Resilient Business Models for Water and Wastewater Utilities

NACWA

2012 Summer Conference & 42nd Annual Meeting
July 15 – 18, 2012
Hyatt Regency Philadelphia at Penn’s Landing
Philadelphia, PA

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Special Thanks

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Topics

• Water leadership center
• Project background
• Revenue and rates trends
  – Mining NACWA Data
• The art of financial policies
  – Stephen Winters, Orange Water and Sewer Authority
  – Barry Gullet, Charlotte Mecklenburg Utilities
• Coming attractions
• Questions
2013 Water & Wastewater Leadership Center

Mark Your Calendars

February 24 - March 8, 2013

Kenan-Flagler Business School, University of North Carolina-Chapel Hill
The Water and Wastewater Leadership Program at the University of North Carolina
Leadership Program Themes and Objectives

• Self-awareness and self-assessment
• Leading and managing skills
• Thinking strategically
• Leveraging technology
• Financial sustainability
• Taking it home and putting it to work
  – Personal development plan
  – Business improvement plan
Defining a Resilient Utility Business Model (Water Research Foundation Project #4366)

- Comprehensive trend analysis
- Identify and analyze best practices (pricing, policies, new revenue strategies...)
- Examine the impact financial evaluation metrics and guidelines
- Assess impact and viability of new business models
Team Members: Raftelis Financial

Peiffer Brandt  
Co-Principal Investigator

Doug Bean  
Project Advisor and Liaison

Alexis Warmath  
Utility Liaison

Catherine Noyes  
Technical Support

Rocky Craley  
Technical Support
Team Members: Environmental Finance Center at UNC

Jeff Hughes
Principal Investigator

Mary Wyatt Tiger
Project Manager

Stacey Isaac Berahzer
Outreach Coordinator

Shadi Eskaf
Technical Lead

Christine Boyle
Technical Support
Identifying Trends and Strategies

Sample data sources
- National Pricing Data from EFC and RFC and other professional organizations
- National data on financial health metrics and revenue (rating agencies) for large systems
- State level data on financial health metrics and revenue for smaller systems (State Agencies)
- Utility level data from audit reports and billing systems
Is There any Evidence of a Problem that Needs to be Addressed?

Figure 3. OWASA Water Sales, FY 1980-2009

Average Annual Increase
1980-2002: 0.195 mgd/year
2003-2009: -0.044 mgd/year
Utility managers -- changes in water use have had:

- A large negative impact: 14
- A small negative impact: 6
- No impact: 1
- A small positive impact: 0
- A large positive impact: 0

Source: Water Resource Foundation/Environmental Finance Center
ALABAMA RESIDENTS FURIOUS OVER POSSIBLE RATE INCREASES: ‘IF THEY LET THIS STUFF HAPPEN THEY ARE GOING TO GET THE BIGGEST RIOT THE SOUTH HAS EVER SEEN’

Posted on December 17, 2011 at 3:20pm by Becket Adams

“These people are going to end up rioting about this,” says Sheila Tyson, a community activist in Jefferson County, Ala. “If they let this stuff happen they are going to get the biggest riot the South has ever seen . . . I can see it coming.”
Verizon Wireless to overhaul its phone and data pricing plans

By: Kelly Hodgkins | Jan 14th, 2010 at 12:02PM

Filed Under: Breaking, Exclusive, Favorites, Featured, Rumor
LOOKING FOR INSIGHT USING NACWA 2011 SURVEY DATA
User Charge Revenue Trends (2005 to 2011)

Source: Analysis by EFC using NACWA 2011 Survey Data
Pricing Level Modifications (2005 to 2011)

Source: Analysis by EFC using NACWA 2011 Survey Data
user charge revenue/total operating expenses

Source: Analysis by EFC using NACWA 2011 Survey Data
Change in user charge revenue user charges vs. change in user charge for 7,500 gallons from 2005 to 2011 (n=63)

Source: Analysis by EFC using NACWA 2011 Survey Data
Fixed versus variable

Data analyzed by the Environmental Finance Center at the University of North Carolina.
Data source: Each utility’s customer billing records, project funded by NC Urban Water Consortium

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Cary</th>
<th>Durham</th>
<th>Raleigh</th>
</tr>
</thead>
<tbody>
<tr>
<td>'07</td>
<td>91.4%</td>
<td>82.0%</td>
<td>76.3%</td>
</tr>
<tr>
<td>'08</td>
<td>90.8%</td>
<td>82.2%</td>
<td>74.5%</td>
</tr>
<tr>
<td>'09</td>
<td>90.4%</td>
<td>71.0%</td>
<td>74.7%</td>
</tr>
<tr>
<td>'10</td>
<td>91.1%</td>
<td>73.5%</td>
<td>75.4%</td>
</tr>
<tr>
<td>'11*</td>
<td>92.3%</td>
<td>72.1%</td>
<td>78.0%</td>
</tr>
</tbody>
</table>

*FY11 does not include all 12 months in any of the data sets
Charlotte-Mecklenburg Utilities

Water and Sewer Revenues Fixed versus variable

Data sources: Mickey Hicks, CFO, Charlotte-Mecklenburg Utilities
Minimum charge divided by total charge @ 7,500

Source: Analysis by EFC using NACWA 2011 Survey Data
ratio of minimum charge to total charge @ 7,500 vs. number of people served 2011

Source: Analysis by EFC using NACWA 2011 Survey Data
Meeting Revenue Challenges

- Costs
- **Finance Policies**
- New pricing and business models
- Supplemental services (behind the meter)
- Affordability programs
- Communication, communication…

**Rates and Revenues: Water Utility Leadership Forum on Challenges of Meeting Revenue Gaps**

Summary Report

Web Report #4405

Subject Area: Management and Customer Relations
A Utility Finance Policy is?

a. A method for maintaining a better credit union
b. A tool for influencing board decisions
c. A bunch of words not worth the paper they are written on
d. A vision of what a utility would like to become
e. All of the above?
Variations

• Length: 1 to 40 pages
• Format: 1 policy, dozens of separate policies
• Board role: reviewed, approved, informed
• Customer/public role: extensive, as an after thought
• Contents: metrics, reserve policies, financial philosophies and objectives
Charlotte Mecklenburg Utilities

- Debt service coverage ratio minimum 1.80
- Fund balance to be maintained at level equal to 100% of the operating expenses for the current budget for the operating year
- The City’s goal is a 40-60% mix of PAYGO to financing within next 2 years
Guest Presenters

Barry Gullet, Charlotte Mecklenburg Utility

Stephen Winters, Orange Water and Sewer Authority
## Financial Performance Objectives

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Objective</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Capital Reserves</td>
<td>The greater of 4 months of O&amp;M budget or 20% of the succeeding 3 years of CIP budget</td>
<td>A.1</td>
</tr>
<tr>
<td>Capital Improvements Reserve Fund</td>
<td>Minimum fund balance target of 2% of annual depreciated capital costs</td>
<td>B.1</td>
</tr>
<tr>
<td>Debt Service Coverage Ratio</td>
<td>≥ 20</td>
<td>D.1</td>
</tr>
<tr>
<td>Debt Burden to Asset Value</td>
<td>≤ 5 %</td>
<td>D.2</td>
</tr>
<tr>
<td>Sufficiency of Revenues Above Debt Requirements</td>
<td>Annual Debt service shall not exceed 35% of annual gross revenues</td>
<td>D.3</td>
</tr>
<tr>
<td>Credit Ratings</td>
<td>Aa2 – Moody’s, AA+ – Standard &amp; Poor’s, AA+ – Fitch</td>
<td>D.4</td>
</tr>
<tr>
<td>Cash Financing of Capital</td>
<td>Annual revenues and cash reserves shall provide not less than 30% of CIP funding</td>
<td>E.1</td>
</tr>
<tr>
<td>Rate/Revenue Stabilization Fund</td>
<td>Minimum fund balance target of 5% of projected water and sewer revenue</td>
<td>E.2</td>
</tr>
<tr>
<td>Service Affordability</td>
<td>Average annual residential bill divided by real median household income shall be ≤ 15 %.</td>
<td>F.2</td>
</tr>
</tbody>
</table>
RESOLUTION ADOPTING ORANGE WATER AND SEWER AUTHORITY
FINANCIAL MANAGEMENT POLICY

WHEREAS, Orange Water and Sewer Authority recognizes the importance of sound business practices and strong financial policy to support the utility’s long-term fiscal sustainability; and

WHEREAS, Orange Water and Sewer Authority’s Strategic Financial Management and Planning Document has guided financial policy since 1996; and

WHEREAS, staff and the Board of Directors’ Finance Committee have developed a revised financial management policy; and

WHEREAS, the revised Orange Water and Sewer Authority Financial Management Policy reflects sound financial policy and provides guidance for financial practices and procedures;

NOW, THEREFORE, BE IT RESOLVED:

1. That the Orange Water and Sewer Authority Financial Management Policy is hereby adopted.

2. That Orange Water and Sewer Authority’s Strategic Financial Management and Planning Document adopted September 14, 2006 is hereby rescinded.

Adopted this 26th day of March, 2009

Gordon Merklein, Vice Chair
What best describes your governing board’s role in financial decision making?

1. We present and they say yes
2. We present and they say no and tell us to cut
3. They provide thoughtful ideas that are incorporated into proposals and decisions
4. They voice their opinions loudly, but generally follow management’s lead.
Governance Structure Matters

- Municipal
- County
- Authority/special district
- Elected board
- Appointed board
- Number of local governments
- Number of board members
- For-profit board
Performance & Financial Information

As a single-purpose governmental entity, OWASA's financial activities are reported as a sole enterprise fund. We operate on a fiscal year that begins on July 1 and ends on June 30. The documents below provide information about our service objectives, business model and performance.

Budget for Fiscal Year 2013, 5-year Capital Program and Rates effective in October, 2012; related items

- **Summary of rates and fees**: Monthly rates for water, sewer and reclaimed water service will not increase in October, 2012. Various other fees including those for connecting to the OWASA system will increase in October based on updated cost calculations.
- **Annual budget** (July, 2012 - June, 2013)
- **Summary of 5-Year Capital Program**
- **Financial Management Policy**
- **Comparison of water and sewer bills in the Triangle region as of January, 2012**
- **UNC Environmental Finance Center information on NC water and sewer rates**

Key Indicators and Performance Measurements

- **Key Performance Measurement Dashboard** - a snapshot in graphic form of information we use to measure organizational performance.

Strategic Plan

- **Strategic Plan** as adopted in March, 2010
- **Strategic Plan Update in January, 2012**
Cost of Improvements and Investments

Paying for capital and infrastructure projects accounts for 62 cents of every dollar spent by the utility, and is in many ways like a mortgage that has to be paid back over time. Utilities work hard to maintain a AAA-credit rating. This allows the utility to build new projects at the lowest possible borrowing rate and save millions in interest costs.

Operating Efficiently

In an effort to maintain lower costs for customers, Utilities has increased its efficiencies in areas like energy management and reduced staffing levels. Utilities has fewer positions today than in 2001.

Water and Sewer Customer Accounts and Staff Positions

The proposed rate increase will put crews back into the field to address water leak backlogs and other maintenance items. Currently, there are 13 pipe repair crews, down from 31. The rate increase will restore 8 additional crews. This would help reduce the service backlog by adding capacity to fix about 16 additional leaks each day on average.

Minor Leak Average Repair Time (Days)

Did you know?

$1 purchases 400 gallons of water from Utilities.

By comparison, $1 purchases a single 16.9 oz bottle of water from the store.

For the same $1, Utilities delivers 400 gallons of water to customers any time, day or night.
Henry County WSA, GA

• “Beginning October 1, 2008 and on the first day of October of each year thereafter, the water and sewer rates in effect as of September 30th, 2008 and each year thereafter shall be increased by 5 percent. The 5 percent rate increase shall be computed each year by increasing the previous year's rates by 5 percent. Said rates shall remain in effect until modified, amended or terminated by the Authority.”
Rate Stabilization Account

• This account will be established to enable the District to pre-fund expected future expenses in a way that can reduce or smooth rate increases that would otherwise be needed. The Rate Stabilization Account is established and funded to meet a specific risk such as a revenue loss related to a certain level of demand curtailment. The restrictions in place will be structured so that the use of this account also helps to meet bond covenants.

• Funds deposited into this account are treated as operating costs in the year of deposit and will be treated as revenues in the years of use for the purposes of computing the District’s debt service coverage ratio. Impacts to the account are determined by the annual performance of actual rate revenue versus the budgeted rate revenue. The account will be established to accumulate funds annually up to 5% of rate revenues, however, only after all payments are made for operating expenses and debt service, and all required deposits to the debt service reserve and the working capital reserve are made. Funds will be drawn down to reduce or smooth
GA Water and Wastewater Rates Dashboard
September 2011

Select residential bill and monthly consumption amount
- Water Bill
- Sewer Bill
- Water + Sewer

5,000 gallons
668 cubic feet

Monthly Sewer Bill: $20.52
Local Basic Cable Bill in 2008: $50.95

Conservation Signal
Sewer Price/1,000 Gallons after 10,000 gallons
Min. $1.99 Max. $20.98

Cost Recovery
Financial data are unavailable. Please refer to your audited financial statement to compare operating revenues to operating expenses.

Affordability
Sewer Bills as % MHI in 2009
Min. 1.25% Max. 4%

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Funded by the Georgia Environmental Finance Authority and the U.S. EPA. Data sources: GEFA/ECF 2011 Water & Sewer Rates Survey, GA Dept. of Community Affairs, EPA SDWIS, US Census Bureau. Full basic cable price is given by the service area where available.
All A-board! Strategies to Get Your Board on Track with Financial Policies

By Mary Tiger, on July 17th, 2012

Mary Tiger is the Chief Operating Officer for the Environmental Finance Center and Project Manager for the Water Research Foundation Project.

Making the way to financial sustainability can feel like an uphill battle for utilities when stressed by unexpected weather, economic and demographic obstacles. However, getting a governing board in understanding of and agreement with financial goals can keep a utility on-track to achieve financial resiliency and avoid drastic adjustments in rates.

Continue reading All A-board! Strategies to Get Your Board on Track with Financial Policies
Peakset Base Model

- Inspiration = energy sector
- A customer’s base charge would be individually set based on their three-year rolling average peak
- Builds more of utility cost recovery into the base charge while still promoting customer conservation and efficiency

<table>
<thead>
<tr>
<th>% Fixed Revenue</th>
<th>Current Residential Rate Structure</th>
<th>High Fixed (AR1)</th>
<th>Medium Fixed (AR2)</th>
<th>Low Fixed (AR3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% Fixed Revenue</td>
<td>18%</td>
<td>57%</td>
<td>47%</td>
</tr>
<tr>
<td>Base Rate</td>
<td></td>
<td>$6.00/meter +</td>
<td>$1.85/kgal of</td>
<td>$1.49/kgal of</td>
</tr>
<tr>
<td></td>
<td></td>
<td>water + $6.00/meter -</td>
<td>historic peak</td>
<td>historic peak</td>
</tr>
<tr>
<td></td>
<td></td>
<td>irrigation</td>
<td>demand</td>
<td>demand</td>
</tr>
<tr>
<td>Variable Rate</td>
<td></td>
<td>$3.46/kgal of</td>
<td>$0.52/kgal of</td>
<td>$1.35/kgal of</td>
</tr>
<tr>
<td></td>
<td></td>
<td>previous month’s use</td>
<td>previous month’s use</td>
<td>previous month’s use</td>
</tr>
</tbody>
</table>

Think water. Think AWWA.
Ensuring the right customers are part of:

- Accuracy in targeting at-risk users of the program
- Legal authority to implement an affordable program
For on-going research discussion visit:  
www.efc.web.unc.edu

For final research results visit:  
www.waterrf.org

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