



1031 S. Caldwell Street
Suite 100
Charlotte, NC 28203

Phone 704 . 373 . 1199
Fax 704 . 373 . 1113

www.raftelis.com

October 18, 2013

To: Mr. Tom Witherspoon, Director – Water and Sewer Services Department

From: Bart Kreps, Raftelis Financial Consultants, Inc.

Date: October 18, 2013

Subject: Tennessee Advisory Commission Meeting

Raftelis Financial Consultants, Inc. (RFC) was established in 1993 to provide financial, pricing, and management consulting services of the highest quality to public and private water and wastewater utilities. RFC is one of the largest and most experienced utility rate and financial consulting firms in the country. RFC has provided rate and/or financial planning assistance to more than 500 utilities across the United States and conducted thousands of studies. This extensive experience has given us a deep and broad perspective on rate and cost of service issues. Additionally, RFC produces a biennial American Water Works Association (AWWA)/RFC National Water and Wastewater Rate Survey (RFC Survey), which is the most comprehensive collection of water and wastewater utility data available in the industry. RFC is a registered municipal advisor with the Securities and Exchange Commission (SEC) and Municipal Securities Rulemaking Board (MSRB).

Our staff members are involved in shaping industry standards by chairing and actively participating in various committees within the AWWA and the Water Environment Federation (WEF). We have authored or co-authored several industry standard books related to water and wastewater utility rate setting and finance, including [Water and Wastewater Finance and Pricing – A Comprehensive Guide, Third Edition.](#)

RFC has provided rate and financial consulting services for the City of Johnson City, Tennessee Water and Sewer System (System) since 2003. Over the past decade, we have developed a comprehensive understanding of the System's water and sewer financial structure, policies, and rate setting objectives. The System has made significant capital investments in both its water and sewer utilities, requiring proactive and consistent increases in rates and charges to promote financial sustainability, ensure access to capital markets, and provide continued and reliable service to customers. RFC has worked closely with the System to align its water and sewer rate structure with its most important pricing objectives while maintaining consistency with industry standards and cost of service principles. Like many utilities, the System continues to face the challenge of funding adequate reinvestment in aging infrastructure, addressing capacity needs, and meeting regulatory requirements with continued declines in per capita consumption.

The System provides water and sewer service to customers both within and outside of Johnson City's corporate boundaries. Customers residing outside of the corporate limits are charged a rate differential of 2.0 times the inside corporate limit rates for water and sewer service. Many municipal water and sewer utilities charge outside corporate limit rate differentials, particularly when the number of outside corporate limit customers is significant, with the System effectively serving as a regional service provider. In our experience, rate differentials typically range between 1.5 – 2.0 times and can be based on a number of possible considerations, including for specific policy objectives; to address compensation for rights and risks of ownership, particularly when debt financing of related assets is secured ultimately by the municipality's tax base; to reflect differences in the cost of service; and to reflect differences in usage characteristics.

The System has maintained a policy of charging outside corporate limit customers a differential of 2.0 times the inside corporate limit rate. Outside corporate limit customers are not owners of the System and do not bear the related risks. The System funds a significant portion of water and sewer capital investment with bonds secured by Johnson City's full faith and credit, or general obligation bonds, and by both the revenues of the System and Johnson City's full faith and credit, or double barrel bonds. The use of general obligation debt for water and sewer capital investments provides a number of benefits compared to revenue bonds, which are secured by System revenues only. Typically, general obligation debt carries a lower interest rate and lower debt service coverage requirement compared to revenue bonds. Additionally, since Johnson City's full faith and credit secures general obligation debt, other important financial metrics including, in particular, System liquidity are not as critical, as credit is established based on Johnson City's overall financial condition and not the System only. As a result, it is reasonable to assume that if the System used revenue bonds to fund water and sewer capital investment, water and sewer rates and charges would likely be higher than they otherwise would be, which provides a benefit to all water and sewer customers.

Water and sewer utilities have flexibility to align rates and charges with their most important pricing objectives as long as costs are recovered from customers in a reasonable manner. When a utility provides both water and sewer services, adopting a consistent approach to the rate methodology for each utility can promote simplicity and improve customer understanding and acceptance. For example, the System has maintained a consistent approach in its current methodology supporting the allocation of costs to fixed and variable rate structure components. It has also maintained consistency in how it charges customers residing outside the corporate limits which are located various jurisdictions.

RFC analyzed the potential impact on rates and customers if the outside corporate limit rate differential is reduced from the current level of 2.0 times to 1.5 times. The analysis was conducted using the Rate Model developed during RFC's prior assistance to the System in FY 2012. However, it should be noted the Rate Model was not updated to reflect the most current financial, operating, and customer information. The analysis determined impacts as a result of modifying the existing outside corporate limit differential in FY 2014 only, and is based on a revenue neutral approach that is recovering the same level of revenue from the water customers and sewer customers. All expenses, including debt assumptions, remain the same as projected previously in the Rate Model. Rate adjustments beyond FY 2014 match those that were approved by Johnson City in the FY 2012 rate study. Based on this analysis, when the rate differential is lowered to 1.50 times, the System would need to generate approximately \$1.75 million in revenue.

During a rate analysis, a common consideration is customer affordability. However, there is considerable debate surrounding the determination of affordability in the water and wastewater industry. While there are various methods used to determine what is affordable for customers, and utility and stakeholder perspectives may differ on the subject, in our experience, as a general rule, two of the most commonly cited references are the Environmental Protection Agency's (EPA) affordability guidelines and information provided in the Safe Drinking Water Act. Specifically, the EPA issued guidance¹ that affordability can be viewed as rates that result in customer bills less than 2.0% of median household income for wastewater service. The publication referenced is *Combined Sewer Overflows – Guidance for Financial Capability Assessment and Schedule Development*, which was issued by the EPA in 1998 and is still used during negotiations of federal consent decrees. This document classifies the financial impact of wastewater services as being high if an average cost per household is greater than 2.0% of median household income (MHI). Similarly, as noted in the American Water Works Association (AWWA) *Manual M-1: Principles of Rates, Fees, and Charges*, the Safe Drinking Water Act (S. 1547) established special assistance in communities where the average residential water bill exceeds 2.0% of MHI. Combined, these references suggest an affordability threshold of 4.0% of MHI for water and wastewater service.

Affordability continues to be a significant topic of discussion in the water and wastewater industry. Since perspectives and opinions vary, it is difficult to identify a clear definition, or statement, of what is "affordable". However, the guidance provided in documents referenced above suggest that 4.0% of MHI is one measure that can be used to evaluate affordability. Although utilities may also consider other important metrics related to assessing affordability such as demographic characteristics, customer usage patterns, and community financial strength, the general guideline of 4.0% of MHI is the metric that is most often referenced within the water and wastewater industry. Several of the major industry associations, including the AWWA and the Water Utility Council (WUC) are currently reviewing and evaluating a range of issues related to affordability, including different measures for defining affordability and various programs to provide assistance for customers where utility costs have been determined to be unaffordable.

¹ "Combined Sewer Overflows – Guidance for Financial Capability Assessment and Schedule Development", EPA 832-B-97-004, February 1997.