



## WHAT PRICE WATER?

*The Trickle Down Impact of a Negative Economy on Water Usage.*

Financial objectives in the water industry are constantly changing, which makes successful planning more difficult and more important than ever, considering the escalating costs of operational and infrastructure improvements, expanding regulatory and environmental forces from government and public interest groups, and public demand for clean and affordable water.

### **Why is This Happening to Us?**

*Commercial / Residential Real Estate, Conservation and EPA Requirements* – This is the old Catch-22 scenario: Customers are cutting back on water to save costs, which means less revenue for water systems. For systems to meet expenses given lower/decreased water-usage from foreclosures, conservation and EPA requirements, rate increases are often required.

“We can’t increase programs or build and rehabilitate infrastructure without money,” says Aimee Conroy, superintendent of the City of Phoenix Water Services Department. “but we don’t want to raise rates due to the poor economy either.”

### **Where is the Guy in the White Hat?**

The American Recovery and Reinvestment Act of 2009 (ARRA) was enacted February 17, 2009. The purpose of the Act is to provide funds that will stimulate job creation through swift initiation of infrastructure projects.

In 2010 in the Southwest states, many of the stimulus water and wastewater projects will enter the construction phase. This means more construction jobs and opportunities for water systems, as well as helping to improve

the quality of life and boost economic development in hard-hit communities.

### **Planning and Budgeting Impacts**

Realistic estimates of future water and wastewater infrastructure must be developed. Overestimating infrastructure needs based on unrealistic population and growth projections can lead to poor capital improvement planning and result in large debt obligations for water and wastewater systems. If unnecessary facilities are constructed, this could stress the financial viability of utilities and their ability to pay bonds.

The solution is to be more aggressive and realistic in infrastructure planning to ensure that all new facilities are fully utilized and are within the debt structure of the utility.



# Coming Down the Pipeline

## Army Corps of Engineers Baltimore District

Harish Arora, Ph.D., P.E.,  
Director of Water Treatment Processes



Above: First High Reservoir,  
Baltimore, MD

As part of a three-year Indefinite Delivery Contract with the Army Corps of Engineers - Baltimore District, NCS received its first Task Order to evaluate structural and hydraulic issues associated with the operations of a finished water service main and reservoir, which serve one of the four service areas by the Washington Aqueduct. To supply potable water to more than one million customers, the Washington Aqueduct treats the Potomac River water at the Dalecarlia and McMillan Water Treatment Plants. Finished water from the Dalecarlia Water Treatment Plant is pumped into the First High Reservoir through the First High Service Main. The First High Service Reservoir was built in 1924 and has been repaired several times for structural cracks and leaks. The reservoir has a capacity of 14.5

million gallons. Besides the structural issues, a number of hydraulic issues (such as commissioning of the new altitude valve and its concurrent operations with the first high main surge valves) will be studied as part of the Task Order.



Left:  
First High  
Reservoir  
Spill Valve

Right: First  
High Reservoir  
Surge Valve



## ADEQ System Evaluation Project, Phoenix, AZ

Ashish Agrawal, EIT, Project Engineer

This project is funded by the Arizona Department of Environmental Quality (ADEQ) under the Capacity Development Program. One of the primary goals of this program is to identify small public water systems that are not in compliance due to financial constraints, and help them to be in compliance by providing Technical Assistance (TA) Grants. Under this project, eight public water systems have been visited, two of which are under the process of getting TA grants for the design of arsenic treatment facilities.



Evaluations: Above: Outside Casa Grande, AZ  
Bottom Left: Inside Verde Valley.



## Well 12 TDS Removal City of Rio Ranch, NM

Ashish Agrawal, EIT, Project Engineer

The City of Rio Rancho (CORR) is the fastest growing city in the State of New Mexico and is continuously updating its infrastructure. CORR utilizes groundwater to serve potable water needs for residential, commercial and industrial customers. CORR operates 22 wells, and has been developing new wells on a regular basis.

Due to customer complaints regarding unpleasant water taste, CORR is proceeding to install a membrane-treatment solution to reduce Well 12's elevated total dissolved solids (TDS) level in the treated water and improve the water quality. TDS does not have any adverse health affects, but can result in an unpleasant taste and the formation of scale in distributed water. An efficient TDS removal system that optimizes energy use and minimizes water loss will be utilized for this facility.

Left: CORR Well 12 Inside and Outside Views

## NCS Client Spotlight



**Kathy Stephens,**  
Capacity Development  
Coordinator

Arizona Department of  
Environmental Quality,  
Phoenix, Arizona

*How long have you been with the Arizona Department of Environmental Quality (ADEQ)?*

I joined the Arizona Department of Health Services, Environmental Services Division in January 1986, knowing that it would blossom into ADEQ in 1987. I have worked in several programs at ADEQ, including managing the Phoenix Waiver Lane in the Vehicle Emissions Section; implementing interval, seasonal and multi-year research programs for the Air Quality Technical Assessment Section; and assisting small businesses in the Ombudsman's Compliance Assistance Program.

Since 2000, I have worked in the Drinking Water Programs Unit as the Capacity Development Coordinator for new and existing regulated public water systems. I evaluate new system applications for compliance with technical, managerial and financial requirements for new water distribution and water treatment facilities. I also coordinate the Technical Assistance Program for

existing systems with owners and operators, third party contractors, the Water Infrastructure Financing Authority, and other technical and funding agencies. The program offers system evaluations, operations and maintenance packages, and energy audits on a voluntary basis at no cost to the system. The resulting reports and documents provide direction and options to systems to maintain and improve operations to provide safe drinking water to communities.

*How did you choose this particular line of work?*

As I picked up trash on walking to school on the "first" Earth Day in 1970, I was already interested in the environment and conservation. I was fortunate to earn my Environmental Science degree from Sierra Nevada College in Incline Village, Nevada. My coursework included small classes, lots of field work and internships. I enjoy communicating environmental regulations and programs to the public and regulated communities.

*What are your greatest challenges?*  
Maintaining flexibility and patience with "moving targets" on programs, per management direction.

*What do you do for relaxation?*  
I support adult literacy programs and children's literacy programs that use canines in the reading team, fostering success in a fun environment with non-judgemental partners. I Reduce, Reuse, Recycle, Rethink.

*Any words of wisdom that you would like to share?*  
"Time spent with cats is never wasted," Sigmund Freud. I have a bunchacats and love dogs too.

## WHEN WAS YOUR LAST WATER NEEDS ANALYSIS?

### NCS Solutions Can Help You!

A thorough needs analysis by NCS can help identify and address water and energy management challenges:

- Improve water quality.
- Recover more product.
- Decrease energy consumption.
- Decrease water consumption and throughput.
- Decrease and/or improve effluent output.

## President's Corner



Elena Crowe and Aurlia  
Miranda decorate NCS'  
Christmas tree.

## Reflections

Dear Friends,

Thanksgiving is over; Christmas and New Years are coming fast. NCS employees are decorating a tree in the lobby today and there are fresh-baked cookies in the breakroom. Our NCS and extended family continues to grow and be happy.

Life is good and I'm counting my blessings: 2009 has posed many personal and professional challenges for me that I have overcome; challenges which have made me stronger in the long run. In 2009, we have diversified and reconstructed with clients, friends and associates to strengthen the business and personal relationships.

My goal for 2010 includes more outreach programs to give back to the community and less fortunate.

Somewhere I read: "Tough times never last, but tough people do."

Wishing you Joy and Happiness this holiday season, Hang Tough and Keep It flowing,  
Ramesh Narasimhan, P.E.  
President



# Happenin's in the Hood

## Rio Rancho, NM Office

**2009 Rio Rancho Children's Water Festival:** NCS was once again a sponsor of the Rio Rancho Children's Water Festival held at Rio Rancho High School October 1 and 2.

Each year, approximately 650 students (mainly fourth graders) and 35 teachers from Rio Rancho schools, participate in five hands-on activities that draw on a wide range of core curriculum areas to address water quality and water conservation issues relating to their local communities.

One of this year's attendees was New Mexico's Governor, Bill Richardson, who said: "I think you have hit on a most effective way to take a most important message to the children of our state, at the time in their development when they can understand and embrace its importance. Your efforts will make infinitely easier the job of water policy people of the next generation."



*Why the River Runs Brown* – presented by Alyse Walton (in photo) from NCS

## Phoenix, AZ Office



*Ashish Agrawal, E.I.T.*

*NCS Project Engineer Ashish Agrawal received his Engineer-in-Training Certificate in June 2009. He added the EIT designation to his impressive array of credentials:*

*M.S. in Environmental Management, B.E. in Environmental Engineering and GIS (Geographic Information System) Certification.*

*Why did you choose Environmental Management?*

In the world I saw developing outside my classroom, I knew that I wanted to do something to help the environment, as well as become an engineer to learn how infrastructures would affect entire communities. In 2004, I began my studies in

Environmental Management at Arizona State University. Working at NCS has helped me develop technical knowledge and hands-on experience in environmental permitting, and ground water and surface water treatment. I have worked as a Project Engineer in several of the water treatment system design projects and have assisted in bench scale and pilot scale studies for water treatment.

*What's next?*

In November, I started coursework to achieve my Professional Engineer license and certification. It will take about four years of work experience and written exams.

*That's a lot of studying. How do you relax?*

I enjoy working on various charity projects where my help can make a difference. I returned to India in December and was married. That, in itself, gives me purpose.



*Every Drop Counts* – presented by Marian Wrage (in photo), City of Rio Rancho Environmental Programs Manager and CH2M Hill OMI (not pictured).



*Leak Detective* – presented by Smart Use, LLC (not pictured)



*Rolling River* – presented by Sandoval County Cooperative Extension and U.S. Bureau of Reclamation (not pictured).

## 2009 Town of Bernalillo, NM Old Route 66 Car Show

In July, NCS, along with other local business owners, co-sponsored The Town of Bernalillo Car Show. The show had over 5,000 visitors who enjoyed a day at Loretto Park to view a collection of 145 cars, trucks, motorcycles and bike entries.

A pre-show Friday night, "Meet, Greet and Car Cruise," started

at Loretto Park and progressed through Bernalillo's main street and neighborhoods. Over 40 cars participated in the pre-show, to the delight of many spectators coming out from homes and local businesses to enjoy the nostalgic attraction of years gone by and present day investments—muscle, color, chic, style!



Congratulations to this year's Old Route 66 Antique, Classic and Custom Car Show winners.