by Stephen Barlas n Washington Editor

When The Funding Goes Away

Cities, Fed Try To Find Right Balance For Grants, Borrowed Money & Increased Users Fees

Six hundred construction workers in Rhode Island are digging an underground tunnel 300 feet below ground. With its 30-foot-diameter mouth, that hollow snake has burrowed three miles under Providence to a point near the Narragansett Bay.

This massive project is a holding cache for wastewater that overflows Rhode Island sewers during thunderous rainfalls and is then treated and then pumped into the Narragansett Bay. The tunnel's construction is the first of three phases in Rhode Island's effort to come into compliance with the Environmental Protection Agency's combined sewer overflow (CSO) policy, a policy which has bedeviled mostly cities throughout the Northeast and Midwest where sewer systems often claim depression era-vintages.

This first phase will be completed in October 2008 at a cost of $340 million, much of that borrowed, based on cumulative annual loans over the past half decade, by the Narragansett Bay Commission (NBC). Those loans come from a Rhode Island fund buoyed with money from the Environmental Protection Agency's (EPA) Clean Water State Revolving Fund (CWSRF). Every state in the U.S. makes those loans, as well as a second type of loan from a similar Drinking Water State Revolving Fund (DWSRF) for improvement of drinking water systems. Congress has appropriated nearly $1 billion a year for each program over the next five years, though funding is falling, raising concerns in cities and states about whether they will have access to funding for infrastructure repair.

Those construction costs over the next few decades will be epic. An EPA Gap Analysis in 2002 estimated that the difference between what cities would be spending given current patterns and should be spending in capital costs for clean water and drinking water infrastructure construction between 2000-2019 would be dramatic. That gap would be $220 billion if cities keep spending steady over that time period. If municipal spending increased three percent annually, the capital gap would be $66 billion. Neither case accounts for the separate operations and maintenance gap, which would be $300 billion and $10 billion, respectively. The EPA has not updated those numbers, and has no plans to do so.

"Federal policy makers have failed to address the critical funding shortfall for water infrastructure," says Lee Garrigan, director of legislative affairs for the National Association of Clean Water Agencies (NACWA). "The enormity of the problem of decaying and aging underground infrastructure cannot be overstated."

Funding evaporating

But federal funding for the CWSRF, which many cities have depended on for years, has been steadily disappearing. As of early December, Congress had not finished its work on many fiscal year 2007 appropriation bills, even though the 2007 fiscal year began on Oct. 1, 2006. But the appropriation for the CWSRF will probably be set at $687.6 million, a drop from $850 million the year before and $1.091 billion in fiscal 2005. It had been at $1.35 billion annually for many years up until the turn of the century.

When he appeared before the House Transportation and Infrastructure's water resources subcommittee in March 2006, Benjamin Grumbles, the assistant administrator for water at the EPA, explained that the $688 million the Bush administration was requesting for fiscal 2007 for the Clean Water SRF would keep the program on track to meet the cumulative capitalization commitment of $6.8 billion for 2004-2011. "This funding level will allow the Clean Water SRF to provide $3.4 billion in loans annually, even after federal capitalization ends, and will ensure communities have access to capital for their wastewater infrastructure needs," he explained. The $841.5 million for DWSRF would allow it to provide $1.2 billion in loans annually after federal capitalization ends, at a later, unspecified date.

However, according to the House Transportation Committee, the CWSRF made $4.9 billion in loans in fiscal 2005. That means the $3.4 billion a year that would be available from these funds for clean water infrastructure investments represents a 31 percent reduction from current levels of available funding. The CWSRF provides a higher percentage of its loans for construction purposes than the DWSRF.

Paul Pinault, retiring executive director of the NBC, says it has borrowed a total of about $300 million in the past 25 years. But in fiscal 2006, Rhode Island could only loan the NBC $40 million. The commission had to borrow an additional $70 million at higher interest rates. This year, the state will provide $30 million in low interest loans.

The Commission will have to find another $54 million. The Rhode Island loans come with interest rates in the area of 2½ percent, compared to the 5 percent the NBC must pay on commercial loans. Each state making loans from its CWSRF and Drinking Water SRF decides what its concessionary interest rate will be; they differ from state to state.

Other cities such as Chicago, Rochester, NY, and Milwaukee, WI, have used CWSRF loans to build similar water storage tunnels to accommodate wet weather flows, which plague the combined sewer systems in older cities. These projects are considerably more expensive than construction of sewer systems for normal wastewater operations, which are in use 24-hours a day, and whose costs are amortized at much more reasonable rates. But CWSRF funds are also used for normal sewer construction in small rural towns like Eagle Pass, TX, the first U.S. settlement built on the Rio Grande River in the mid-1800s, located approximately 140 miles southwest of San Antonio. When Eagle Pass upgraded its wastewater system, it depended on a $17.3 million loan from the CWSRF.

Spreading the money

Since it began in 1988, the CWSRF has seeded in the neighborhood of 16,700 projects in towns like Eagle Pass and Providence, according to EPA spokesman Dale Kemery. Almost two-thirds of CWSRF assistance agreements have been to small communities – populations of less than 10,000.

The DWSRF has funded compliance with EPA dictates under the Safe Drinking Water Act, such as those dealing with arsenic, disinfectants and disinfection byproducts. It is of much more recent vintage than the CWSRF. It opened for business in 1996. As a result of its relative youth, it has provided far fewer loans nationally, about 4,200 projects, according to Kemery.

Many thriving, moderate-large cities in the West, South and Sunbelt don't need the loans, and often don't want to have to cut through the substantial red tape required to get a loan. The Los Angeles Board of Public Works announced a $3 billion, 20-year plan in September to update the sewer system which reaches out through the rapidly growing San Fernando Valley. Part of the plan involves building three new underground sewer lines at a cost of $150 million each. Los Angeles will fund the entire $3 billion cost by increasing sewer fees. Dallas has done the same thing.

But for older industrial cities with struggling economies and crumbing piping and small, rural towns with minimal populations of below-average incomes, the SRFs with their concessionary interest rates are a godsend. "In the past two decades, few federally authorized programs have proven as effective in realizing their intended goals as the CWSRF," says J. Kevin Ward, executive administrator of the Texas Water Development Board and a director of the Council of Infrastructure Authorities.

Given falling federal appropriations for the SRFs and the fact that the eventually revolving funds will kick off insufficient loans based on water infrastructure modernization needs, groups such as the Water Infrastructure Network (WIN), a coalition composed on water lobbies such as the National Association of Clean Water Agencies (NACWA), have sought alternative funding schemes. WIN has developed a legislative proposal for a Water Infrastructure Trust Fund. It would be based on the Highway Trust Fund and some of the other federal trust funds which are financed through user taxes on a national level. Rep. John Duncan R-TN), outgoing chairman of the House water resources subcommittee, introduced the Clean Water Trust Fund Act in December 2005. It would raise $37 billion over five years through some tax or fee mechanism which Duncan did not spell out. He was apparently saving that sticky issue for some later resolution. The big change, besides the large increase in dollar amount available, would be that the federally appropriated funds would be used to make grants, not loans, for sewer system construction and repair.

NACWA, one of the forces behind the Duncan bill, had previously suggested a menu of possibilities, such as a tax on beverage bottlers, who benefit from cleaner water, taxes on water-based recreational products, and services and taxes on flushable products. None of those ideas germinated into proposals that Duncan or anyone else on Capitol Hill dared to pursue. In fact, even some of those who might benefit from a Water Infrastructure Trust Fund oppose it. "The city has major concerns about any proposal to finance a trust fund with a tax on water and wastewater," says Dallas' Mayor Pro Tem Donald Hill. Unable to even approach an answer to a funding mechanism for a water infrastructure trust fund, Duncan did not even bring his own bill up for a vote by his own subcommittee in 2006, indicating the barrier-strewn legislative road he faces. Nor did anyone in the Senate introduce a version of the Duncan bill.

Other options

It seems unlikely that the Duncan bill will gain much traction in 2007, in part because of the history of the CWSRF, which was created in 1987 because of congressional concerns with how the EPA was running a predecessor grant program authorized under the 1972 Federal Pollution Control Act. That 1972 law established a grant program for municipalities which, at its height, was authorized at $7 billion a year. The EPA's Kemery says the biggest grant appropriation Congress ever made was in 1978 for $4.5 billion. But Congress began to get worried about "erratic funding patterns and a failure to address existing waste treatment needs," according to a Senate report on an infrastructure bill the Environmental and Public Works Committee passed in 2002, but which the full Senate never took up. Amendments in 1981 made major changes to the grant program, and signaled a gradual transition from a high level of federal financial involvement to greater state and local responsibility. Over the next years, authorization levels declined further until 1987 when Congress, pretty much giving up entirely on construction grants, shifted gears and created the CWSRF – a loan program – as part of the Water Quality Act of 1987.

Rather than returning to water infrastructure grants, Congress might be more willing to improve the SRFs so they appeal to a wider range of towns. But since the late 1990s, when congressmen and senators began introducing legislation making changes particularly in the CWSRF, very little has happened to those bills. No bill has ever passed either house.

But reform of the CWSRF is badly needed. Deb Martin, the program director for the Great Lakes Rural Community Assistance Program (RCAP), says that CWSRF funding needs to be better targeted. Martin's program helps provide funding to water systems in seven states in the five Great Lakes states, West Virginia and Kentucky. In the past, the water systems Martin has worked with have depended more on a U.S. Department of Agriculture rural assistance program than the SRFs. The CWSRF has been used relatively little, Martin explains, because its loans can be made for no more than 20 years. That is too short a time frame for many small communities. The USDA program allows 40 years for repayment. The DWSRF makes more sense for smaller towns because when it was created in 1996, Congress gave states some flexibility to parcel out those loans to "hardship" cases.

But legislative reform of the SFRs seems about as likely as higher congressional appropriations. That is why Valerie Nelson, director of the Coalition for Alternative Wastewater Treatment, say cities ought to be depending on strategies like asset management to lower their capital costs, not funds from the SRF. "The current problem is not just that this infrastructure is aging, but that the basic technology paradigm of large-scale piping and treatment plant centralization is looking less and less sustainable," Nelson explains. "There are better and cheaper methods, largely through more localized treatment and reuse, but

these need to be strategically incorporated into the existing infrastructure over time."

Asset management

She, like the EPA, is pushing asset management, which was developed for the water sector in the United Kingdom 25 years ago and subsequently refined in Australia and New Zealand over the last 15 years. Condition assessments, targeting of repairs and replacements on infrastructure constituting greatest risks if they fail, and a better balancing of ongoing maintenance versus new capital investments are all features in what has been characterized as a massive, top to bottom reorientation in the way the utility operates. Implementation of these methods has been estimated to save upwards of 20 percent in the operational and capital costs of utilities, and asset management is widely used in the electric power industry, transportation and other sectors in the U.S.

Unfortunately, only a few water and wastewater utilities, such as in Seattle, WA, and Orange County, CA, have seriously begun to adopt asset management as a way of doing business. "Without asset management, cities all across the country are wasting money on replacing pipes that don't need to be replaced and paying more for emergency repairs of broken pipes that should have been receiving cheaper, routine maintenance all along," states Nelson. "Only a few cities, such as Philadelphia, Chicago, Los Angeles and Seattle have begun to explore urban reuse and stormwater retention systems as a serious alternative to expensive construction of underground stormwater storage tunnels and new water supplies."

Kevin Shafer, executive director of the Milwaukee Metropolitan Sewer District, agrees with Nelson, but only to a point. His city used to average 50 sewer overflows a year in the early 1990s. Milwaukee subsequently built a holding tunnel like the one Rhode Island is building. Now Milwaukee gets only a couple of overflows a year. Any spills into the Milwaukee River these days are primarily storm water, which has no deleterious environmental effect. Nonetheless, for the five years between 2001-2005, Milwaukee received $350 million in SRF loans.

"Good asset management is only a small piece of the equation," Shafer says. "But it will never allow us to fully close the infrastructure needs gap that is growing everyday."

Cities like Milwaukee and Providence, while they depend on SRF loans, also supplement their construction money with revenue from increased user fees. Pinault in Rhode Island says that state has also raised sewer taxes on 70 percent of the state's population which depends on sewers. Between 2001 and 2006, rates increased 25, 24.8, 16.9, 12 and 6 percent, repectively. The state filed a request on Dec. 1, 2006, to increase rates 25 percent effective July 1, 2007. "The bulk of those increases have gone to raise money to pay the future debt service on those new loans," explains Pinault.

But if Providence had to depend exclusively on user fees or taxes, some of the CSO repairs probably would not get done. "Many elected officials will stall," states Pinault. "Many have said to me 'out of sight out of mind.' You don't get elected if you replace broken sewers, but you do get elected for building new libraries and sidewalks." n