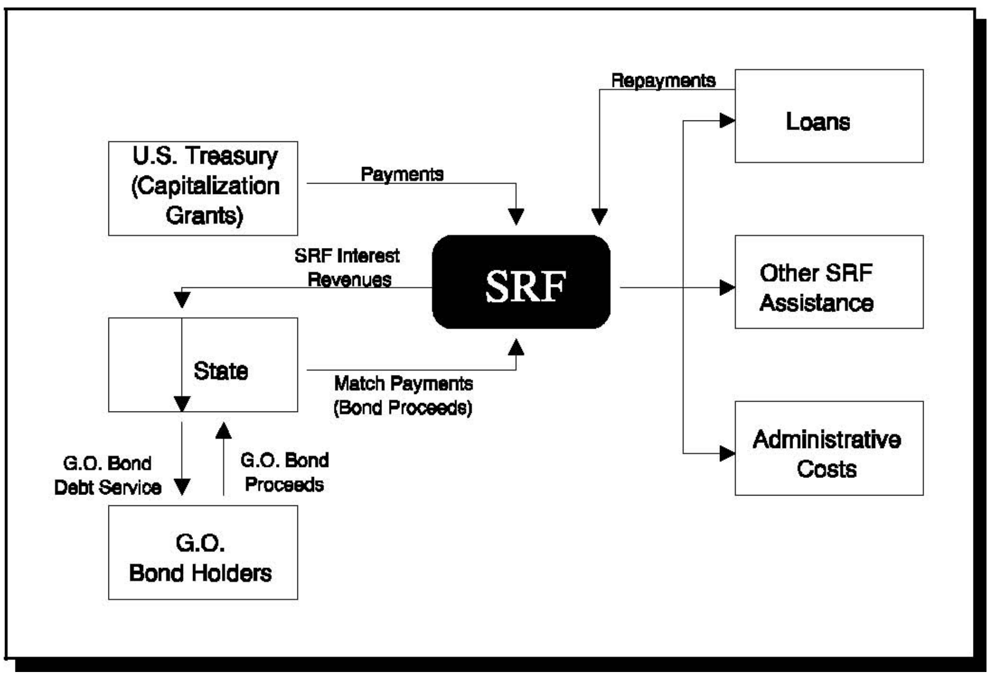


Source: EPA 832-B-97-003, *State Match Options for the State Revolving Fund Program*, February 1997

3. General Obligation Debt Repaid by SRF Option

Some States issue general obligation bonds and deposit the proceeds into the SRF for the required State match, but instead of repaying the bonds from State revenues, the SRF is required to pay the debt service on the bonds. EPA allows the States to use the SRF interest earnings to retire the bonds. The debt service on the bonds consists of bond principal plus interest payments to retire the bonds. Payment of the debt service by the SRF decreases the funds available for loans to communities for water projects. EPA acknowledged in its report that this option, along with the SRF Match Revenue Bonds Option (discussed below), carries with it the highest cost to both the SRF and the local communities. Figure A-3 below illustrates the flow of funds under this option:

Figure A-3: General Obligation Debt Repaid by SRF Option

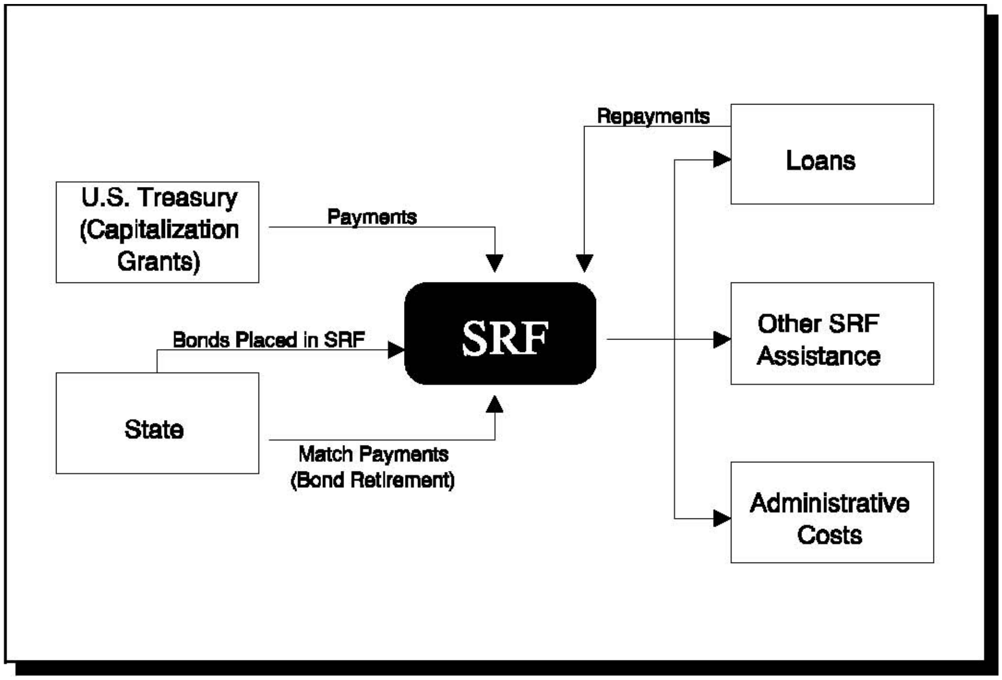


Source: EPA 832-B-97-003, *State Match Options for the State Revolving Fund Program*, February 1997

4. General Obligation Bonds Placed in SRF Option

Another approach available to States is to deposit a general obligation bond into the SRF and pay the principal and interest into the SRF to retire the bond. The principal portion of the bond payment to the SRF serves as the required State match deposit. Since the debt service payments come from State moneys, the amount of SRF funds available for loans increases by the amount of those payments. Figure A-4 below illustrates the flow of funds under this option:

Figure A-4: General Obligation Bonds Placed in SRF Option

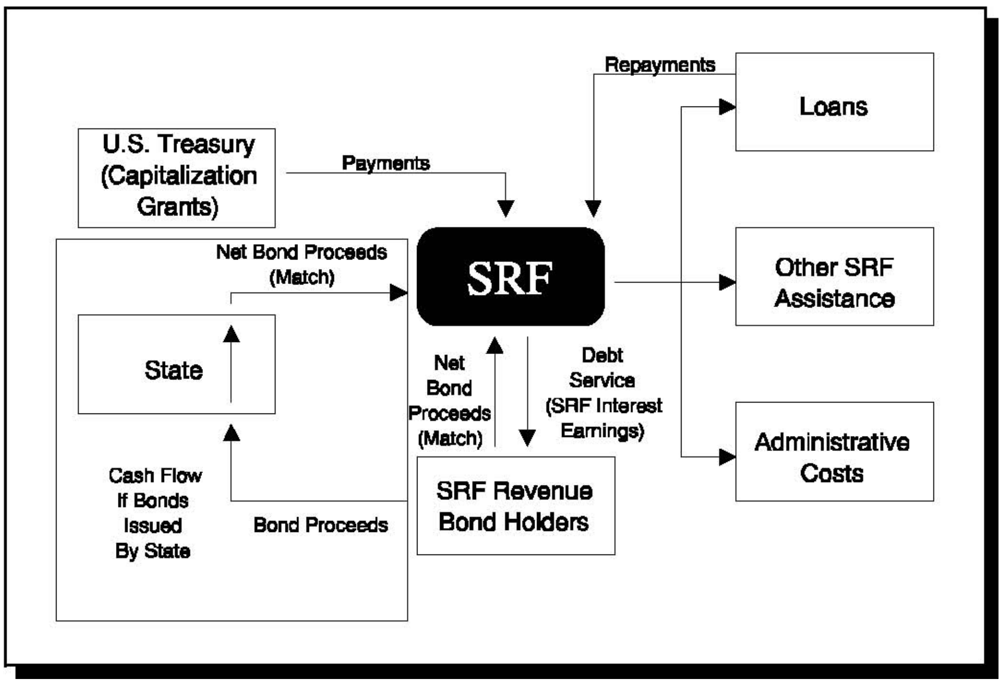


Source: EPA 832-B-97-003, *State Match Options for the State Revolving Fund Program*, February 1997

5. SRF Match Revenue Bonds Option

Under this option, the State or the SRF issues revenue bonds and deposits the bond proceeds into the SRF as the required State match. EPA allows the States to use the SRF interest earnings to retire the bonds. The debt service on the bonds consists of bond principal plus interest payments to retire the bonds, which is paid out of the SRF, decreasing the funds available for loans to communities for water projects. EPA acknowledged in its report that this option, along with the General Obligation Debt Repaid by SRF Option, carries with it the highest cost to both the SRF and the local communities. Figure A-5 below illustrates the flow of funds under this option:

Figure A-5: SRF Match Revenue Bonds Option

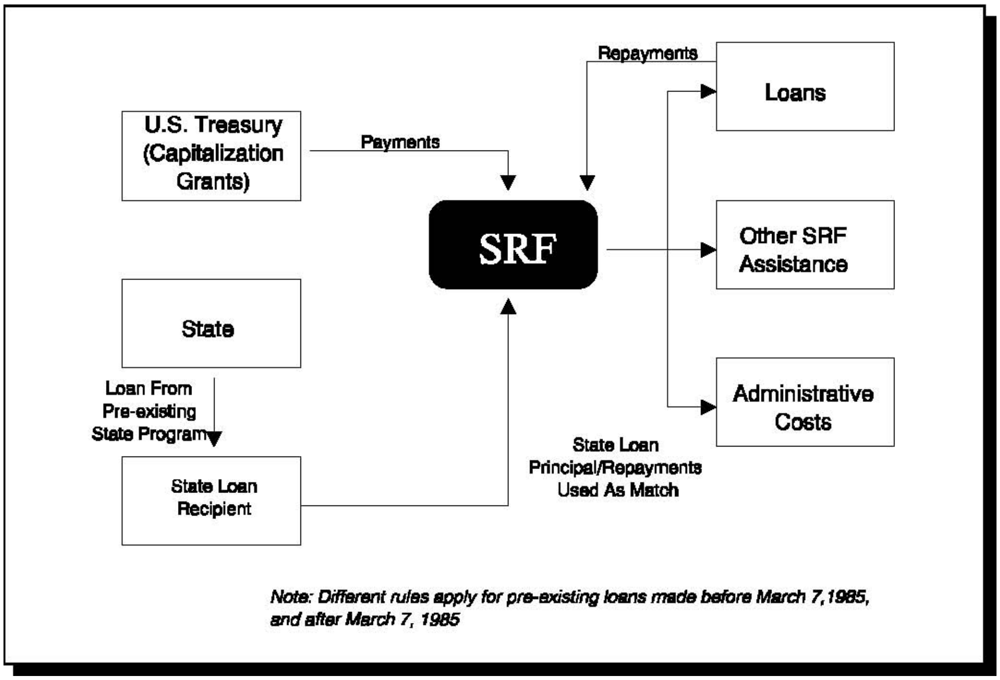


Source: EPA 832-B-97-003, *State Match Options for the State Revolving Fund Program*, February 1997

6. Pledged Repayments from State Loan Program Option

States may also use loans from other, preexisting State programs as a source of the required State match. Credit is given for the match as the repayments are received and deposited into the SRF. Under this option, the amount of SRF funds available for loans increases by the amount of those repayments into the SRF from the loan recipients of the other State program. Figure A-6 below illustrates the flow of funds under this option:

Figure A-6: Pledged Repayments from State Loan Program Option

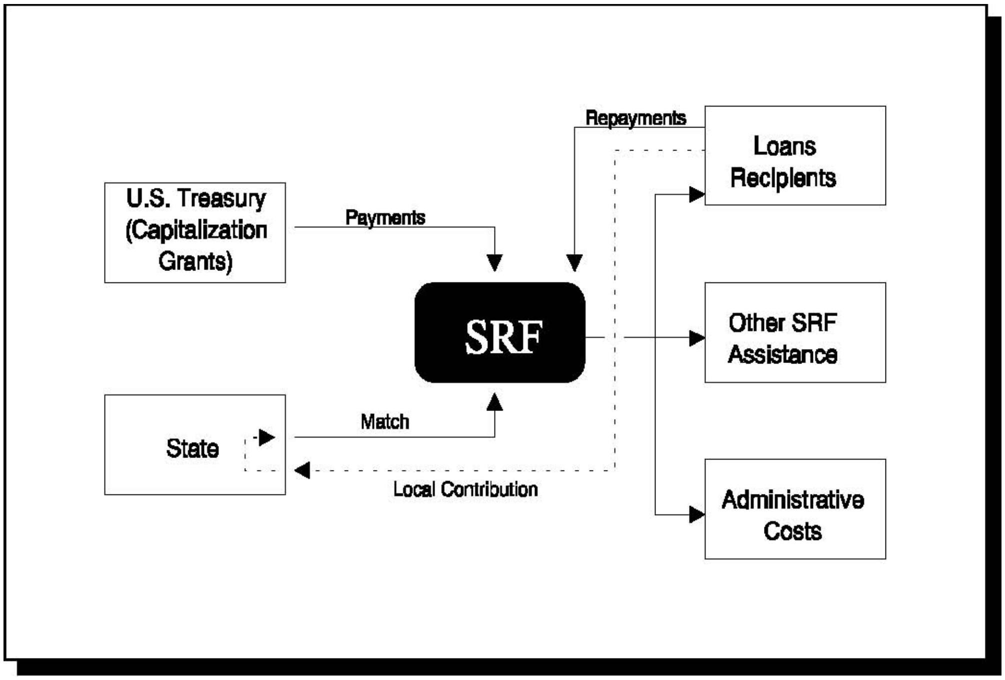


Source: EPA 832-B-97-003, *State Match Options for the State Revolving Fund Program*, February 1997

7. Local Contribution Option

This approach requires SRF loan recipients to provide an upfront local contribution equal to 20 percent of the total SRF loan as a condition of securing the loan. Under this option, the source of the required State match is the local cash contribution provided to the SRF up front by the communities. These local contributions increase the amount of SRF funds available for loans. Figure A-7 below illustrates the flow of funds under this option:

Figure A-7: Local Contribution Option



Source: EPA 832-B-97-003, *State Match Options for the State Revolving Fund Program*, February 1997

Details on EPA's Gap Analysis

The clean water and drinking water infrastructure gaps represent the difference, or shortfall, between investment needs and available funding. EPA's Gap Analysis covers a 20-year period and includes estimates of the funding gap for both clean water and drinking water, and takes into consideration both capital and operation and maintenance needs. Only capital costs are eligible to be funded by the SRFs. Data used for the study included EPA's clean water and drinking water needs surveys, Census Bureau data, and Congressional Budget Office data.

EPA presents the gap as a range under two different revenue scenarios for capital and operation and maintenance needs. The "no revenue growth" scenario compares the projected need to total current Federal, State, and local spending levels. Under this scenario, the total 20-year gap for clean water is $270 billion and $263 billion for drinking water. This translates to an annual funding gap of $13.5 billion for clean water and $13.15 billion for drinking water (see Table B-1):

Table B-1: No Revenue Growth Scenario, Years 2000-2019

	20-Year Average Gap (in billions)		Annual Average Gap (in billions)	
Type of Costs	**Clean Water**	**Drinking Water**	**Clean Water**	**Drinking Water**
Capital	$122	$102	$6.10	$5.10
Operation and Maintenance	148	161	7.40	8.05
Total	**$270**	**$263**	**$13.50**	**$13.15**

Source: EPA's Gap Analysis (the last two columns are OIG calculations)

The "revenue growth" scenario assumes total spending will increase by 3 percent per year. Under this scenario, the total 20-year gap for clean water is $31 billion and $45 billion for drinking water. This translates to an annual funding gap of $1.55 billion for clean water and $2.25 billion for drinking water (see Table B-2):

Table B-2: Revenue Growth Scenario, Years 2000-2019

	20-Year Average Gap (in billions)		Annual Average Gap (in billions)	
Type of Costs	**Clean Water**	**Drinking Water**	**Clean Water**	**Drinking Water**
Capital	$21	$45	$1.05	$2.25
Operation and Maintenance	10	0	0.50	0
Total	**$31**	**$45**	**$1.55**	**$2.25**

Source: EPA's Gap Analysis (the last two columns are OIG calculations)

Appendix C

Details on Scope, Methodology, and Prior Audit Coverage

Scope and Methodology

Our primary audit objective was to explore how EPA policies have impacted State revolving funds (SRFs) and the related water infrastructure funding gap. Specifically, we looked at the following EPA policies and practices:

1. Allowing States to meet the 20-percent State matching requirements by issuing revenue and general obligation bonds repaid by the SRF.
2. Allowing State SRFs to assume the liability for repayment of general obligation bonds, which were originally intended to be repaid from State general funds.
3. Allowing States to issue and repay State match bonds on a short-term basis (generally within 1 week).

We interviewed EPA regional CWSRF and DWSRF coordinators from regions responsible for States that issued State match bonds. We also interviewed EPA officials and staff in the Office of Water's Office of Wastewater Management and Office of Ground Water and Drinking Water.

We identified and determined the:

- Dollar value of bonds used to meet State match that are repaid from SRF revenue.
- Bond principal and interest paid from SRF revenue for State match bonds.
- States that use SRF funds to assume repayment of general obligation bonds originally intended to be repaid from State general funds (i.e., States that use SRF revenue to repay bonds originally issued as general obligations of the State's general fund).
- Dollar value of general obligation bonds for which the SRF has assumed repayment (i.e., dollar value of bonds repaid from SRF assets that were originally issued as general obligations of the State's general fund).
- States that use short-term (repaid within 1 week) SRF revenue bonds for State match.

We gathered data from EPA Office of Water's National Information Management System (NIMS) for both the CWSRF and DWSRF through June 30, 2005. The data system collects data from each of the 50 States plus Puerto Rico on annual funding commitments, types of projects funded, disbursement and repayment of funds allowed under the SRF programs, and financial activity related to the use of leveraged and State match bonds. EPA collects data from the States each year and adds that data to the historical series contained in the database from the inception of the programs.

To determine the dollar value of bonds repaid from SRF revenue, we summarized data from NIMS. We included data from the inception of the SRF programs through June 30, 2005, in our analysis. To assess the reliability of the NIMS data and assess the internal controls related to

NIMS, we interviewed EPA staff from the Office of Water and various regions regarding EPA's procedures for collecting NIMS data from the States and monitoring the quality of data that States submit. We also compared bond balances as of June 30, 2005, and 2005 bond principal and interest payments to amounts from State financial statements for the SRF programs. We contacted EPA regional SRF coordinators and State agency officials, as necessary, to investigate and resolve any material discrepancies between NIMS and the financial statements.

Most significant differences identified between the amounts reported in NIMS and the State financial statements occurred because:

- There were timing differences (NIMS data is reported on a June 30 fiscal year-end basis, and some States have a different fiscal year end).
- NIMS is reported on a cash basis and financial statements are reported on an accrual basis.
- Bond balances from the financial statements are reported as net of unamortized premiums/discounts and refunding costs, whereas NIMS leveraged bond balances are reported as gross amounts.
- Financial statements reflect the refunding of bonds, which is not reported in NIMS.

We calculated a potential overstatement of bond principal repayments for Clean Water NIMS of approximately 0.8 percent of the total payments. We do not consider the overstatement to be significant enough to cause a reasonable person, aware of the overstatement, to question our findings, conclusions, or recommendations. For Drinking Water NIMS, we found three States had errors in the 2005 reported data for 2005 bond principal and/or interest repaid, but the States are adjusting the 2005 Drinking Water NIMS data reported in the 2006 submission to reflect the correct amounts. Further, the cumulative effect of all known errors for Drinking Water NIMS resulted in bond principal and interest repaid to be underreported in NIMS. Therefore, the amounts we cite in our audit report to quantify the impact of EPA's State match policies on the SRFs and the related funding gap are conservative.

We did not note any material weaknesses in internal controls related to NIMS, and concluded that the NIMS data is sufficiently reliable for the purposes of this audit. We used the NIMS data to calculate the impact on the SRFs of EPA's policy of allowing States to use bonds for State match (total State match bond principal and interest paid by the CWSRF and DWSRF since the inception of the programs through June 30, 2005). Because NIMS provides interest paid for SRF bonds but does not segregate the interest paid between bonds issued to leverage the fund and bonds used to provide State match, we had to make some estimates in calculating State match bond interest paid from SRF revenue. Generally, the interest rates for leveraged bonds and State match bonds are similar. Therefore, we calculated the interest paid on State match bonds based on the proportion of State match bonds outstanding to the total bonds outstanding.

To determine the benefits and costs associated with using State match bonds, we surveyed all the States that use bonds to meet the required match. For CWSRF, 15 of the 20 States that use State match bonds responded. For DWSRF, 12 of the 16 States that use State match bonds responded. We also surveyed the States that do not use State match bonds to determine what they see as barriers to using bonds. For CWSRF, 17 of the 31 States that do not use State match bonds responded. For DWSRF, 20 of the 35 States that do not use State match bonds responded.

To determine which States use SRF revenue to repay bonds that were originally issued as general obligations of the State, we interviewed EPA Office of Water and regional staff. We also reviewed State annual reports and financial statements. To quantify the amounts of the bond principal and interest paid, we used data from both the financial statements and NIMS.

To determine which States use short-term SRF revenue bonds, we interviewed EPA Office of Water and regional staff. We also reviewed documentation provided by the States, such as annual reports and financial statements. We reviewed financial statements for those States that repaid State match bonds from either the CWSRF or DWSRF.

We reviewed various State Intended Use Plans for State fiscal years 2005 through 2007 to determine whether States in general have sufficient SRF funds to meet project demand. To compare infrastructure needs with available funding, we reviewed the project priority lists included in the State Intended Use Plans.

We reviewed EPA's Gap Analysis, which is one of several analyses published by various entities over the last 6 years. Although the various analyses had somewhat different purposes, scope, and methodologies, the estimates of the funding gap produced by the different studies all seemed to be comparable and within a reasonable range of each other. EPA's Gap Analysis is one of three we analyzed that estimated the national funding gap for both clean water and drinking water needs. In addition, it is one of the most comprehensive studies and resulted in a conservative estimate of the funding gap relative to the other studies. Therefore, we determined we could rely on EPA's Gap Analysis for the purposes of this audit.

Prior Audit Coverage

We issued EPA OIG Report No. 2006-1-00021, *State of Oregon Clean Water State Revolving Fund Program Financial Statements for the Year Ended June 30, 2005*, dated January 12, 2006. In that report, we noted that Oregon was using SRF funds to assume repayment of State match bonds. Oregon was repaying general obligation bonds with SRF assets. We also found during our audit that Oregon was using short-term bonds for the State match and the State match bonds were paid off within a very short time period (sometimes within 1 day).

List of States Using Bonds for State Match

Table D-1 below shows the States that use bonds for the required State match, including those States: (1) whose SRFs have assumed repayment of general obligation bonds originally intended to be repaid from State general funds; and (2) that use short-term State match bonds (repaid within 1 week):

Table D-1: States Using State Match Bonds, Including General Obligation and Short-Term

State	Clean Water SRF			Drinking Water SRF		
	State Match Bonds	General Obligation Bonds	Short-Term Bonds	State Match Bonds	General Obligation Bonds	Short-Term Bonds
Alabama	X			X		
Alaska	X		X	X		X
Arizona	X			X		
Colorado	X					
Indiana	X			X		
Iowa	X			X		
Kansas	X			X		
Louisiana	X		X	X		X
Michigan	X		X			
Missouri	X	X		X		
Montana	X			X		
Nebraska	X			X		
Nevada	X			X		
North Dakota	X			X		
Ohio	X			X		
Oklahoma	X			X		
Oregon	X	X	X			
South Dakota	X			X		
Texas	X			X		
Wisconsin	X					
Total	**20**	**2**	**4**	**16**	**0**	**2**

Source: EPA's NIMS; interviews of EPA Headquarters and regional staff; and interviews of State officials.

Appendix E

Agency Response

March 19, 2007

MEMORANDUM

SUBJECT: Comments on Draft Audit Report:
EPA's Allowing States to Use Bonds to Meet Revolving Fund Match Requirements Reduces Funds Available for Water Projects
Assignment No. 2006-750

FROM: Benjamin H. Grumbles
Assistant Administrator

TO: Janet Kasper
Director for Assistance Agreement Audits
Office of Inspector General

The purpose of this memorandum is to respond to the draft audit report, "EPA's Allowing States to Use Bonds to Meet Revolving Fund Match Requirements Reduces Funds Available for Water Projects." As required in the draft report, this response will address the factual accuracy of the draft report and indicate concurrence or non-concurrence with the recommendation.

As noted in the draft report, the Clean Water State Revolving Fund Program (CWSRF) was created in 1987 to provide a continuous source of funding for water quality projects. Since 1987, the program has grown to be the largest environmental infrastructure program in the country. The CWSRF program has provided over $57 billion in low-interest loans to address high priority water quality issues, including $5 billion in 2006. The Drinking Water State Revolving Fund Program (DWSRF) was created in 1996 to provide a continuous source of funding to protect human health and maintain the Nation's drinking water infrastructure. The DWSRF program has provided over $11 billion in funding, including nearly $1.7 billion last year.

In accordance with both the Clean Water Act (CWA) and the Safe Drinking Water Act (SDWA), States are required to provide a match equal to 20 percent of the total of the States' capitalization grants. As noted in the report, CWA §603(d)(4) provides for using the CWSRF, "as a source of revenue or security for the payment of principal and interest on revenue or general obligation bonds issued by the State if the proceeds of the sale of such bonds will be deposited in the fund." Similarly, SDWA §1452(f) (4) allows using amounts deposited in the DWSRF in the same manner. EPA promulgated regulations for the CWSRF program at 40 CFR §35.3135(b) (2), stating, "Bonds issued by the State for the match may be retired from the interest earned by the SRF (including interest on SRF loans) if the net proceeds from the State issued bonds are deposited in the fund. For the DWSRF program, EPA regulations state, at 40 CFR §35.3550(g) (3), that "A State may issue general obligation or revenue bonds to derive the State match. The net proceeds from the bonds issued by a State to derive the match must be deposited into the Fund and the bonds may only be retired using the interest earnings of the Fund." States have legally used these authorities to issue bonds, to be retired by SRF interest earnings, for state match, for the past 20 and 10 years, respectively.

The policy decisions made by EPA, 20 years ago for the CWSRF program, and 10 years ago for the DWSRF program, provided States with the flexibility and capability to launch two of the Nation's most successful municipal finance programs. These decisions were based on an analysis of the underlying statutory authority and subsequently codified in the Code of Federal Regulations. While we support the policy decisions that were made at the time, the Office of Water also believes it is appropriate to assess the impacts under current conditions. In addition, we are concerned the draft report's conclusion (that $937 million could have been available for water quality projects without the State match bond policy) is speculative.

Thank you for allowing me the opportunity to respond to your draft report. If you have any questions, please contact James A. Hanlon, Director, Office of Wastewater Management, at (202) 564-0748, or Cynthia C. Dougherty, Director, Office of Ground Water and Drinking Water, at (202) 564-3750.

Appendix F

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