

RURAL matters

spring 2009

Improving the quality of life in rural communities

Reaching New Heights

*Small systems partner with USDA Rural Development
to meet their infrastructure funding needs*

Also in this issue:

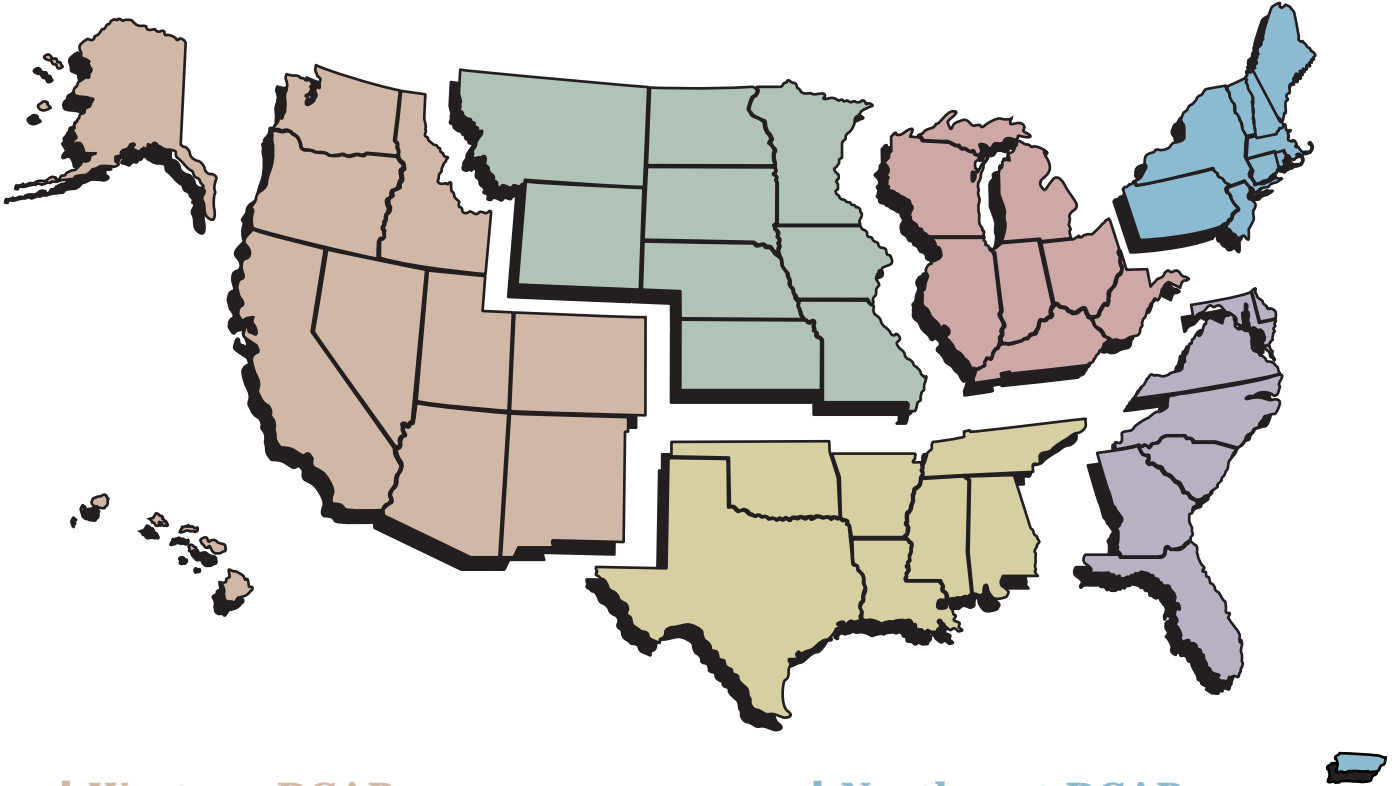
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RCAP & AWWA Sign MOU

Legislative Developments

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Improving the quality of life in rural communities



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RURAL
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Director's letter



Robert Stewart
Executive Director
RCAP, Inc.

After living most of my life in Texas, one very pleasant aspect of now being in Washington, D.C., these last several years is the coming of spring. While the cherry blossoms have long since passed, April and May bring a progressive rainbow of colors to the area's vegetation that is enjoyed by everyone. Traditionally, we think of spring as a time of rebirth and renewal, perhaps new hopes for your favorite baseball team or renewed plans for getting into shape by summer. However, this spring seems to have been most concerned with money. As we progress through a second year of recession, hopes for recovery have been resurrected as federal programs drive an unprecedented growth in infrastructure spending.

For rural areas, USDA Rural Development's \$3.8 billion in grant and loan authority under the American Recovery and Reinvestment Act (ARRA) will help many smaller water and wastewater systems improve or expand their facilities to meet the needs of their customers. Additional ARRA funding is also flowing through EPA's Drinking Water and Clean Water State Revolving Funds, providing another \$6 billion for needed infrastructure improvements. Within this issue, you will find stories that discuss these initiatives and highlight the work of USDA's Rural Development Utilities Programs in providing for the many unmet needs of smaller rural systems.

Since its humble beginnings over 35 years ago, RCAP has sought productive and mutually beneficial partnerships with organizations that possess similar missions and objectives. Over the past year, we have strengthened our ongoing partnership with the National Environmental Services Center (NESC) at West Virginia University. Our innovative, collaborative source water protection program, "SMART About Water," has brought forth new means for using social marketing and comprehensive community involvement to effect positive change for watershed protection. RCAP looks forward to expanding our relationship with NESC in the future. In March, after years of cooperative activities with the American Water Works Association (AWWA), RCAP and AWWA signed a formal Memorandum of Understanding (MOU) between our organizations. The MOU further cements our common commitment to providing efficient and quality technical assistance and training programs to water utilities across America. In the coming years, RCAP regional partners will join more frequently with AWWA Sections to provide training and technical assistance needed at the state level. On the national level, RCAP will continue to support AWWA's Annual Conference and Exposition (ACE09 is in San Diego in June) with training sessions targeted at small utility needs. In addition, our national organizations are committed to partnering on workforce, legislative, and regulatory issues of mutual concern.

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rural developments



Environmental Working Group Tests Find Harmful Chemicals in Bottled Water

Several major brands no different than big-city tap water

Ten popular U.S. bottled water brands contain mixtures of 38 different pollutants, including bacteria, fertilizer, acetaminophen, and industrial chemicals, some at levels no better than tap water, according to laboratory tests conducted late last year by Environmental Working Group (EWG). Overall, the test results strongly indicate that the purity of bottled water cannot be trusted.

"It's buyer beware with bottle water," said Jane Houlihan, Vice President for Research at EWG. "The bottled water industry promotes its products as pure and healthy, but our tests show that pollutants in some popular brands match the levels found in some of the nation's most polluted big city tap water systems. Consumers can't trust that what's in the bottle is anything more than processed, pricey tap water."

"For years the bottled water industry has marketed their product with the message that it is somehow safer or purer than tap water," said Wenonah Hauter, executive director of the non-profit consumer advocacy group Food & Water Watch. "This new report provides even more evidence that the purity of bottled water is nothing more than a myth propagated to trick

consumers into paying thousands of times more for a product than what it is actually worth."

Laboratory tests conducted for EWG at one of the country's leading water quality laboratories found 38 contaminants in ten brands of bottled water purchased from grocery stores and other retailers in nine states and the District of Columbia. The pollutants identified include common urban wastewater pollutants like caffeine and pharmaceuticals, an array of cancer-causing byproducts from municipal tap water chlorination, heavy metals and minerals including arsenic and radioactive isotopes, fertilizer residue, and a broad range of industrial chemicals. Four brands were also contaminated with bacteria.

Unlike tap water, where consumers are provided with test results every year, the bottled water industry does not disclose the results of any contaminant testing that it conducts. Instead, the industry hides behind the claim that bottled water is held to the same safety standards as tap water. But with promotional campaigns saturated with images of mountain springs, and prices 1,000 times the price of tap water, consumers are clearly led to believe that

they are buying a product that has been purified to a level beyond the water that comes out of the garden hose.

Americans paid \$12 billion to drink nine billion gallons of bottled water last year alone. Yet, as EWG tests show, several bottled waters bore the chemical signature of standard municipal water treatment – a cocktail of fluoride, chlorine and other disinfectants whose proportions vary only slightly from plant to plant. In other words, some bottled water was chemically almost indistinguishable from tap water. The only striking difference: the price tag. The typical cost of a gallon of bottled water is \$3.79 – 1,900 times the cost of a gallon of public tap water.

Unlike public water utilities, bottled water companies are not required to notify their customers of the presence of contaminants in the water, or, in most states, to tell their customers where the water comes from, how it is purified, and if it is spring water or merely bottled tap water. Given the industry's refusal to make available data to support their claims of superiority, consumer confidence in the purity of bottled water is simply not justified.

The bottled water industry has also contributed to one of the biggest environmental problems facing the world today. Only one-fifth of the bottles produced by the industry are recycled. The remainder pile up at landfills, litter our neighborhoods, and foul our oceans. About halfway between Hawaii and California, an area twice the size of Texas is awash in millions of plastic water bottles and other indestructible garbage. ■

EWG is a nonprofit research organization based in Washington, DC, that uses the power of information to protect human health and the environment. For more info, visit <http://www.ewg.org>.

EWG Guide to Safe Drinking Water

Drinking plenty of good, clean water is important for a healthy body. The following are some of EWG researchers' top tips to learn how to stay hydrated while cutting down on your exposure to common drinking water pollutants.

BOTTLED WATER

Drink filtered tap water instead. You can read the bottle label, but you still won't know if the water is pure and natural, or just processed, packaged tap water.

TAP WATER

Learn what's in it. Tap water suppliers publish their water quality test results. Bottled water companies don't. Read your annual tap water quality report. Look up your city's water in EWG's National Tap Water Atlas at <http://www.ewg.org/sites/tapwater/>. (Private well? Get it tested.)

FILTERED TAP WATER

Drink it, cook with it. Carbon filters (pitcher or tap-mounted) are affordable and reduce many common water contaminants, like lead and byproducts of the disinfection process used to treat municipal tap water. If you can afford it, install a reverse osmosis filter to remove contaminants that carbon filters can't eliminate, like arsenic and perchlorate (rocket fuel).

FILTERS

Change them. Change your water filters on time. Old filters aren't safe – they harbor bacteria and let contaminants through.

ON THE GO

Carry water in safe containers. Hard plastic bottles (#7 plastic) can leach a harmful plastics chemical called bisphenol A (BPA) into water. Carry stainless steel or other "BPA-free" bottles. Don't reuse bottled water bottles. The plastic can harbor bacteria and break down to release plastics chemicals.

For more info, visit http://www.ewg.org/files/EWG_safedrinkingwater.pdf. ■



New Food & Water Watch Report Reveals that Service Suffers While Costs Skyrocket Under Water Privatization

A report released recently by Food & Water Watch, a national consumer advocacy group, reveals that many cash-strapped communities across the country are experiencing rate hikes and a decrease in public services after selling their water and wastewater systems to private corporations. *Money Down the Drain: How Private Control of Water Wastes Public Resources* highlights cities and towns across the country that have sold their water systems to private companies to offset budget deficits in an increasingly unstable economy, and the negative economic and environmental impact of water privatization on those communities.

Highlights of the report include the following:

- State-by-state comparisons of public and private water bills that reveal that private companies charge consumers as much as 80 percent more for water and 100 percent more for wastewater services than their public counterparts.
- How private companies inflate costs, cut corners to profit shareholders, and ignore environmentally sustainable practices that might undercut profits.
- That private water companies target water systems in poor, vulnerable communities with little political capacity to oppose the sale of their water.
- Case studies of communities in Ohio, Indiana, California, Florida, Pennsylvania and elsewhere that have been negatively impacted by privatization and/or have canceled service contracts with private entities to provide better service to consumers.
- Food & Water Watch's solutions to local and national water infrastructure challenges, including the need for dedicated federal funding for water and wastewater systems.

Money Down the Drain: How Private Control of Water Wastes Public Resources is available at <http://www.foodandwaterwatch.org/money-down-the-drain>. ■

Food & Water Watch, a nonprofit consumer organization based in Washington, D.C., works to ensure clean water and safe food in the United States and around the world. For more information, visit www.foodandwaterwatch.org

As we look forward to new opportunities, we are reminded to look back and recognize those individuals who have assisted RCAP in becoming the effective national rural service and training delivery organization that it is today. After three terms on the RCAP Board of Directors, Stan Cothren, at-large Board Member from Arkansas, is looking forward to more time for fishing and just being with his grandchildren (along with other volunteer opportunities!). As a licensed professional engineer and astute businessman, Stan assisted RCAP in more ways than I can mention in this small space. His keen insights concerning RCAP issues, his professional experience, and dedicated work ethic – coupled with the eloquence and charm of a true gentleman – made Stan not only a trusted member of RCAP, but also for me a lifelong friend.

There are so many accolades I could bestow on Mary Terry, President and CEO of the Southeast Rural Community Assistance Project (Southeast RCAP), who retired at the end of 2008. Mary leaves behind a remarkable legacy based, in part, on her more than 40 years of dedicated and inspirational work with rural communities. She joined Southeast RCAP in 1973, after beginning with the RCAP founding organization, Total Action Against Poverty (TAP, a community action agency in Roanoke, Virginia) starting in 1968. During her many years on the RCAP Board, Mary served in the various positions of Secretary/Treasurer, Vice-President and President. She was always looking for ways to improve RCAP's ability to assist rural communities. Mary Terry embodied what RCAP has been striving for since its inception. Her commitment to, and concern for, disadvantaged, minority, and low-income rural communities was paramount. We will never forget the compassion she brought to all of her work and how she motivated and inspired those around her. All of us who know Mary know that this remarkable person will continue to use her talents to help others and we wish her the very best upon her retirement!

Finally, I would like to welcome a new at-large member to the RCAP Board of Directors, Niel Ritchie. Since 2002, Niel has served as the Executive Director of the League of Rural Voters, a nonprofit, tax-exempt organization dedicated to increasing the representation of rural people in the policymaking process. Prior to his tenure at the League of Rural Voters, Niel served for 10 years as the National Organizer for the Institute for Agriculture and Trade Policy and was responsible for outreach and networking among U.S. farm groups, and also for building relationships with non-farm group partners including environmental, consumer, business, labor and church groups. The wealth of experience Niel brings to RCAP will be especially important as we look for new and innovative means to help rural communities across the country. ■



USDA Rural Development Utilities Program: a Reliable Infrastructure Funding Partner

How does a community of 92 residents finance a much-needed water system? By partnering with neighboring communities and working with the USDA Rural Development Utilities Programs.

Between 1998 and 2003, Rural Development conducted a series of tap water tests at Lyon & Sioux Rural Water System, Inc., near the community of Boyden in the north-west corner of Iowa. The water system serves seven rural communities with populations ranging from 92 to 750. Test results indicated that drinking water supplied by the system contained potentially harmful contaminants.

In response to the test results, USDA awarded \$5.1 million to Lyon & Sioux Rural Water System, Inc. to help fund construction of a new water treatment plant and other system improvements. The new plant can treat nearly 1.3 million gallons of water per day.

Rural Development funds were also used to connect Boyden to the rural water system and for well field improvements at Boyden and Otter Creek.

“Since the construction of the new water treatment plant, more economic development is now possible in Boyden,” said Reed Grafing, operations manager with Lyon & Sioux Rural Water System. “It has opened the door for more expansion projects, which is really exciting for a lot of people living in the town.”

A Common Theme

Stories like this one are common, thanks to a rural vision implemented more than seven decades ago. The process of working with rural towns to plan and finance rural water and wastewater projects has been replicated tens of thousands of times over the last 70 years.

USDA's Rural Development Utilities Programs administers the Water and Waste Disposal Loan and Grant Program which, along with other Rural Development utilities, housing, and business programs, is charged with improving the quality of life of, and increasing economic opportunity in, rural America. The program has a proven record of providing clean water to rural communities. During fiscal year 2008 alone, nearly \$2 billion in new loans and grants were

obligated to benefit more than 4 million rural residents. These awards included mission-critical projects funded as part of Earth Day and through additional application backlog funding received in the farm bill.

The Water and Waste Disposal Program is fast approaching its 75th anniversary. With tough economic times, growing environmental concerns, and a new Administration in place, now is a good time to reflect on the program's strengths that will keep it successful for the next 75 years.

History of Program

In 2007, Rural Development celebrated the 70th anniversary of the electric and water programs. Congress passed the Water Facilities Act in 1937 to provide loans for farm water systems in 17 western states where drought and water shortages were chronic hardships and, in 1940, the first loan was approved. The program was expanded in 1954 to allow for nationwide loans and to add non-farm customers. In 1961, the Consolidated Farm and Rural Development Act (CONACT, commonly called the “Farm Bill”) replaced the Water Facilities Act and, in 1965, grants were added to the program for water and waste disposal systems.



continued on next page

KEYS TO SUCCESS

What makes the Water and Waste Disposal Loan and Grant Program so successful?

Clear Priorities

The program is designed by regulation to give priority to those rural communities with smaller populations and lower income levels, as well as projects needed to address water and waste disposal-related health issues.

Community-Based Program Delivery

The program, though overseen by the Rural Development national office, is largely administered in state and area Rural Development Service Centers. As a result, potential borrowers are able to explore options for funding with a USDA employee who lives and works in the area.

Needs-Based Financing

Rural Development works with each community to determine its needs and develop a financing package that allows them to provide quality service at affordable rates. Financing can include loans, loan guarantees, or loan and grant combinations. Applicants able to obtain commercial credit at reasonable rates are referred to other lenders. An automated underwriting system facilitates the process and ensures consistency. Through thorough and sound underwriting, USDA ensures that limited grant dollars are available for communities that need them the most.

Supervised Credit Approach

Making loans and grants available to communities in need is just the beginning of the process of ensuring that rural residents have access to vital water and waste disposal services. The agency monitors implementation of funded projects, reviews bids, visits construction sites, and conducts compliance reviews until the project is completed and service is available.

Technical Assistance

Rural Development complements the Water and Waste Disposal Program by offering communities help with operations, management, financial affairs and maintenance through the Technical Assistance and Training Grant program and the National Circuit Rider Program. Rural Development awards funding to nonprofits such as RCAP to ensure proper planning, operation and maintenance – through board and personnel training and on-site technical assistance – which results in increased emphasis on environmental standards, cleaner water, and system sustainability.

Change – Critical Influences

Rural Development's Water and Waste Disposal Program works hard to adapt to a growing and changing industry. Technology and the accompanying efficiencies offer greater productivity while using fewer resources. Management controls and internal reviews ensure the program is delivered in a consistent manner across rural America.

Rural Development works to implement changes in policy and process. For example, more stringent standards from regulatory agencies often increase demand for affordable funding, as system improvements are needed to comply with those standards. In addition, because the cost of repairing and replacing systems is increasing at a dramatic rate, careful planning, operation, and maintenance is more critical than ever, especially given today's economy. Coordinating resources to maximize program efficiency is also vital to stretching every federal dollar.

Another milestone in the program's history was passage of the Omnibus Budget Reconciliation Act of 1986, which required the sale of Water and Waste Disposal loans in an effort to provide income for the federal government. Nearly \$3.8 billion in loans was either sold to investors or prepaid at a discount by the borrowers, and the loan caseload was reduced nearly 75 percent. However, strong demand for water project funding triggered growth over the next two decades and the loan portfolio is now nearly \$9.8 billion and 17,600 loans. Congressional support for the program, as demonstrated during reauthorization of the CONACT every five years, remains strong.

A Successful Program

For the rural residents who have benefited from the program, turning on the tap and knowing the water is clean is the real measure of success. For the federal government, success is measured by accountability standards applied to programs to ensure that tax dollars are invested wisely.

During the previous Administration, the White House Office of Management and Budget awarded the Water and Waste Disposal Program its highest rating for effectiveness. Program resources are used effectively to ensure deployment of the maximum level of financial assistance with the limited resources available. Rural Development monitors the loan-to-grant award ratio, makes referrals to commercial credit for communities that can afford it, and seeks ways to leverage USDA dollars with other funds. Long-term goals include achieving a 25 percent reduction in exposure to water-related health and safety issues in rural America and ensuring that 90 percent of borrowers reach financial sustainability. In addition, existing borrowers are closely monitored to ensure that the federal government's investment is protected. At the end of fiscal year 2008, the monthly

delinquency rate for the Water and Waste Disposal Program was a mere 0.53 percent.

Rural Development's Water and Waste Disposal Program targets assistance to low-income rural areas for water and wastewater infrastructure funding. For instance, while the minimum requirement is that a community served has a population fewer than 10,000, the average size of community served is 4,000. In addition, communities receiving funding typically have median household incomes 20 percent below the statewide level.

Same Mission, Greater Need

The core mission of the Water and Waste Disposal Program has not changed and demand for the program has not waned. Recent estimates project rural water and wastewater systems will need \$95 - \$110 billion over the next 20 years to maintain compliance with regulatory requirements. Since 2001, Rural Development has invested more than \$111 billion in equity and technical assistance to finance and foster growth in homeownership, business development, and critical community and technology infrastructure. More than 2 million jobs have been created or saved through these investments. As rural towns deal with the impact of the struggling U.S. economy, effects of climate change, aging infrastructure and water access and quality issues, the Rural Development Water and Waste Disposal program is more important than ever. Rural communities have come to rely on it with good reason. After more than 70 years, the program serves the public with the same enthusiasm and determination as it did when it first began.

For further information on this and other Rural Development programs, visit a local USDA Rural Development Service Center or Rural Development's Web site at <http://www.rurdev.usda.gov>. ■

PROGRAM BASICS

Purpose: The program provides loan and grant funds for water and waste projects serving the most financially needy rural communities. Financial assistance should result in reasonable user costs, as determined by comparing costs of similar systems.

Eligible Applicants: Public bodies, non-profit corporations, or tribal governments.

Rural Areas: Any area not in a city or town, with a population in excess of 10,000 inhabitants based on the last census; in other words, communities under 10,000 population and unincorporated areas.

Projects: Costs to construct, enlarge, extend or otherwise improve water and waste facilities, including related reasonable administrative, legal and engineering costs.

Funding: Loans, loan guarantees, and/or grants are awarded on the basis of need and national priorities. All funding is extended without regard to race, color, religion, sex, national origin, marital status, age, physical or mental handicap.

Priority: Preference for funding applications is provided to projects that:

- serve populations of less than 5,500, with highest priority to populations less than 1,000
- alleviate an emergency situation related to a health standard
- benefit users that have median household incomes less than 100 percent of the statewide nonmetropolitan median household income (SNMHI), with highest priority to those below 80 percent of the SNMHI
- merge ownership, management and operation of smaller systems
- have at least 50 percent of total funding from other sources

Compliance: The facilities financed must be in compliance with appropriate regulatory agency regulations, have acceptable management that possesses adequate financial and technical skill, and be modest in size, design and cost.

Security: All loans will be secured by the best security position practicable to protect USDA during the term of the loan. Each debt instrument will include a "graduation" clause requiring that, if at any time it appears to the agency that the borrower can obtain credit at reasonable rates and terms to refinance the remaining debt, the borrower will apply for and accept such loan.

Where to Apply: Rural Development's local offices within the USDA Service Center network assist water and waste disposal applicants within the U.S. and the U.S. Territories. For more information visit the Rural Development web site at <http://www.rurdev.usda.gov>.



Ensuring that Red Cloud's Dream Lives on in South Dakota



Chief Red Cloud, an Oglala Lakota leader, dreamed of educating the youth of his tribe so they could walk in both the white and Lakota worlds. At his insistence, Jesuit brothers built what became known as Red Cloud Indian School on the Pine Ridge Reservation in South Dakota. Since that time, the school has striven to provide local children a quality education, while maintaining and enhancing respect for their native culture. Poverty on the reservation is extremely high, and education is key to improving the quality of life of Oglala Lakota people.

Red Cloud Indian School has grown from a single mission to encompass a variety of educational and residential buildings. Because of its growing campus, the school has outgrown its aging wastewater treatment system, which needs a new lift station and major improvements to the lagoons.

Staff at Red Cloud contacted the RCAP network and shortly thereafter, staff of the Midwest Assistance Program (MAP) began assessing the wastewater situation. Once the need was established, potential funding was considered, which led Red Cloud and MAP staff to USDA Rural Development. At first, Rural Development had to resolve whether the school was eligible for funding, since it is not a government entity. After reviewing Presidential Faith-Based Initiative guidelines and determining Red Cloud was eligible, Rural Development readily moved forward with the funding process, and MAP staff helped the school submit an application.

R.J. Inskip, MAP resource development advisor, has helped shepherd Red Cloud's application through the funding process. "Rural Development loves to make loans, and a big part of my job is making sure the communities and tribal nations go through the necessary steps to apply for these low-interest loans."

From the initial meeting between Red Cloud Indian School leaders and Rural Development staff in South Dakota, Inskip has worked with both parties to ensure all documents and forms required under the application process were completed. MAP also conducted a community needs assessment, oversaw environmental aspects of the project, and worked with the school's staff to develop a proposed wastewater operating budget. An application was submitted to USDA and Red Cloud and MAP are awaiting word of approval for funds to complete the wastewater project.

"Communities and tribal groups rely on MAP as the expert in the RD grant process, and RD relies on us to make sure the application process is followed correctly and completely," Inskip says. "A lot of communities are at a disadvantage without our help because they don't have the institutional knowledge we can bring to the project. RD looks to us to provide that knowledge to our clients." ■



RCAP & AWWA Enact Memorandum of Understanding

For many years, RCAP and its regional partners have worked cooperatively with the American Water Works Association (AWWA), its state sections, and the AWWA Small Systems Division on a variety of initiatives and training programs. Materials produced by both organizations have been shared in ongoing efforts to improve the operations and management of small drinking water systems. RCAP has also been actively involved with AWWA's Annual Conference and Exhibition, staffing a booth and contributing to the technical program each year over the past decade.

Both AWWA and RCAP share a commitment to provide safe and affordable drinking water to all Americans. This commitment has now resulted in the adoption of a Memorandum of Understanding (MOU) between AWWA and RCAP. As stated in the MOU, "AWWA and RCAP recognize the importance of working together to promote efficient and quality technical assistance and training programs in the advancement of mutual goals to provide plentiful supplies of safe water across America."

This MOU was unanimously accepted by the RCAP Board of Directors on December 9, 2008, and by the AWWA Board of Directors on January 24, 2009. Members of both boards expressed their enthusiasm and support for the MOU and its accompanying workplan. The MOU was highlighted at the recent AWWA Fly-In to Washington, D.C., March 24 and 25, 2009, where RCAP's Executive Director Robert Stewart and AWWA's Executive Director Gary Zimmerman formally signed the agreement.

In his remarks to the AWWA attendees, Stewart noted that "RCAP has been work-



ing with many AWWA sections, the Small Systems Division, and the national office for years. This has included working on collaborative training activities in states such as Ohio, Illinois, Montana, California and Nevada; supporting the WARN networks in over 10 states; collaborating at the national level on workforce issues; and now exploring new ways and programs where our two organizations can work together effectively – including some of the legislative and regulatory issues that you have been considering this week."

Zimmerman announced that the AWWA Small Systems Division had recommended the MOU 18 months ago and went on to state that:

"An MOU between us made sense, because we share many of the same goals:

- A commitment to safe, clean water for everyone to protect public health,
- The provision of reliable, technically-correct information in support of our missions,
- A common audience for some of our

programs: utilities, operators, engineers, and public officials.

But we have differing strengths, as well:

- AWWA has 59,000 members, and has a well-developed communications, technical, training and publications network.
- RCAP has on-the-ground staff working directly with clients needing help, to deliver training and assistance funded by grants.

By joining our strengths in support of our common goals, we can better serve the people who, despite a rough economy and rapidly-changing technology and workforce issues, look to both of our organizations for information, guidance and training."

The MOU contains three primary goals:

1. Cooperate and communicate collaboratively at the national level and foster the development of local-level communications.
2. Explore cooperation on joint projects and/or programs (such as publications, training for operators and governing boards, and supporting water workforce initiatives).
3. Collaborate on the advancement of the industry.

A workplan accompanied the MOU that further described specific activities in support of the MOU goals, including an emphasis on training for public officials.

The RCAP network is excited about the many joint initiatives that are now possible with this MOU and looks forward to greatly increasing our collaborative activities with AWWA. ■

legislative matters

Legislative Developments

Three months into the Obama Administration and the 111th Congress, there has been a flurry of legislative activity on numerous issues critical to the future of our country. Thankfully, the action has included several bills that provide funding to communities to repair and upgrade deteriorating infrastructure, including water and wastewater systems.

Much of our public infrastructure is in serious need of additional investment. States and local governments have been overwhelmed by rapid increases in construction costs, multiple simultaneous infrastructure demands, and shrinking pools of available federal financing for infrastructure.

According to the American Society of Civil Engineers' 2009 Infrastructure Report

Card, the nation's overall infrastructure merits a 'D' grade and requires an estimated \$2.2 trillion additional investment over the next five years to bring it up to a good condition (*see tables A & B below*). For water and wastewater infrastructure alone, the estimated gap between current spending and investment need totals more than \$20 billion per year.

continued on next page

TABLE A ★ 2009 Report Card for America's Infrastructure

Aviation	D
Bridges	C
Dams	D
Drinking Water	D-
Energy	D+
Hazardous Waste	D
Inland Waterways	D-
Levees	D-
Public Parks and Recreation	C-
Rail	C-
Roads	D-
Schools	D
Solid Waste	C+
Transit	D
Wastewater	D-

AMERICA'S INFRASTRUCTURE G.P.A. **D**

ESTIMATED 5 YEAR INVESTMENT NEED **\$2.2 TRILLION**

NOTES Each category was evaluated on the basis of capacity, condition, funding, future need, operation and maintenance, public safety and resilience

A = Exceptional
B = Good
C = Mediocre
D = Poor
F = Failing

TABLE B ★ Estimated 5-Year Investment Needs in Billions of Dollars

CATEGORY	5-YEAR NEED (BILLIONS)	ESTIMATED ACTUAL SPENDING*	AMERICAN RECOVERY AND REINVESTMENT ACT (P.L. III-005)	FIVE-YEAR INVESTMENT SHORTFALL
Aviation	87	45	1.3	(40.7)
Dams	12.5	5	0.05	(7.45)
Drinking Water and Wastewater	255	140	6.4	(108.6)
Energy	75	34.5	11	(29.5)
Hazardous Waste and Solid Waste	77	32.5	1.1	(43.4)
Inland Waterways	50	25	4.475	(20.5)
Levees	50	1.13	0	(1.13)
Public Parks and Recreation	85	36	0.835	(48.17)
Rail	63	42	9.3	(11.7)
Roads and Bridges	930	351.5	27.5	(549.5)
Discretionary grants for surface transportation			1.5	
Schools	160	125	0**	(35)
Transit	265	66.5	8.4	(190.1)
Total Need****	2.122 trillion***	903 billion	71.76 billion	(1.176 trillion)

Total Need** \$2.2 trillion**

* 5 year spending estimate based on the most recent available spending at all levels of government and not indexed for inflation
 ** The American Recovery and Reinvestment Act included \$53.6 billion for a State Fiscal Stabilization Fund for education, as of press time, it was not known how much would be spent on school infrastructure.
 *** Not adjusted for inflation
 **** Assumes 3% annual inflation

Source: ASCE report card, <http://www.infrastructurereportcard.org/report-cards>



MAP representatives Martha Cashman and Brian Foster meet with Sen. Max Baucus (at far left) and Sen. Jon Tester (at far right).



MAP representatives Chris Fierros and Bob Reed meet with Rep. Jo Ann Emerson (at right).

American Recovery and Reinvestment Act

By now, you've probably heard about the "stimulus" or "recovery" legislation enacted in February. Among its many provisions is funding for water and wastewater infrastructure, including the following:

USDA Rural Development Water & Waste Disposal:

\$3.8 billion in grant and loan funds (\$986 million grant, \$2.82 billion loan)

EPA State Revolving Funds:

\$4 billion for Clean Water and \$2 billion for Drinking Water, with at least half of each distributed as "additional subsidization" – principal forgiveness, negative interest loans, and grants. The additional subsidization provision is intended to benefit communities that could not otherwise afford an SRF loan.

HUD Community Development Block Grants:

\$1 billion, some of which is likely to fund water and wastewater projects.

The agencies and the states have deadlines to obligate funds and/or ensure projects are underway no later than the end of fiscal year 2010. They are working diligently to obligate funds in a timely fashion, get projects underway, and put people to work.

FY 2009 Appropriations

After completing work on the American Recovery and Reinvestment Act, Congress turned to the task of completing the fiscal year 2009 appropriations bills left incomplete last year. Disagreements between the White House and Congress over spending levels, combined with the 2008 election cycle, resulted in most of the annual spending measures languishing. In late September, Congress passed a Continuing Resolution to fund government programs through early March. Then in March, the new Congress enacted, and President Obama signed, an omnibus appropriations bill. The bill included the following funding for water and wastewater infrastructure programs:

USDA Rural Development Water & Waste Disposal:

Nearly \$1.1 billion in grant and loan funds (\$275 million grant, \$810 million loan).

EPA State Revolving Funds:

\$689 million for Clean Water and \$829 million for Drinking Water capitalization grants to the states.

FY 2010 Appropriations

In February, the President submitted a budget framework to Congress for FY 2010. The House and Senate Budget Committees drafted FY 2010 budget resolutions that passed their respective chambers in

early April and await reconciliation of their differences. Meanwhile, the House and Senate Appropriations Committees have begun the annual process for FY 2010. As usual, the conflicting priorities of the political parties means the ultimate resolution will remain in question for some time.

Legislation

Congress is also considering legislation that impacts water and wastewater infrastructure.

State Revolving Fund Reauthorization

In the 110th Congress, the House passed a Clean Water State Revolving Fund (SRF) reauthorization (H.R. 720), while the Senate Environment and Public Works (EPW) Committee approved a bill (S. 3617) reauthorizing both the Clean Water and Drinking SRF programs. Both measures included new provisions benefiting small and disadvantaged systems.

This year, the House again passed a Clean Water SRF bill (H.R. 1262), while the Senate EPW Committee again takes up comprehensive Clean Water and Drinking SRF legislation. In the House, clean water and drinking water are under different committees of jurisdiction, necessitating two separate bills. Drinking water falls under the authority of the Energy and the Environment Subcommittee of the Energy and Commerce Committee, which is busy

drafting climate change legislation, so it is unclear whether and when Drinking Water SRF legislation may come up in the House.

Water Trust Fund

In order to address the approximately \$20 billion annual shortfall in spending on water and wastewater infrastructure in the United States, Congress is in the early stages of considering legislation that would provide additional long-term funding for that purpose. One proposal that is advancing is the establishment of a trust fund, similar to the highway trust fund, which would receive new off-budget revenues dedicated for water and wastewater infrastructure, technical assistance, research and development, and environmental protection. Another idea being considered is the creation of an infrastructure development bank, which would likely lend money to states for a variety of infrastructure expenditures. Because of the magnitude of need to improve our nation's infrastructure, both of these funding models may be appropriate.

RCAP 2009 Fly-In

In late February, the RCAP network regional partners brought more than 80 people to Washington, D.C., to meet with members of Congress to discuss priorities for small, rural communities. RCAP representatives met with more than 100 members and staff to advocate funding for the appropriations and legislation identified above.

RCAP also hosted representatives of the three federal agencies that fund our technical assistance and training work: USDA Rural Development, EPA, and HHS Office of Community Services. Each agency made a presentation on their status in a new Administration, as well as their work to implement the American Recovery and Reinvestment Act, and then entered a discussion with RCAP staff about a variety of issues. ■



RCAP fly-in agency panelists from left to right: Sheila Frace, EPA Office of Wastewater Management; Stephen Heare, EPA Office of Ground Water and Drinking Water; Sandi Boughton, USDA-RD Water & Environmental Programs; and Jacqueline Ponti-Lazaruk, USDA-RD Water & Environmental Programs



RCAP regional fly-in participants listen to one of the agency speakers.



RCAP's Chris Marko asks a question of one of the agency speakers.



Rural Community
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Desert Sands Struggles to Comply With Arsenic Rule

By Olga Morales-Sanchez and Sharon Wills, RCAC

When the U.S. Environmental Protection Agency (EPA) reduced the maximum contamination levels (MCL) for arsenic in drinking water from 50 parts per billion (ppb) to 10 ppb, no one could have predicted the many challenges small water systems would encounter in meeting the new limit. EPA adopted the revised arsenic rule in early 2002, and water systems were required to meet the rule by 2006.

One small drinking water system in the West has yet to overcome the challenge of compliance with the new arsenic rule, despite valiant efforts to do so.

Overview

Desert Sands Mutual Domestic Water Consumers Association made the list of water systems in New Mexico with arsenic levels in excess of the new MCL. Desert Sands is a small public water system that includes two ground water wells, two storage tanks, and distribution lines that serve approximately 580 connections (an estimated 2,000 people). The Association is located in south-central New Mexico, a few miles north of the Mexico border near El Paso, Texas. Desert Sands is a Colonia (border settlement community), and water issues are just one part of the struggles of every day life for the predominantly low-income, Latino population.

Desert Sands pilots EPA project

Desert Sands' five-member volunteer board of directors took a proactive approach to correct the arsenic issues and became the first system in the nation to pilot an EPA-sponsored arsenic demonstration project with mechanical, media-based technology. The Desert Sands board was hopeful the pilot project would prove to be a silver bullet for its arsenic compliance woes.

Unfortunately, Desert Sands' plan to achieve compliance fell apart, because the media used to reduce arsenic levels broke down much more quickly and, therefore, needed to be replaced more frequently than expected. The cost for media was estimated to be \$30,000 per replacement. For two wells, the resulting cost was \$120,000 per year. Based on this estimate, Rural Community Assistance Corporation (RCAC) conducted a rate analysis, which concluded that rates would have to be increased substantially, making this method of arsenic treatment unaffordable to Desert Sands' low-income membership.

Upon completion of the EPA demonstration project, Desert Sands hosted a Sandia National Laboratories pilot study of 12 different filter media for arsenic removal. The study confirmed that the media used in the EPA demonstration project, though costly, was the most cost-effective treatment among those tested. One of the main benefits of using that media was that it did not require an operator with a high level of certification, which would greatly increase the system's operating costs.

Alternative solutions

In the continuing effort to resolve the arsenic problem, Desert Sands hired an engineer to review other alternatives. The preliminary engineering report identified several options, one of which was to dig an additional well. USDA Rural Development, as the main funding source for the project, advised Desert Sands not to



implement the EPA test treatment system due to the high operating costs and, instead, obligated funds for a new well in the hope that arsenic levels would meet the reduced MCL requirement.

Desert Sands obtained the required New Mexico state and federal permits for the well and soon began construction. After water samples taken during well development were analyzed, Desert Sands received an order from the state of New Mexico-Drinking Water Bureau to stop drilling. The bureau's position was that if the existing wells were not in compliance with the arsenic rule, the third well would only put the system further out of compliance.

Compliance hopes fall apart

Desert Sands persistently worked to comply with the safe drinking water regulations, but its hopes to achieve compliance fell apart. To make matters worse, the system incurred substantial debt in the process.

EPA originally gave utilities until January 2006 to comply with the new MCL standard. Fortunately for Desert Sands, EPA allowed New Mexico to grant extensions to comply with the rule. RCAC assisted Desert Sands in putting together extensive documentation for such a request. Desert Sands submitted the state's first exemption request and was granted an extension until

[continued on next page](#)



January 2009. RCAC also used this experience and example to develop a series of training workshops for other utilities facing the challenge.

Regional approach

Desert Sands' small size is a big part of the problem, because the utility lacks the customer base to pay for expensive treatment options, in addition to ongoing maintenance and repairs. Therefore, a regional approach to compliance might be part of the solution. RCAC is assisting Desert Sands and four other water systems in the area to form the Lower Rio Grande Mutual Domestic (LRGMD). The group has hired RCAC and an engineering company to complete a planning study that will evaluate regional solutions to the issues facing these communities.

The final chapter

For Desert Sands, the final chapter in this story has not yet been written, and probably won't be for years to come. Presently, Desert Sands' customers continue to drink water with arsenic levels in excess of EPA's new MCL. It's unfortunate, but the situation will continue unless the utility can either blend with one of the other systems in the LRGMD or find a way to treat the water at an affordable rate.

All parties involved are attempting to do what is right for water system customers. Understandably, the state is concerned with public health. On the other hand, if a water utility cannot provide water at affordable rates, customers will go without. The cost of meeting the arsenic MCL is raising questions about whether it is feasible to treat all water in a domestic system to drinking water quality standards, when the typical household drinks only about one percent of the water they get from the system. ■



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Big Hopes for Small Filters

This article previously appeared in the Safe Drinking Water Trust e-Bulletin

At first glance, it looks like a metal box full of undercooked spaghetti. But the pasta-look-a-like fibers represent the new technology of water filtration — Membrane Bio-Reactor Filters — capable of filtering material up to 30 times smaller than the current standard without things like flock ponds and sediment settling.

Membrane Bio-Reactor (MBR) filters are products of nanotechnology, a fancy word bandied about by engineers and computer geeks that's rapidly finding a place in all kinds of industries, including water systems.

Nanotechnology 101

The next generation of water systems is utilizing nanotechnology in a bid to make filtering more compact, more efficient, and just plain better. Nanotechnology, in a nutshell, is technology that uses objects measured in nanometers. A nanometer is one-billionth of a meter, or one-millionth of a millimeter. Teeny tiny, in other words.

Nanotechnology, which really began developing in the 1980s, has been applied in a variety of fields, from medicine to computer manufacturing. It's also being used to create better water and wastewater filtration systems.





Scientists have developed filtering material that works on the molecular level – it allows the smaller water molecules to pass through its incredibly tiny holes, but it will not allow larger material, such as bacteria and solids, to pass. The result is a filter that can eliminate the need for flocculation, coagulation and sedimentation.

MBRs are popping up all over, and as prices drop and the need for more efficient systems grows, industry watchdogs expect the systems to take hold rapidly.

MBRs – The Future Has Arrived

MBR filters eliminate several steps in the water filtration process and produce water that is often cleaner than called for by federal standards. The standard for water filtration is 0.3 milligrams per liter, and anything bigger must be filtered out before water arrives at the tap. This includes bacteria, organic material, flock, and general gunk.

MBR filters can vary in size, but they range from 0.03 milligrams to 0.01 milligrams per liter of filtration. That means they will filter 10 to 30 times smaller than standard filters today, and they do it in one step. There are four types of MBR filtration:

- Reverse Osmosis (RO)
- Nanofiltration (NF)
- Microfiltration (MF)
- Ultrafiltration (UF)

The primary difference among these filters is the size of the holes within the membranes. The holes on the smallest, ultrafiltration, may be less than 0.01 millimeters.

Many MBR filters are constructed of thousands of hollow tubes that look like spaghetti. Water is sucked into the tubes and flows out the ends clean, leaving the dirt, bacteria and other materials behind. Filter membranes also can be laid out in cone shapes or spirals, depending mainly on the manufacturer. Most such systems are built to be self-cleaning, and backwash cycles are set to run automatically after a certain period of time. The strong bursts of water flush out the filters and make them clean and ready to work again to clean water.

Shrinking the Steps

While MBR technology is relatively new, there are a few U.S. companies selling it for use in municipal wastewater treatment, and more recently for use in drinking water treatment. As with most water and wastewater systems, MBR filtration systems can take years for a municipality to construct. However, it offers the benefit of a much smaller footprint than conventional systems.

Traditional treatment systems take several steps and a variety of methods to filter water. They commonly include, pre-treat-

ing raw water chemically to help dissolved organic matter solidify, moving it into a pre-sedimentation pool, sending it through an aeration system, then pumping it into a tank and adding a coagulant. From that point, the water moves to a flock pond, then to a sedimentation pond, into filters, followed by a stabilizer, then disinfection chemicals are added before moving the water to a clear well and, finally, pumping it out through the distribution system.

MBR systems eliminate several steps. Raw water can be pre-treated for better organic removal, if needed, pumped through the membrane filters, then sent straight to disinfection and stored in a well until ready for distribution. No nasty flock ponds, and no need to let the water sit in one holding tank after another. The process is shorter and faster, and the end result is cleaner water, because most solids and bacteria can't pass through the membranes.

Cost Effective?

Unfortunately, the system isn't within reach of most small, rural water systems – yet. Installation of such a system can cost several million dollars, mainly because the technology is so new. Even some larger systems may have trouble finding funding.

One such system serves about 14,000 customers and was looking to upgrade to meet forthcoming environmental standards on

[continued on next page](#)

phosphorus levels. The community tested an MBR system in a pilot program and got excellent results.

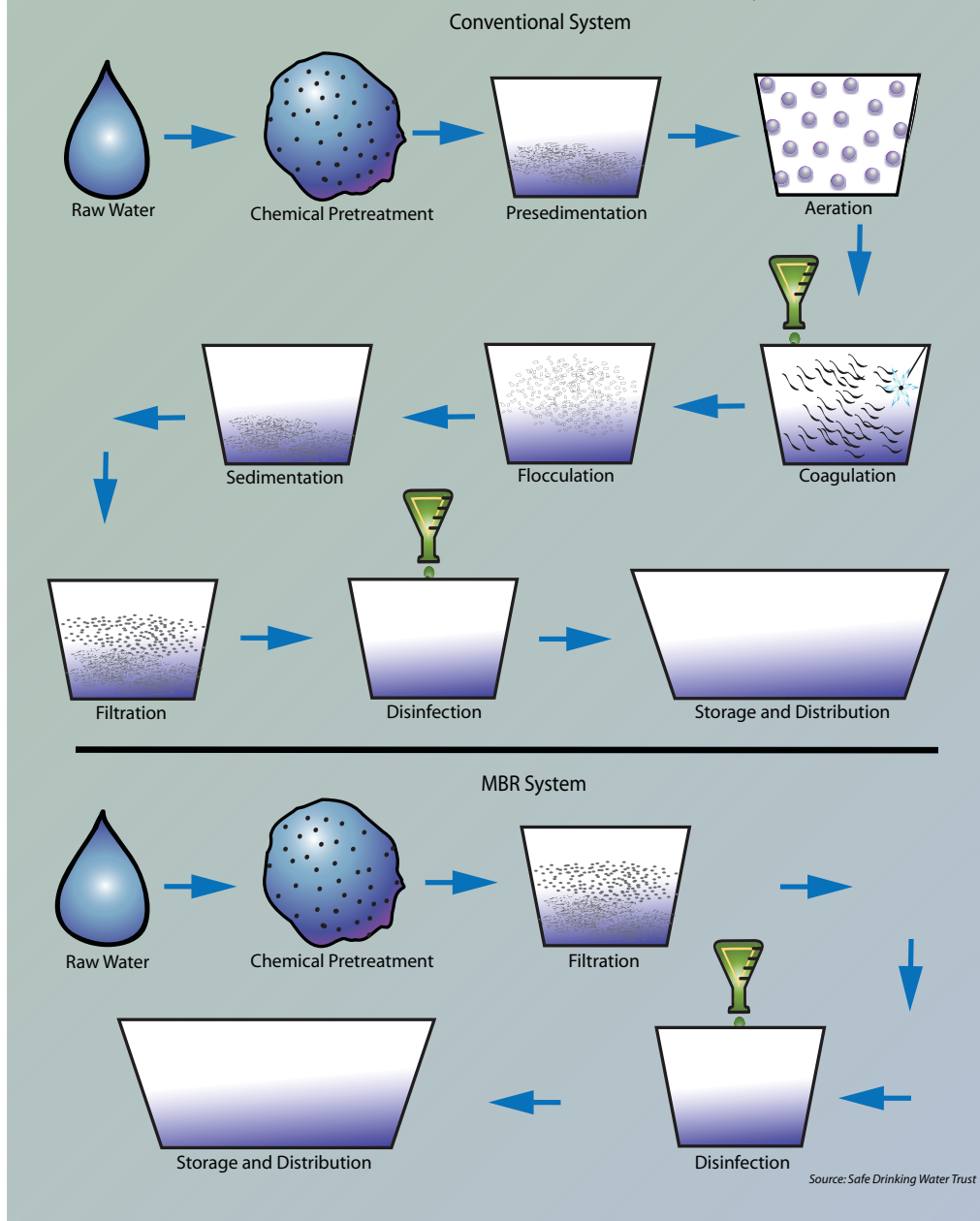
One of the biggest reasons a new system was needed was to remove phosphorus from wastewater. The city was trying to meet future standards of about 0.03 milligrams per liter. The MBR system, after pre-treating with chemicals to precipitate dissolved solids reduced the phosphorus levels to 0.025 milligrams per liter, well below their aim. It also dropped nitrate levels to less than 7 milligrams per liter, 3 milligrams below the standard, and reduced turbidity to 0.05 NTUs, far less than the standard of 0.3 NTUs.

Unfortunately, the system proved too costly for the city's \$20 million project budget. The lowest bid on an MBR system came in about \$4 million over, and the city wasn't able to find added funding, so they forged ahead with a more conventional biological nutrient removal system.

So why bother considering such costly filters? Why exceed standard compliance?

One of the best reasons is the danger of waterborne diseases. Current standards can eliminate most diseases, but sometimes some slip through. The most notorious example occurred in 1993 in Milwaukee County, Wisconsin, when more than 400,000 people became sick from a *Cryptosporidium* outbreak caused by contaminated drinking water. Milwaukee's water system, though experiencing a few operational deficiencies and high finished-water turbidities, was actually in compliance with federal drinking water regulations in effect at the time. Similarly, Clark County, Nevada, experienced a *Cryptosporidium* outbreak in 1994. Only 78 were sickened that time, but the system was in full compliance and had no deficiencies in its filtration system.

Conventional vs. Membrane Bio-Reactor Water Treatment Systems



MBR systems may be costly now, but they could save on maintenance and operational costs in the future. They also can help prevent waterborne disease outbreaks through better filtering. Though the price isn't right for some, industry analysts report that competitive markets and the strong possibility of more stringent standards in the future could help drive costs down. The future may be here sooner than you think. ■

Additional Informational Resources

Defining nanotechnology

<http://www.howstuffworks.com/nanotechnology.htm>

A history of nanotechnology

http://www.nanotech-now.com/Press_Kit/nanotechnology-history.htm

Microfiltration – How Does It Work?

<http://www.wqpmag.com/Microfiltration-How-Does-it-Compare--article467>

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