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September 10, 2010

Via Hand Delivery

Chairman Mary W. Freeman
c/o Sharla Dillon
Tennessee Regulatory Authority
460 James Robertson Parkway
Nashville, Tennessee 37243

FILED ELECTRONICALLY IN DOCKET OFFICE ON 09/10/10

**Re: *Tennessee American Water Company's Request for Proposal for a
Management Audit -- Docket No. 09-00086***

Dear Chairman Freeman:

Attached please find an original and five (5) copies of a Notice of Filing of Schumaker & Company's Affiliate Audit Report of Tennessee American Water Company for the Tennessee Regulatory Authority, the accompanying Audit Report, and related workpapers. Due to volume, the workpapers are being provided to you in electronic format on CD as per my previous discussion with Mr. David Foster. The Notice of Filing and Audit Report are also being filed today by way of email to the Tennessee Regulatory Authority Docket Manager, Ms. Sharla Dillon.

Please note that certain items in the workpapers that TAWC considers confidential and proprietary are not being filed at this time pending entry of a protective order.

Please file the original and four copies of this material and stamp the additional copy of this letter, the Notice of Filing, and the Audit Report as "filed," and return those file-stamped copies to me by way of our courier.

Should you have any questions concerning this matter, please do not hesitate to contact me at the email address or telephone number listed above.

With kindest regards, I remain

Very truly yours,



R. Dale Grimes

RDG/smb

Chairman Mary Freeman
September 10, 2010
Page Two

Enclosures

cc: Hon. Eddie Roberson (w/o enclosures)
Hon. Sara Kyle (w/o enclosures)
Mr. David Foster (w/o enclosures)
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Mr. Michael A. Miller (w/o enclosures)

8852122.1

**BEFORE THE TENNESSEE REGULATORY AUTHORITY
NASHVILLE, TENNESSEE**

IN RE:

**TENNESSEE AMERICAN WATER
COMPANY'S REQUEST FOR
PROPOSAL FOR A MANAGEMENT
AUDIT**

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Docket No. 09-00086

**NOTICE OF FILING OF SCHUMAKER & COMPANY'S
AFFILIATE AUDIT REPORT OF TENNESSEE AMERICAN
WATER COMPANY FOR THE
TENNESSEE REGULATORY AUTHORITY**

Tennessee American Water Company ("TAWC") hereby provides notice of the filing of Schumaker & Company's Affiliate Audit Report of Tennessee American Water Company for the Tennessee Regulatory Authority, dated August 2010, and a disc containing related workpapers. Certain items in the workpapers that TAWC considers confidential and proprietary are not being filed at this time pending entry of a protective order.

Respectfully submitted this 10th day of September, 2010.

Respectfully submitted,



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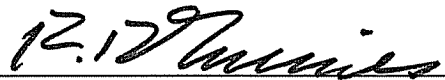
*Attorneys for Tennessee American
Water Company*

CERTIFICATE OF SERVICE

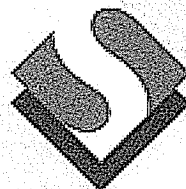
I hereby certify that a true and correct copy of the foregoing has been served via U.S. Mail, overnight delivery and/or electronic mail, on this the 10th day of September, 2010, upon the following:

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Schumaker & Company



**Affiliate Audit Report
Of
Tennessee-American Water Company
For The
Tennessee Regulatory Authority**

August 2010



August 31, 2010

Mr. David Foster
Utility Division Chief
Tennessee Regulatory Authority
460 James Robertson Parkway
Nashville, TN 37243-0505

Mr. Michael Miller
Director of Rates and Regulation
Tennessee-American Water Company
1101 Broad Street
Chattanooga, TN 37401

Regarding: Docket No. 08-00039 TAWC Affiliate Management Audit Report

Schumaker & Company, Inc. (Schumaker & Company) and its subcontractor Work & Greer, PC (Work & Greer), a certified public accounting firm, are pleased to submit our final affiliate audit report of Tennessee-American Water Company (TAWC). This report responds to the Tennessee Regulatory Authority (TRA) order in Docket No. 08-00039 and reflects the findings/conclusions and recommendations of Schumaker & Company and Work & Greer consultants.

Schumaker & Company subscribes to the audit standards set forth by the National Association of Regulatory Utility Commissioners' "Consultant Standards and Ethics for Performance of Management Analysis," dated November 15, 1989, the US Government Accountability Office's "Standards for Audit of Government Organizations, Programs, Activities, and Functions," (commonly referred to as the "Yellow Book"), as applicable to performance audits, and US generally accepted auditing standards (GAAS) to the extent they apply to performance audits. This audit conducted by Schumaker & Company and Work & Greer consultants, including the audit report, complies with: (i) US generally accepted auditing standards (GAAS) related to issues of management economy, efficiency, and effectiveness as applicable to performance audits and/or, (ii) as set forth in generally accepting accounting principles (GAAP). Our work on this project has been in compliance with these standards and our management audit report conforms to performance audit principles (in content and format) and includes an introduction and summary, a background and perspective section, a findings and conclusions section, and a recommendations section. It is based on our work plan and our professional judgment in application of that plan.

We are also providing two CDs of our working papers with our report. If you have any questions please feel free to contact me at 734-998-5550.

Patricia H. Schumaker, President & Project Engagement Manager, Schumaker & Company, Inc.

Wayne L. Fossett, Director of Accounting & Auditing Services, Work & Greer, PC

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I. Introduction and Report Summary

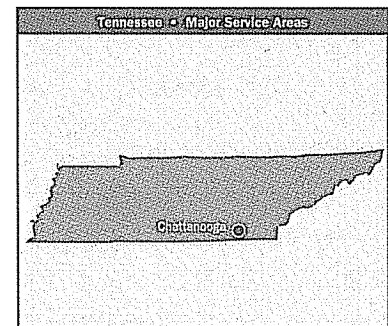
This chapter represents a summary introduction and results of the affiliate audit of Tennessee-American Water Company (TAWC) completed by Schumaker & Company in 2010 on behalf of the Tennessee Regulatory Authority (TRA). It includes a synopsis of the objectives and scope of our work, a functional evaluation summary, and several exhibits, for amplification purposes, that encapsulate the recommendations and estimated benefits associated with these improvement opportunities. The remaining report chapters contain a discussion of our findings, conclusions, and recommendations for each discrete area of review within the scope of the audit. They include:

- ◆ Chapter II – Affiliate Relationships Review
- ◆ Chapter III – Internal Controls Review
- ◆ Chapter IV – Organizational & Operations Assessment Review

These chapters provide the detailed facts and analyses that support, and provide context for, the recommendations we have made. The findings and recommendations contained in this audit report are the findings and recommendations of the consultant only and are not necessarily agreed to by TAWC or the TRA.

A. Company Background

Tennessee-American Water Company (TAWC) is headquartered in Chattanooga, Tennessee and is part of the Eastern Division organization of American Water Works Company, Inc. (American Water). TAWC is the largest investor-owned water utility in the state, serving water and/or wastewater services to approximately 76,000 residential and commercial customers in nine communities in the Chattanooga and Northern Georgia area. TAWC holds responsibility for the delivery of safe, reliable, and economic water distribution, as well as customer service to residential and business customers in Tennessee. Tennessee-American Water Company is a wholly-owned subsidiary of American Water, which is headquartered in Voorhees, New Jersey, the largest and most geographically diverse provider of water services in North America. American Water was founded in 1886 as the American Water Works & Guarantee Company and reorganized in 1947 as American Water Works Company, Inc. With a history of over 100 years, American Water provides water and wastewater services to approximately 16 million people in 35 states and two Canadian provinces. It has partnered with many municipalities within their non-regulated products and services group to maintain and operate municipality systems. American Water employs more than 7,000 employees nationwide and had approximately \$2.44 billion in total operating revenue and \$173.6 million in operating income for 2009.



Prior to being acquired in 2003 by RWE Aktiengesellschaft (RWE), which was a stock corporation incorporated in the Federal Republic of Germany, American Water was the largest publicly-traded water utility company as measured by both operating revenue and population served in the United States. After acquisition in 2003, American Water was no longer a publicly traded company. In 2005, RWE decided to divest American Water and, in March 2006, decided to affect the divestiture through the sale of shares in one or more public offerings. On April 28, 2008, RWE Aqua Holdings GmbH, a German limited liability company and a direct wholly-owned subsidiary of RWE, which then was the sole owner of the American Water's common stock, completed a partial divestiture of its investment through an initial public offering with the sale of 63.2 million shares of American Water common stock. Upon the completion of this initial public offering, American Water again became listed on the New York Stock Exchange (NYSE) under the symbol "AWK" and resumed its position as the largest publicly-traded water utility company in the United States. As of December 31, 2008, RWE owned approximately 60% of the American Water's shares of common stock. On June 10, 2009 and August 18, 2009, RWE continued to divest of its investment in American Water's common stock through public offerings of an additional 15.4 million shares and 40.3 million shares, respectively. On November 24, 2009, RWE completed the sale in a public offering of the remaining 41.1 million shares of American Water's common stock, including 3.7 million shares sold upon underwriters' exercise of their over-allotment option. As a result of the full exercise of the underwriter's option, RWE fully divested of American Water's common stock.¹

B. Audit Objectives and Scope

The objectives of the affiliate audit were established by the TRA in its request for proposal (RFP). Although the primary focus of our audit would be AWWSC, our review of affiliate relationships would also identify what services other American Water subsidiaries provide to TAWC. Therefore, the specific requirements of the management audit included the following:

1. Assessed the status and sufficiency of AWWSC's management performance and decisions relating to internal processes and internal controls.
2. Assessed the efficiency of operating procedures and communication between TAWC and AWWSC.
3. Assessed the AWWSC performance with industry standards and best management practices.
4. Assessed the appropriateness of organizational structure of AWWSC/TAWC and reporting alignment.
5. Assessed the development of AWWSC's long-range and short-range operational plans to assure the effective and efficient performance of the functions.
6. Assessed the appropriateness of AWWSC's staffing and skill sets.
7. Assessed TAWC's controls and systems to analyze and control costs from AWWSC.

8. Evaluated the accuracy and reasonableness of total AWWSC charges (including expenses) allocated to TAWC.
9. Evaluated the necessity, reasonableness/prudence, and efficiency of processes and/or functions performed by AWWSC on behalf of TAWC.
10. Evaluated the accuracy and reasonableness of the allocation factors utilized to allocate AWWSC charges to regulated and non-regulated subsidiaries, and allocated regulated AWWSC charges to TAWC, including a review of work previously performed regarding allocation methods.

Additionally we also addressed the following processes:

1. Performed the necessary audit steps, including random, statistically valid sampling, to determine whether the time and expenses charged or allocated to TAWC are accurate, reasonable, and necessary and are accurately allocated to TAWC through the AWWSC accounting system.
2. Made specific recommendations and the estimated remediation costs regarding the findings of the management audit.
3. Avoided duplicating the work, analysis, findings, and/or certifications of PwC and E&Y to the extent deemed possible to keep the cost of the management audit and the cost to TAWC customers as low as possible while formulating an opinion in conformance with the management audit requirements.
4. Provided a draft management audit report for review by TAWC prior to providing the final management audit report to both TAWC and TRA.
5. Upon completion of the management audit, we delivered to TAWC two electronic sets of working papers, indexed, and in orderly form, supporting the development of all calculations and recommendations by the Auditor and summarizing the procedures used in analyzing and evaluating all data, including proper treatment of any confidential information so designated during the development of the report.

In essence, the TRA sought to determine what improvements, if any, could be accomplished in the management and operations of TAWC. Restated, the purpose was to explore and identify practical opportunities for TAWC to achieve improvements for efficient and effective operations, quality services, and cost savings, thus providing TAWC ratepayers the lowest possible rates consistent with above-average service delivery. Our assessment included TAWC's human, physical, and capital resources, its management decisions, compliance with regulatory requirements, and ability to effectively manage outside constraints and events. Given such breadth of scope, the audit encompassed virtually all of TAWC's management and operating functions as well as those American Water Works Company, Inc. (American Water) affiliates supporting TAWC management and operations. Each review was in sufficient detail to facilitate identifying defensible recommendations for cost savings and service quality improvements that were supported by



benefit analyses to the extent they were quantifiable. This report provides details of our findings, conclusions, and recommendations for each specified area within the scope of the audit.

During conduct of the review, our consultants allocated considerable time to interviewing TAWC and American Water Works Service Company (AWWSC) personnel, reviewing reports and documentation, analyzing work flow processes, and assessing any changes being planned by AWWSC or TAWC management. The consultant team focused on identifying areas for improvement, rather than areas where operations performed well.

This review was performed in accordance with generally accepted auditing standards (GAAS), as contained in the United States General Accounting Office's "Standards for Audit of Government Organizations, Programs, Activities, and Functions," related to issues of management economy, efficiency, and effectiveness as applicable to public utilities ("Yellow Book"), and in accordance with the standards as defined in the RFP and set forth in the National Association of Regulatory Utility Commissioners' "Consultant Standards and Ethics for Performance of Management Analysis."

C. Summary of Tasks Undertaken

With regard to affiliated relationships and transactions, Schumaker & Company conducted an in-depth review of TAWC's affiliate interests that impacted the company's regulated utility operations in Tennessee. In this case, an affiliate interest is defined as a business entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with the regulated utility. Control is defined as the power to dictate or influence the policy of an entity, whether through the ownership of voting securities, by contract, or otherwise. This chapter provides a discussion of TAWC's affiliate relationships and associated transactions. In particular, this review determines the extent to which, if at all, ratepayers are compromised by TAWC's plans or activities in relation to affiliate interests. Our review of affiliate interests identified and assessed all relationships between TAWC and its affiliated entities. That review included the following activities:

- ◆ An identification and summarization of supporting documentation, billings, and charges to and from TAWC and its affiliates for the last five years.
- ◆ An evaluation of the fairness and equity of the cost-allocation methodologies used by or impacting TAWC, including the reasonableness of overhead factors utilized.
- ◆ A review and assessment of 2009 affiliate transactions from the American Water Works Service Company (AWWSC) to TAWC based on a sampling plan.
- ◆ A determination as to whether each centralized function is provided most effectively and efficiently on a centralized rather than decentralized basis, and an assessment of whether the function could be provided at a lower cost by an outside party
- ◆ A determination of the extent to which TAWC's financial strength is impacted by or insulated from its affiliated (regulated or unregulated) companies, including any determination as to

whether any American Water financial instruments contain credit-rating triggers or provisions leading to collateral calls that carry the potential to unduly affect the regulated utility's liquidity.

- ◆ A determination of the existence of formal dividend and/or royalty policies impacting TAWC, a summary of such policies including internally and externally imposed restrictions, and an analysis of TAWC's adherence to the policies.

D. Summary of Estimated Benefits

The audit produced 12 recommendations, which are contained in this report. A summary of the number of priority items, and estimated benefits, is grouped by phase. Following is a brief explanation of these categories of information.

Priority

To assist TAWC management in developing implementation plans, each recommendation has been assigned a priority of "high," "medium," or "low" according to the following criteria:

- ◆ *High* – Designated recommendations are high priority because of their importance and urgency. These represent significant benefit potential, major improvements to service, or substantial improvements to methods or procedures.
- ◆ *Medium* – Designated recommendations are of medium priority. In some instances, the implementation of these recommendations is expected to provide moderate improvements in profitability of operations, or management methods and performance. In other instances, implementation may provide significant longer-term benefits which are less predictable.
- ◆ *Low* – Designated recommendations reflect a lower priority. In many instances, they should be studied further or implemented sometime during the next few years. Potential benefits are perceived to be either modest or difficult to measure.

Exhibit I-1 summarizes the priority totals for the audit.

Exhibit I-1			
Summary of Priority Totals			
	High	Medium	Low
Priority	8	4	0



Benefits and Costs

Benefits

The audit identified quantifiable cost savings of approximately \$400,000-\$500,000 in annual savings to American Water, specifically *Recommendation III-1*, along with other non-quantifiable benefits. (The annual savings applicable to TAWC for activities identified in *Recommendation III-1* is approximately \$8,800 to \$11,000 or 2.2%, which is TAWC's average portion of AWWSC costs in 2009.) Some of these benefits could be considered an actual reduction in costs (even though they cannot be quantified at this time), whereas the majority of those savings would occur through better deployment and/or use of existing resources. Nonetheless, all of these opportunities should be pursued by the American Water organization. *Exhibit I-2* summarizes the benefits totals for the audit.

Exhibit I-2 Summary of Benefit Totals			
	High	Medium	Low
Benefits	3	7	2

In many recommendations, it is not possible or practical at this time to measure "quantitative" benefits. The benefits associated with these recommendations, which have been designated "high," "medium," or low," fall primarily into four categories:

- ◆ Reduction in actual costs of operations within a TAWC, AWWSC, or other American Water area
- ◆ Increase in a revenue source within a TAWC area
- ◆ Change in work flow processes used in the provision of services to TAWC customers on a more effective or efficient basis
- ◆ Change in other processes resulting in good business practices being implemented

Particularly in instances where a new management practice or procedure is recommended (where one either did not exist or was not fully implemented), it may be difficult to estimate the actual benefit to be derived. It is believed, however, that the overall benefit will be improved effectiveness and efficiency of the specified TAWC, AWWSC, or other American Water area. Additionally, qualitative benefits may occur that cannot be easily quantified. They could include improved effectiveness and efficiency in operations, increased customer satisfaction, additional cost savings, increased revenues, etc. It should also be noted that, because it is not possible in all instances to estimate expected benefits prior to implementation, any implementation plan should include a reliable measurement tool to track benefits after implementation.

Quantifiable benefits (increased revenues or additional cost savings) have been provided where they could be estimated. This quantification is subject to some judgment and would require additional effort beyond the scope of this review to refine the estimates. The actual benefits from these recommendations are, therefore, subject to a degree of uncertainty. For other recommendations the benefits to be derived are of a more qualitative nature or, simply stated, the expectations of prudent management. Those areas where major quantifiable benefits have been identified in the report are described on the following pages.

Costs

As TAWC may have varying ways to implement recommendations, Schumaker & Company did not quantify the remediation costs of implementing audit recommendations on TAWC's expense. However, the impact of these recommendations was estimated as "high," "medium," or "low." Quantifiable costs could be available once American Water/TAWC has identified the specific implementation steps to follow in addressing our recommendations.

Exhibit I-3
Summary of Estimated Remediation Cost Totals

	High	Medium	Low
	0	6	6

Additionally, some benefits may be achieved as soon as the remediation costs have been incurred, while implementation of other recommendations may require a phase-in period before benefits can be achieved.

E. Summary of Recommendations

The actual recommendation statements contained in the audit report are shown by work plan area on the following pages. We have also indicated the recommendation number, page number in the report, priority, estimated time-frame to initiate implementation efforts, and estimated benefits following implementation. These benefits would be offset by the cost of implementation. The details of each recommendation can be found in the individual chapters where the subject matter is evaluated.



Chapter II – Affiliate Relationships Review

	Description	Page	Implementation			Estimated Remediation Costs
			Priority	Initiation Time Frame	Benefits	
II-1	Review and approve the AWWSC Accounting and Service Fee Billing Manual annually.	51	High	0-6 Months	Low	Low
II-2	Perform a detailed analysis to verify that the use of the number of customers for allocating AWWSC costs among regulated utilities reasonably approximates the use of cost-causative factors; subsequently make modifications, as appropriate.	51	High	0-6 Months	Medium	Medium (if only detailed analysis is performed and no modifications are made) High (if modifications are required)
II-3	Continue to regularly evaluate the cost of services provided to TAWC by its affiliates so as to verify that TAWC ratepayers are not being harmed by charging these services at cost rather than market.	52	Medium	12+ Months	Medium	Medium
II-4	Provide the TRA with an informational update regarding the content of the AWWSC/TAWC affiliate agreement.	52	High	0-6 Months	Medium	Medium
II-5	Develop full-fledged service level agreements for all major AWWSC groups providing service to TAWC, except those primarily performing policy, strategy, and/or governance functions.	52	High	12+ Months	Medium	Medium
II-6	Update corporate tax allocation documentation to reflect the current American Water organization structure.	53	Medium	6-12 Months	Low	Low



Chapter III – Internal Controls Review

	Description	Page	Implementation			Estimated Remediation Costs
			Priority	Initiation Time Frame	Benefits	
III-1	Continue to reduce the use of outside contractors for SOX compliance tasks	77	Medium	6-12 Months	High \$400,000 to \$500,000 (American Water as a whole) \$8,800 to \$11,000 (TAWC portion)	Low
III-2	Conduct an annual independent review of allocation factors and charges to affiliates.	77	High	0-6 Months	Medium	Low
III-3	Increase the number of internal audits concerned with affiliate transactions and expand their scope.	78	High	6-12 Months	Medium	Medium
III-4	Improve documentation for purchase card transactions in order for a third party to determine the business purpose of the transaction and to evaluate if the appropriate formula was used to allocate the cost.	82	Medium	0-6 Months	Medium	Low
III-5	Prepare written agreements for charges from affiliated companies to AWWSC for rent (including interest on capital leases) and indirect charges, update them as changes occur, and have them approved by the appropriate regulatory commissions, as appropriate.	83	High	0-6 Months	High	Low

Chapter IV – Organizational & Operations Assessment Review

	Description	Page	Implementation			Estimated Remediation Costs
			Priority	Initiation Time Frame	Benefits	
IV-1	Place greater emphasis on measuring internal business processes that could foretell of customer satisfaction issues.	125	High	0-6 Months	High	Medium



F. Overall Summary Evaluation by Scope Item Issue

Because the bulk of a management audit is focused on opportunities for improvement, it may give the reader the impression that the utility is seriously deficient. This is not so at TAWC with regard to its affiliate relationships, transactions, and associated internal controls, because many of the findings are of relatively minor or moderate in nature. Therefore, it is necessary to put each scope item issue in perspective to provide the TRA, TAWC, and the public with an objective evaluation. The rating is an evaluation of each issue's operating or performance level relative to its optimum as of the time of the audit. The evaluation takes into account American Water's resources, requirements, constraints, and operating environment. In some areas comparative data is useful and can be used. For the most part, however, each rating is utility specific; i.e., the rating of TAWC cannot be directly compared with that of another utility. Schumaker & Company's overall assessment of each scope item issue is presented below, with the specific criteria used as follows:

- ◆ *Acceptable industry practice* – The area is functioning more than adequately and no recommendations were made.
- ◆ *Minor improvement recommended* – The area is generally functioning adequately, but minor improvements are recommended.
- ◆ *Moderate improvement recommended* – The area is generally functioning adequately, but some substantial opportunities for improvement were recommended.
- ◆ *Significant improvement recommended* – The areas is not functioning adequately and many recommendations, requiring considerable effort, need to be implemented to achieve adequate performance.
- ◆ *Major improvement recommended* – The area is not functioning effectively or efficiently and many recommendations need to be implemented to achieve adequate performance. Implementation of these recommendations will have a major effect on cost levels and performance for TAWC.

The results of this report found no recommendations that should be in the significant improvement or major improvement category.

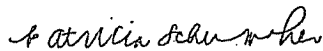
RFP Scope Item	Overall Evaluation	Applicable Findings	Applicable Recommendations
1. Assessed the status and sufficiency of AWWSC's management performance and decisions relating to internal processes and internal controls.	Moderate improvements recommended	III-1, III-2, III-3, III-4, III-5, III-6, III-7	III-1, III-2, III-3, III-4 III-5
2. Assessed the efficiency of operating procedures and communication between TAWC and AWWSC.	Acceptable industry practice	II-7	N/A

RFP Scope Item	Overall Evaluation	Applicable Findings	Applicable Recommendations
3. Assessed the AWWSC performance with industry standards and best management practices.	Moderate improvements recommended	II-1, II-3, II-4, II-5, II-6, IV-2, IV-3, IV-4, IV-5, IV-6, IV-7, IV-8, IV-9, IV-10, IV-11, IV-12, IV-13	II-1, II-3, II-4, II-5, II-6 IV-1
4. Assessed the appropriateness of organizational structure of AWWSC/TAWC and reporting alignment.	Acceptable industry practice	IV-1	N/A
5. Assessed the development of AWWSC's long-range and short-range operational plans to assure the effective and efficient performance of the functions	Minor improvement recommended	II-3, II-7	II-3
6. Assessed the appropriateness of AWWSC's staffing and skill sets.	Acceptable industry practice	IV-1	N/A
7. Assessed TAWC's controls and systems to analyze and control costs from AWWSC.	Moderate improvements recommended	III-1, III-3, III-4, III-5, III-6, III-7	III-2, III-3, III-4, III-5
8. Evaluated the accuracy and reasonableness of total AWWSC charges (including expenses) allocated to TAWC.	Moderate improvements recommended	III-2, III-6, III-7, IV-1	III-1, III-4, III-5
9. Evaluated the necessity, reasonableness/prudence, and efficiency of processes and/or functions performed by AWWSC on behalf of TAWC.	Acceptable industry practice	IV-1	N/A
10. Evaluated the accuracy and reasonableness of the allocation factors utilized to allocate AWWSC charges to regulated and non-regulated subsidiaries, and allocated regulated AWWSC charges to TAWC, including a review of work previously performed regarding allocation methods.	Moderate improvement recommended	II-2 III-3, III-4	II-2 III-2, III-3

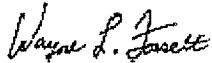


G. Affirmation

This report reflects the findings/conclusions and recommendations of Schumaker & Company and Work & Greer consultants. Schumaker & Company subscribes to the audit standards set forth by the National Association of Regulatory Utility Commissioners' "Consultant Standards and Ethics for Performance of Management Analysis," dated November 15, 1989, the US Government Accountability Office's "Standards for Audit of Government Organizations, Programs, Activities, and Functions," (commonly referred to as the "Yellow Book"), as applicable to performance audits, and US generally accepted auditing standards (GAAS) to the extent they apply to performance audits. This audit conducted by Schumaker & Company and Work & Greer consultants, including the audit report, complies with: (i) US generally accepted auditing standards (GAAS) related to issues of management economy, efficiency, and effectiveness as applicable to performance audits and/or, (ii) as set forth in generally accepting accounting principles (GAAP). Our work on this project has been in compliance with these standards and our management audit report conforms to performance audit principles (in content and format) and includes an introduction and summary, a background and perspective section, a findings and conclusions section, and a recommendations section. It is based on our work plan and our professional judgment in application of that plan.



Patricia H. Schumaker, President & Project Engagement Manager, Schumaker & Company, Inc.



Wayne L. Fossett, Director of Accounting & Auditing Services, Work & Greer, PC

II. Affiliate Relationships and Transactions Review

This chapter addresses the affiliate relationships and associated cost allocations of Tennessee-American Water Company (TAWC) with American Water Works Service Company (AWWSC), the American Water service company, and TAWC's other affiliates. With regard to affiliated relationships and transactions, Schumaker & Company conducted an in-depth review of TAWC's affiliate interests that impact the company's regulated utility operations in Tennessee. In this case, an affiliate interest is defined as a business entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with the regulated utility. Control is defined as the power to dictate or influence the policy of an entity, whether through the ownership of voting securities, by contract, or otherwise. This chapter provides a discussion of TAWC's affiliate relationships and associated transactions. In particular, this review determines the extent to which, if at all, ratepayers are compromised by TAWC's plans or activities in relation to affiliate interests.

A. Background & Perspective

Affiliate Relationships

Currently, American Water has operations in 35 US states and two Canadian provinces,² including regulated operations that are subject to utility commission oversight in Arizona, California, Hawaii, Illinois, Indiana, Iowa, Kentucky, Maryland, Missouri, New Jersey, New Mexico, New York, Ohio, Pennsylvania, Tennessee, Texas, Virginia, and West Virginia.

Organizations

The American Water Works Company (AWWC) is the parent company. All costs within AWWC are kept there and are not passed down to any subsidiary. Costs include those of the President/CEO, the SVP/CFO, and their executive assistants. Also the charges from AWWSC to AWWC are not passed down to American Water subsidiaries. Of the various American Water subsidiaries, only the following three subsidiaries provide services to TAWC as follows:³

- ◆ *American Water Works Service Company* is a service company that is designed to aid, assist, and advise other subsidiaries, such as TAWC, in their business operations by providing accounting, administration, communications, corporate secretarial, engineering, financial, human resources, information technology, operations, rates and revenue, risk management, and water quality services.



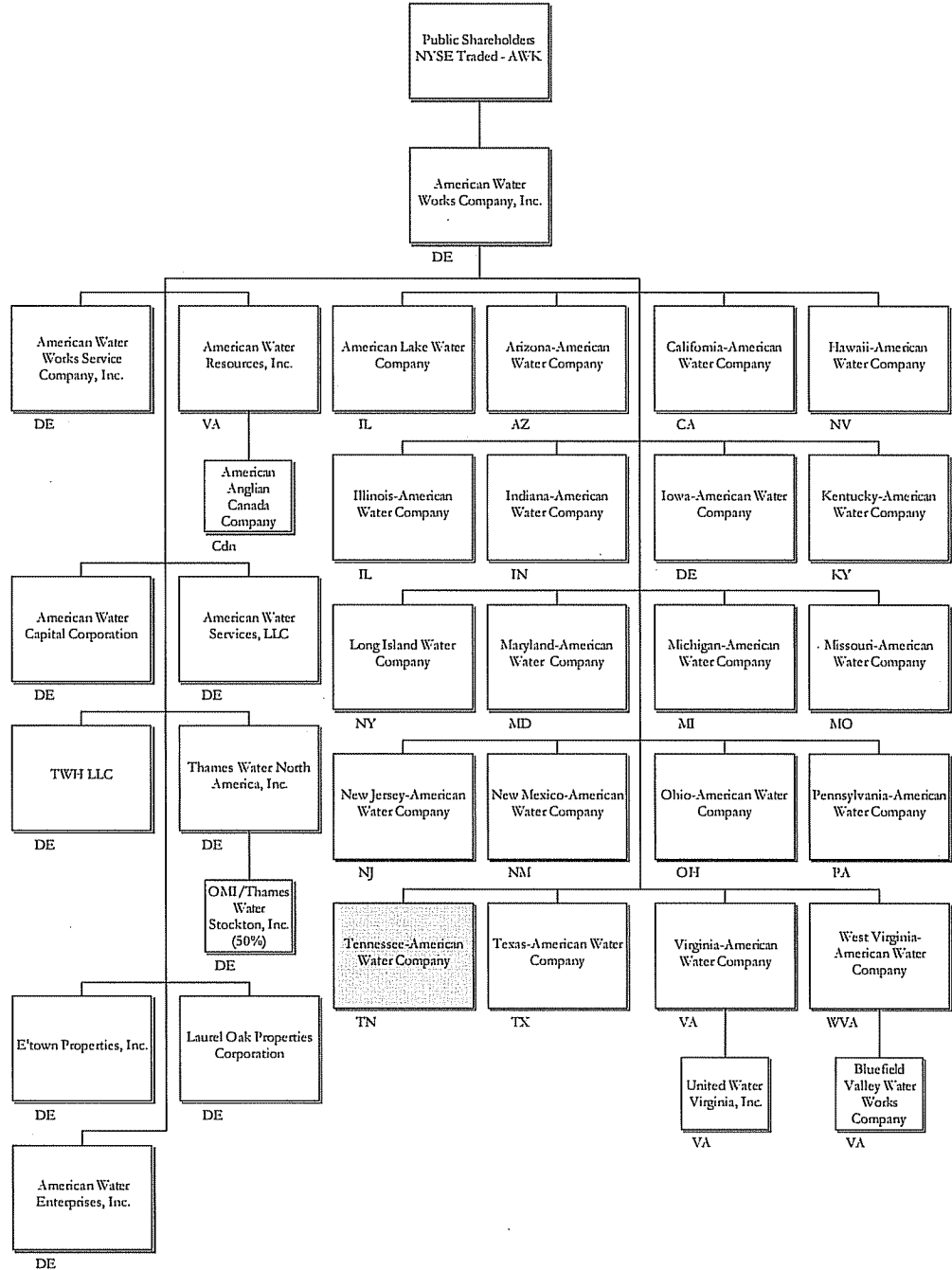
- ◆ *American Water Capital Corporation* (AWCC) is the financing arm for AWWC, AWWSC, and regulated entities only. It was started in 2000 (as a not-for-profit entity) to consolidate financing operations (and potentially vehicles) as they were previously decentralized at each American Water entity. At that time, American Water had roughly \$2.3 billion (system-wide) in debt. As of December 31, 2009, it had approximately \$5.3 billion in debt, primarily through AWCC, due primarily to infrastructure replacements and growth. The AWWSC VP & Treasurer is responsible for AWWC financings and for the agreement with TAWC that documents how affiliate transactions are handled. American Water management believes that consolidation of debt provides economies of scale, thereby allowing lower administrative charges and interest rates to regulated entities.
- ◆ *American Carbon Services* (ACS), part of *American Water Resources* (AWR), provides carbon regeneration services to utility organizations, both inside and outside the American Water organization.

Other major American Water subsidiaries include:⁴

- ◆ AWR provides homeowner protection-plan services directly to TAWC customers and other American Water utility customers. Specifically AWR provides specialized water line protection, sewer line protection, and in-home plumbing emergency protection services for repairs to the water and/or sewer lines running from a home to the street and for plumbing repairs that occur within the home (water and wastewater facilities owned by the customer, not TAWC). Because most homeowners' insurance policies do not cover this type of damage, these protection programs are designed to insulate homeowners from unexpected high repair costs associated with water or sewer line failures and with in-home plumbing repairs. Claim coverage amounts are up to \$5,000 for water lines and up to \$8,000 for sewer lines.
- ◆ *American Water Enterprises* (AWE) holds large operations and maintenance (O&M) contracts with various municipalities, but none in Tennessee.
- ◆ *Applied Water Management* (AWM) is a wholly-owned subsidiary of E'town LLC, which is a wholly-owned subsidiary of TWH LLC. TWH LLC, in turn, is a wholly-owned subsidiary of American Water. AWM provides environmental management in various states, but none in Tennessee; projects include Battery Park in NYC, Tampa Bay desalination, etc.

Exhibit II-1 illustrates the American Water organization, with state of incorporation shown in the lower left corner of each box. TAWC is highlighted in gray to showcase its location within the American Water organization.⁵ (While American Water Services, LLC, by its name, may appear to provide services to American Water operating companies, it does not. It is a non-regulated subsidiary of American Water that focuses on providing technological applications and technology-based solutions developed by American Water to other water and waste water providers. Examples of the types of services would be water quality technology developed through American Water's R&D function, automated solutions developed by American Water in distribution network and water treatment plant maintenance systems, and technology developed in various IT areas by American Water.⁶)

Exhibit II-1
American Water Works Company, Inc. Organization
as of December 31, 2009



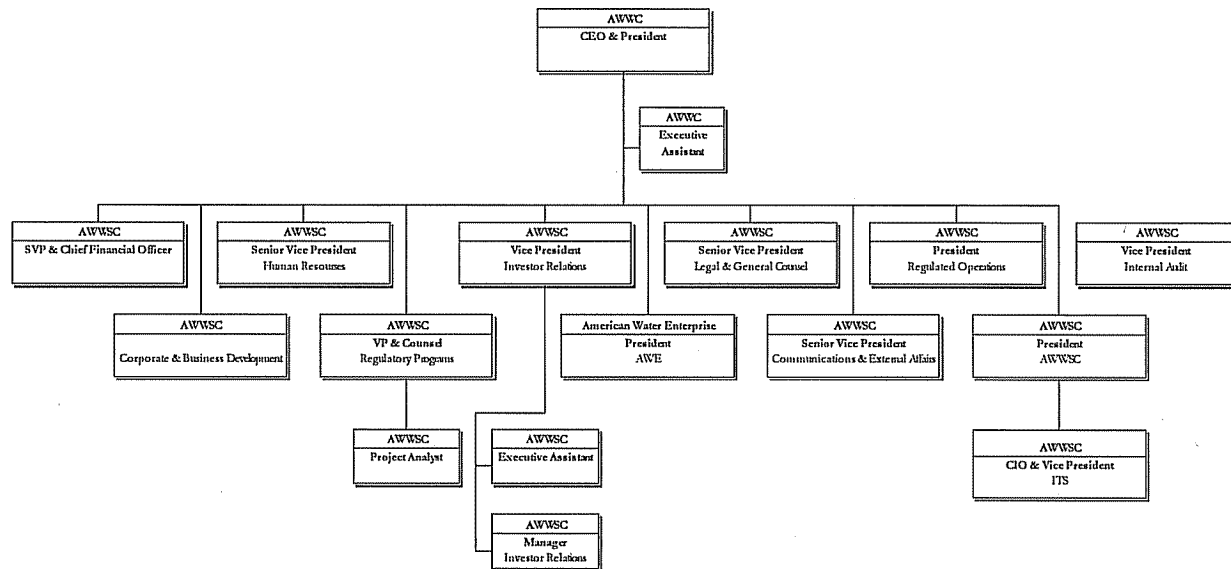
Source: Information Response 1



American Water Works Service Company

The AWWSC organization, whose affiliate transactions are the major focus of this audit report, has both a corporate group in Voorhees as well as a divisional organization comprise of four divisions (Eastern, Western, Pennsylvania, and New Jersey). *Exhibit II-2* illustrates the AWWSC corporate organization.⁷

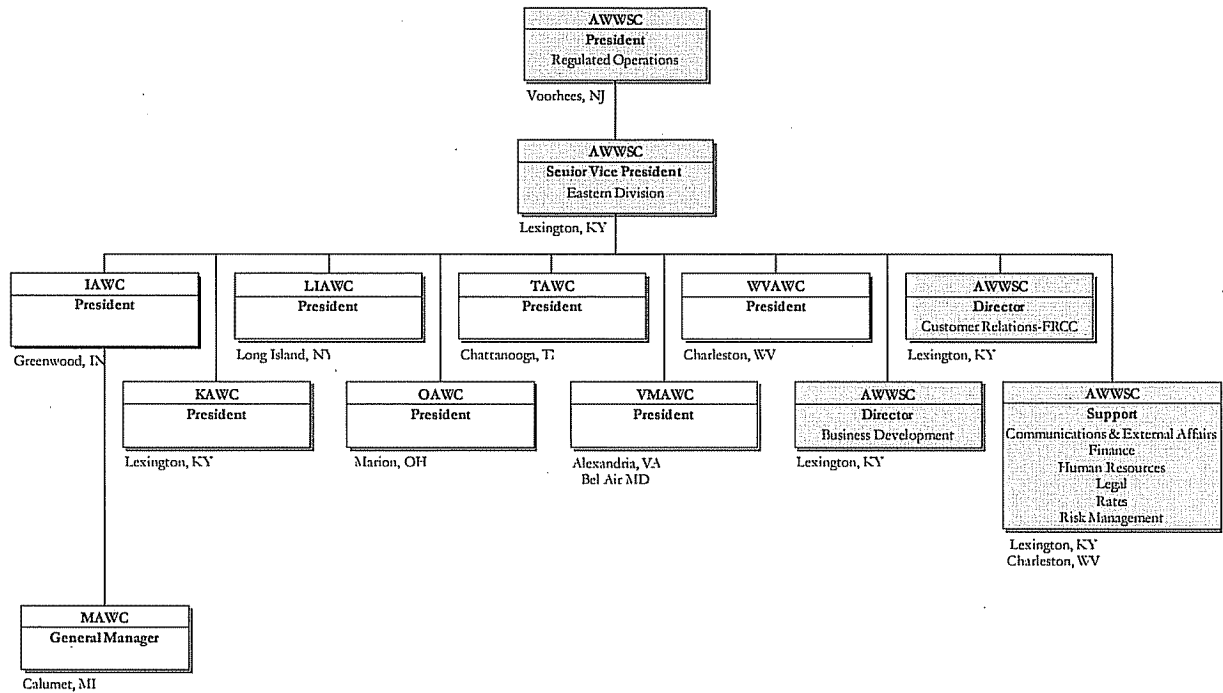
Exhibit II-2
AWWSC Organization
Executive Team
as of December 31, 2009



Acronyms at top of each box represent the employee's company affiliation. Although most employees are AWWSC employees, some are actually American Water Works Company (AWWC) employees or American Water Enterprises (AWE) employees.
 Source: Information Response 2

The AWWSC Eastern Division organization supports Indiana, Kentucky, Long Island, Maryland, Michigan, Ohio, Tennessee, Virginia, and West Virginia.⁸

Exhibit II-3
AWWSC Eastern Division Organization
as of December 31, 2009



Source: Information Response 2

As stated in a service agreement between AWWSC and TAWC, in addition to corporate governance, AWWSC provides TAWC with the following services:⁹

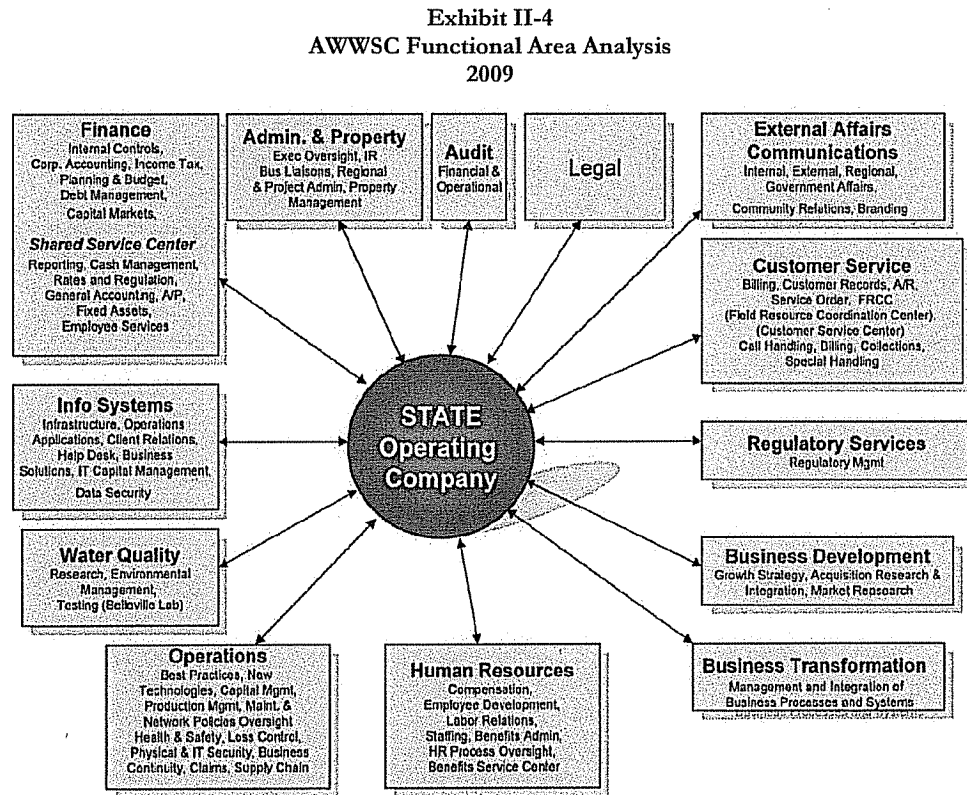
- ◆ *Accounting* – assist with preparation and implementation of accounting methods and procedures to determine that they conform fully to the requirements, rules, and regulations of governmental authorities having jurisdiction and review.
- ◆ *Administration* – perform or assist in performance of corporate activities, thereby keeping abreast of economic, regulatory, governmental, and operational developments and conditions.
- ◆ *Communication* – recommend procedures to promote satisfactory relations with employees, customers, communities, and the general public and assist in preparation of communication materials.
- ◆ *Corporate Secretarial* – assist in preparation and/or maintain documents such as minute books, by-laws, contracts, stocks, deeds, and other corporate records, and administer an orderly program of records retention.
- ◆ *Engineering* – assist and provide engineering services (i.e., system surveys, hydraulic analyses, inspections, field investigations) to aid in planning for, operating, maintaining, and constructing facilities, and provide a materials management program for volume purchase.



- ◆ *Financial* – assist in cash management and in the development and implementation of financing programs, advice on securities' market conditions, and preparation of financial reports.
- ◆ *Human Resources* – assist in obtaining qualified personnel and in carrying out training programs for the development of personnel, assure compliance of employment laws, and advise with pension and benefit plans.
- ◆ *Information Systems* – provide electronic data-processing services, including customer billing and accounting, financial statements, and other reports required by federal and state agencies.
- ◆ *Operation* – develop and assist the implementation of operating procedures to promote efficient and economic operation.
- ◆ *Rates and Revenue* – recommend changes in rates, rules, and regulations and assist in conduct of proceedings before, and in compliance with the rulings of, regulatory bodies having jurisdiction over operations.
- ◆ *Risk Management* – assist in the establishment of safety and security programs to avoid or minimize risk and loss, provide a risk management program to review exposures to accidental loss, recommend efficient methods of protection, arrange for purchase of insurance coverage, and supervise any investigation procedures.
- ◆ *Water Quality* – assist in compliance with standards of governmental agencies, provide design criteria for processes and technical assistance, and help establish and attain water quality objectives; also provide laboratory services for programmed analyses as required by drinking water regulations and any special analyses required by TAWC.



A more detailed description of the services provided to AWWSC affiliates, as illustrated in *Exhibit II-4*, was provided by American Water during the course of this audit.¹⁰

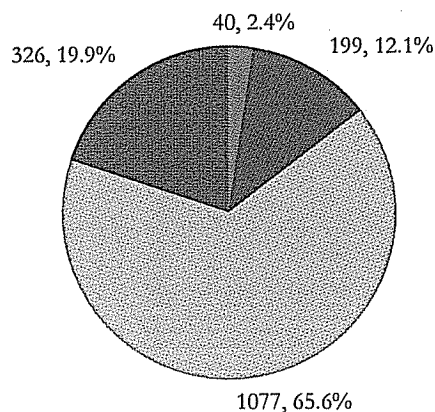


Source: Information Response 3 (Attachment 3)

An analysis of the functional areas and the number of AWWSC personnel engaged in those areas was undertaken by AWWSC to show the number of staff providing specific services in each functional area and to show the relationship between the AWWSC and state operating companies. The analysis, which was based on 1,642 AWWSC employees (as of August 9, 2009) identified the functions performed and the number of employees associated with each function. Additionally, the functional areas were further broken down into the overall sub-functions of governance, corporate functions, business services, and state or subsidiary support, as illustrated in *Exhibit II-5*.¹¹



Exhibit II-5
Mix of AWWSC Sub-Functions
as of December 31, 2009



■ Governance ■ Corporate Functions ■ Business Services ■ State or Sub-Level Support

Source: Information Response 3 (Attachment 4)

Two AWWSC organizations are primarily responsible for affiliate transactions and cost allocations.

- ◆ The AWWSC Financial Planning & Analysis (FP&A) group coordinates formulas, authorizations, and work orders (see later discussion for how they differ) used for charging costs either by direct charge or allocation. The Manager, FP&A reviews and approves all formulas, authorizations, and work orders and sends them, once approved, to the Shared Services Center for entry into the computer system. They are first approved by the project manager or VP in the functional area requesting the formula, authorization, or work order before coming to the Manager, FP&A. These formulas, authorizations, and work orders indicate how time and expenses for AWWSC employees will be allocated, as every transaction has a formula, authorization, or work order attached to it. Additionally, this group is responsible for generating monthly and year-to-date reports of the AWWSC charges to American Water subsidiaries. Starting November 2009 these reports provided a summary of the AWWSC charges billed to TAWC by AWWSC business unit (functional area), comparing the actual charges to the monthly, year-to-date, and latest reforecast budget numbers. The reports also now permit a further drill down into those charges by each AWWSC employee to TAWC as a means to determine the number of hours charged to each subsidiary (including TAWC), the manner those hours were charged (i.e. direct charge or formula), and the percentage charged to TAWC of each employee's total billed hours. The Eastern Division Finance group is responsible for the review of the reports, with primary responsibility residing with the FP&A analyst assigned directly to TAWC (formerly the Tennessee FP&A Analyst was based in Charleston, WV, but was recently replaced in late 2009 by Finance Manager located in Chattanooga, TN). This report is also provided to the TAWC President who shares it with the

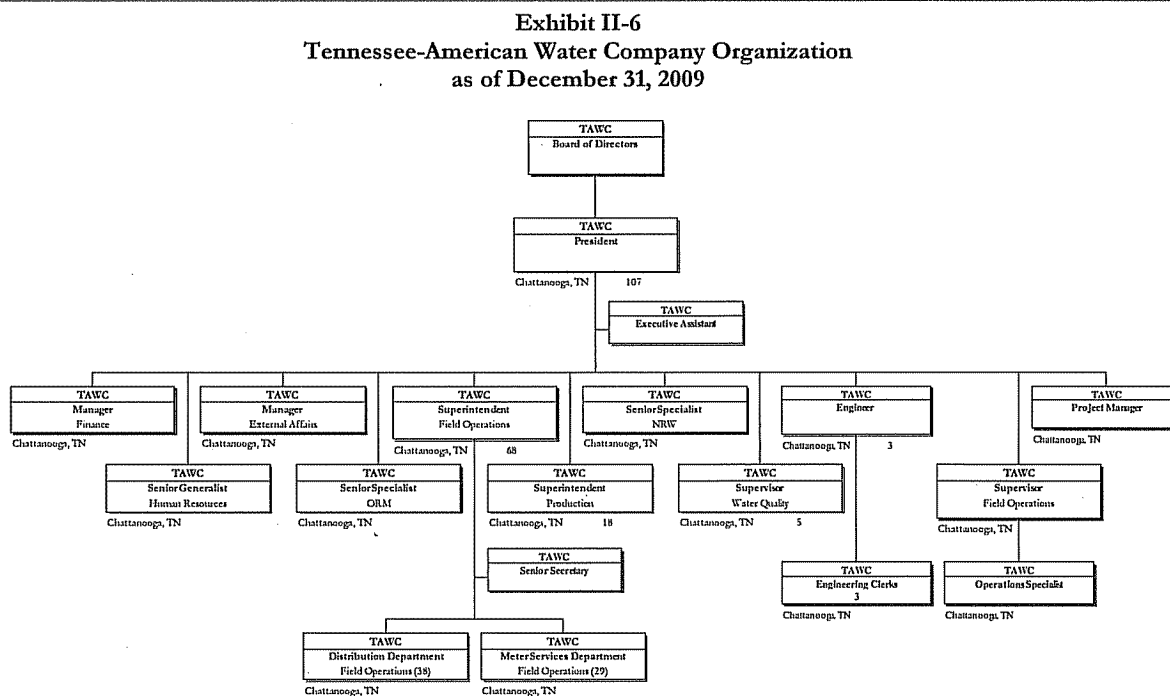
various department heads for review of material variances to plan or any questionable charges. This report is used to generate comments about the monthly charges and variances included in the monthly Business Plan Review (BPR) report and quarterly Financial Review Package (FRP) report. Month-to-month variances require explanations (income statement and balance sheet) if they are 10% or higher and exceed the state threshold amount (Tennessee's threshold amount is \$50,000). Those reports are discussed among the Divisional VP-Finance, other divisional FP&A employees, the TAWC President, and other members of the TAWC management team on a monthly and quarterly basis, and serve as the basis for the financial report to the TAWC Board of Directors each quarter.¹³ (The TAWC Board of Directors for 2009 included the TAWC President, Eastern Division VP-Finance (who is now the AWWSC Compliance Lead), AWWSC Chief Operating Officer & President of Regulated Operations, AWWSC CFO, AWWSC President, Eastern Division SVP, Eastern Division Finance Director, and two outside directors, including the President & Chief Executive Officer of Campbell & Associates, Inc., an engineering company, and the President of Chattanooga Land Co., a private non-profit group formed to acquire land and to implement a Tennessee River Park master plan.) The FP&A group is also responsible for training AWWSC employees on the use of formulas. In June 2009 the Manager, FP&A initially provided training, which included escalation procedures. Now training is included as part of the new employee orientation program. The Manager is also scheduled to give a refresher course for the June 2010 program. Other responsibilities of this group include:¹³

- Preparing or coordinating preparation of the annual budget (one year) and the business plans (three to six years duration)
 - Performing quarterly reforecasting
 - Preparing monthly and quarterly forecasting packages
 - Monthly debriefing calls (6th day of month) – AWWSC and affiliates
 - Preparing quarterly disclosure packages – 10Qs and 10Ks
 - Coordinating SOX controls for AWWSC (24 controls)
 - Reviewing financial performance, including reviewing monthly Financial Review Package (FRP) with functional leads
 - Administering the AWWSC capital budget – IT projects, remodeling, furniture, call center building, HQ building
 - Performing monthly accruals
 - Provides data to outside sources (management audits, etc.)
- ♦ The SSC Accounting group is responsible for entering formulas, authorizations, and work orders into the system; creating AWWSC bills to affiliates; and coordinating the preparation and submission of regulatory annual reports, including those to the Tennessee Regulatory Authority (TRA).¹⁴



Tennessee-American Water Company

Exhibit II-6 illustrates the TAWC organization.¹⁵



Source: Information Response 5

Agreements

Exhibit II-7 lists specific affiliate agreements involving TAWC and American Water entities.

Schumaker & Company believes that changes in nomenclature and allocation methodologies relative to the AWWSC/TAWC agreement should be provided to the TRA, as discussed later in *Finding II-4* and *Recommendation II-4*.

Exhibit II-7
Affiliate Agreements involving TAWC and Other American Water Entities
as of December 31, 2009

Type	Parties	Term
Service agreement for services provided by AWWSC to TAWC	AWWSC/TAWC	01/01/89–Ongoing
Financial services agreement for services provided by AWCC to TAWC	AWCC/TAWC	06/15/00–Ongoing
Granular activated carbon (GAC) lease agreement with AWR d/b/a American Carbon Services (ACS) providing GAC and carbon reactivation services to TAWC	AWR(ACS)/TAWC	02/03/09–Ongoing *
Billing services (service line protection fees) provided by TAWC on behalf of AWR regarding AWR's home protection program services provided to TAWC customers	TAWC/AWR	05/01/04–Ongoing **

* Starting in 2009 TAWC moved to the purchase of reactivated GAC from ACS (approximately \$210,400 in 2009) rather than the former arrangement to lease the reactivated carbon.

** \$0.405 per bill, which is the same rate that TAWC charges for billing and collection services for third-party sewer entities, which is included in TQWC's sewer billing fee.

Source: Information Responses 3, 8, 63, and 101

Affiliate Transactions

Service Transactions From/To TAWC

Affiliate (related-party) transactions involving TAWC include:¹⁶

- ◆ AWWSC services provided to TAWC
- ◆ Purchase of GAC by TAWC from AWR/ACS
- ◆ Payment of interest by TAWC to AWCC involving TAWC's line of credit
- ◆ TAWC services provided to AWR for billing of its home protection programs, which are provided by AWR to TAWC customers

PricewaterhouseCoopers (PwC) not only audits American Water financial statements and provides an opinion as to the consolidated statements, but PwC also provided audited financial statements for 17 of the regulated subsidiaries, including TAWC, for 2009. With regard to 2009, PwC gave TAWC a "clean" opinion on its financial statements. Each of these related-party transactions were included in the notes to these statements.¹⁷

Services Provided by Affiliates to TAWC

Exhibit II-8 displays the details of charges from affiliates to TAWC (TAWC related-party costs).



Exhibit II-8
Summary of Charges Involving Affiliated Services Provided To TAWC by Affiliates
2005 to 2009

	2005	2006	2007	2008	2009
AWWSC Charges to TAWC (Services)	\$4,422,702	\$4,624,377	\$4,996,171	\$5,372,847	\$5,201,095
AWR/ACS Charges to TAWC (Carbon Costs-Capitalized Costs and Chemical Expense)	\$94,248	\$259,376	\$221,860	\$213,156	\$270,775
AWCC Charges to TAWC (Interest on Short- and Long-term Debt)	\$1,538,970	\$2,072,775	\$2,618,133	\$2,513,340	\$2,185,226
Total Charges from Affiliates to TAWC	\$6,055,920	\$6,956,528	\$7,836,164	\$8,099,344	\$7,657,095

Source: Information Responses 9, 10, 63, and 95

As anticipated by Schumaker & Company consultants, the costs that TAWC pays to AWWSC for services are the largest component of TAWC's affiliate transactions. With regard to AWWSC services, TAWC's charges are made on an at-cost, not-for-profit basis as specified in the agreement between the two entities. A portion of these services are capitalized as part of TAWC's utility plant assets.

Exhibit II-9 displays TAWC's share of AWWSC operating expenses and capital expenditures from 2005 to 2009. Operating expenses charged to TAWC have ranged from 1.8% (2006) to 2.2% (2008 and 2009) of total AWWSC operating expenses. Capital expenditures charged to TAWC have ranged from 1.0% (2006) to 1.7% (2005) of total AWWSC capital expenditures.¹⁸

Exhibit II-9
TAWC's Share of AWWSC Expenses
(\$ Thousands)
2005 to 2009

Operating Expenses					
	2005	2006	2007	2008	2009
Total AWWSC Charges	\$191,232,852	\$238,948,781	\$229,624,071	\$229,668,103	\$217,863,671
Total AWWSC Charges to TAWC	\$3,716,559	\$4,376,059	\$4,734,432	\$5,038,489	\$4,881,682
	1.9%	1.8%	2.1%	2.2%	2.2%
Capital Expenditures					
	2005	2006	2007	2008	2009
Total AWWSC Charges	\$40,994,634	\$25,885,793	\$24,631,042	\$21,879,600	\$30,348,316
Total AWWSC Charges to TAWC	\$706,143	\$248,318	\$261,739	\$334,358	\$319,413
	1.7%	1.0%	1.1%	1.5%	1.1%
All Costs					
	2005	2006	2007	2008	2009
Total AWWSC Charges	\$232,227,486	\$264,834,574	\$254,255,113	\$251,547,703	\$248,211,987
Total AWWSC Charges to TAWC	\$4,422,702	\$4,624,377	\$4,996,171	\$5,372,847	\$5,201,095
	1.9%	1.7%	2.0%	2.1%	2.1%

Source: Information Responses 9 and 10

Exhibit II-10 illustrates AWWSC's operating expenses from each of the AWWSC departments and the portion charged to TAWC.¹⁹

Exhibit II-10
TAWC's Portion of AWWSC's Operating Expenses from Each of the AWWSC Departments
2005 to 2009

AWWSC Departments / Functions	2005			2006			2007			2008			2009		
	Charges		% of	Charges		% of	Charges		% of	Charges		% of	Charges		% of
	Total	Charged to		Total	Charged to		Total	Charged to		Total	Charged to		Total	Charged to	
	AWWSC	TAWC	Total	AWWSC	TAWC	Total	AWWSC	TAWC	Total	AWWSC	TAWC	Total	AWWSC	TAWC	Total
Admin	\$17,626,256	\$214,320	1.2	\$40,602,987	\$357,163	0.9	\$5,481,896	\$94,385	1.7	\$6,465,302	\$122,995	1.9	\$2,199,314	\$33,154	1.5
Audit	\$1,249,612	\$23,227	1.9	\$1,236,316	\$24,112	2.0	\$1,409,162	\$29,352	2.1	\$1,383,019	\$29,324	2.1	\$1,800,222	\$38,005	2.1
Benefit Svc Ctr	\$0	\$0	N/A	\$636,678	\$13,084	2.1	\$1,106,869	\$23,726	2.1	\$1,213,388	\$25,384	2.1	\$1,492,782	\$30,269	2.0
Business Development	\$7,597,953	\$61,430	0.8	\$7,024,719	\$80,561	1.1	\$6,476,326	\$99,318	1.5	\$4,151,035	\$42,555	1.0	\$3,677,912	\$71,892	2.0
Business Transformation	\$0	\$0	N/A	\$0	\$0		\$0	\$0		\$261,482	\$5,777	2.2	\$158,946	\$3	0.0
Call Center (CSC)	\$36,626,424	\$769,199	2.1	\$38,181,114	\$866,217	2.3	\$43,514,224	\$991,393	2.3	\$49,078,897	\$1,101,532	2.2	\$48,630,983	\$1,108,290	2.3
External Affairs/Com.	\$7,517,272	\$120,385	1.6	\$6,968,295	\$112,988	1.6	\$6,065,590	\$127,632	2.1	\$6,717,841	\$163,531	2.4	\$7,915,229	\$194,286	2.5
Finance	\$11,291,334	\$198,551	1.8	\$29,851,311	\$630,317	2.1	\$47,849,240	\$1,048,805	2.2	\$31,228,384	\$840,528	2.7	\$24,328,833	\$651,654	2.7
Human Resources	\$17,608,644	\$352,951	2.0	\$10,602,823	\$172,156	1.6	\$9,632,026	\$154,643	1.6	\$10,506,161	\$190,504	1.8	\$10,292,320	\$197,843	1.9
Investor Relations	\$0	\$0	N/A	\$251,686	\$4,949	2.0	\$402,959	\$8,294	2.1	\$769,714	\$9,366	1.2	\$988,761	\$12,238	1.2
ITS	\$24,743,503	\$482,247	1.9	\$25,662,766	\$513,077	2.0	\$27,910,190	\$590,991	2.1	\$37,629,799	\$788,417	2.1	\$42,157,405	\$921,726	2.2
Laboratory	\$4,543,677	\$104,917	2.3	\$4,824,477	\$111,618	2.3	\$4,834,831	\$109,027	2.3	\$5,640,202	\$125,725	2.2	\$5,294,296	\$122,234	2.3
Legal	\$5,844,956	\$150,689	2.6	\$6,161,599	\$137,062	2.2	\$6,591,789	\$99,775	1.5	\$6,844,245	\$106,007	1.5	\$7,646,444	\$130,586	1.7
Operation Services	\$10,500,998	\$250,260	2.4	\$10,743,145	\$293,216	2.7	\$10,561,554	\$300,063	2.8	\$11,235,333	\$291,853	2.6	\$8,446,548	\$203,132	2.4
Procurement	\$2,877,571	\$61,414	2.1	\$2,710,863	\$60,448	2.2	\$2,362,667	\$50,491	2.1	\$2,427,127	\$53,264	2.2	\$2,430,902	\$57,600	2.4
Property	\$5,631,514	\$96,091	1.7	\$8,264,408	\$144,366	1.7	\$10,638,164	\$205,599	1.9	\$13,150,773	\$256,711	2.0	\$12,088,889	\$268,314	2.2
Regulated Operations	\$21,567,827	\$485,483	2.3	\$26,828,553	\$444,118	1.7	\$27,043,590	\$447,670	1.7	\$22,391,935	\$523,558	2.3	\$18,726,526	\$427,253	2.3
Regulatory Services	\$1,316,664	\$27,625	2.1	\$2,449,364	\$48,839	2.0	\$1,061,089	\$16,766	1.6	\$372,187	\$7,243	1.9	\$692,451	\$14,985	2.2
Shared Services Center (SSC)	\$14,688,645	\$317,771	2.2	\$15,947,678	\$361,767	2.3	\$16,681,903	\$336,504	2.0	\$18,201,278	\$354,214	1.9	\$18,894,909	\$398,217	2.1
Total	\$191,232,852	\$3,716,559	1.9	\$238,948,781	\$4,376,059	1.8	\$229,624,071	\$4,734,432	2.1	\$229,668,103	\$5,038,489	2.2	\$217,863,671	\$4,881,682	2.2

Source: Information Responses 9, 10, and 65

Explanations of major increases shown in *Exhibit II-10* can be found in the *Background & Perspectives* section of *Chapter IV – Organizational & Operations Assessment Review*.



Exhibit II-11 illustrates AWWSC's capital expenditures from each of the AWWSC departments and the portion charged to TAWC.²⁰

Exhibit II-11
TAWC's Portion of AWWSC's Capital Expenditures from Each of the AWWSC Departments
2005 to 2009

AWWSC Departments / Functions	2005			2006			2007			2008			2009		
	Charges		% of	Charges		% of	Charges		% of	Charges		% of	Charges		% of
	Total	Charged to		Total	Charged to		Total	Charged to		Total	Charged to		Total	Charged to	
	AWWSC	TAWC		AWWSC	TAWC		AWWSC	TAWC		AWWSC	TAWC		AWWSC	TAWC	
Admin	21,072,579	\$459,236	2.2	1,386,344	\$35,516	2.6	520,597	\$4,494	0.9	652,111	\$5,635	0.9	185,008	\$465	0.3
Audit	54,516	\$916	1.7	38,855	\$418	1.1	23,351	\$330	1.4	36,669	\$317	0.9	14,972	\$159	1.1
Benefit Svc Ctr	\$0	\$0	N/A	5,020	\$0	0.0	3,582	\$0	0.0	\$0	\$0	N/A	14,673	\$0	0.0
Business Development	871,165	(\$431)	0.0	353,555	\$2,124	0.6	301,886	\$2,524	0.8	89,584	\$577	0.6	101,319	\$501	0.5
Business Transformation	\$0	\$0	N/A	\$0	\$0	N/A	\$0	\$0	N/A	3,913	\$29	0.7	5,531,891	\$128,000	2.3
Call Center (CSC)	(330,574)	\$4,019	-1.2	126,165	\$389	0.3	135,486	\$0	0.0	61,452	\$66	0.1	64,123	(\$52)	-0.1
External Affairs/Com.	161,356	\$2,108	1.3	166,190	\$1,747	1.1	159,154	\$1,879	1.2	155,806	\$1,042	0.7	187,214	\$683	0.4
Finance	691,609	\$13,755	2.0	1,021,932	\$5,881	0.6	1,453,583	\$6,489	0.4	1,231,513	\$9,982	0.8	1,985,274	\$4,134	0.2
Human Resources	938,013	\$19,240	2.1	706,172	\$1,739	0.2	417,988	\$1,597	0.4	457,094	\$1,064	0.2	358,752	\$1,017	0.3
Investor Relations	\$0	\$0	N/A	7,642	\$92	1.2	12,042	\$166	1.4	14,836	\$129	0.9	10,673	\$110	1.0
ITS	2,515,281	\$46,747	1.9	3,373,913	\$22,262	0.7	2,334,445	\$16,232	0.7	5,019,004	\$26,503	0.5	7,270,322	\$3,439	0.0
Laboratory	8,638	\$0	0.0	2,084	\$0	0.0	3,205	\$0	0.0	1,642	\$0	0.0	9,935	\$0	0.0
Legal	768,948	\$3,307	0.4	370,941	\$2,237	0.6	305,581	\$2,513	0.8	331,108	\$1,177	0.4	383,652	\$1,027	0.3
Operation Services	3,170,148	\$33,833	1.1	4,374,962	\$33,475	1.2	3,777,125	\$56,919	1.5	5,457,103	\$126,101	2.3	5,981,577	\$96,951	1.6
Procurement	928,811	\$21,459	2.3	994,843	\$22,148	2.2	1,854,838	\$35,639	1.9	1,945,709	\$44,543	2.3	1,955,521	\$42,678	2.2
Property	1,220,131	\$17,163	1.4	1,382,377	\$14,009	1.0	1,241,609	\$21,540	1.7	2,034,720	\$42,498	2.1	1,480,311	\$19,741	1.3
Regulated Operations	8,553,072	\$77,689	0.9	10,677,611	\$74,758	0.7	11,374,408	\$75,873	0.7	3,961,963	\$14,789	0.4	4,142,423	\$20,440	0.5
Regulatory Services	35,992	\$642	1.8	52,609	\$806	1.5	86,042	\$9,583	11.1	7,957	\$1,039	13.1	9,815	\$98	1.0
Shared Services Center (SSC)	334,948	\$6,458	1.9	844,580	\$10,717	1.3	626,120	\$25,962	4.1	417,414	\$58,867	14.1	660,860	\$20	0.0
Total	\$40,994,634	\$706,143	1.7	\$25,885,793	\$248,318	1.0	\$24,631,042	\$261,739	1.1	\$21,879,600	\$334,358	1.5	\$30,348,316	\$319,413	1.1

Source: Information Responses 9, 10, and 65

Exhibit II-12 displays affiliate charges segmented by operating expenses and capital costs, with operating expense charges broken down further by direct charge, national allocation, and regional allocation.²¹

Exhibit II-12
Direct Charges versus Allocations for AWWSC Charges to TAWC
2005 to 2009

	2005		2006		2007		2008		2009	
	\$	%	\$	%	\$	%	\$	%	\$	%
Direct Charge	\$274,788	7.4%	\$444,582	10.2%	\$508,856	10.7%	\$550,515	10.9%	\$502,272	10.3%
National Allocation	\$2,792,089	75.1%	\$3,460,656	79.1%	\$3,856,991	81.5%	\$4,071,331	80.8%	\$4,006,090	82.1%
Regional Allocation	\$649,682	17.5%	\$470,820	10.8%	\$368,586	7.8%	\$416,644	8.3%	\$373,321	7.6%
Total Operating Expenses	\$3,716,559	100.0%	\$4,376,059	100.0%	\$4,734,432	100.0%	\$5,038,489	100.0%	\$4,881,682	100.0%
Total Capitalized Expenditures	\$706,143	100.0%	\$248,318	100.0%	\$261,739	100.0%	\$334,358	100.0%	\$319,413	100.0%
Total AWWSC Charges	\$4,422,702		\$4,624,377		\$4,996,171		\$5,372,847		\$5,201,095	

Source: Information Responses 9

Information available for the last five years (2005 to 2009) indicates that direct charges have ranged between 7.4% and 10.9% of AWWSC operating expense charges to TAWC, while allocations of

operating expenses (both national and regional allocations) have ranged between 89.1% and 92.6. All capital expenditures are considered direct charges as they are specifically identified with projects.²²

Exhibit II-13 illustrates total AWWSC charges to TAWC by function for the years 2005 through 2009.²³ In 2009, the five largest AWWSC charges (in descending order) are those from the Customer Service Center (CSC), Information Technology Services (ITS), Finance, Regulated Operations, and the Shared Services Center (SSC).²⁴

Exhibit II-13
AWWSC Charges to TAWC by Function
2005 to 2009

Function	2005 Total	2006 Total	2007 Total	2008 Total	2009 Total
Admin	\$673,556	\$1,012,977	\$98,879	\$128,630	\$33,619
Audit	\$24,142	\$24,530	\$29,681	\$29,641	\$38,164
Benefit Svc Ctr	\$0	\$13,085	\$23,726	\$25,384	\$30,269
Business Development	\$60,999	\$82,685	\$101,842	\$43,132	\$72,394
Business Transformation	\$0	\$0	\$0	\$5,806	\$128,003
CSC	\$773,218	\$866,606	\$991,393	\$1,101,598	\$1,108,238
External Affairs/Communication	\$122,494	\$114,735	\$129,511	\$164,574	\$194,969
Finance	\$212,306	\$636,198	\$1,055,294	\$850,510	\$655,788
Human Resources	\$372,191	\$173,895	\$156,239	\$191,568	\$198,860
Investor Relations		\$5,041	\$8,460	\$9,495	\$12,348
ITS	\$528,994	\$535,339	\$607,223	\$814,920	\$925,165
Laboratory	\$104,917	\$111,618	\$109,027	\$125,725	\$122,234
Legal	\$153,995	\$139,300	\$102,288	\$107,184	\$131,613
Operation Services	\$284,094	\$346,691	\$356,982	\$417,954	\$300,083
Procurement	\$82,873	\$82,596	\$86,130	\$97,808	\$100,278
Property	\$113,254	\$158,375	\$227,139	\$299,209	\$288,055
Regulated Operations/FRCC	\$563,172	\$518,876	\$523,542	\$538,348	\$447,694
Regulatory Services	\$28,268	\$49,645	\$26,349	\$8,282	\$15,084
SSC	\$324,228	\$372,484	\$362,466	\$413,081	\$398,236
Grand Total	\$4,422,702	\$5,244,675	\$4,996,171	\$5,372,847	\$5,201,095

Source: Information Response 65

Several reasons exist why costs have increased from 2005 to 2009, as discussed further in *Chapter IV – Organizational & Operations Assessment Review* on pages 87 and 88.

In Schumaker & Company's audit of Pennsylvania-American Water Company in 2008, we previously provided recommendations in each of these areas, each of which involved AWWSC activities. Those recommendations involving AWWSC activities, with their respective existing status, include:²⁵



	Description	Status
Financial Management (Included Finance and SSC Activities)		
III-1	Research and develop plans for upgrading or replacing the current ERP system.	Accepted-In progress, as discussed elsewhere in this report; current plan is to be implemented by December 2012.
III-3	Assess the need for internal audits of American-Water-regulated utility operations and develop and implement plans to meet the internal audit requirements.	Accepted-completed by September 2008 with audits in progress, as discussed elsewhere in this report
ITS		
IV-1	Expedite efforts to develop a long-range IT plan, and subsequently perform yearly review and update activities.	Accepted-December 2008 anticipated completion date; implemented by September 2009.
IV-2	Update ITS documentation as part of an ongoing program to include all aspects of a well-managed technology organization, including (but not limited to) operational, governance, and project management/QA functions.	Accepted-April 2009 anticipated completion date; implemented by March 2010.
IV-3	Address organizational issues involving vacancy of director positions, the appropriateness of staffing size of the various ITS groups, and the reporting location of the information systems' security function within American Water's organization structure.	Accepted-October 2008 anticipated completion date; implemented by September 2009.
IV-4	Expand American Water's commitment to project-management principles by requiring all ITS employees who are actively involved in project work to achieve PMP certification and by closely monitoring related activities to ensure that timely progress is made.	Accepted-6/09 anticipated completion date; current plan is to be implemented by March 2011.
IV-5	Enhance the American Water network to enable electronic deployment of software updates to PAWC employees.	Accepted-December 2009 anticipated completion date; implemented by July 2010.
IV-6	Improve training and development efforts for ITS employees.	Accepted-initially done by April 2008 with scheduled semi-annual updates; implemented by September 2009.
IV-7	Develop a plan to regularly conduct ITS client-satisfaction surveys and implement the first survey in a timely manner.	Accepted-March 2008 anticipated completion date; implemented by March 2010.

	Description	Status
IV-8	Establish ITS service-level agreements with major client groups.	Accepted-March 2009 anticipated completion date; as discussed elsewhere in this report, metrics developed by September 2009 but not SLA documentation
IV-9	Implement a relevant ITS scorecard.	Accepted-March 2009 anticipated completion date, as discussed elsewhere in this report, metrics developed; implemented September 2009.
IV-10	Update the ITS disaster recovery plan and begin routinely reviewing and testing disaster-recovery plans and documenting results.	Accepted-September 2009 anticipated completion date; current plan is to be implemented by December 2010.
IV-11	Perform a server consolidation study and implement study recommendations.	Accepted-March 2010 anticipated completion date; current plan is to be implemented by December 2010.
Water Operations		
V-1	Aggressively pursue the identification and implementation of technology-based best practices among the water districts.	Accepted-March 2010 anticipated completion date; current plan is to be implemented by December 2014.
V-2	Develop a business process for addressing aggressive identification of the most beneficial main segments for replacement based on an expectation of potential leak impact.	Accepted-June 2010 anticipated completion date; current plan is to be implemented by December 2014.
V-3	Implement a computerized maintenance management system in conjunction with the proactive production equipment maintenance program.	Accepted-September 2011 anticipated completion date; current plan is to be implemented by December 2014.
V-4	Continue to develop a risk-assessment-based approach for identifying main replacement projects.	Accepted-June 2010 anticipated completion date; current plan is to be implemented by December 2014.



	Description	Status
Customer Service		
X-1	Invest in new customer interfacing technology, including IVR, electronic billing, and web self-service capabilities.	Accepted-March 2010 anticipated completion date- IVR and web-service already initiated in first quarter 2010; web self service is planned by September 2011.
X-2	Analyze employee turnover at the Pensacola Call Center and develop strategies to reduce turnover.	Accepted-June 2009 anticipated completion date; implemented by October 2009.
X-3	Strengthen recruitment, selection, and training practices to improve the quality of new CSR hires.	Accepted-January 2009 anticipated completion date; implemented by April 2009.
X-7	Initiate actions to lower the number of over estimates in meter reading.	Accepted-April 2009 anticipated implementation plan completion date with implementation afterwards; interim solution to be implemented by September 2010 in conjunction with business transformation project; current plan is to be fully implemented by December 2014.
X-8	Complete the upgrade project for Advantex.	Accepted-December 2009 anticipated implementation date; implementation currently underway; current plan is to be implemented by December 2010.

See *Chapter IV* for further discussion regarding CSC, Regulated Operations, and SSC activities of the AWWSC organization and how they impact TAWC operations. See *Finding II-5* regarding metrics and/or service-level agreements (SLAs) regarding SSC, CSC, and ITS activities.

Services Provided by TAWC to Affiliates

The only affiliate charges from TAWC to affiliates (TAWC related-party revenues) were billing for home protection programs provided by AWR to TAWC customers.²⁶ *Exhibit II-14* displays the charges with these billing services provided by TAWC on behalf of AWR for 2005 to 2009.²⁷

Exhibit II-14
Summary of Charges Involving Affiliated Services Provided by TAWC to Affiliates
2005 to 2009

	2005	2006	2007	2008	2009
TAWC Charges to AWR (Billing of Home Protection Programs to TAWC Customers)	\$0	\$0	\$52,617	\$43,200	\$39,365
Total Charges from TAWC to Affiliates	\$0	\$0	\$52,617	\$43,200	\$39,365

Source: Information Response 95

Similarly, although not affiliate charges, TAWC provides third-party billing and collection services for a number of sewer authorities in and surrounding Chattanooga (Tennessee) (Chattanooga, East Ridge, and Red Bank) and North Georgia (Rossville, Ft. Oglethorpe, and Catoosa County). Primarily, these services are provided to sewer authorities and municipalities whose sewer customers receive their water service from TAWC. TAWC charges each of those sewer entities \$0.405 per bill per tariff as approved by the TRA.²⁸

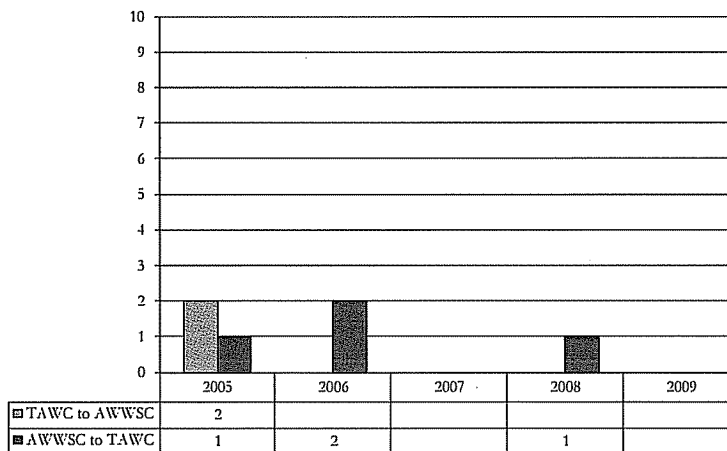
Personnel Transfers From/To TAWC

When employees are transferred from/to TAWC and its affiliates, the transfers are accounted for by American Water at the headcount level only. That is, costs previously incurred (up to the time of transfer) for salaries/wages, employee benefit costs, and related budget dollar amounts (such as training costs) remain with the group from which the employee transferred. Costs subsequently incurred (after the time of transfer) are charged to the group to which the employee transferred.²⁹

Very few transfers between TAWC and AWWSC have occurred over the last five years. *Exhibit II-15* illustrates the headcount of individuals transferred between TAWC and AWWSC during the years spanning 2005 through 2009.³⁰



Exhibit II-15
Personnel Transfers From/To TAWC and its Affiliates
2005 to 2009



Source: Information Response11

Property Transfers From/To TAWC

There have been no affiliated transactions involving property transfers during the past five years.³¹

Major Processes and Systems

Budgeting and Planning

The budget and planning process at AWWSC level is designed to assure that TAWC has significant input into the processes and the types, levels, and costs of AWWSC that will be charged to TAWC. This budget and planning process is further reviewed when the AWWSC charges are rolled into the TAWC budget and plan, which includes review and forecasting of such items as rate impacts, cost of service, cost per customer, etc. The final level of AWWSC charges included in the budget and plan for TAWC are then reviewed and approved in the context of the overall TAWC budget by its Board of Directors.³²

Cost Accumulation & Assignment

Tennessee-American Water Company

TAWC's time and attendance system is primarily for payroll purposes. The TAWC system, which interfaces with the AWWSC's JDE time and attendance system, produces a default time sheet for each TAWC employee based on predetermined information provided. Labor distribution is validated. Leave balances (vacation, sick days, etc.) are created and validated against the available balance. Job-type codes

are used to calculate a base rate. The system is also designed to consider applicable shift differentials so that the employee's total gross pay can be calculated. All hours reflected in the time and attendance system are verified with those hours transferred to the JDE payroll module.³³

Unlike the JDE cost-allocation module that automatically determines AWWSC charges to American Water affiliates, the TAWC organization must manually create an invoice if, and when, it performs services for other American Water entities. Charges from TAWC to other American Water affiliates are processed via an inter-company request form. An example of such a charge is the billing by TAWC of AWR's home protection services to TAWC customers. Only in rare and exceptional cases, however, does TAWC bill other regulated affiliates for goods and/or services. Both the initiating and receiving parties must agree on the charges before processing. Billing is at actual cost of the goods or services.³⁴

AWWSC

Time spent by AWWSC employees to provide services to American Water business units is recorded on weekly time sheets. Each AWWSC employee is responsible for coding time sheets, invoices, or journal entries so that the appropriate formula is attached to the transaction and the operating utilities benefiting from the related service provided are appropriately charged for that service. Each transaction is then reviewed and approved by a supervisor or manager before being posted to the AWWSC general ledger system.³⁵ The SSC Accounting Department runs an automated program at each month end that processes AWWSC transactions based on the billing number (authorization, formula, or task (work) code as discussed in the following sections) attached to each transaction and creates a bill for each operating utility.³⁶

The time spent to provide services directly to regulated or non-regulated business units (BUs) is directly charged to the billing number (sometimes referred to as a charge code) that is specific to the BU(s). The time spent providing services shared in common with similar services provided to both regulated and non-regulated BUs is allocated based on formulas as discussed in the *Direct Charges/ Cost Allocation* section as *Tier One* charges. Subsequently regulated costs are then allocated, referred to as *Tier Two* charges, based on the number of customers.³⁷

Three major types of billing numbers are used within AWWSC for cost accumulation as follows:³⁸

- ◆ *Authorizations* – These billing numbers are used to segregate costs for specific tasks or projects that benefit a specific group of affiliates (i.e., water quality research for surface water treatment plants) or a more all-encompassing group of affiliates (i.e., the start-up costs for the Call Center project). *Tier One* charges to regulated and non-regulated BUs that benefit from the completion of a project billed through an authorization billing number are determined through the use of a cost-allocation formula.
- ◆ *Task Orders* – These billing numbers for task orders (sometimes referred to as work orders) are used to segregate costs for specific tasks or projects that are primarily associated with specific capital projects. In most instances, time charges are directly assigned to the specific affiliate that has authorized the capital project.



- ◆ *Formulas* – These billing numbers are used to record labor and/or expenses involved when providing services (i.e., purchasing, payroll, tax preparation, etc.) to two or more affiliates. Formulas are used to segregate and allocate the costs incurred in providing similar services among the group of affiliates that benefit from that service.

Additionally, overhead billing numbers are used by support staff and facilities services for support staff labor, utility bills, rent, depreciation, etc. In this way, they serve as a means of assigning overhead costs by location either directly in support of one operating company (direct charges) or in allocation to several operating companies (allocations).³⁹

Direct Charges/Cost Allocation

The hierarchy of how AWWSC charges are billed to other American Water affiliates is as follows:

- ◆ First, direct charges are made to a subsidiary or a group of subsidiaries based on time reporting; either direct charges are made for services provided to an identifiable business unit or, for employees performing transactional services, on the basis of a sample period of detailed time sheet records.⁴⁰
- ◆ Second, AWWSC costs are then split between regulated and non-regulated entities based on what American Water considers cost causative factors, also referred to by American Water as *Tier One* charges. This was a new step that began in 2005 based on work performed by a cost-allocation committee with input from an outside consulting firm (Deloitte Touché). The role of the committee was to review AWWSC's cost-allocation procedures, particularly with regard to the allocation of AWWSC costs to the non-regulated entities. In this way, the committee could ensure that an appropriate portion of AWWSC costs was allocated to the non-regulated entities, based on the nature of any services provided to them. The committee was formed in late 2003 and work (including interviews with all AWWSC functional leads) continued until 2004. Its results (a matrix of factors by group and associated rationales) were then approved and submitted to a "billing re-write process" group as one of the inputs in making changes to American Water's cost-allocation process. Implemented at the beginning of 2005, training was provided to all AWWSC employees by the Human Resources (HR) organization. The metrics currently being used for allocating these *Tier One* charges among regulated and non-regulated entities include:⁴¹
 - 1) *3-Factor Formula* – includes the primary cost drivers of (1) operating revenues, (2) net property, plant, and equipment, and (3) employees that are common to the operation of regulated and non-regulated BUs. Each of these drivers is equally weighted within the formula. Also, these metrics include only those non-regulated BUs that are receiving services.
 - 2) *2-Factor Formula* – includes the primary cost drivers of operating revenues and employees, with each of these drivers equally weighted within the formula. Also, these metrics include only those non-regulated BUs that are receiving services.

- 3) *Revenue Factor* – Operating revenues were selected as a surrogate for customers, because certain affiliates do not have their own customers. For example, this factor is the primary cost driver for external communication. Also, this metric includes only those non-regulated BUs that are receiving services.
 - 4) *Personal Computer Factor* – includes the number of personal computers as the primary cost driver for those Information Technology Services (ITS) organization services associated with acquiring and supporting personal computers (PCs).
 - 5) *Total Premises Factor* – includes the number of premises¹ maintained on the AS/400 database as the primary cost driver for ITS services associated with operation of AS/400 computers.
 - 6) *Employee Factor* – includes the number of employees as the primary cost driver for general employee-related services such as human resources and payroll. Also, this metric includes only those non-regulated affiliates that are receiving services.
 - 7) *Budgeted Capital Projects and Engineering Project Management Factor* – includes the dollar value of budgeted capital expenditures for the year as the primary cost driver for services associated with capital projects as well as costs not directly assignable to task orders.
 - 8) *Research Authorization Project Factor* – includes the dollar value of budgeted research projects for the year as the primary cost driver for services associated with water quality research projects. This metric includes only those non-regulated BUs that are receiving services.
 - 9) *Purchasing Orders and Purchasing Card (P-Card) Factor* – includes the number of purchase orders and P-Card transactions processed on an annual basis as the primary cost driver for transactional services associated with purchasing and paying invoices for goods and services.
 - 10) *Employee and Retiree Factor* – includes the sum of the number of employees and retirees as the primary cost driver for Human Resource's Benefits Call Center services and its benefits support communications.
 - 11) *100% Non-regulated Company* – allocates expenses to non-regulated affiliate(s) in which specific non-regulated affiliate(s) charged are per request from the formula requestor.
 - 12) *100% Regulated Company* – allocates expenses to regulated affiliate(s) in which specific regulated affiliate(s) charged based on *Tier Two* factors.
- ♦ Third, the number of customers is used to split regulated costs among the various utility organizations, also referred to by American Water as *Tier Two* charges. The number of customers at year end is used for allocations in the following year (unless significant changes occur). American Water management uses the number of customers for splitting costs among regulated entities because all of its regulated customers are considered to receive essentially the same services.⁴²

¹ The term "premises" is the reference to a location/customer record in ORCOM. Billing is done for some non-regulated customers as well as regulated customers. The statistic is easily obtained from ORCOM records.



- ◆ Fourth, overhead costs are charged to both directly charged and allocated costs.⁴³

The above description is conceptually the hierarchy of how direct charges/cost allocations occur, although the computer system actually performs the first three items simultaneously and then applies overhead costs accordingly.

AWWSC expenses are categorized in *Exhibit II-16*, which shows whether a category results from being directly charged, allocated, or potentially both.⁴⁴

Exhibit II-16
AWWSC Expense Categories
as of December 31, 2009

Expense Category	Description	Direct Charged	Allocated	Comments
Labor	Base pay (salaries) of managerial, professional, and technical employees	X	X	Professional personnel working for one or several operating companies
Labor-related Overheads	Employee benefit costs (payroll taxes, medical coverage, pensions, disability insurance) and other general expenses	X	X	Primarily employee benefit costs that relate directly to labor
Support overheads	Wages and salaries of office support personnel, including secretaries, clerical personnel, telephone operators, and mail clerks		X	Administrative personnel supporting the professional staff; thus support costs are allocated on the basis of professional labor
General overheads	Office rent, equipment leases, telephone, electric, office supplies, property taxes, office maintenance		X	Allocated on the basis of professional labor
Vouchers/journals	<ul style="list-style-type: none"> ◆ Travel expenses incurred by AWWSC personnel ◆ Other items submitted for reimbursement by employees, including professional association dues ◆ Outside service contracts for such things as actuarial services ◆ Various other expenditures, including data center expenses for software licenses and hardware maintenance 	X	X	May be either directly in support of one operating company (e.g., an engineer traveling from the Corporate Office to the operating company) or allocated to several operating companies

Source: Interviews 9 and 24

As previously discussed, the corporate Financial Planning & Analysis and SSC Accounting groups are jointly responsible for different aspects of cost-allocation oversight within the AWWSC organization. On behalf of TAWC, the Financial Planning & Analysis group reporting to the Eastern Division Finance Director reviews the AWWSC bills on a monthly basis to ensure that charges are appropriate.⁴⁵

Systems

AWWSC uses JD Edwards (JDE) from Oracle for its financial enterprise resource planning (ERP) system, and as such, it is the system used to support direct billing and/or cost allocation to affiliated companies. Additionally, AWWSC and TAWC use internally-constructed time and attendance modules that are downloaded into the JDE software.⁴⁶

The AWWSC is investigating new ERP options. The reason that AWWSC is planning on using the proposed new ERP primarily for regulated subsidiaries and only on a limited basis for non-regulated operations is because of the amount of customization that AWWSC management expects would be required for the non-regulated operations. Approximately 90% of the accounting requirements in these investigations are for American Water's regulated activities. The team working on the new ERP investigations includes the former VP, Internal Audit, the Chief Information Officer (CIO), and representatives and subject matter experts (SMEs) for six basic functions: 1) record to report, 2) hire to retire, 3) procure to pay, 4) order to cash, 5) construct to replace, and 6) field service. There is a Steering Committee for this project made up of upper management, including President, Regulated Operations; SVP & Chief Financial Officer; SVP Communications & External Affairs; SVP, Human Resources; and President AWWSC. AWWSC has completed the evaluation stage in which Oracle and SAP were reviewed regarding the financial and customer services components, as possible ERP candidates. Based on this evaluation, the SA software was chosen for implementation. Plans are for a five-year timeframe for the new ERP to be implemented and fully operational.⁴⁷

Invoicing and Payment Methodologies

AWWSC bills monthly for the cost it incurs in providing affiliate services. All charges that pass through AWWSC must be billed at the end of each period; therefore, according to AWWSC management, a high-level verification of the AWWSC profit and loss (P&L) statement is performed to ensure that all expenses were billed.⁴⁸

A monthly bill (AWWSC to TAWC) showing a description of service (by function), number of associated hours (by function), associated payroll dollars (by function), associated expense dollars (by function), and total dollars (by function), along with summary totals is provided for current-month charges. The total amount due includes total current month charges minus payment for prior estimated billing, plus estimated current-month billing.⁴⁹ Along with the monthly bill, since November 2009, extensive spreadsheets (as discussed later in *Finding II-1*) providing TAWC with detailed data by person and by function has been provided.

Restrictions

Dividends

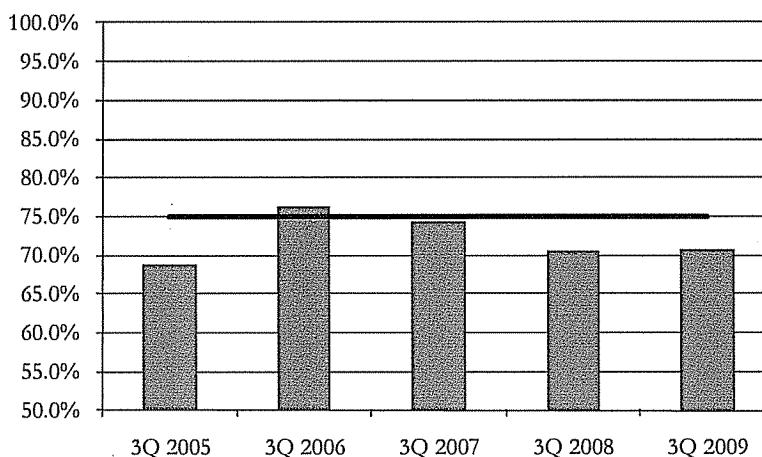
The *American Water Subsidiary Dividend Policy* establishes the requirements for the payment of common stock dividends by American Water subsidiaries. American Water is a holding company whose principal



asset is the common stock of its subsidiaries. This policy has been designed, according to American Water management, to provide American Water with the necessary cash to meet its obligations to its subsidiaries and shareholders. At the same time, it is designed to strike a balance between an appropriate capital structure for each subsidiary and maintenance of an appropriate dividend payout to shareholders. The *Regulated Utility Subsidiary* section of this policy discusses the payment of dividends by regulated utility subsidiaries, including TAWC. All dividend payouts made by TAWC must be approved in advance by its Board of Directors and associated dividend calculations are to be made in accordance with provisions of this policy.

Exhibit II-17 illustrates TAWC's dividend payments from 2005 to 2009 to its parent company expressed as a percentage of the relevant year's net income to common stock.⁵⁰ The level of dividend payments has been within a reasonable range in that it is similar to, although possibly on the high side of the range, the net percentages that other utility organizations typically pay out.

Exhibit II-17
TAWC Dividend Payments to American Water
2005 to 2009
For 12 Months Ended Third Quarter (3Q)



Source: Information Response 19

Other Restrictions

TAWC's financial instruments include general mortgage bonds with typical covenants with respect to issues such as:⁵¹

- ◆ Liens on company property
- ◆ Sale of company property subject to indenture
- ◆ Payment of taxes and liens
- ◆ Insurance against loss
- ◆ Maintenance of premises

- ◆ Issuance of additional long term debt
- ◆ Limitation of total long term debt
- ◆ Providing financial information to trustee
- ◆ Remedies upon default

After the creation of American Water Capital Corporation (AWCC) in 2000, all new long-term debt issued by TAWC has been unsecured notes payable to AWCC.⁵² Schumaker & Company did not note any credit-rating triggers or provisions leading to collateral calls that carry the potential to unduly affect the regulated utility's liquidity.⁵³



B. Findings & Conclusions

Finding II-1 **Cost allocation documentation has substantially improved since 2008 in that American Water has developed an AWWSC Accounting and Service Fee Billing Manual; however, it was not officially approved by the AWWSC Board until 2010 despite being developed in 2009.**

Schumaker & Company's 2008 PAWC management audit resulted in a finding that "cost allocation documentation was disjointed and poorly organized, which required Schumaker & Company auditors to meet with multiple individuals and to review multiple documents in order to understand how affiliate relationships and cost allocations are handled at American Water."⁵⁴ Subsequently, American Water has developed *Service Company Accounting and Service Fee Billing Manual* documentation describing how expenses are accounted for and billed to American Water subsidiary companies. Among the chapters including in this documentation are:⁵⁵

- ◆ Introduction
- ◆ Overview of American Water Works Company, Inc.
- ◆ Overview of American Water Works Service Company, Inc.
- ◆ Service Company Accounting
- ◆ Service Company Planning & Budget
- ◆ Service Company Reporting
- ◆ Service Company Billing & Clearing
- ◆ Accounting/Billing for Select Service Company Expense Categories
- ◆ Appendices, including affiliate agreements, service company locations, affiliate listing, business units and hierarchy, business units by locations (overhead cost pools), and category listing

Until February 19, 2010, when it was finally approved by the AWWSC Board of Directors, this documentation was still in draft mode, although it had been reviewed by most American Water management in 2009. Despite not having Board approval until 2010, AWWSC management indicates that the *Service Company Accounting and Service Fee Billing Manual* was already in practice and used in 2009.⁵⁶

Finding II-2 **The cost-allocation methodologies impacting TAWC are generally reasonable, although the use of number of customers for allocating AWWSC costs among regulated utilities is essentially a simplification mechanism that is not necessarily based on cost-causative factors.**

The AWWSC-TAWC agreement provides for the allocation of costs from AWWSC to TAWC. At American Water, management indicates that using direct charge is the preferred basis to transfer cost; however, if there is no direct relationship, then cost must be allocated. Prior to 1989, American Water had little non-regulated business and the small number of its non-regulated subsidiaries did not regularly receive AWWSC services. AWWSC charges to the regulated affiliates were based on a methodology using cost-causative factors. Then, in 1989, AWWSC began using number of customers to determine

the formulas used for charging regulated subsidiaries, as indicated in its 1989 AWWSC agreement with TAWC. American Water indicated in 1989 that the move to one formula factor (number of customers) was expected to be more efficient by eliminating the administrative costs of maintaining a large number of formulas as done under the approach prior to 1989. Since 2005, however, when several of the non-regulated affiliates began using AWWSC services, a *Tier One* methodology has been used to allocate charges to segment regulated and non-regulated costs as a means to allocate AWWSC charges to non-regulated affiliates. A *Tier Two* methodology using number of customers is used to allocate AWWSC charges to regulated affiliates. AWWSC management believes that the results aren't much different whether cost causative factors or simply customers alone were used for allocating among state operating companies. American Water also believes that number of customers is a cost-causative driver of some costs related to AWWSC functions, such as the call center and customer billing.⁵⁷

Specifically AWWSC charges are made as follows:⁵⁸

- ◆ First, direct charges are made to a subsidiary or a group of subsidiaries based on time reporting; direct charges are made for services provided to an identifiable business unit or, for employees performing transactional services, on the basis of a sample period of detailed time sheet records.
- ◆ Second, AWWSC costs are then split between regulated and non-regulated entities based on what American Water considers cost-causative factors, also referred to by American Water as *Tier One* charges. This was a new step that began in 2005 based on work performed by a cost-allocation committee with input from an outside consulting firm (Deloitte Touche).
- ◆ Third, the number of customers is used to split regulated costs (and revenues) among the various utility organizations, also referred to by American Water as *Tier Two* charges. The number of customers at year end is used for allocations in the following year, unless significant changes occur. American Water management uses the number of customers for splitting costs among regulated entities, because all of its regulated customers are considered to receive essentially the same services.

In Schumaker & Company's PAWC management audit report (2008) a recommendation was made to "perform a detailed analysis to verify that the use of the number of customers for allocating AWWSC costs among regulated utilities reasonably approximates the use of cost-causative factors; subsequently make modifications, as appropriate." The study was underway at the time of our field work for this affiliate audit and was to be completed by mid 2010 and provided to the PaPUC, although Schumaker & Company has not yet been provided a copy of such a report.⁵⁹

Regarding other affiliate charges to TAWC, Schumaker & Company considers the following methodologies to be reasonable:

- ◆ *Line of Credit Fees and Interest Paid to AWCC on Intercompany Borrowings Paid to AWCC* – These costs are allocated as follows to TAWC and other American Water entities:⁶⁰



- The costs incurred by AWCC in connection with its bank credit lines and short-term public borrowings are divided among co-participants in proportion to the maximum principal amount that each co-participant requests be made available to it during the course of a year.
 - The costs incurred by AWCC in connection with each long-term borrowing is divided among co-participants in proportion to the principal amount of that borrowing that is loaned to each co-participant.
 - The amount of AWCC's overhead costs are allocated among the co-participants in the same proportion as each co-participant's long-term and maximum requested short-term borrowing and investments in a calendar year relative to all of the long-term and maximum short-term borrowings and investments by all co-participants during the same year.
- ◆ *Purchase of GAC from ACS* – Charges are made to TAWC on a per-cubic-foot basis, with escalation of these unit prices typically occurring on a yearly basis.⁶¹

Schumaker & Company also considers TAWC's methodology for charge AWR for billing of its home protection programs to TAWC customers to be a reasonable methodology.

Finding II-3 American Water has performed numerous cost-to-market comparisons as a means to verify that AWWSC costs are equal to or lower than what they would be if outsourced to third-party organizations.

Prior Cost-to-Market Studies Performed

American Water engaged an independent consultant (Baryenbruch & Company, LLC) from 2006 to 2010 to perform numerous cost-to-market comparisons for AWWSC charges to nine of its regulated utilities, including TAWC, as follows:⁶²

- ◆ Illinois-American Water Company (2007)
- ◆ Kentucky-American Water Company (2006, 2008, 2009)
- ◆ New Jersey-American Water Company (2007, 2009)
- ◆ New Mexico-American Water Company (2007)
- ◆ Ohio-American Water Company (2006)
- ◆ Tennessee-American Water Company (2006, 2010)
- ◆ Virginia-American Water Company (2007, 2009)
- ◆ West Virginia-American Water Company (2006, 2007, 2009)
- ◆ Long Island-American Water Company (2006)

These studies in the earlier portion of this five-year period were generally undertaken to answer the following questions concerning the services provided by AWWSC to the regulated operating company:⁶³

1. Was the regulated water utility charged the lower of cost or market for managerial/professional services provided by AWWSC during a 12-month test year?

2. Were the 12 months of AWWSC's customer accounts services, including those of the National Call Centers, reasonable?
3. Are the services the regulated water utility receives from AWWSC reasonably necessary for the provision of service to its customers?

In recent years, such as with the 2010 TAWC study, the consultant has added a fourth question:⁶⁴

4. Were the 12 months of AWWSC's total costs on a per-customer basis reasonable to other utility service companies providing similar services to those provided by AWWSC (where information is publicly available)?

Regarding question # 1, in general, the independent consultant formed the following conclusions from the studies reviewed by Schumaker & Company consultants:⁶⁵

- ◆ The regulated water utility was charged the lower of cost or market for managerial and professional services during the 12-month test period.
- ◆ On average, the hourly rates for outside service providers were higher than AWWSC's hourly rates (ranging from 44% to 66% higher).
- ◆ The managerial and professional services provided by AWWSC are vital and could not be procured externally by the regulated water utility without careful supervision on the part of the regulated water utility. If these services were contracted entirely to outside providers, the regulated water utility would have to add at least one position to manage the activities of outside firms. This position would be necessary to ensure the quality and timeliness of services provided.
- ◆ If all the managerial and professional services now provided by AWWSC had been outsourced during the 12-month test period, the regulated water utility and its ratepayers would have incurred substantially additional expenses. Such expenses would have included the higher cost of outside providers and the cost of a regulated utility position needed to direct the outsourced work.
- ◆ The hourly rate comparison actually understates the cost advantages that accrue to the regulated water utility from its use of AWWSC. Outside service providers generally bill for every hour worked. AWWSC personnel, on the other hand, charge a maximum of eight hours per day, even when they work more. If the overtime hours of AWWSC personnel had been factored in to the hourly rate calculation, AWWSC would have had an even greater annual dollar advantage than the amounts cited in these studies.
- ◆ It would be difficult for the regulated water utility to find local service providers with the same specialized water industry expertise as that possessed by AWWSC staff. AWWSC personnel spend substantially all their time serving operating water companies. This specialization brings with it a unique knowledge of water utility operations and regulation that is most likely unavailable from local service providers.



- ◆ AWWSC fees do not include any profit markup. Only its actual cost of service is being recovered from the regulated water utility ratepayers.

Regarding question # 2, in general, the independent consultant determined that the costs of AWWSC's customer accounts services, including those provided by the National Call Center, were within a reasonable range of the neighboring electric utility comparison group's average cost per customer. It was determined that this group of companies provided a reasonable size and scope proxy for comparison with the regulated water utility. During the 12-month test year, the customer accounts costs for the regulated water utility customers were compared to the average for neighboring electric utilities.⁶⁶

Regarding question # 3, in general, the following conclusions were drawn by the independent consultant:⁶⁷

- ◆ The services that AWWSC provides are necessary and would be required even if the regulated water utility were, in fact, a standalone water utility.
- ◆ There is no redundancy or overlap in the services provided by AWWSC to the regulated water utility.

Regarding question # 4, in general, the independent consultant determined that the total costs of AWWSC on a per-customer basis were reasonable when compared to other utility service companies (where public information was available) providing similar services as AWWSC provides to TAWC.⁶⁸ (Schumaker & Company performed a similar analysis in *Chapter IV – Organizational & Operations Assessment Review* as shown in *Exhibit IV-15*.)

A "Service Company Cost Study" report was performed by Deloitte & Touché in 2009 to compare the cost of certain services expected to be obtained by Illinois-American Water Company (IAWC) from AWWSC to the costs that would be incurred if such services were obtained in the open market. The study conclusions on Page 21 were as follows.⁶⁹

"The provision of services to IAWC through the Service Company results in significant cost benefits to IAWC. Based on the Market Analysis, and as shown on Schedule 8, the cost savings expected to be realized by IAWC from obtaining services through the Service Company during the forecast period when compared to the costs of acquiring such services in the open market from third party service providers amount to \$ 7.692 million. The net savings expected to be realized by IAWC results from the Service Company's ability to provide services at a cost which is lower than the market cost of such services. As mentioned previously in the Study, had the Market Analysis recognized the fact that Service Company managerial and professional employees actually work more time than the maximum reportable time of eight hours per day, the expected net savings of \$7.692 million would be larger.

The results of the Customer Accounts Analysis show that IAWC's forecasted 2010 test year customer service expense compares favorably with the customer accounts expenses reported by the group of utilities. The customer accounts expense per customer for the utilities ranges from \$16.75

to \$41.38. IAWC's test year customer service expense per customer of \$23.33 is below the \$33.98 average expense per customer of the other utilities included in the comparison."

TAWC AWWSC Opt-Out Options

If an American Water subsidiary does not wish to take the services from a specific AWWSC group, it can opt out. The non-regulated entities do not necessarily take all AWWSC services. The regulated companies also can opt out, as appropriate.⁷⁰ AWWSC management provided the following examples where subsidiaries have opted not to use AWWSC to provide selected services.⁷¹

- ◆ Many of the non-regulated entities do not receive AWWSC charges because they have their own groups to perform the same functions. If they request services not previously performed by AWWSC employees, then the split of costs between regulated and non-regulated entities kicks in. It is up to the AWWSC supervisor to have his or her employees use the appropriate codes.
- ◆ Michigan-American Water Company (MAWC) does not use call center services performed by Alton or Pensacola, as described in the Customer Service chapter. MAWC serves approximately 4,000 water-only customers in Calumet, Michigan. Its staff performs not only call center activities but also other administrative tasks. MAWC management believed that it was not efficient to have Alton/Pensacola perform call center functions and have administrative staff not fully utilized.

TAWC has agreed to use the services provided by AWWSC groups.⁷² It has, however, opted to supplement AWWSC services by using outside contractors.⁷³

Finding II-4 The existing AWWSC/TAWC affiliate agreement is not up to date, as it does not discuss the Tier One allocations used by AWWSC in providing services to non-regulated American Water subsidiaries nor does it reflect departmental titles and functionality of the current organization structure.

The AWWSC/TAWC affiliate agreement, as is, does not reflect the existing organizational structure. Therefore, some major services, such as customer service, legal, external affairs, and business development/sales activities, are provided by AWWSC to TAWC, even though they are not specifically listed in the current affiliate agreement, or are listed using old terminology. According to American Water management, the nomenclature for referencing such services has changed since January 1, 1989, when the affiliate agreement between AWWSC and TAWC was executed. At the time, legal services were provided through the corporate secretarial function, external affairs were provided through the communication function, and business development was provided through the operation function.

Additionally, the affiliate agreement mentions direct charges to TAWC (Section 2.3) and allocation of costs to regulated water companies based on the number of customers (Section 2.4). It also addresses overhead associated with these two items (Section 2.5). Although, in Section 5.2, the agreement states that AWWSC "...may enter into an agreement or agreements with American and certain other companies not engaged in the water or sewer service business to which limited services are to be



furnished; Water Company consents to such additional agreements, provided, however, that no part of the cost of furnishing such services will be charged to Water Company.” It does not mention in any way the allocation of costs among regulated and non-regulated entities using cost-causative factors, referred to by American Water management as *Tier One* charges. American Water management believes that *Tier One* allocations are permitted by Section 5.2, as they say that no change in procedures has occurred with the addition of *Tier One* charges since the regulated portion of AWWSC costs continue to be allocated based on the customer allocations included in the 1989 agreement. Schumaker & Company disagrees that the current AWWSC/TAWC agreement is sufficiently descriptive.

Finding II-5 American Water only uses service level agreements for selected groups, specifically SSC, call centers, and the IT organization, but not other major AWWSC groups.

The three organizations that American Water says maintains formal SLAs include SSC, national call centers, and the ITS organization.

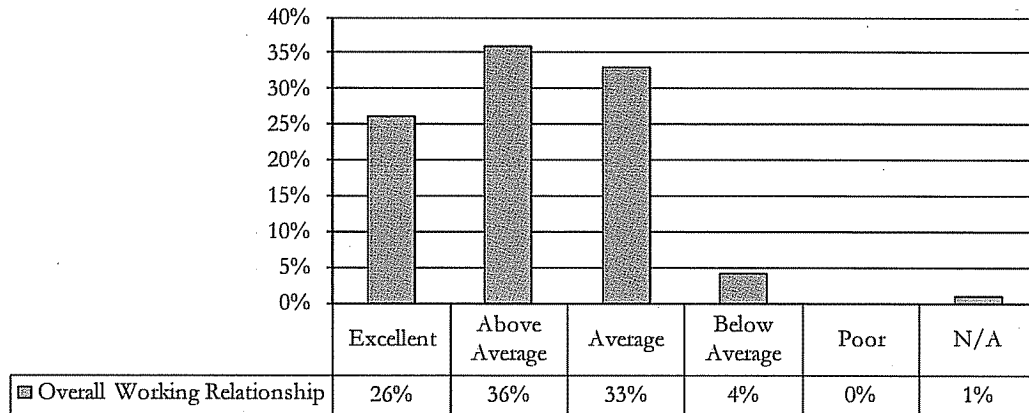
Shared Service Center

SSC – A joint accountability agreement (JAA) between the Shared Services Center and its business partners (including TAWC) was developed for 2009. Included in the JAA was:⁷⁴

- ◆ Introduction, including:
 - Scope and objectives
 - Definition of business partners (AWWSC departments, regulated business units, and non-regulated business units)
 - SSC and business partner roles and responsibilities
 - Business Advisory Council roles and responsibilities
 - Corporate/executive roles and responsibilities
- ◆ A detailed listing of target metrics, including metric, metric calculation, goal, target, owner, responsible department, and explanation (if necessary), with the reporting structure and frequency identified. Generally results are meeting targets, however, three areas, specifically financial close checklist (various close tasks completed by due dates), total number of outstanding items greater than two months, and number of accounts reconciled/full-time equivalent (FTE) were not meeting the targets in 2009.⁷⁵
- ◆ JAA management, including:
 - Identification of material variance and corrective actions
 - Performance accountability for SSC employees
 - Methodology for revision of service levels

- Annual business performance surveys (last SSC survey was conducted in January 2010 and provided to business partners by end of the first quarter of 2010). In this survey the overall working relationship with the SSC was rated as shown in *Exhibit II-18*, with most responses in the excellent, above average, and average categories. Similarly specific questions in the survey also received excellent, above average, and average responses.⁷⁶

Exhibit II-18
2009 SSC Customer Satisfaction Survey
Overall Working Relationship



Source: Information Response 88

- ◆ SSC and business partner signatures; none of the signatures were made prior to the start of 2009; SSC signed on 3/17/09, while most other business signed in 6/09 (TAWC signed 6/30/09), although PAWC didn't sign until 11/9/09)
- ◆ A listing of detailed responsibilities delineated by SSC or business partner

Call Centers

The "SLA" provided by AWWSC in response to our information request is essentially only a detailed listing of target metrics, including metric, metric calculation, a goal description, target, owner, data source/measurement definition, and explanation (if necessary) for each American Water group (Eastern Division, Western Division, Pennsylvania, New Jersey, and in total) by quarter and year-to-date.⁷⁷ It is not really a SLA in that it does not have most of the components identified in the SSC SLA. Specifically the call center clients have not been engaged in signing an actual agreement that represents the responsibilities of the call centers and the clients which this organization serves. Refer to *Chapter IV – Organizational & Operations Assessment Review* for additional details regarding metrics and surveys.



ITS

The “SLA” provided by AWWSC in response to our information request is essentially only a detailed listing of target metrics, including metric, a goal description, and target by month involving finance, customer, service performance, and process areas. The “targets” are not measurable targets against which actual results can be compared. They include “targets” such as “meet or exceed 2009 business plan,” “enhance customer service,” deliver reliable high-quality service,” and “sustain and enhance operating performance.”⁷⁸ It is not really a SLA in that it does not have some of the components identified in the SSC SLA. Specifically the ITS clients have not been engaged in signing an actual agreement that represents the responsibilities of the ITS organization and the clients which this organization serves. Additionally no customer satisfaction surveys have been conducted in this area.

Summary

These “SLAs” have been used for approximately three years (2007-2008-2009). As part of this process, AWWSC has put in benchmarks, as field personnel generally want them to monitor the level of service. According to AWWSC management, the SLAs are currently being reviewed for appropriateness and AWWSC tries to review them annually, with updates for board meetings.⁷⁹ Only the SSC has a full-fledged SLA, as the ITS and national call center organizations only have metrics in place. Other AWWSC areas, including Finance and Regulated Operations (two of the five largest charge areas to TAWC), have no type of SLA in place. SLAs may not be applicable or practical for every AWWSC function, such as those functions providing policy, strategy, and/or governance. SLAs should generally be developed in all other major areas where the services provided, and the roles and responsibilities, can be clearly designated and communicated, with activities measured against acceptable standards of performance based on quantifiable metrics.

Finding II-6 The allocation of corporate taxes is appropriate, however, the policy documentation is out of date by reflecting language associated when it was part of the RWE organization.

American Water has a tax sharing policy, which was established in 2003 when American Water was owned by RWE. The policy was for Thames Water Aqua US Holdings, Inc. (“parent”), and its subsidiaries that were members of an “affiliated group” for tax purposes that filed a US consolidated tax return and in certain states a combined, consolidated unitary return (combined filing). Its purpose is to “to establish a method for allocating consolidated or combined tax liabilities of the affiliated group among its members, for reimbursing the parent for payment of such liability, for compensating any party for use of its losses or tax credits, and provide for the allocation and payment of any addition to tax, refund arising from a carryback of losses, or tax credits from subsequent tax years.”⁸⁰ The tax sharing policy documentation has not been updated since RWE’s divestiture of American Water in 2009 (as implied by use of Thames Water Aqua US Holdings, Inc. wording), and should be changed in 2010 to reflect the different organizational structure. Nevertheless, the principles for allocation of corporate taxes are appropriate, as described further in the following paragraph.⁸¹

Essentially each member of the affiliated group is required to pay an amount equal to the federal income tax liability that would have been payable by the subsidiary (such as TAWC) for such year if it had filed a separate income tax return for such year and all prior years. In computing separate return tax liability, no account shall be taken of any deduction, loss, or credit of any member to the extent that such member has previously received payment or to any lower tax rate available to the subsidiary. Each subsidiary is compensated for any tax benefits (e.g., losses, tax credits, etc.) computed using the percentage method, but is limited to the reduction in federal income tax that the subsidiaries with taxable income achieved. Loss companies are compensated in full unless the sum of separate taxable losses exceeds the sum of separate taxable incomes, in which case compensation is prorated based on the ratio that the separate taxable loss bears to the sum of all taxable losses, multiplied against the sum of taxable incomes.

Finding II-7 Sufficient formal and informal communications between AWWSC and American Water affiliates is occurring.

Among the formal communications methodologies used by TAWC and AWWSC are the following:⁸²

- ◆ *Monthly AWWSC Bills and Reports to TAWC* – Prior to November 2009, TAWC received a monthly summary bill by AWWSC. For TAWC to look into and explain the detailed employee, business unit, and formula/direct charge information TAWC had to request that queries and reports be run by regional FP&A or SSC organizations. Based on the recommendation from the PAWC management audit regarding the need for enhanced AWWSC reporting, effective November 2009, TAWC and other American Water subsidiaries have been provided summarized information of the AWWSC charges by business unit on a monthly and year-to-date (actual charges compared to budget and to the latest budget reforecast.) As part of this reporting package, monthly reports are also provided so that monthly AWWSC charges can be viewed in a number of very detailed ways to determine if AWWSC charges were made in error and need to be corrected, or are driven by and explained by special projects or circumstances driven by the needs at TAWC. An Excel workbook file has a number of tabs, which can provide views of the detailed AWWSC charges to TAWC in a number of different views. The first tab has a drop down table where each subsidiary can be chosen. The resulting report has a number of tabs that provide detailed AWWSC charges by month and in total for 2009, broken down by employee, by business unit, and by formula/direct charges. The file also has tabs that show the various formulas with percentages allocated to TAWC and a description of the AWWSC home business units for use in identifying the source of the AWWSC charges included in the reports.⁸³
- ◆ *FRP/BPR Reports* – On a monthly basis, all functional analysts/leads are provided with reporting of actual month-to-date and year-to-date expenses compared against plan (original budget) and the most recent reforecast (original budget adjusted quarterly with more current estimates) by function and business unit. All expenditures whether billed as operating expenses or capital expenditures are included in the report with the exception of AWWSC capital expenditures, which are charged to a capital work order and charged to construction work in



progress (CWIP). All functional variances in excess of predefined materiality amounts must be explained by the functional analyst (coordinated with functional lead when necessary) in the monthly FRP and BPR reports. The FRPs require monthly sign-off from the AWWSC VP of Finance and the BPRs require quarterly sign-off from the AWWSC President. After AWWSC closes its books each month, all AWWSC analysts (along with representation from affiliates) attend a debriefing call to review and comment on material variance explanations. After the monthly debriefing call AWWSC management presents the FRP to the corporate management team. Financial results, material variances, and other issues are discussed in detail. AWWSC management then presents the BPR to the AWWSC senior management team and Board of Directors quarterly where financial results, KPIs, material variances, and other issues are discussed in detail.⁸⁴ Any incorrect charges to TAWC or other corrections as required are determined during this process and are relayed to the SSC Accounting Department for correction by the FPA analyst, Regional VP of Finance or the President of TAWC.⁸⁵

The *Service Company Accounting and Service Fee Billing Manual* defines many of these formal communications.⁸⁶ Formal communications include full-time Eastern Division and rotating representation on the AWWSC Board, regular BPR and FRP reports and meetings, monthly review calls involving financial data, and quarterly TAWC Board meetings.⁸⁷

Additionally, on the American Water Intranet site policies and practices dealing with key business aspects are available to American Water employees, including AWWSC and TAWC employees.⁸⁸

Informally there are conversations and communications between TAWC and AWWSC employees on an as needed (often daily) basis. The TAWC President regularly has discussions with the Eastern Division SVP, VP of Finance, Director of Rates, and other functional area leads, including the FP&A Analyst assigned to TAWC. Other supervisory and clerical employees at TAWC routinely communicate with AWWSC employees at the Eastern Division AWWSC office, Corporate Office, SSC, and the Customer Contact Center (CCC).

C. Recommendations

Recommendation II-1 Review and approve the AWWSC Accounting and Service Fee Billing Manual annually. (Refer to Finding II-1)

Although American Water has taken significant steps forward in developing formal, comprehensive documentation that describes how affiliate charges are handled, it still had not been approved by the AWWSC Board of Directors until February 19, 2010, which was over one year after the AWWSC Accounting and Service Fee Billing Manual was developed and put in use. (AWWSC used the manual in 2009 and 2010 even though it was not approved until February 19, 2010.) This manual should be reviewed annually prior to the beginning of a fiscal year with any necessary changes made, so as to be approved by the AWWSC Board by the end of the prior year.

Recommendation II-2 Perform a detailed analysis to verify that the use of the number of customers for allocating AWWSC costs among regulated utilities reasonably approximates the use of cost-causative factors; subsequently make modifications, as appropriate. (Refer to Finding II-2)

Schumaker & Company understands that number of customers is a straightforward, easily understood, and relatively inexpensive cost allocation factor to implement. Although it may be a simpler mechanism than cost-causative factors to implement, many utilities have found that use of cost allocation modules as part of technology systems negates the work of implementing use of cost-causative factors. TAWC, as a regulated utility, should be able to provide evidence to the TRA and TAWC's ratepayers that number of customers is a close approximation to the use of cost-causative factors – and that one state's customers are not advantaged or disadvantaged by American Water's cost allocation methodology.

Therefore, initially AWWSC and TAWC should perform a detailed analysis, perhaps on a test-year basis, to determine whether number of customers for allocating costs among regulated utilities is reasonable, and the results should be provided to TRA staff as a follow-up to this audit. If the outcome of this analysis indicates that number of customers does not approximate cost-causative factors, then AWWSC should make modifications, as appropriate. Subsequently, approximately every five years (or more often if major changes to American Water's organization occur), American Water should revisit whether its methodology and associated factor(s) are appropriate.

This is the same recommendation that Schumaker & Company previously made in its prior 2008 management audit of PAWC for the Pennsylvania Public Utility Commission. Although AWWSC management stated that such a study was in progress during early 2010 (and was requested by Schumaker & Company consultants as part of this audit), no report had been provided at the completion of field work for this audit.



Recommendation II-3 **Continue to regularly evaluate the cost of services provided to TAWC by its affiliates, specifically AWWSC, so as to verify that TAWC ratepayers are not being harmed by charging these services at cost rather than market. (Refer to Finding II-3)**

The use of studies by independent consultants is a reasonable approach to verify that ratepayers are not being harmed by charging these services at cost rather than market. Although not as comprehensive as an affiliate study such as this one, these studies have merit in providing hourly costs that TAWC may use in making decisions as to its continued use of specific AWWSC services. They should regularly be performed by American Water, not just before rate cases, but periodically to ensure the reasonableness of AWWSC's costs.

Recommendation II-4 **Provide the TRA with an informational update regarding the content of the AWWSC/TAWC affiliate agreement. (Refer to Finding II-4)**

Because the current AWWSC/TAWC affiliate agreement is out of date (last executed in 1989 or approximately over 20 years ago), at this point in time, clarification is necessary. TAWC should submit to the TRA an informal information update regarding its affiliate agreement. This informational update should include a discussion of changes in terminology, changes in functions performed by AWWSC, an up-to-date AWWSC organization chart, changes regarding *Tier One* allocations to non-regulated subsidiaries and comparisons of the costs to TAWC under the customer and cost-causative allocation factors based on the recommended study analysis previously discussed in *Recommendation II-2*. An updated functional area analysis, similar to the one referenced as part of our *Chapter IV* discussion, along with the supporting documentation provided to Schumaker & Company consultants during field work, could comprise major components of this informational update.

Recommendation II-5 **Develop full-fledged service level agreements for all major AWWSC groups providing service to TAWC, except those primarily performing policy, strategy, and/or governance functions. (Refer to Finding II-5)**

Only the SSC has a comprehensive SLA that is signed by AWWSC and TAWC annually. Not just ITS and national call centers, but all major AWWSC groups providing service to TAWC, except those primarily performing policy, strategy, and/or governance functions, should develop a comprehensive SLA that includes segments similar to that found in the SSC SLAs, including the following:

- ◆ Introduction, including:
 - Scope and objectives
 - Definition of business partners (AWWSC departments, regulated business units, and non-regulated business united)
 - AWWSC group and business partner roles and responsibilities

- Business Advisory Council roles and responsibilities
- Corporate/executive roles and responsibilities
- ♦ A detailed listing of target metrics, including metric, metric calculation, goal, target, owner, responsible department, and explanation (if necessary), with the reporting structure and frequency identified.
- ♦ JAA management, including:
 - Identification of material variance and corrective actions
 - Performance accountability for SSC employees
 - Methodology for revision of service levels
 - Annual business performance surveys
- ♦ SSC and business partner signatures
- ♦ A listing of detailed responsibilities delineated by SSC or business partner

If an AWWSC group is not meeting its target metrics (the SSC is an example in 2009), then AWWSC must develop detailed action plans for addressing the underlying issues. AWWSC management should have discussions with operating company management to make sure they understand the issues and the resultant activities that AWWSC is taking to address these issues.

Recommendation II-6 Update corporate tax allocation documentation to reflect the current American Water organization structure. (Refer to Finding II-6)

The American Water organization needs to update its corporate tax allocation documentation to reflect the current organization structure.



III. Internal Controls Review

This chapter focuses on the internal controls involving American Water Works Service Company (AWWSC) and Tennessee-American Water Company (TAWC) affiliate transactions. It also describes in detail the actions taken by the Schumaker & Company/Work & Greer team to validate and verify 2009 affiliate transactions through sampling techniques.

A. American Water Controls over Affiliate Transactions

Background & Perspective

There are a number of controls exercised by the American Water Works Company (AWWC) that affect accounting processes and the manner in which transactions between Tennessee-American Water Company (TAWC) and its affiliates are conducted. These controls are maintained at various levels within the overall AWWC organization, ranging from corporate, divisional, and state entities through to TAWC work units. Primary controls are found in the following activities:⁸⁹

- ◆ Sarbanes-Oxley (SOX) program
- ◆ Internal Audit Department's reviews and audits
- ◆ Financial Review Package (FRP) and the Business Planning Report (BPR) reporting (which are also covered under the SOX program)

Additional controls over affiliate transactions are manifested in the structure of the American Water Works Service Company (AWWSC) Board (including rotating operating company president participation), the participation by TAWC's operating units in monthly close (debrief) calls, detailed billing and variance reporting (by function and business unit), and training to provide guidance on proper billing for new hires and refresher training to existing employees. Additionally, all AWWSC accounting transactions (invoices, payroll, purchasing cards, journal entries, etc.) require supervisory review before being posted to the general ledger, AWWSC functions have an assigned analyst that reviews employee formula charges monthly to provide reasonable assurance that correct business unit and formulas are charged, and affiliate entities have an assigned analyst that reviews AWWSC actual charges compared to budget monthly and prepares explanations for all variances exceeding threshold limits.⁹⁰

SOX Program

The Public Accounting Reform and Investor Protection Act became law in 2002. This act is more commonly referred to as the Sarbanes-Oxley Act, named after its two principal congressional sponsors and further abbreviated and referred to as SOX. This legislation changed the manner in which public companies governed and reported their financial results. While SOX specified a number of specific rules and requirements, the area that has received the most attention and compliance activity, and the



focus of this review of TAWC's affiliate transactions, is Section 404 (management's responsibility for an annual assessment of internal controls) and Section 302 (corporate responsibility for financial reports).⁹¹

AWWC's SOX program, including the control compliance requirements of Sections 404 and 302, started in 2006 following its parent company's December, 2005 decision to divest of itself of AWWC. On April 28, 2008, RWE Aktiengesellschaft (RWE) completed a partial divestiture of its investment through an initial public offering with the sale of AWWC's common stock, and AWWC again became listed under the symbol "AWK" on the New York Stock Exchange (NYSE). Although RWE still owned approximately 60% of AWWC's shares of common stock at the end of 2008, it completed its divestiture of AWWC common stock by November 24, 2009. AWWC was not required by SOX Section 404 and related SEC rules and regulation to perform an evaluation of or report on the effectiveness of internal controls over its financial reporting for fiscal year 2008 (year ending December 31, 2008).⁹² Nevertheless, AWWC did identify control weaknesses and evaluated if any such weaknesses were material, which were provided in its SEC 10k report for 2008. The financial statements filed with the SEC for fiscal year 2009 (year ending December 31, 2009) was the first period that AWWC was required to report on the effectiveness of internal controls over financial reporting. Also, it was the first year that AWWC's external auditors issued a SOX 404 certification concerning AWWC's internal controls over financial reporting as part of the audited financial statements.⁹³

The American Water SOX program is designed to support the various SOX requirements, including compliance with Sections 404 and 302. It supports management's assessment of the effectiveness of internal controls over financial reporting that is required under SOX. It covers key business cycle, information technology (IT), and entity level controls. Program activities include scoping, control design and rationalization, documentation, testing execution and management, remediation, and control exception evaluation. Other SOX activities include policy and procedure review and monitoring, control over special projects, and coordination with American Water's external auditors.⁹⁴

AWWC's Compliance Group, reporting to a VP of Compliance position (which reports to AWWC's SVP & CFO),⁹⁵ is tasked with ensuring compliance with SOX and financial reporting controls and the SOX Section 404 and 302 reviews.⁹⁶ Key activities to provide overall management of the SOX program include the following:⁹⁷

- ◆ Reviewing SOX documentation
- ◆ Coordinating SOX testing
- ◆ Performing SOX testing
- ◆ Interaction with American Water's external auditors regarding SOX controls
- ◆ Analyzing SOX issues and performing exception evaluations
- ◆ Scoping, design, and rationalization of controls
- ◆ Developing and modifying policies and procedures regarding SOX controls and changes in environments

- ◆ Enhancing and improving SOX coordination with business operations and divisional management
- ◆ Assisting in SOX remediation

Three members of the Compliance group, including a Senior Compliance Manager, are responsible for compliance with SOX controls for American Water operations in the nine Eastern Division states, including TAWC. This Eastern Division group is responsible for driving compliance with SOX performance, including developing, assessing, and testing under the American Water SOX program, and managing the SOX process in TAWC and the other operations in the Eastern Division. This group also helps roll out new controls and drive standardization of processes. Assessment of compliance with controls is managed through use of the internal control evaluation (ICE) documents and SOX testing. The SOX testing is managed by Compliance and is performed by a combination of independent internal resources and an outside contractor, who may be called upon to provide SOX expertise. The Compliance team supporting the Eastern Division provides data to these SOX testers and is currently responsible for performing four back-end/detective controls (having primarily to do with contracts). These four areas are:⁹⁸

- ◆ Back end disbursement reviews, ensuring that larger disbursements have the necessary contracts/purchase orders and other contractual requirements (quarterly)
- ◆ Verification of proposed accounting, ensuring that new contract activity is properly accounted for (quarterly)
- ◆ Owner updates, notifying contract owners of updates to contracts (quarterly)
- ◆ Developer payments, verifying that required payments are received from developers (monthly)

Other SOX responsibilities of this divisional group include facilitation of the following:⁹⁹

- ◆ Construction work in process (CWIP) exception reviews, reviewing with the capital team to ensure proper treatment and accurate record keeping (monthly)
- ◆ Developer reconciliation reviews (monthly)
- ◆ Ensuring that SOX changes are disseminated to all necessary personnel and that personnel are properly trained on SOX controls (as needed)
- ◆ Remediating controls, contacting contract owners to correct problems (as needed)
- ◆ Ensuring best practices and consistency among Eastern Division state operations (as needed)

Compliance with controls for the capital program is largely a subset of SOX. In American Water's divisional operations, there are fixed asset controls, and the Compliance group works with Engineering and Operations staff regarding policies and procedures in the capital area. The Compliance group recently began monitoring compliance with public utility commission (PUC) orders.¹⁰⁰



From 2003 until the completion of the initial public offering in April 2008, as an indirect wholly-owned subsidiary of RWE, AWWC was not required by SEC regulations to report on its system of effective internal controls or comply with the requirements of the SEC and the Sarbanes-Oxley Act.¹⁰¹ Although AWWC's first SOX Section 404 year was 2009, AWWC was required to and has filed SOX Section 302 certifications since AWWC became publicly traded in April, 2008. For the 2009 AWWC 10k filing, all SOX testing was completed, including the testing of controls performed in calendar year 2010, which were associated with year-end financial reporting.¹⁰²

During 2009, there were four phases of SOX testing (*Phase I, Phase II, Phase III, and Phase IV*) with testing being performed by both internal resources and Ernst & Young. Work papers documenting testing results of management testing, involving AWWSC, were provided to Schumaker & Company consultants for review, including:¹⁰³

- ◆ *Phase I:* Procurement to pay (PTP), including PTP.C05, PTP.C06, and PTP.C07 covering purchase orders (PTP3), receipt of goods/services (PTP4), invoice process (PTP5), p-card transactions (PTP6), and procurement accruals (PTP8); financial statement close process (FSCP), including cut-off and month-end close (FCSP.C05); financial reporting (FR), including business performance reporting and periodic reports (FR.C15, FR.C17, and FR.C19). Exceptions that did not rise to a control deficiency were noted for FSCP.C05 and FR.C19. For example, with FCSP.C05, there was no evidence that the journal entry request form was dated by the preparer.
- ◆ *Phase II:* Financial reporting (FR), including business performance reporting and periodic reports (FR.C15 and FR.C19) and employee maintenance (HR.C04). For these tests, no exceptions were found.
- ◆ *Phase III:* Procurement to pay (PTP), including PTP.C05, PTP.C06, and PTP.C07 covering purchase orders (PTP3), receipt of goods/services (PTP4), invoice process (PTP5), p-card transactions (PTP6), and procurement accruals (PTP8); financial statement close process (FSCP), including cut-off and month-end close (FCSP.C05); financial reporting (FR), including business performance reporting and periodic reports (FR.C19). For these tests, no exceptions were found.
- ◆ *Phase IV:* Financial reporting (FR), including business performance reporting and periodic reports (FR.C15, FR.C17, FR.C19 and employee maintenance (HR.C04). For these tests, no exceptions were found.

A score card is issued at the end of each phase. There weren't any significant changes in SOX controls in 2009.¹⁰⁴ American Water management indicated that it did not rely on the work performed by PwC, American Water's external auditors, to form its opinion on internal controls over financial reporting and, as a result, did not obtain these work papers. American Water did provide the PwC "Report of Independent Registered Public Accounting Firm," which discusses the results of the PwC audit of internal controls over financial reporting that was filed with American Water's 2009 Form 10-K. PwC's opinion, noted in the report, is that "the Company maintained, in all material respects, effective internal

control over financial reporting as of December 31, 2009, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).¹⁰⁵

In 2010, the Compliance group is involved in control rationalization, often done by public companies after initial SOX implementation and, as a result, decreasing the number of SOX controls and the time required for SOX compliance and testing work. Internal billing between affiliates is not part of the SOX responsibility because it involves intercompany transactions that are eliminated during consolidation and, therefore, excluded from AWWC's external financial reporting.¹⁰⁶

SOX Steering Committee meetings are held quarterly and include American Water's SVP & CFO, VP & Controller, VP of Compliance, Compliance/Internal Control Group (ICG) Director, President & Chief Operating Officer (COO) of Regulated Operations, divisional/state presidents, and mega-process owners. Typically covered in these meetings are updates to the SOX program, testing results, and SOX perspectives.¹⁰⁷

SOX controls that have been put in place in AWCC, AWWSC corporate (the source of most affiliate transactions with TAWC), the AWWSC Eastern Division, and TAWC are shown in *Exhibit III-1*.¹⁰⁸

Exhibit III-1
SOX Controls
as of October 17, 2009

Organization	# Controls		
	Total Number	Implemented	Not Yet Implemented (c)
Total American Water Organization	271	267	4
AWWSC Corporate Only (a)	24	24	0
AWWSC Eastern Division (a)	44	44	0
Eastern Division – Finance Only (b)	17	17	0
TAWC Only (a)	21	21	0

(a) Included in numbers for total American Water organization

(b) Included in numbers for Eastern Division organization

(c) General tax, acquisitions, and two entity-level items

Source: Information Response 26, 27, 34, and 59

As stated earlier, AWWC was not previously required by SOX Section 404 to perform an evaluation of the effectiveness of their internal controls over financial reporting. The first year for that requirement was the year ended December 31, 2009, due to a transition period established by the Securities & Exchange Commission (SEC) for newly public companies. However, in connection with the preparation of their consolidated financial statements as of December 31, 2006, AWWC and its external auditors identified six material weaknesses in internal controls over financial reporting, each of which



could have resulted in a material misstatement of their annual or interim consolidated financial statements. These reported material weaknesses are shown in *Exhibit III-2*.¹⁰⁹ By year-end 2008 the list of material weaknesses had been reduced to one instance regarding the internal control over maintenance of contracts and agreements.¹¹⁰

Exhibit III-2
Reported Material Weaknesses
as of December 31, 2006

Inadequate internal staffing and skills
Inadequate controls over financial reporting processes
Inadequate controls over month-end closing processes, including account reconciliations
Inadequate controls over maintenance of contracts and agreements
Inadequate controls over segregation of duties and restriction of access to key accounting applications
Inadequate controls over tax accounting and accruals

Source: Information Response 31

However, in each year (2006-2008) American Water's external auditor issued an audited financial statement opinion that the company's financial statements accurately reflected the financial position of American Water (on a consolidated basis) and TAWC in all material aspects.¹¹¹ According to American Water management, the CEO and CFO assigned a high priority to the evaluation and remediation of internal controls, and have taken numerous steps to enhance these internal controls to a level that would prevent or detect a material misstatement in the consolidated financial statements and to implement an ongoing process to evaluate and strengthen overall internal controls over financial reporting. Some of the actions noted in American Water's February 2009 Form 10-K filing (for year-end 2008) to remediate these material weaknesses and to evaluate and strengthen other internal controls over financial reporting included the following:¹¹²

- ◆ Increasing internal financial staff numbers and skill levels, and using external resources to supplement internal staff when necessary
- ◆ Implementing detailed processes and procedures related to period-end financial closing processes, key accounting applications and financial reporting processes
- ◆ Implementing or enhancing systems used in the financial reporting processes and month-end close processes;
- ◆ Conducting extensive training on existing and newly developed processes and procedures as well as explaining to employees Sarbanes-Oxley Act requirements and the value of internal controls
- ◆ Enhancing their internal audit staff;
- ◆ Hiring a director of internal control and a director of taxes during 2007

- ◆ Implementing a tracking mechanism and new policy and procedure for approval of all contracts and agreements
- ◆ Retaining a nationally recognized accounting and auditing firm to assist management in developing policies and procedures surrounding internal controls over financial reporting, to evaluate and test these internal controls and to assist in the remediation of internal control deficiencies

As of December 31, 2008, American Water had addressed all areas of material weakness and tested the effectiveness of controls designed to address these weaknesses. American Water no longer considered these areas to be material weaknesses, with the exception of the issue relating to the maintenance of contracts and agreements.¹¹³ American Water decided that the control deficiency relating to the maintenance of contracts and agreements should remain as a material weakness until they had sufficient experience with the sustainability of the levels at which it had been operating.¹¹⁴

With regard to the final material weakness, the following events have occurred in the past few years. In 2007, in anticipation of having to be SOX compliant when AWWC would no longer a part of RWE and would become a public company, American Water began to identify, assemble, image, and store electronically all major documents, including contracts, debt covenants, and commitment/contingency documentation, in a legal vault.¹¹⁵ The contract administration process was implemented by May 1, 2007, when AWWSC had all of these legacy documents completed and available on an SharePoint internal site. Subsequently, AWWSC management indicated that the Legal organization took several steps to ensure that these types of documents were being handled correctly. Those steps were as follows:¹¹⁶

- ◆ Before any contract can be entered into, a contract approval form must be properly completed and signed by persons with the requisite signing authority, including (where required) review by the Legal, Finance, and/or Supply Chain organizations. Once a contract has been executed by all parties, a copy of the contract and the completed contract approval form must be scanned into portable document format (PDF) and sent to the Legal organization.
- ◆ A checklist for debt instruments has been created, of which the Legal organization is the holder and performs a quarterly review (in conjunction with other American Water personnel) to make sure that each instrument is in compliance.¹¹⁷
- ◆ When reviewing contract approval forms, all commitments and contingencies must be identified so that the Finance organization is held responsible for reporting these items.

As part of these efforts by 2009 year-end, a contract index (using Excel spreadsheets) was created for each division/state. These spreadsheets involving the Eastern Division contracts are reviewed monthly by the Compliance team supporting the Eastern Division states, led by the Senior Manager located in Chattanooga (TN) working with Operating Unit Finance to ensure that all contracts requiring disclosure (primarily leases and purchased water) are treated correctly. Beginning in May 2010 a SharePoint site for contracts was to be piloted (IN, IL, and MO). In the future, on that SharePoint site, a contract index and associated contracts are to be uploaded.¹¹⁸ Other states are scheduled for



SharePoint implementation in July, 2010. American Water expects that the use of SharePoint will ensure more consistency of information.¹¹⁹

As of December 31, 2009, AWCC had spent over \$54 million on its SOX program, including documenting and testing key financial reporting controls and remediating material weaknesses discovered. Most of this expense was incurred using outside contractors,¹²⁰ primarily one of the large, international accounting firms, Ernst & Young.¹²¹ As a condition for state PUC approval of the RWE divestiture American Water companies agreed that costs incurred in connection with the initial development and implementation of the SOX compliance program would not be recoverable in rates charged to customers.¹²² The amount of time spent and cost expended on SOX tasks in 2009 and budgeted for 2010 are shown in *Exhibit III-3*.¹²³

Exhibit III-3
SOX Effort and Expense
2009 and 2010

Organization Performing SOX Work	2009		2010	
	Hours of Effort	Cost (\$000)	Hours of Effort	Cost (\$000)
Internal Control Group (ICG) (a)	12,000	1,100	12,000	1,100
Internal Audit	6,900	700	1,000	100
Ernst & Young	14,400	2,400	9,900	1,400
TOTALS	33,300	4,200	22,900	2,600

(a): Includes all internal costs within Compliance, including the management of the SOX program (scoping, coordination with the external auditor, exception evaluation and reporting, etc.) and testing.

Source: Information Response 82

Three of the largest public accounting firms are/have been involved in assisting American Water organizations regarding its SOX program. PwC is AWWC's external auditor and, as such, is required to give an outside/independent opinion regarding AWWC's SOX controls compliance. Ernst & Young initially assisted management with control design and related remediation activities and now functions primarily as one of the parties performing SOX testing on behalf of management and under management's direction and may, at the request of management, provide specialized expertise. AWWSC management indicates that Ernst & Young's role continues to be reduced, including for 2010, as part of management's efforts to lower the cost of SOX compliance. AWWSC management also indicates that the use of internal resources, the remediation of the previous material weaknesses completed, control rationalization, and the maturity of the American Water control environment reduce the cost of compliance. KPMG was used for fiscal 2009 testing as outsourced internal audit staff (primarily to help with controls effectiveness testing), to help fulfill Internal Audit's SOX testing commitment, working under the direction of the VP, Internal Audit.¹²⁴

Internal Audit

The AWWSC Internal Audit (IA) Department is headed by a VP, Internal Audit and supported by an Executive Assistant, two Audit Managers, and five audit staff (three Senior Internal Auditors, one Senior IT Internal Auditor, and one IT Internal Auditor), with one vacant position.¹²⁵ Authorized IA headcount is ten personnel. Forecasted full-time-equivalent (FTE) personnel headcount for 2010 is 9.5.¹²⁶ Most of this staff has professional credentials (CPA, CIA, etc.).¹²⁷

The VP, Internal Audit reports directly to the Chair of the Audit Committee of the AWWC Board of Directors and has a dotted line relationship with the CEO & President of AWWC. The VP, Internal Audit meets periodically with the Chair of the Audit Committee. The Audit Committee meets at least seven times per year. The VP, Internal Audit also meets with Audit Committee members as part of his annual planning process. Quarterly, a report of IA activity is presented to the Audit Committee. Audit recommendations are ranked by priority, from Priority 1 (most important) to Priority 3 (least important).¹²⁸ Priority 1 (P1) encompasses both P1* and P1. Both of these are high impact findings indicating a fundamental control weakness that must be addressed immediately. However, P1* findings require the Audit Committee's attention, while P1 findings need management's attention representing weaknesses that would leave the company open to risk or error, fraud, financial loss or reputation damage. Priority 2 (P2) findings are important issues that will have an impact at a departmental or sub-divisional level and which should be addressed by management in their area of responsibility. Priority 3 (P3) designations are used for minor findings normally involving weaknesses in the documentation of processes and procedures or of an administrative nature that pose little risk of error, fraud, financial, or reputation loss. These issues can be resolved by local departmental or team management.¹²⁹ The reports to the Audit Committee include the specific status of P1 recommendations and statistics regarding P2 and P3 recommendations. The IA function corroborates follow-up to recommendations for P1 and P2, and possibly (but not necessarily) P3 recommendations.¹³⁰

In 2009 the IA organization was involved primarily in performing SOX testing. IA's SOX work in calendar year 2010 has been completed, and the expectation is that less than 15% of IA's time will be consumed with the SOX role in the future. IA budgeted 40% of their time for SOX in 2009, but ended up providing approximately 50% of their budget for SOX.¹³¹

Internal Audit has the right to audit American Water contractors' books and would like to begin to review contracts (construction contractor audits) starting with high-dollar contracts in 2010. IA is also looking at ways to get coverage across states (like Tennessee) that might not get coverage using high-dollar contracts. One way is to look at topics of concerns for presidents and perform audits by function across multiple states. Using this process will also allow IA to enhance standardization across states and identify best practices. A business continuity plan audit is also being considered.¹³²

IA uses a risk-based approach in audit planning, aligned with the standards of the Institute of Internal Auditors, which requires the chief audit executive to "establish risk-based plans to determine the priorities of the internal audit activity, consistent with the organization's goals." IA referred to several sources to support their risk assessment and planning process, including:¹³³



- ◆ Risk factors and “additional factors” as disclosed in the 12/31/2009 registration statement on the Form 10K filing
- ◆ Content from Risk Management Committee meetings
- ◆ Risks identified from previously completed internal audit activities
- ◆ The IA Department’s “Audit Universe”
- ◆ Content from Business Process Review meetings
- ◆ Content from fraud risk assessment activities
- ◆ Code of Ethics
- ◆ Input from interviews of 58 members of management and the Audit Committee

Based on their assessment of the risk involved in American Water operations, IA established its audit plan for 2010. The resources assigned to this plan compared to 2009 results are shown in *Exhibit III-4*.¹³⁴

Exhibit III-4
Audit Plan Comparison
2009 to 2010

Business/Functional Categories	IA Staff Hours	
	2009 Actual	Proposed 2010
Business Transformation	100	2,500
Regulated Business	1,949	2,350
Central Activities	799	2,050
Service Company	1,463	1,900
Sarbanes-Oxley (SOX) Compliance	6,876	1,400
Information Systems	1,373	1,300
Commercial Business	475	350
Total Hours	13,035	11,850
FTE Audit Staff	8.5	7.5
Hours per FTE	1,534	1,580

Source: Information Response 66

Monthly & Quarterly Management Processes

Month-end AWWSC Processing of Affiliate Charges

Steps performed for month-end processing and billing of AWWSC charges are as follows:¹³⁵

- ◆ *Step 1 Check to ensure only valid formulas were used throughout the month:* If any formula was used during the period that was expired or invalid, this step isolates such formulas. This step prevents expired formula and invalid formula from being used. An expired formula is one that is setup to only be used during a specific time period, such as construction period, that may have expired due to timing. An invalid formula is a formula that is missing entirely from the coding of a charge or a formula that does not exist in the system. The accounting system (JD Edwards or JDE) has “up-front” validation that should not allow a transaction to post into the general ledger without a valid formula. This step runs a program to double check before beginning the month-end process.
- ◆ *Step 2 Run a report to validate the formula mapping:* This validation reviews all the formula setup in system to ensure all formulas have the proper category codes that will facilitate proper posting to the correct management fee account on the general ledger of the affiliate operating company. If any formula is missing a category code for any business function, it will return an error to be corrected prior to continuing.
- ◆ *Step 3 Test to see if all the bill codes for all the transactions created during month are blank for the current period:* During the month-end billing process each transaction in the general ledger that is being billed is marked with a bill code indicating that the transaction has been billed. This step is a check to ensure that no transaction will be billed twice. It is a double-checking measure as only the current period charges are billed each period. If the bill code is blank, it means it has not been previously billed. If there are profit and loss (P&L) transactions that were previously billed, the transaction would be identified in this step and need to be investigated to determine why it was billed. All of the current period transactions should be blank and all prior period charges should be marked “billed.”
- ◆ *Step 4 Start the allocation process:* The beginning part of this step is to copy all the AWWSC P&L transactions from the general ledger into a separate Service Company Billing file (SCB file). During this step the transactions are marked “original” in the SCB file and marked “billed” in the bill code field in the AWWSC general ledger. This step ensures American Water has an “original” copy of all transactions, but separate from the general ledger. The next part of this step is to allocate out the charges (transactions) per the formula allocation percentages to each affiliate. This is also the step where the overheads are allocated. After the allocation process is complete each affiliate has been allocated its respective portion of each transaction as it pertains to the formulas used and all overhead has been allocated based on the service labor allocation. The “original” transactions remain in the SCB file and allocated transactions are also posted to the SCB file with a code indicating the operating company to bill.
- ◆ *Step 5 Check to ensure that the aggregate amount of “allocated” charges in the SCB file equals the aggregate amount of the “original” transactions:* This step ensures that the correct amount is allocated to the affiliates.
- ◆ *Step 6 Check to ensure that the account coding on the allocated transactions in the SCB file is valid:* The account coding is driven by the formula used. This step checks to make sure that the account is still valid on the operating company chart before attempting to post the journal entry in the



- subsequent step. If the accounting is incorrect, then it is investigated and corrected prior to journal entry creation.
- ◆ *Step 7 Create and post the journal entries needed to record the current month AWWSC bill on both the operating companies and the AWWSC general ledger:* This step takes the amount (determined in the allocation process from the SCB file) and creates journal entries (based on the allocation accounting in each formula) that will be recorded on the affiliate's records. Once the journal entry is created, it is reviewed for mathematical errors, before being posted. Revenue and receivables are posted to AWWSC and expense (and potentially capital charges) and a payable is posted to each operating company receiving service.
- ◆ *Step 8 Ensure that AWWSC P&L has zero net income:* This is the last step in the process. If net income is not zero, then investigations and corrections are required.

Included in each monthly bill are month-end accruals for items such as payroll costs incurred but not processed (because month-end splits a pay period) and unmapped P-card entries (because month-end occurs before employees have coded P-card entries for these late month items).¹³⁶ For example, the monthly P-Card accrual takes these "workbasket" transactions at the end of each month that have not been processed and accrues them according to the default accounting in each cardholder's profile. When purchasing cards are issued, the cardholder's account is setup with a default business unit and formula for all credit card transactions. In the event that unprocessed items are in the cardholder's account workbasket at month's end, this default accounting is used to generate the accrual entry on the last day of the month. On the first day of the next month, the accrual entry is then reversed. When the cardholder submits the purchasing card transactions with the proper accounting and they are approved, they will post to the proper accounts.¹³⁷ At year-end 2009, unmapped P-card accruals totaled approximately 550,000.¹³⁸

In addition to the month-end processing and controls, there is also an annual review and update of the allocation formula percentages.¹³⁹

FRP/BPR Packages

Financial tools to help TAWC manage its affiliate transactions include the FRP and the BPR. The AWWSC charges, and variance to the budget, are addressed monthly as part of the BPR and FRP reports, as well as the quarterly financial report to the TAWC Board of Directors.¹⁴⁰

- ◆ The FRP is a monthly financial analysis document, displaying comparisons of actual financial results for the income statement and the balance sheet to the budget (operating plan), reforecasted budget, and prior year results and explaining variances for all line items in the income statement and the balance sheet that are at least 10% and \$50,000. Affiliate charges to Tennessee, along with all operating expenses, are reported monthly in the income statement of the FRP. Balance Sheet data is included also, but only on a quarterly basis.¹⁴¹ There is a monthly FRP meeting to discuss this document, attended by the TAWC President, TAWC department heads, AWWSC Director Accounting, AWWSC Manager Accounting for the

Eastern Division; SVP & CFO, VP & Controller, the VP Finance Eastern Region; and Manager Finance Tennessee. It is usually held on the seventh or eighth working day after the end of a month. The FRP is prepared by the Manager-Finance in Tennessee.¹⁴²

- ♦ The BPR is also a monthly report, and it includes operational issues, such as capital spending, metrics, safety, health, service quality, customer satisfaction, environmental concerns, system delivery, human resources, site reports, as well as more summarized financial information. The monthly BPR is submitted to the Planning and Reporting group. The meeting for this document is held quarterly, one week after the last FRP meeting for the quarter and is attended by the TAWC President and the Manager Finance Tennessee, along with the other company presidents and their financial managers. The Manager Finance Tennessee prepares the financial section of the BPR and coordinates the development of the entire document.¹⁴³

Typically any incorrect charges to TAWC or other corrections (as required) are determined during monthly/quarterly review process and are relayed by the FP&A Analyst, Divisional VP of Finance, or TAWC President to the FP&A organization.¹⁴⁴ When affiliates question any charges, the FP&A group is typically the first step in the “dispute” process. The Manager, FP&A will first talk with the employee creating the journal entry and, if necessary, will escalate the issue to the appropriate AWWSC parties, starting with the VP, Shared Services, then the CFO, and finally to the President. The Eastern Division (ED) Finance Manager may also question charges on debriefing calls, although the ED Finance Manager’s focus (as well as that of the TAWC President) is on all TAWC costs, not just affiliate costs.¹⁴⁵

The financial reporting variance analysis thresholds for all operations in the Eastern Division are shown in *Exhibit III-5*.¹⁴⁶

Exhibit III-5
Variance Reporting Thresholds – Eastern Division
as of December 31, 2009

State/Company	Financial Reporting Variance Analysis (Greater Than 10% and the Following \$ Amounts)
Indiana	150,000
Kentucky	125,000
Long Island	50,000
Maryland	15,000
Michigan	25,000
Ohio	25,000
Tennessee	50,000
Virginia	50,000
United Water Virginia	25,000
West Virginia	125,000
Bluefield Valley Water	25,000

Source: Information Responses 86 and 98



The FRP for TAWC's operations is discussed in a monthly conference call. The Manager, Finance for Tennessee will lead this call with about 15 other participants. The FRP format dictates the itinerary for the call, and all variances shown on the report are discussed. A draft of the FRP is sent to all participants prior to the call and includes their explanations of variances. The FRP is finalized after the monthly call and sent to a mailbox for distribution to all recipients.¹⁴⁷ The recipients of the Tennessee FRP are as follows:¹⁴⁸

- ◆ AWWSC Controller
- ◆ AWWSC Assistant Controller
- ◆ AWWSC Manager - FP&A
- ◆ AWWSC Director of Tax
- ◆ CFO
- ◆ AWWSC Director - SSC
- ◆ AWWSC Eastern Division VP Finance
- ◆ AWWSC Eastern Division Manager FP&A
- ◆ AWWSC Eastern Division Analyst FP&A
- ◆ AWWSC Eastern Division Senior VP
- ◆ AWWSC Accountant SSC
- ◆ AWWSC Director Accounting SSC
- ◆ AWWSC Eastern Division Manager Accounting SSC
- ◆ AWWSC Eastern Division Analyst
- ◆ TAWC President
- ◆ TAWC Manager Field Services
- ◆ TAWC Manager FP&A
- ◆ TAWC Operations Supervisor

Since November, 2009, there have been detailed Excel spreadsheets that back up the allocation of time and charges on the monthly FRP. Prior to November, this functional level of detail was available only in Hyperion.¹⁴⁹ The Manager Finance analyzes the Excel spreadsheet that contains details of persons who charged time to TAWC from AWWSC and other affiliates. In the past, instead of Excel spreadsheets, an analyst could only obtain details and justifications regarding time charged to TAWC by sending email messages or making telephone calls.¹⁵⁰

The monthly FRP call is held between day 8 and day 12 after the end of the month. The Annual Financial Reporting Calendar shown in *Exhibit III-6* dictates when the reporting packages are due to corporate headquarters and impacts when the monthly FRP calls are held.¹⁵¹ The roll-up of division variances are discussed informally at a higher level with the SVP, Eastern Division, during the monthly close.¹⁵²

Exhibit III-6
Annual Financial Reporting Calendar
2009

Period	Days									
	0	1	1	4	6	7	8	9	10	11
	Close Begins	Revenues Finalized	COA Objects & Bus-Values & Dimension Request Cut-Off	All Pre-Tax Entries Processed	Debrief Call Conducted & Pre Tax Completed	Taxes Completed	Hyperion Load Completed & Info Available To Regions By Noon	Consolidation Completed	FRP Due By Noon	FRP Meeting
DEC	12/31/08	1/2/09	1/2/09	1/7/09	1/9/09	1/13/09	1/14/09	1/15/09	1/15/09	1/16/09
JAN	1/30/09	2/2/09	2/2/09	2/5/09	2/9/09	2/10/09	2/11/09	2/12/09	2/11/09	2/12/09
FEB	2/27/09	3/2/09	3/2/09	3/5/09	3/9/09	3/10/09	3/11/09	3/12/09	3/16/09	3/17/09
MAR	3/31/09	4/1/09	4/1/09	4/6/09	4/7/09	4/8/09	4/9/09	4/10/09	4/14/09	4/15/09
APR	4/30/09	5/1/09	5/1/09	5/6/09	5/8/09	5/11/09	5/12/09	5/13/09	5/14/09	5/15/09
MAY	5/29/09	6/1/09	6/1/09	6/4/09	6/8/09	6/9/09	6/10/09	6/11/09	6/12/09	6/15/09
JUN	6/30/09	7/1/09	7/1/09	7/6/09	7/8/09	7/9/09	7/10/09	7/13/09	7/14/09	7/15/09
JUL	7/31/09	8/3/09	8/3/09	8/4/09	8/10/09	8/11/09	8/12/09	8/13/09	8/14/09	8/17/09
AUG	8/31/09	9/1/09	9/1/09	9/4/09	9/9/09	9/10/09	9/11/09	9/14/09	9/15/09	9/16/09
SEP	9/30/09	10/1/09	10/1/09	10/6/09	10/8/09	10/9/09	10/12/09	10/13/09	10/15/09	10/16/09
OCT	10/30/09	11/2/09	11/2/09	11/5/09	11/9/09	11/10/09	11/11/09	11/12/09	11/13/09	11/16/09
NOV	11/30/09	12/1/09	12/1/09	12/4/09	12/8/09	12/9/09	12/10/09	12/11/09	12/14/09	12/15/09
DEC	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

Source: Information Response 57

The recent addition of the Finance Manager in Chattanooga is expected to increase TAWC's focus on financial issues, including business planning, financial reporting and cost control, and preparing and monitoring the operating and capital budgets.¹⁵³ The TAWC President has a monthly meeting with his Tennessee leadership team, Eastern Division Superintendents, and local representatives of AWWSC's Compliance, Legal, and Business Development departments. Discussed during this meeting are opportunities and vulnerabilities (Os & Vs) that might need to be included in the next reforecast. Os & Vs are discussed monthly, while the reforecast is prepared quarterly.¹⁵⁴



Findings & Conclusions

Finding III-1 Internal controls over affiliate transactions are generally appropriate for a public utility.

Internal controls include an extensive SOX program, Internal Audit Department's reviews and audits, and monthly local company and department reviews included in the FRP and the BPR package processes. With the exception of the items mentioned in *Finding III-4*, *Finding III-5*, *Finding III-6*, and *Finding III-7*, and the cost avoidance suggested in *Finding III-3*, these controls are appropriate for a public utility and should provide TAWC with assurance that financial transactions are managed properly.

Finding III-2 The use of outside contractors increases American Water SOX compliance cost.

The American Water organization has spent a considerable amount of money on their SOX compliance efforts since the decision was made to take the company public, over \$54 million as on the end of 2009. (A substantial portion of this cost was for SOX implementation costs (versus on-going compliance costs) and was not requested for rate recovery at any regulated subsidiary based on conditions placed on American Water by various state regulatory commissions during the RWE divestiture proceedings.) Most of this expense was incurred through a contract with an international CPA firm, Ernst & Young. The SOX plan for 2010 calls for 22,900 hours of effort at a cost of \$2.6 million. Approximately 9,900 of these hours, costing \$1.4 million has been assigned to Ernst & Young personnel. The remaining 13,000 hours and \$1.2 million in cost are budgeted for two internal AWWSC groups: the ICG having 12,000 hours and \$1.1 million and IA having 1,000 hours and \$0.1 million.

The hourly cost of using Ernst & Young personnel is 40% to 50% greater than the internal cost of utilizing either the ICG or IA personnel, although AWWSC management believes that the Ernst & Young personnel were initially more efficient in the number of test performed than in-house staff. The 2010 hourly cost of personnel performing SOX functions ranges from \$ 91.61 for ICG, \$100 for IA, and \$141.54 for Ernst & Young.

Finding III-3 AWWSC performs only a limited review of allocation factors.

The internal billing process among affiliated companies, including the use of specific allocation factors, is not part of the SOX compliance responsibility as affiliate charges are intercompany transactions that are eliminated during the consolidation process. IA has not performed an annual audit of affiliate allocation factors, although an IA audit of limited scope regarding affiliate processes was completed in 2009 as described later in *Finding III-4*. IA management believes that management's role is to determine what allocation factors are to be used, with IA auditing the processes involved. The AWWSC VP & Counsel, Regulatory Programs annually leads a review of allocation factors using input from AWWSC departmental management who provide services to affiliates. Also, the Financial Planning and Analysis group is responsible for management and oversight of the allocation factors. However, allocation factors play a very important part in determining the affiliates operating costs. The charges from

affiliates comprise a large portion of TAWC O&M expenses. As shown in *Exhibit III-7*, approximately 22% of TAWC's total operating expenses for the past five years (\$23,537,235 out of \$106,564,360) came from affiliate (AWWSC and AWR/ACS) charges. In 2009 these affiliate charges accounted for 21% of TAWC total operating expense. As discussed previously in *Chapter II – Affiliate Relationships Review*, most of these charges come from either national or regional allocations. (AWCC interest charges were not included in these figures as they are not considered operating expenses by TAWC management.)

Exhibit III-7
TAWC O&M Expenses
2005 to 2009

Item	2005	2006	2007	2008	2009	
Labor	\$3,765,383	\$4,256,528	\$4,664,401	\$5,045,198	\$5,126,043	
Purchased Water	\$50,635	\$53,119	\$53,351	\$45,196	\$39,327	
Fuel & Power	\$1,588,696	\$2,231,924	\$2,276,874	\$2,626,285	\$2,382,233	
Chemicals	\$835,399	\$989,613	\$1,091,507	\$1,113,328	\$1,265,535	
Waste Disposal	\$161,150	\$156,389	\$151,324	\$167,955	\$159,077	
Management Fees	\$3,752,617	\$4,312,528	\$4,725,529	\$5,021,435	\$4,879,920	
Group Insurance	\$1,563,967	\$1,538,845	\$1,576,752	\$1,702,524	\$2,068,630	
Pensions	\$318,289	\$1,080,083	\$707,180	\$1,362,254	\$1,272,526	
Regulatory Expense	\$269,432	\$218,381	\$520,423	\$2,315,135	\$834,226	
Insurance Other than Group	\$484,633	\$501,775	\$528,319	\$457,922	\$473,954	
Customer Accounting	\$1,147,599	\$1,304,538	\$1,125,626	\$1,355,726	\$1,569,440	
Rents	\$39,988	\$43,474	\$22,397	\$9,281	\$9,286	
General Office Expense	\$1,045,754	\$324,503	\$223,739	\$261,676	\$207,670	
Miscellaneous	\$1,853,160	\$1,827,888	\$1,776,561	\$1,857,766	\$1,914,109	
Other Maintenance	\$996,291	\$1,152,804	\$1,237,107	\$1,283,703	\$1,190,525	
Total TAWC O&M Expenses	\$17,872,993	\$19,992,392	\$20,681,090	\$24,625,384	\$23,392,501	100%
Affiliate O&M Charges (AWWSC and AWR/ACS)	(\$3,810,807)	(\$4,600,435)	(\$4,932,292)	(\$5,251,645)	(\$4,942,056)	22%
TAWC O&M Expenses (Excluding Affiliate Charges)	\$14,062,186	\$15,391,957	\$15,748,798	\$19,373,739	\$18,450,445	78%

Source: Information Response 9, 10, 63, 95, and 100

Finding III-4 An insufficient number of internal audits concerning affiliate transactions have been conducted over the past five years.

Although IA completed 40 internal audits in the past five years, including a number of internal audits regarding transactional areas, such as payroll processes, time sheets, P-card transactions, procurement functions, invoice processing, and human functions that are applicable to all American Water organizations including AWWSC, only two of these audits directly relates to affiliate transactions between AWWSC and its affiliates, including TAWC. Therefore, only 5% of the internal audits conducted by IA over the past five years related directly to affiliate transactions. A list of the internal audits completed in the past five years is shown in *Exhibit III-8*.¹⁵⁵



Exhibit III-8
Internal Audits
2004 to 2009

Year	Number of Audits	Audits Related To Affiliate Transactions
2005	12	
2006	8	1
2007	6	
2008	11	
2009	3	1
Total	40	2

Source: Information Response 22

Additionally, the last state-operation specific audit involving Tennessee was more than five years ago (2004). A large portion of American Water's operating expenses for its regulated state operating companies, including TAWC, are the result of affiliate transactions, namely allocations from national and regional organizations. Although affiliate transactions have accounted for approximately 22% of TAWC's operating expenses over the past five years, the level of internal audit attention does not seem to reflect a commensurate degree of importance.¹⁵⁶

Finding III-5 Although AWWSC recently began performing internal audits of affiliate transactions, the scope of these audits is limited.

On January 8, 2009 an Internal Audit report regarding AWWSC accounting and allocation formulas was issued. The audit was performed in response to one of Schumaker & Company's recommendations in its August 2008 management audit of Pennsylvania-American Water Company (PAWC) for the Pennsylvania Public Utility Commission (PaPUC). It was primarily a compliance audit performed by two employees, a Senior Internal Auditor and an Auditor. The scope of the audit included the following areas:¹⁵⁷

- ◆ Worked with AWWSC management to understand objectives, risks, and controls.
- ◆ Obtained a listing of all allocation formulas to determine existence, completeness, and accuracy.
- ◆ Gained understanding of process as a means to test new formula request forms (RFRs), determine who authorizes formulas, and who inputs the formulas into JDE.
- ◆ Reviewed JDE for user access restrictions over allocation formulas.
- ◆ Reviewed users submitting their labor and expense entries via JDE and validated that direct supervisors reviewed and approved the entries.

- ◆ Recalculated bills to ensure they accurately reflect the formula allocations.
- ◆ Attended monthly financial review call held by AWWSC management to ensure that budget and planning variances are discussed appropriately.
- ◆ Obtained an understanding of what AWWSC Financial Planning & Analysis personnel and state end users do to get comfortable with the management fees charged to them.

The allocation codes used in formulas and authorizations were part of the affiliate audit review performed (January through September 2008), but work orders were not. It also did not look at the appropriateness of factors used, as the selection of factors is considered to be in management's scope, rather than a judgment of Internal Audit's. The report contains several action items related to review of AWWSC formula set-up, formula updates, and other controls regarding AWWSC accounting, all of which AWWSC addressed during 2009. One action item included in the report related to the PAWC management audit recommendation related to simplifying the reporting and review of AWWSC charges at the regulated subsidiary level. In response to that action item, starting with the November 2009 accounting period, reports are currently made available to the regional finance teams and TAWC for review of monthly and year-to-date AWWSC charges to TAWC.¹⁵⁸ The management study currently in progress (described previously in *Chapter II – Affiliate Relationships and Transactions Review*), which has been designed to look at the use of multiple cost-causative factors versus those done only by number of customers, is expected to provide information about the use of the current *Tier Two* methodology based on number of customers.

With regard to upcoming audits related to affiliate activities, the VP presented in March 2010 to the Audit Committee IA's plans for 2010, including affiliate audits. In future affiliate audits, IA intends to either go broader and/or deeper than it did with the January 2009 audit. (Based on the number of factors used, approximately 500 different formulas exist for charging time.)¹⁵⁹

On March 26, 2010 the VP, Internal Audit presented the following topics to the AWWC Audit Committee:¹⁶⁰

- ◆ IA Department profile and budget
- ◆ 2010 IA execution forecast, with an objective to attain 80% project staff utilization toward project execution, is expected to result in overall utilization of 73% of the 18,776 forecasted hours in 2010 for the IA Department staff
- ◆ IA risk assessment and planning process in which the scope of audits to be performed are based on "risk-based plans to determine the priorities of the internal audit activity, consistent with the organization's goals" as discussed in the standards of the Institute of Internal Auditors (IIA), which include the following sources:
 - Risk and other additional factors disclosed in the 12/31/09 registration statement on American Water's Form 10-k filing
 - Content derived from Risk Management Committee meetings



- Risk identified from previously completed IA activities and its audit universe
- Content from Business Process Review (BPR) meetings
- Content from fraud risk assessment activities
- American Water code of ethics
- Input from interviews with 58 members of management (including four TAWC representatives) as well as Audit Committee input
- ◆ 2010 proposed IA plan, including approximately 700 hours allocated to service company cost allocations in which the rationale and proposed areas of focus include:
 - Assurance as to risk mitigation over incorrect AWWSC cost allocations to regulated and non-regulated business units
 - Proactive assurance to public utility commissions and management auditors in PA, NJ, IL, TN, and IN
 - Review and test of the accuracy of selected AWWSC allocation formulas by verifying that they are in compliance with the AWWSC/state contracts
 - Evaluate correctness of formulas being used by employees to verify proper allocation of AWWSC costs to applicable business units
- ◆ Project plan comparison of 2010 versus 2009, in which a primary shift in audit focus is expected with an increase in attention to business transformation activities and a reduction in SOX control testing.
- ◆ 2010 project activities and results, including responding to interview and data requests pertaining to third-party management audits in NJ and TN
- ◆ Prior audit follow-up procedures update

The proposed 2010 IA plan was approved by the Audit Committee on that day.¹⁶¹ Included in that plan was 700 hours designated for AWWSC cost allocations methodologies, as detailed in the following work plan shown in *Exhibit III-9*. Also, two factors were recently removed from AWWSC's use (Procurement Volume and ITS Servers), but Schumaker & Company does not understand how some services would be allocated without use of such factors.

Exhibit III-9
Latest IA Affiliate Transactions Work Plan
as of March 2010

1. Are the allocation formulas designed in accordance with Articles II and III of the Service Company Agreement with affiliates?	
Process Controls	Test Procedures
New allocation formulas or changes to existing formulas are established through a Formula Request Form (FRF). The FRF is approved by the Service Company Financial Planning Manager.	<ul style="list-style-type: none"> ◆ Obtain a targeted sample of FRFs and determine whether each form was properly reviewed and approved by the Service Company Financial Planning Manager. ◆ Verify that the allocation formula was set up in accordance with business needs and in accordance with the Cost Allocation Manual. ◆ Verify that the formula was independently requested by the affiliate and independently input into the JDE system by an authorized person in the Shared Services Center (SSC).
Annually, existing allocation formulas are updated to recognize changes in key factors (e.g., customer counts, revenues, etc.) that have occurred from the previous year.	<ul style="list-style-type: none"> ◆ Using the targeted sample of formulas identified above, verify that the selected formulas were updated in accordance with the Cost Allocation Manual. ◆ Verify that updates were accurate and complete.
2. Does management have documented and communicated guidance on the proper allocation of Service Company cost?	
Process Controls	Test Procedures
The Company has developed a Cost Allocation Manual and Training Guide to assist employees in creating new formulas and understanding proper methods of allocating their time and expenses. This objective is relevant to all process controls in this review.	<ul style="list-style-type: none"> ◆ Obtain the Cost Allocation Manual and Training Guide and determine whether it has been approved by management and properly communicated to all relevant personnel.
3. Are there appropriate monitoring controls to ensure that costs are allocated correctly?	
Process Controls	Test Procedures
Only authorized and appropriate individuals have access in JDE to create or change a Service Company allocation formula.	<ul style="list-style-type: none"> ◆ Obtain listing from IT of all individuals that have access to create or change a formula in JDE. ◆ Determine that appropriate segregation of duties exist for the employees that have access. ◆ Determine if an independent review of all changes/edits to allocation formulas occurs within JDE.
The General Accounting Manager at SSC reviews all new and/or changed Service Company allocation formulas.	<ul style="list-style-type: none"> ◆ Using the targeted sample of formulas identified above, determine whether the General Accounting Manager reviewed the formula input in JDE to verify its accuracy.

Source: Information Response 92



Exhibit III-9
Latest IA Affiliate Transactions Work Plan
as of March 2010
(continued)

Employees' direct supervisors review and approve all time and expense entries to verify the proper allocation of costs.	<ul style="list-style-type: none"> ◆ Using the targeted sample of formulas identified above, identify Service Company employees that enter time and/or expenses in JDE. ◆ Determine that employees' direct supervisors properly reviewed and approved time and expense entries to verify the use of proper formulas by interviewing the supervisors and determining the quality of review. ◆ Verify that the employees selected the appropriate formula and properly entered the time and expenses based on the services provided to the affiliate by interviewing the employees.
Service Company Financial Analysts review labor files and budgets monthly to ensure that labor and/or expenses were not allocated in error.	<ul style="list-style-type: none"> ◆ Obtain the Service Company Financial Analyst reports used to review allocation formulas for the month of March 2010. ◆ Through inquiry, determine that the Financial Analysts review Service Company allocation cost to verify that labor and/or expenses were allocated properly. ◆ Using that targeted sample identified above, re-calculate the costs allocated to the affiliate based on the formula used. ◆ Verify that costs were properly distributed to the G/L subsequent to the Service Company billing process.
Affiliate Financial Analysts review labor files and budgets monthly to ensure that labor and/or expenses were not allocated to their businesses in error.	<ul style="list-style-type: none"> ◆ Select a sample of affiliates and obtain the Financial Analyst reports used to review allocation formulas for the month of March 2010. ◆ Through inquiry, determine whether the Financial Analysts review Service Company allocation cost to verify that labor and/or expenses were properly allocated to their company.
Monthly, a financial reporting call is conducted with Service Company and affiliate Financial Analysts to discuss Service Company billings.	<ul style="list-style-type: none"> ◆ Attend the monthly financial reporting call conducted by the Service Company Manager of Financial Planning and Analysis and verify that Service Company expenses and related variances were addressed with appropriate resolutions.

Source: Information Response 92

Recommendations

Recommendation III-1 Continue to reduce the use of outside contractors for SOX compliance tasks. (Refer to Finding III-2)

As previously discussed, AWWSC management indicates that the use of internal resources, remediation of the previous material weaknesses completed, control rationalization, and the maturity of the American Water control environment all contribute to the reduction of the cost of compliance, as reducing cost of compliance while continuing a rigorous SOX program is a focus of management. AWWSC management states that it is working on limiting the use of third parties to testing in specialized areas (e.g., IT and tax) to augment internal resources and to cover peak testing periods, where such coverage is more cost effective than permanent internal resources. Staffing mix is also a consideration. While it is not fully realized within 2010, it is expected in future years over the planning horizon.

In the 2010 SOX plan the cost for using Ernst & Young personnel is 40% to 50% higher than using internal resources, either ICG or IA staff. If the ICG or IA staff were used for the hours assigned to Ernst & Young the savings to AWWSC in 2010 would be between \$411,246 and \$494,307 (approximately \$8,800 to \$11,000 to TAWC). Although it may not be possible to effect a significant change in SOX personnel by 2010, certainly this alternative should be explored for 2011 and after. Depending on the estimated long-term need for SOX compliance personnel AWWSC could either expand its ICG staff or its IA staff, or both to cover the expected on-going requirement.

Recommendation III-2 Conduct an annual independent review of allocation factors and charges to affiliates. (Refer to Finding III-3)

There are a large number of allocation formulas used to allocate a large percentage of the total AWWSC operating expenses between non-regulated and regulated affiliated companies, including TAWC. There is an annual review of the *Tier One* allocation factors conducted by the VP & Counsel, Regulatory Programs to determine the applicability of cost-causative factors being utilized. Additionally, the AWWSC FP&A group reviews and approves any changes or additions to the approved formulas, as well as annual updates to the data supporting the formula allocations. The relatively recent addition in late 2009 of Excel files detailing all of the charges by individuals also makes this process much more transparent. The Excel files are very useful in analyzing monthly AWWSC charges, where in the past this level of detail was not easily available to organizations such as TAWC. However, due to the amount of expense involved (21% of TAWC's 2009 operating expense) and number of allocation formulas utilized, a strong case can be made for not just relying on the steps taken by AWWSC employees or for the receiving organization to catch any mistakes that might be made. The importance of these transactions would seem to call for an annual independent review by an outside work unit (not IA, but accounting/analytical employees not involved in entering and maintaining the formulas nor in receiving the charges). This review would entail determining if the formulas were appropriate for the charges



involved, fair to all parties involved, and calculated correctly, as well as determining if additional allocation factors should be implemented.

Recommendation III-3 Increase the number of internal audits concerned with affiliate transactions and expand their scope. (Refer to Finding III-4 and Finding III-5)

The number of internal audits concerning affiliate transactions conducted over the past five years was minimal, only 5% of all audits conducted. Affiliate transactions, in the form of allocations from national and regional headquarters, comprise a large percentage of the operating expenses of a regulated company's operating expenses (22% of TAWC's operating expenses over the past five years). The large percentage of expenses involved, the number of formulas utilized in allocating charges, and the importance and visibility of American Water's regulated activities with a number of state utility commissions would seem to justify more attention from IA in the form of additional and more frequent internal audits. This attention should take the form not only of more frequent audits, but also the scope of these audits should be expanded. For example, besides including steps to include investigations whether employees use correct formulas, authorizations, and/or work orders when recording time and expenses, these audits should also review all processes associated with affiliate transactions and billings.

B. Consultant Internal Control Review of Sampled Transactions

This section addresses our internal controls review of AWWSC 2009 transactions by sampling AWWSC transactions and testing the related allocations of costs to TAWC.

Background & Perspective

For 2009, AWWSC incurred charges of \$248,211,987 (\$30,348,316 in capital expenditure charges and \$217,863,671 in operating expense charges), which was entirely billed by AWWSC as management fee revenues to affiliated companies. AWWSC charges are categorized in *Exhibit III-10*, which shows AWWSC capital and operating expenses by overhead location and the related amounts billed to TAWC.¹⁶²

Exhibit III-10
AWWSC Charges to TAWC by Location
2009

AWWSC		AWWSC CHARGES			BILLED TO TAWC			% BILLED TO TAWC		
Overhead Location		Operating			Operating			Operating		
#	Description	Capital	Expenses	Total	Capital	Expenses	Total	Capital	Expenses	Total
320	Corporate	\$ 2,125,558	\$ 45,642,205	\$ 47,767,763	\$ 21,973	\$ 999,077	\$ 1,021,050	1.0%	2.2%	2.1%
325	Shared Service Center	936,231	28,592,664	29,528,895	445	606,502	606,947	0.0%	2.1%	2.1%
326	Operation Service Center	8,221,075	5,677,137	13,898,212	154,063	113,550	267,613	1.9%	2.0%	1.9%
330	Western Region	1,460,826	7,321,944	8,782,770	-	7,343	7,343	0.0%	0.1%	0.1%
335	Central region	4,218,593	21,459,735	25,678,328	783	102,315	103,098	0.0%	0.5%	0.4%
340	Call Center - Alton	64,433	32,565,788	32,630,221	(53)	749,984	749,931	-0.1%	2.3%	2.3%
345	Belleville Lab	9,935	5,294,296	5,304,231	-	122,234	122,234	0.0%	2.3%	2.3%
350	Southeast Region	604,192	10,828,212	11,432,404	11,067	933,040	944,107	1.8%	8.6%	8.3%
365	Northeast Region	151,380	4,189,918	4,341,298	91	1,230	1,321	0.1%	0.0%	0.0%
370	Call Center - Pensacola	262	17,143,485	17,143,747	-	382,380	382,380	0.0%	2.2%	2.2%
375	ITS	7,023,940	38,989,341	46,013,281	3,043	864,025	867,068	0.0%	2.2%	1.9%
380	Business Transformation	5,531,891	158,946	5,690,837	128,001	2	128,003	2.3%	0.0%	2.2%
Total		\$ 30,348,316	\$217,863,671	\$248,211,987	\$ 319,413	\$ 4,881,682	\$ 5,201,095	1.1%	2.2%	2.1%

Source: Information Response 68

We obtained AWWSC detailed transaction files for 2009 reflecting approximately 172,000 “service” transactions and approximately 84,000 “overhead” transactions. Service transactions are those transactions that are charged by business unit, object account, and formula to account for the cost of providing service other than employee benefits and general building costs. Service transactions consist mainly of:

- ◆ Purchasing card transactions
- ◆ Vendor invoice transactions



- ◆ Labor expense and labor benefit expense entries, which are produced directly from electronic employee timesheets and the related employee benefit cost tables within the company's information systems. The "service" transactions for labor expense are for employees providing regular service to the subsidiaries and are identified as T1 payroll disbursement transactions. Labor transactions for support personnel, such as mailroom staff and administrative assistants, are identified as T2 payroll disbursement transactions, which are generally considered overhead transactions; however, these transactions are considered service transactions when employees charge their time to formulas other than the general overhead formula of 999999.
- ◆ Other expense accrual journal entries

Overhead transactions, which account for the cost of employee benefits and direct building costs, consist of:

- ◆ *Employee benefit overhead* – formula 888888 (which includes payroll benefits, payroll taxes, and defined pension benefit plan contributions for employees, referred to as T3 transactions). Charges included in employee benefit overhead formula 888888 by overhead location are allocated monthly to affiliated companies based on labor dollars by overhead location and by formula.
- ◆ *General overhead* – formula 999999 (which includes lease payments, certain telecommunication charges, depreciation, and labor expense transactions for support personnel (T2 payroll charges)). Charges included in general overhead formula 999999 by overhead location are allocated monthly to affiliated companies based on labor dollars by overhead location and by formula.

Service transactions and overhead transactions of AWWSC for 2009 are as shown in *Exhibit III-11*.¹⁶³

Exhibit III-11
AWWSC Charges by Transaction Type
2009

	Number of Transactions	Dollars
Service Transactions	172,000	\$148,338,474
Overhead Transactions	84,000	\$99,873,513
Total	256,000	\$248,211,987

Source: Information Response 68

Using attribute sampling and random numbers we selected 45 service transactions and 15 overhead transactions to determine if adequate support exists for the charges and the charges are properly recorded and allocated to TAWC based on the documentation and AWWSC's cost allocation methodologies. In addition, for overhead transactions, we selected five of the twelve AWWSC

overhead locations, each from a different month during 2009, and performed tests to insure that service labor in object account 501200 (AWWSC general ledger account for labor) by overhead location and by formula for the month was used to allocate all 888888 and 999999 formula overheads for that location for the month to affiliated companies. The five overhead locations and related month selected for testing consisted of those identified in *Exhibit III-12*.

Exhibit III-12
Location and Month Used for Overhead Sampling
2009

Overhead Location	Description	Month
0320	Corporate	June 2009
0340	Call Center – Alton	July 2009
0325	Shared Service Center	January 2009
0370	Call Center - Pensacola	February 2009
0375	ITS	October 2009

Source: Consultant's Selection from Information Response 68 Data

We also performed tests of the service transactions and the overhead transactions to insure TAWC was charged the proper amount based on the formula used. Finally, we tested the calculation of five formulas used to bill TAWC based on items comprising the formula, such as customers, employees, revenues, and utility plant.

Based on the results of our tests as discussed above, we found no exceptions to our tests except as discussed in the following findings.

Findings & Conclusions

Finding III-6 Some AWWSC purchase card transactions lack adequate support to be able to make a determination of the business purpose and that the appropriate formula was used to allocate the cost.

It is our understanding receipts for purchase card transactions are to be maintained by the card holder and not submitted to a centralized AWWSC location. Also receipts for meals less than \$25 are not required to be maintained by the cardholder. Some of the purchase card transactions we selected for testing were for meals less than \$25 and no documentation was available. In addition, some of the receipts we did review that were received from the cardholder did not have enough information for us to be able to determine the business purpose and that the appropriate formula was used to allocate the cost. We did review print screens from the Pathwaynet system (AWWSC's purchasing card vendor system) indicating supervisor approval of the charge but we were unable to independently verify their appropriateness.



We tested eleven AWWSC purchase card transactions totaling \$4,908, all of which were approved by a supervisor. Six of the transactions totaling \$333 did not have documentation or we were unable to determine the business purpose and formula used from the data provided.. TAWC was charged \$82 on these eleven transactions and \$0.50 on the six transactions without adequate documentation.

Finding III-7 Some intercompany charges from affiliated companies to AWWSC are not supported by written agreements approved by regulatory commissions.

One of the service transactions selected by us for testing was an affiliated charge in February 2009 from Kentucky-American Water Company (KAWC) to AWWSC for rent and indirect costs of AWWSC employees housed at Kentucky-American Water Company. Also one of the overhead transactions we selected for testing was a charge from American Water Resources to AWWSC for interest on capital leases of furniture and equipment at the Pensacola call center. These two AWWSC transactions selected for testing totaled \$37,899, of which approximately \$832 was billed to TAWC.

We agreed the charge from KAWC to AWWSC to an intercompany billing request from April 2007. No other documentation of this charge, such as an agreement that was effective for the specified time period of the transaction, was available. We also agreed the charge from American Water Resources for interest on the capital leases to AWR amortization schedules of the leases. We were provided master lease agreements from 1987 and 1989, but there was no audit trail provided from the master agreements to the current year charge. No other documentation of this charge, such as an agreement that was effective for the specified time period of the transaction, was available.

Recommendations

Recommendation III-4 Improve documentation for purchase card transactions in order for a third party to determine the business purpose of the transaction and to evaluate if the appropriate formula was used to allocate the cost. (Refer to Finding III-6)

We realize purchase card transactions are approved in the Pathwaynet system by supervisory personnel who understand the purpose of the charges and are in a position to determine that the formula for cost allocation is correct. The documentation available, however, sometimes makes it difficult for others to make that same determination. In addition, Internal Revenue Service rules require adequate documentation of the business purpose of transactions, particularly for meals and entertainment expenses, to be deductible from taxable income. We recommend AWWSC review its documentation requirements for purchase card transactions and revise the requirements, as necessary, to insure adequate documentation is available for all purchase card transactions. The documentation should be sufficient for a third party to review the documentation and determine the business purpose of the transaction and the correct formula was used for cost allocation.

Recommendation III-5 Prepare written agreements for charges from affiliated companies to AWWSC for rent (including interest on capital leases) and indirect charges, update them as changes occur, and have them approved by the appropriate regulatory commissions, as appropriate. (Refer to Finding III-7)

Written agreements should be prepared, updated as changes occur, and approved by the appropriate regulatory commissions, as appropriate, in order to document that an appropriate methodology is used to determine the calculation of charges to AWWSC for rent and indirect charges from affiliated companies. Approved written agreements would also help to insure the calculations of the charges are determined consistently and that they meet legal, regulatory, and contractual requirements.



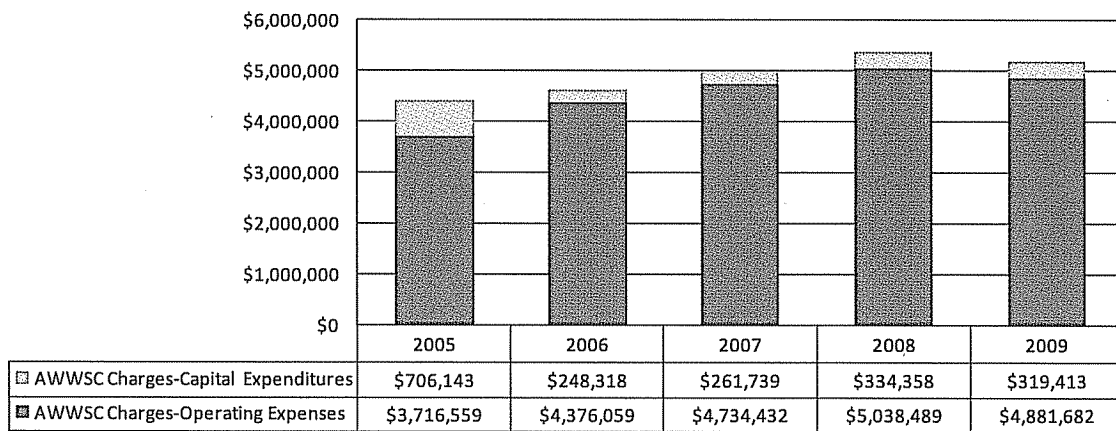
IV. Organizational & Operations Assessment Review

This chapter focuses on the organizational structure mix and compositions between the American Water Works Service Company (AWWSC) and Tennessee-American Water Company (TAWC) organizations and a review of key areas that directly impact TAWC operations and its customers.

A. Background & Perspective

American Water Works Service Company provides support services to the various operating companies including TAWC. In many cases, business services that an operating company had traditionally performed internally have been centralized to the service company to more effectively deploy newer technologies and improve overall efficiency and effectiveness. As a result charges from the AWWSC to TAWC would be expected to increase as these services are centralized. As shown in *Exhibit IV-1*, the combined capital expenditures and operating expenses charged to TAWC have increased by 17.6% from 2005 to 2009.

Exhibit IV-1
AWWSC Combined Capital Expenditures & Operating Expense Charges to TAWC
2005 to 2009

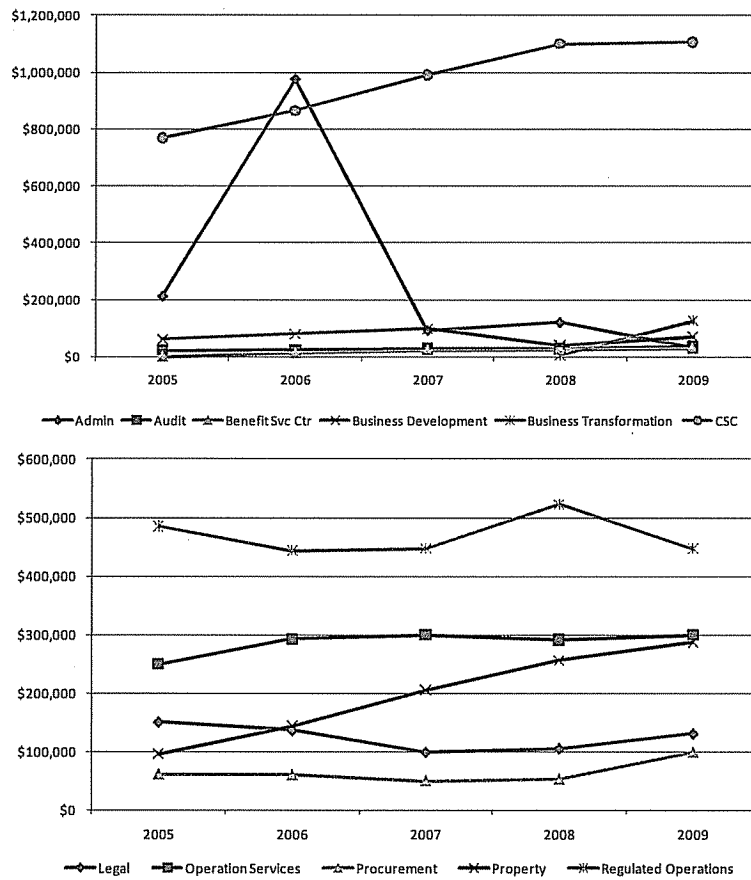


Source: Information response 65

Based on data previously shown in *Chapter II (Exhibit II-11)*, *Exhibit IV-2* and *Exhibit IV-3* graphically displayed the data to more easily see the trends.

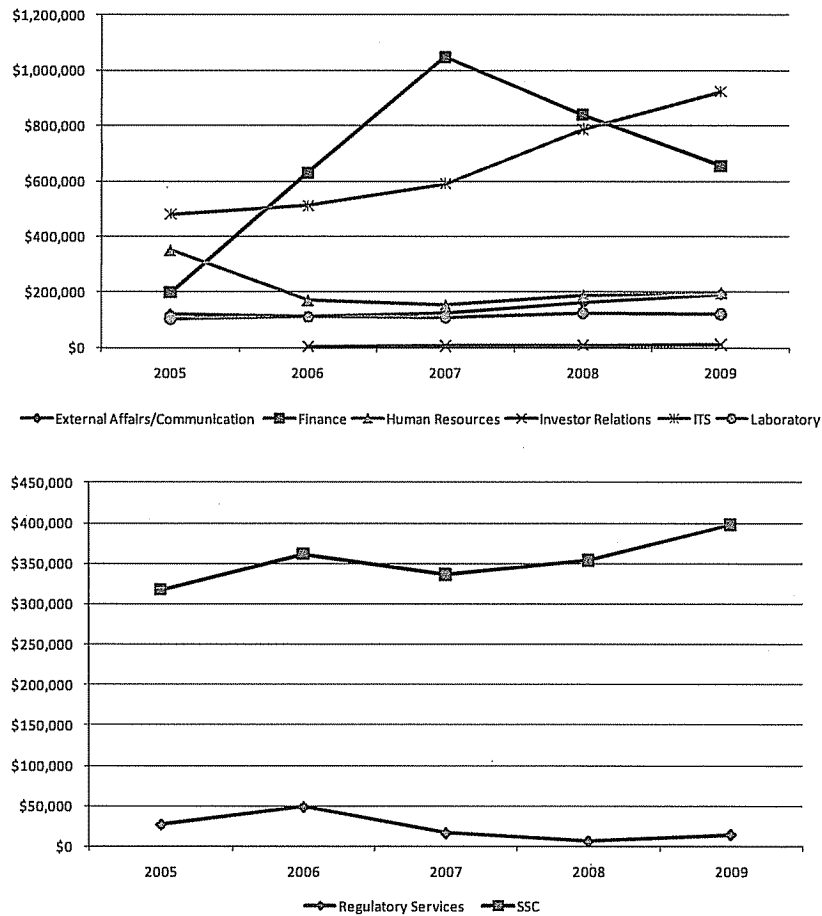


Exhibit IV-2
 AWWSC Charges by Function
 2005 to 2009
 Part 1 of 2



Source: Information Response 65

Exhibit IV-3
 AWWSC Charges by Function
 2005 to 2009
 Part 2 of 2



Source: Information Response 65

Several of the categories have increased such as the following:¹⁶⁴

- ♦ *CSC (Call Center)* – The call center charges have increased from approximately \$770,000 per year to approximately \$1.1 million; this is an area that we investigated in a later part of this chapter. The CSC costs are predominantly made up of labor and labor-related expenses. The increase has primarily been driven by the addition of 38 employees in 2008 required to improve and meet service levels. Other than normal union pay increases, the other major driver of the increase has been pension and other postemployment benefits (OPEB) expenses. Due to the financial market conditions in 2008-2010, returns on assets and market values of Voluntary Employees' Beneficiary Association (VEBA) investments have been well below previous



actuarial estimates, and resulted in a loss on plan assets during this period. The lower return on plan assets has resulted in significant increases in pension and OPEB contributions to meet Employee Retirement Income Security Act of 1974 (ERISA) and plan requirements.

- ◆ *Property* – These charges have almost tripled from approximately \$96,000 to approximately \$288,000, which is due to a change in accounting related to the purchase or lease of ITS assets and office space at AWWSC versus purchasing those assets at TAWC. With the movement of many functions to AWWSC, the office space and ITS equipment being purchased by AWWSC result in the increase in at cost of depreciation, capital leases expense, and property taxes being billed through AWWSC (management fees). While this change results in an increase in AWWSC charges it is directly offset by avoided costs at TAWC.
- ◆ *External Affairs* – These charges have increased from approximately \$120,000 to approximately \$195,000, which is due primarily to a shift of the function to the regional and corporate AWWSC level versus having this function locally at TAWC. This cost increase has also been driven by the increases in pension and OPEB costs described in the CSC discussion above.
- ◆ *Finance* – These charges have increased from approximately \$199,000 to approximately \$656,000, which is due primarily to a shift of the FP&A function to the divisional AWWSC finance group with offsetting reductions of the staff previously located at TAWC. The increase between 2005 and 2009 has also been driven by additional on-going work related to SOX and internal control activities required now that American Water is a publicly traded company, and TAWC as a subsidiary of American Water is required to test and report on its internal control processes. The SOX implementation cost was a major driver of the increase in AWWSC costs between 2005 and 2007, although these costs were not included for rate recovery at TAWC due to the conditions placed on AWWSC during the RWE divestiture proceedings around the country. SOX compliance costs have decreased from 2007 to 2009. As of late 2009 one FP&A employee is located in Chattanooga and on the payroll of TAWC. Overall the increase in finance costs has been driven by the shift of employees to AWWSC and by the increases in pension and OPEB costs described in the CSC discussion above.
- ◆ *ITS* – The information technology charges have increased significantly from approximately \$480,000 to approximately \$925,000, which is due primarily to increased employee levels and associated benefit costs to install and maintain many new software applications used by TAWC, such as mobile computing in service vehicles (Service First), automated call handling (VCR), capital asset management (PowerPlant), and programmed maintenance tracking and control (CMMS), to name a few. This cost increase has also been driven by the increases in pension and OPEB costs described in the CSC discussion above.

Whereas there have been some significant decreases in some charges, specifically administrative charges have been dramatically decreased from \$1 million in 2006 (up from \$214,000 in 2005) to \$94,000 in 2007, \$123,000 and lower \$34,000 by 2009, so of this reduction might have been due to some reclassification of these charges to the other categories where they would get better visibility.

Tennessee-American Water Company provides an essential service to its customers – and must provide this service in a prompt, accurate, and responsive manner. Planning, organization, procedures, and philosophy are all essential components in delivering appropriate and effective customer service. Effective operations act as a bridge, serving the needs of both the utility's external ratepayers and internal departments. Therefore, Schumaker & Company performed a more in-depth investigation into some of the AWWSC areas that provided some of these services. The following sections address some of the key areas where AWWSC significantly impacts TAWC's operations.

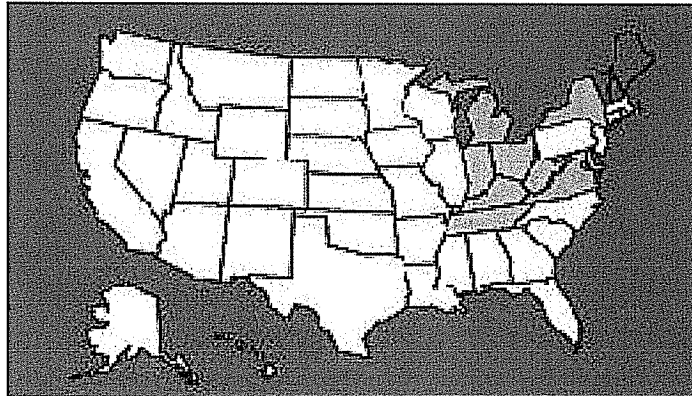
Customer Service-National Call Centers

This section addresses the activities that will be examined with respect to customer service operations, which are currently being performed by the American Water Works Service Company (AWWSC) on behalf of TAWC.

- ◆ Customer service, complaints, and inquiries (call center)
- ◆ Customer accounting and billing
- ◆ Credit and collections

TAWC is in American Water's Eastern Division, which includes the states of Kentucky, Tennessee, Indiana, Ohio, West Virginia, Virginia, Maryland, Michigan, and New York (Long Island), as shown in *Exhibit IV-4*.¹⁶⁵

Exhibit IV-4
American Water Eastern Division
as of December 31, 2009



Source: Information Response 2

The responsibility for the various Tennessee customer service functions is held by the Customer Relations/Field Resource Coordination Center (FRCC) organization within the AWWSC Eastern Division, which happens to be physically located in Lexington (KY), and by the national call center



located in Alton (IL) and Pensacola (FL). As these activities are performed by AWWSC employees, a portion of their costs flow through to TAWC.

Among the items that we investigated in this area included the following:

- ◆ The reasonableness of the AWWSC system-wide call center (which TAWC uses) staffing levels and overall performance (e.g., call abandonment rate, percentage of call answered within 30 seconds, etc.) to include validation of telephone access statistics, and a determination of the adequacy in response and rate of timely resolution of customer disputes:
 - Are the customer service center(s) appropriately configured and adequately staffed for the level of telephone inquiries and customer visits?
 - Do TAWC customers who contact the call center with a question, complaint, or request receive a prompt, courteous, consistent, timely, and accurate response?
- ◆ TAWC's customer complaint procedures, including a review of their compliance with the Tennessee Regulatory Authority dispute handling procedures:
 - Is information from customer complaints collected and used to identify the underlying root causes of customer questions and problems?
 - Are customer service standards using both quantitative and qualitative measures?
 - Is there a visible and formal appeal process through a review officer within TAWC for responding to customers who remain dissatisfied after a front line contact?
- ◆ The trend of TAWC's consumer complaint rates, justified complaint rates, and complaint response times.
- ◆ The reasonableness of the AWWSC FRCC (which TAWC uses) staffing levels and overall performance (e.g., dispatching effectiveness, staffing levels, and coverage), to include validation of telephone access statistics, and a determination of the adequacy in meeting appointments and responding to emergencies.

Call Center Operations

The AWWSC Customer Service Center (CSC) provides many of the activities involving customer service, particularly call center operations and centralized billing, credit, and collections activities. Although the CSC is physically located in two different locations, it operates as one organization. The Alton (IL) call center was opened in April 2001 and the Pensacola (FL) call center was opened in 2005.¹⁶⁶

Tennessee calls can be handled by customer service representatives (CSRs) located at either call center. After-hours calls are routed to Alton, as it is the only call center open on a 24-hour by 7-day (24x7) basis. There are 43 different full-time and eight part-time shifts in the call centers. Employees rebid for these shifts each spring and again in the fall, thus employees have the ability to change their work schedule two times each year based on seniority. More than five years of call history is currently available from which to forecast expected call volumes. A software tool, Impact 360, is currently used

to forecast volumes and monitor adherence to schedules. In addition, call center management has the ability to monitor both the audio and screen navigation of individual CSRs to provide ongoing coaching. All CSRs are monitored, as a minimum, on a monthly basis. Calls are routed to the first available qualified representative using a skills-based routing scheme.¹⁶⁷ A picture of the inside of the Alton call center is shown in *Exhibit IV-5*.¹⁶⁸

Exhibit IV-5
Inside Alton Call Center
as of December 31, 2009



Source: Tour of facilities conducted on the PAWC management audit performed by Schumaker & Company consultants

A picture of the inside of the Pensacola call center is shown in *Exhibit IV-6*.¹⁶⁹

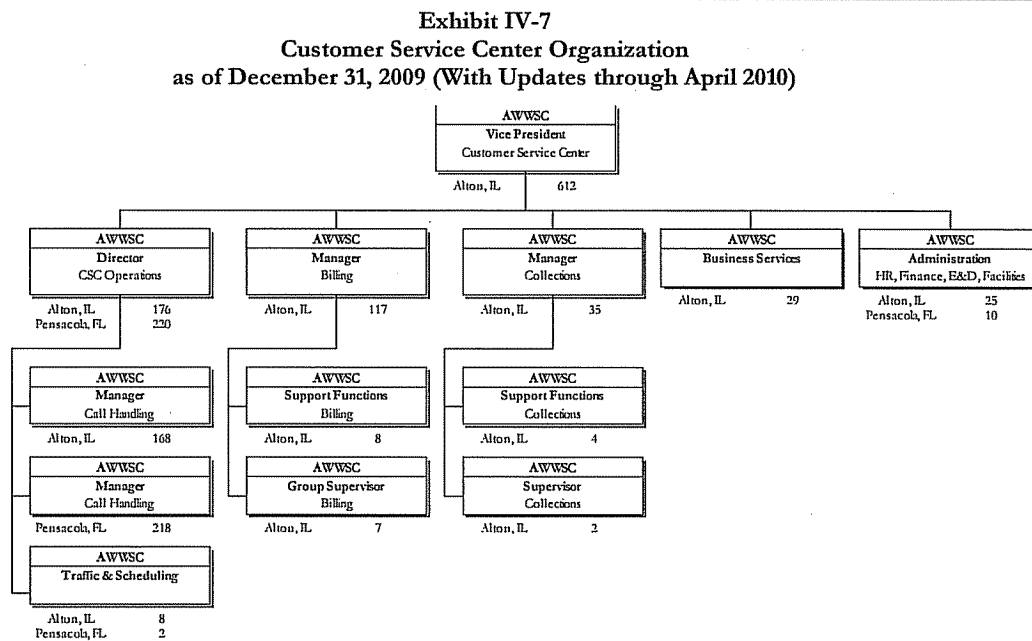
Exhibit IV-6
Inside Pensacola Call Center
as of December 31, 2009



Source: Tour of facilities conducted on the PAWC management audit performed by Schumaker & Company consultants

Organization & Staffing

The CSC organization is shown in *Exhibit IV-7*.¹⁷⁰



Source: Information Response 76

The CSC's responsibilities include the following.¹⁷¹

- ◆ *Call Handling* – inbound customer calls and correspondence (mail, fax, e-mail) regarding billing, collections, and services; responses to customer needs; creation of service orders as required
- ◆ *Billing* – customer bills, process adjustments, resolve billing issues, special accounts billing, and managed accounts
- ◆ *Collections* – collection of unpaid bills, issuance of notices, outbound calling, issuance of shutoff orders, resolution of collection disputes, and bankruptcy processing
- ◆ *Education & Development* – new hire training, refresher training, new position training, local district support, and testing
- ◆ *Quality and Performance Reporting* – quality monitoring of call handling, provision of reports to CSC leadership for coaching and ongoing development, and service order accuracy review and reporting
- ◆ *Support Functions* – finance, work force management, human resources, information technology, and administration functions, including cost control, recruitment, human resource, staffing, scheduling, overtime needs, administrative functions, and system/desktop support



- ◆ *Business Liaisons* – interface with each of the regions on all matters concerning call center operations

The responsibility for time critical (emergency) activities, which had been located in the call centers prior to December 2009, was moved to the respective FRCC at that time.¹⁷²

The CSC has identified specific goals and objectives for the organization, which apply to all states, including.¹⁷³

- ◆ Operations
 - 80% of calls answered within 30 seconds
 - 95% of calls offered handled
- ◆ Call handling
 - 90% on call quality assessments
 - 85% on service order quality reviews
 - 78% first call resolution (as measured by customer service quality survey)
 - 90% of correspondence handled within three business days
- ◆ Billing
 - 2.5% or less total bill corrections to water service active accounts
 - 90% quality assurance on quality assessments on processing of billing contacts
- ◆ Collections
 - 90% accuracy on quality assessments on processing of collections contacts¹⁷⁴

Call Center Technology

Call Routing and Management

The CSC operates redundant Avaya S8700 media servers running Avaya Call Manager v4.0 to route and deliver calls to agents, which at American Water are generally referred to as CSRs. In addition, the system uses Avaya CTI for screen-pop delivery to CSRs, Avaya Interactive Response v4.0 featuring tone recognition for self-service functionality, Intuity Audix for voice mail and fax capabilities, and redundant Avaya Call Management System (CMS) servers for real-time and historical call statistics and reporting.¹⁷⁵ Operational continuity is assured by redundant Cisco routing and switching for personal computers and the voice network. Backups are performed off site using IBM's Tivoli Storage Resource Manager. The CSC uses PowerWare UPS Systems for battery backup. In addition, it maintains a 24 x 7 Avaya maintenance agreement for on-site or remote technical support.¹⁷⁶

Supervisor coaching of agents relies on Nice Call Recording v 8.9 with 60 channels for quality assurance and agent recording, MicroCall Call Accounting Server, and Avaya CMS Supervisor v 14.0.1A for reporting.¹⁷⁷

The primary local exchange carrier and toll free provider is ATT, which furnishes a SONET ring and DS3 voice connectivity (DS3 = 28 T1 lines in which each T1 has 23 to 24 lines each depending on configuration or trunking). A SONET ring is a redundant network connection that has one termination at ATT's Florissant (MO) operations center and the other termination at a Collinsville (IL) location. In the event one connection experiences issues or is severed, calls immediately begin to route across the redundant connection. In addition, this connection has dual-entry points into the building with one entering from the front and one entering from the rear to prevent downtime due to a line being severed.¹⁷⁸

There are 3 X T1s (70 dedicated circuits) plus access to 4 X T1s (94 shared circuits) for a maximum of 164 concurrent inbound TAWC callers.¹⁷⁹

Workforce Management

The CSC uses Impact 360 Workforce Management Suite (implemented in the 2007-2008 timeframe) for agent adherence and scheduling. Impact 360 is a workforce management tool that allows the user to schedule staff, measure performance, and analyze trends and opportunities, while learning and making suggestions to adjust call center staffing. A telephone call center is a collection of agents, telecommunication equipment, and management software, organized for the sole purpose of handling customer contact through telephone calls. As calls are received, they are identified by an automatic call distributor (ACD) according to type (e.g., sales calls, service calls) and are either delivered to a waiting agent or are queued pending agent availability.¹⁸⁰

The CSC has experienced significant improvements from the switch to Impact 360, including the following:¹⁸¹

- ◆ *Queue Hopping and Flexible Duration Shift Activities:* witness forecasting and scheduling supports the creation of queue-hopping activities, where agents work (and are scheduled to work) on different queues at different times during the shift.
- ◆ *Five Minute Shift Activities:* schedule shift activities that have a granularity of five minutes at any interval (e.g. 5,10,15,20,25,30,35 minutes).

Enhancements that helped increase agent satisfaction included the following:¹⁸²

- ◆ *Time-Off Report and Agent View:* a new time-off calendar view option displays total time-off hours allocated, total scheduled time-off taken and pending, and total time-off remaining. There are two views: a Personal View for agents and an Organization View for managers.
- ◆ *Shift Bid Sorting And Filtering:* makes it easier for agents to find their ideal shift for which to bid.
- ◆ *Partial Shift Swaps:* allow agents to post a portion of a shift, as opposed to their entire shift, to be swapped with another agent. Another agent can pick up a portion of a posted shift or multiple agents can each accept a portion of a posted shift.



Enhancements that helped improve visibility into call center performance include:¹⁸³

- ◆ *New Reporting Engine with Ad-Hoc Querying:* CMS Supervisor reporting engine with new ad-hoc querying capabilities for more sophisticated and custom analysis of contact center performance.
- ◆ *Employee Effective Dates:* changes to key attributes of the employee information are associated with a date or date range on which the change became effective, which helps more accurately track changes to the business and employees.

Enhancements that helped with long-term planning include:¹⁸⁴

- ◆ *Weekly Scenarios and Simulation:* a strategic planning solution has been enhanced to facilitate long-term planning in weekly scenarios in addition to monthly scenarios.

There is one toll free number (866 - 736-6420) for TAWC customers to contact customer service.¹⁸⁵

Customer Accounting and Billing

The CSC provides customer service and customer accounting services for TAWC and its customers. Meter readings are obtained by the meter readers located in each operating company, such as TAWC. These readings are transmitted to the division where a meter reading support group performs some basic review of the readings prior to being transmitted to the billing group at the call center. The billing group located within the division perform the initial meter edits based on usage numbers and any notations that the meter reader might make in the field – such as a vault cover needing repair.¹⁸⁶

The CSC is responsible for customer billing, in which the Billing group is responsible for getting the “billing file” ready for transmission to the Hershey Data Center (for posting to the customer account) and to the outside third party that actually prints and mails customer bills. The Billing group located in the call center is responsible for meter reading edits after the rates have been applied to the meter readings and are therefore dealing with dollar amounts. The Billing group is divided into various billing teams, which are assigned to various geographic areas and are responsible for preparing the “billing file” for a given geographic area. The goal is to have the “billing file” transmitted to the Hershey Data Center and the outside third-party by the third day after the initial meter reading, so that that the bill can be mailed by the fourth to sixth day.¹⁸⁷

Systems

American Water uses the Electronic Customer Information System (ECIS) from Vertex (formerly Alliance Data Systems) as its customer service database. This package tracks customer, account, premise, and service information. It also performs cash, billing, and collections functions. ECIS interacts with several other applications, including Advantex, which is used for field force dispatching. Functions and associated applications include:¹⁸⁸

- ◆ *Field Service Work* – provides real-time field-service support through a collection of Service First applications and interfaces, which allow field-service workers to receive new work assignments on their mobile computers and manage the scheduling of appointments. Some of the work performed includes meter change outs, turn-ons and turn-offs of service, and emergency repairs.
- ◆ *Meter Reading* – uses multiple meter reading applications for readings captured either manually or automatically. American Water has both fixed-based and drive/walk-by radio frequency meters installed, as well as touch-pad and ARB (pin) devices.
- ◆ *Online Account Manager* – an American Water created utility allows access to an operations and management (O&M) contract customer to view a standard set of reports containing information about the customers that belong to its municipality. Access is controlled through a secure web site.
- ◆ *Usage Data* – exports consumption data collected through the meter reading process to sewer authorities, who in turn use this data to bill their customers.
- ◆ *Letter Generation System (LGS)* – an American Water created utility that is used to generate letters to customers. Letters can be auto generated using defined processes or manually requested by a customer service representative.
- ◆ *Interactive Voice Response (IVR)* – automated telephone menu system that aids in the routing of customer calls to the appropriate call center personnel. Customers can receive account and outage information, and request some types of service work without speaking to a representative.
- ◆ *J. D. Edwards (JDE)* – ECIS transfers summarized sales and cash information to the American Water's financial information system.
- ◆ *Cash Processing* – cash payment information is received into ECIS from multiple vendors (including banks and other third-party payment locations) using a standard interface protocol developed by American Water.
- ◆ *Third-Party Collections* – post charge-off collection information is transmitted to collection agencies over secure connections. The information is limited to a customer's past-due amount and contact information. The initial collection effort is performed by the American Water Collections group located at the Alton call center.
- ◆ *Bill & Letter Printing* – the printing and mailing of bills and letters has been outsourced to a third-party agency. Data is transferred over a AWWSC Collections group at the Alton call center. Billing is a core ECIS function.

Prior to November 2005, bill printing processes, along with associated costs, were analyzed and the decision was made to outsource these activities to a company that specialized in printing and mailing services. The major impetus for this transition in November 2005 was improvement of disaster recovery capabilities along with improved growth capability.



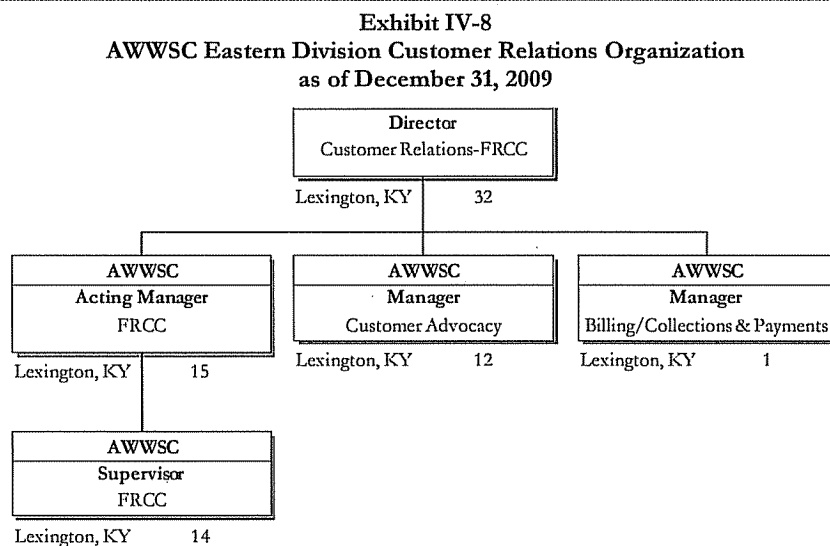
Credit and Collections

TAWC has established credit and collections business processes to conform to American Water requirements. These business processes dictate the actions of CSRs in dealing with customers and also result in the generation of various required notices. There are approximately 30 CSC employees that handle credit and collection activities. This organization operates from 7:00 a.m. to 3:30 p.m. Monday through Friday.¹⁸⁹

Customer Service-FRCC

Organization & Staffing

The responsibility for various customer service functions is contained within the Customer Relations/FRCC Eastern Division, as shown in *Exhibit IV-8*. This group is responsible for all customer relations activities across the division, which includes Tennessee. It is primarily responsible for the divisional management and dispatching of field technicians, the overall management and monitoring of meter upload, download, and Electronic Customer Information System (ECIS) edit reports, and serving as the local interface with the national call center on customer and state/local issues.¹⁹⁰



Source: Information Response 5

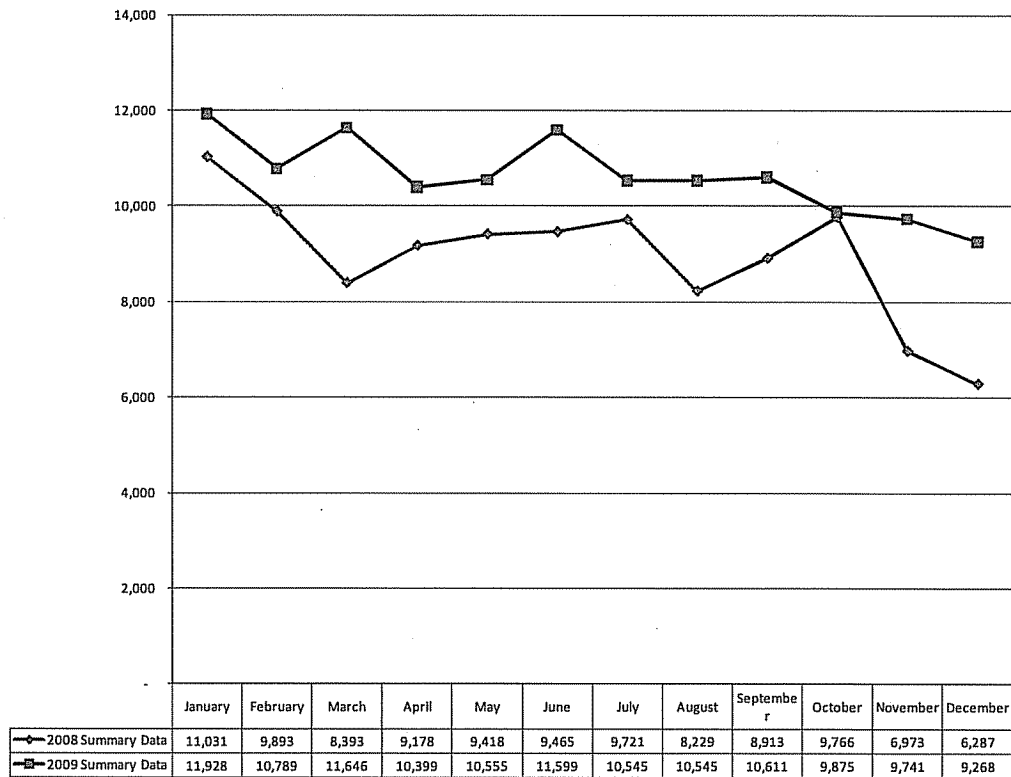
As shown in *Exhibit IV-8*, the Customer Relations organization is composed of three separate areas:¹⁹¹

- ◆ Field Resource Coordination Center
- ◆ Billing/Collection and Payments
- ◆ Customer Advocacy

Field Resource Coordination Center

This group, which operates on a 24-hour/7-day basis, is responsible for the day-to-day dispatch of field technicians. The FRCC is responsible for overseeing the dispatch of approximately 386 field technicians on any given day, of which 20 would be located in Tennessee.¹⁹² The FRCC Coordinators are responsible for monitoring approximately 117,000 service orders per year for TAWC customers (107,267 in 2008 and 127,501 in 2009), as shown in *Exhibit IV-9*.¹⁹³

Exhibit IV-9
TWAC Service Order Statistics
2008 to 2009



Source: Information Response 52

The field technicians are primarily involved in meter change outs, new service, turn ons/turn offs, and acting as first responders on water leak reports. Approximately 90% of the scheduled workload is automatically assigned to field technicians on a nightly basis, with the dispatch coordinators primarily managing and monitoring the orders during the day. Time critical orders, such as reported water leaks, are handled by the appropriate FRCC for a division. Orders are usually dispatched using the Advantex dispatching software during the same day. Activities within the FRCC include:¹⁹⁴



- ◆ Dispatching service work, ensuring that appointments are met and emergency orders are responded to in a timely manner
- ◆ Handling all time critical dispatching – dispatch greater than 85% of emergency orders within 30 minutes of creation (24 x 365 basis)
- ◆ Supporting the customer service activities of network supervisors, field technicians, and the CSC Time Critical group
- ◆ Coaching field service representatives in work-quality issues to help drive performance
- ◆ Working with field service representatives and supervisors to enhance scheduling, reduce travel time and improve overall system functionality

Billing/Collection and Payments

This group is composed of two individuals who perform the “Back Office” functions with regard to non revenue water (NRW), including reviewing accounts for NRW- related activity; creating service orders, as applicable, for estimates and stopped meters; and reviewing and coding accounts related to collection activity for water and sewer terminations.¹⁹⁵

Customer Advocacy

This group contains two primary functions:

- ◆ Premise Quality Assurance Analysts
- ◆ Service Support Representatives¹⁹⁶

The Premise Quality Assurance Analysts group is composed of two individuals who perform weekly validation audits to confirm that premises are set up in accordance with established methods and procedures. Mismatch and metric reports are reviewed in addition to critical error conditions. Follow-up on exceptions are recorded in a monthly scorecard, and documented in a Communications Log, which measures and monitors certain business processes within the organization.¹⁹⁷

The Service Support Representatives group is composed of ten individuals who manage the processing of the meter reading exception reports. The actual meter reading is a field force responsibility (reports to a different group) with this group responsible for the final quality assurance on the meter reading results prior to the information being submitted into the billing system. A typical review includes high consumption, closed with usage (closed accounts that are soft closed – i.e., a service technician is not necessarily dispatched to perform a hard shut off, but the meter is just monitored), and meters identified with bad dials. In many cases, these items might result in the creation of a service order to a field service technician. TAWC customers are currently billed every month, although not all meters are read every month. Some are read every other month and estimated on the off month.¹⁹⁸

TAWC offers three-hour appointment windows to customers, in addition to a 30-minute call-ahead option, as shown in *Exhibit IV-10*.¹⁹⁹

Exhibit IV-10
TAWC Appointment Windows
as of December 31, 2009

Appointment Window	Start Time	End Time
8 a.m. to 11a.m.	8:00 a.m.	11:00 a.m.
9 a.m. to noon	9:00 a.m.	12:00 p.m.
12:30 p.m. to 3:30 p.m.	12:30 p.m.	3:30 p.m.
1:30 p.m. to 4:30 p.m.	1:30 p.m.	4:30 p.m.
3:30 p.m. to 6:30 p.m.	3:30 p.m.	6:30 p.m.
All day appointment	8:00 a.m.	9:00 p.m.

Source: Interview 12

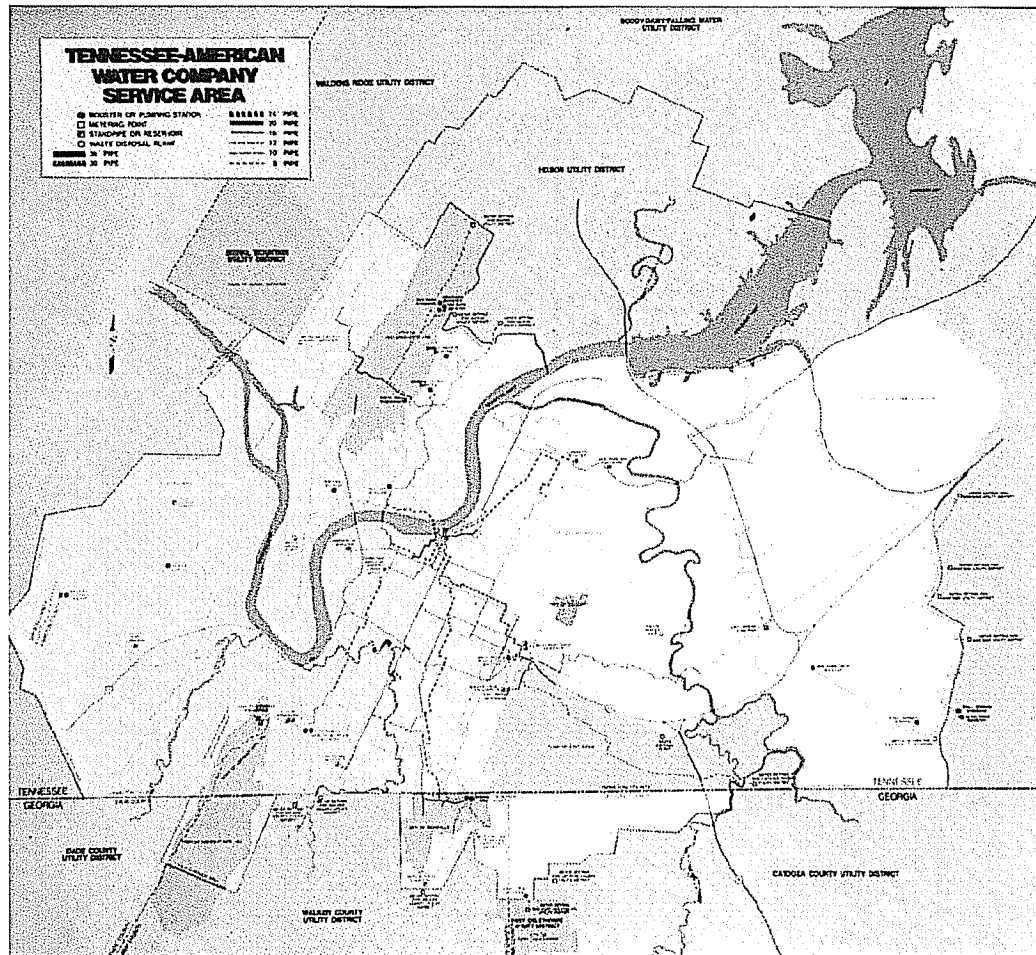
The FRCC monitors customer appointments. If an appointment is in danger of being missed, the FRCC will communicate with the assigned technician. If it is determined that the appointment cannot be kept, the FRCC will either reassign the work to an available technician or the FRCC or technician contacts the customer to inform them of the delay. If necessary the FRCC will extend the appointment window to the newly agreed upon time or reschedule the service order for a new day.²⁰⁰

Water Operations

Tennessee-American Water Company (TAWC) operates and manages three separate water districts within the Chattanooga area, as shown in *Exhibit IV-11*.²⁰¹



Exhibit IV-11
TAWC Water Distribution System
 as of December 31, 2009



Source: Information Response 81

These water districts are:²⁰²

- ◆ *Tennessee-American Water Company* – approximately 72,500 customers in and around the metropolitan Chattanooga area, including approximately 5,300 customers in Georgia.
- ◆ *Lone Oak Water Service Area* – approximately 104 customers northwest of Chattanooga where TAWC operates a distribution system and provides water to the system.
- ◆ *Suck Creek* – approximately 208 customers northwest of Chattanooga where TAWC operates a water plant (well system) and distribution system.

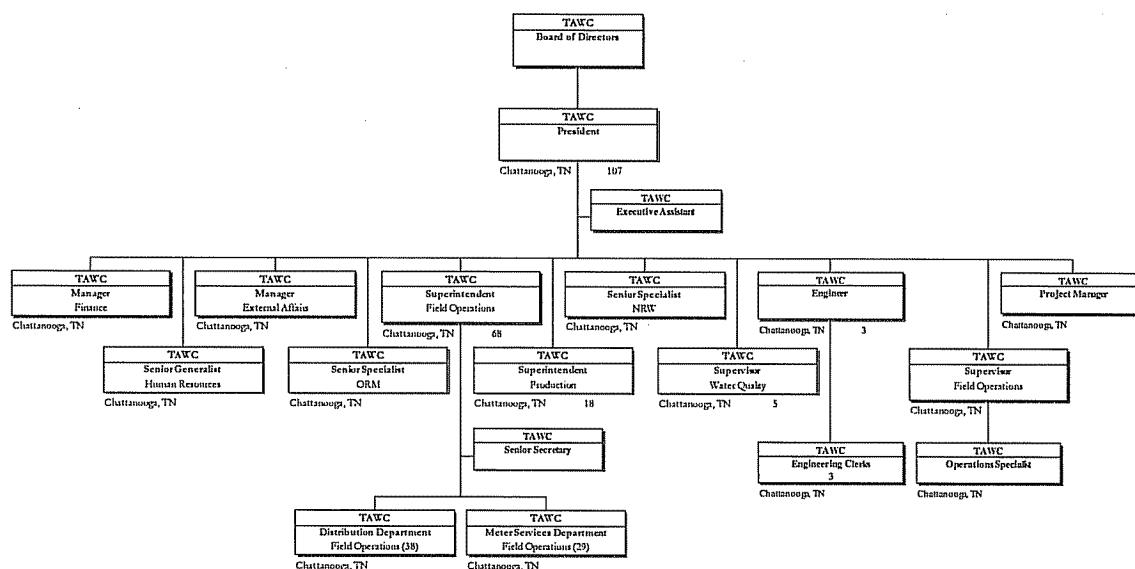
TAWC's water distribution system has the following characteristics:²⁰³

- ◆ *Water Source* – Predominately surface water from the Tennessee River, which is processed in one water treatment facility (Citico plant). A well system is used to feed the Suck Creek system, but water can be pumped to Lone Oak from which it can be passed to Suck Creek.
- ◆ *Water Treatment Facility* – One water treatment facility (Citico plant), which has two separate water purification trains. Water can be provided throughout all of the above systems from the main plant – including pumping water to Lone Oak through the Walden's Ridge sale-for-resale (SFR) area and then subsequently fed to Suck Creek.
- ◆ *Water Distribution Network* – underground piping, above-ground storage tanks, and booster stations. Although Chattanooga is relatively flat, there is significant elevation change in and around Chattanooga resulting in numerous booster stations for pumping uphill and the use of pressure relief valves (PRVs) for reducing pressure at the lower elevations on the hills.

TAWC operates no wastewater treatment facilities in Tennessee but does provide billing services for various municipalities.²⁰⁴

There are approximately 108 TAWC employees located within Chattanooga. TAWC is organized as shown in *Exhibit IV-12*.²⁰⁵

Exhibit IV-12
TAWC Organization
as of December 31, 2009



Source: Information Response 5



Five TAWC groups are primarily involved in utility operations, including:²⁰⁶

- ◆ *Production* – TAWC employees who are responsible for the operations and maintenance of water treatment plants (one) and the wells (i.e., treatment plants and filter facilities). There are two water treatment streams at the plant with an older conventional plant and a newer (vintage 1950s) plant. There are approximately 19 employees located in the production area. This staffing consists of the Superintendent of Production, a Maintenance Supervisor, and seven hourly maintenance employees (work day shift 7:00 a.m. to 3:30 p.m. Monday through Friday), an Operations Supervisor and four full-time operators (one per shift – 7a.m. to 3 p.m., 3 p.m. to 11 p.m., and 11 p.m. to 7 a.m. – 24/7 basis), two labor/relief operators, one operator apprentice, and one clerical. One position (laborer) is currently vacant. Operators work a 16-week rotation – rotating between day, afternoon, evening, and relief shifts.
- ◆ *Field Operations* – TAWC employees who are responsible for the distribution of water from the production facilities to individual customers. They are divided into two groups:²⁰⁷
 - *Distribution* – The Distribution Department is responsible for main installation and maintenance, service line installation and maintenance, leak investigations and repair, and other operations and maintenance activities associated with the underground water delivery systems. There are approximately 32 hourly (plus one vacant position) and three supervisory personnel in the distribution area. They are responsible for the day-to-day maintenance of the distribution system. There are also two Field Service Specialists, which are responsible for the Lone Oak and Suck Creek operations and maintenance.
 - *Field Service* – There are approximately 24 hourly and two management personnel in the field service area. These individuals are responsible for meter turn ons and offs, meter readings, meter testing, etc. Among the staff are nine Field Service Technicians that are dispatched within nine different regions, two Meter Mechanics that perform all meter tests, 10 to 11 Meter Readers, and two clerical staff.
- ◆ *Engineering Department* – The TAWC Engineering Department is responsible for providing engineering technical support, design, and construction management for the distribution system. There are seven employees in engineering – the Field Operations Supervisor, a Project Manager, one Engineer, and four clerical (mapping and records). The TAWC Engineering Department is primarily responsible for engineering and design activities associated with the distribution system. Engineering activities associated with the production facilities are typically handled by AWWSC and/or outside consultants.
- ◆ *Water Quality and Environmental Management* – This group is responsible for water quality at each plant, water shed management, and other environmental matters. On an operational basis, much of the basic water-quality sampling and testing is done by plant personnel; however, this group is responsible for performing more complicated testing and for providing oversight for all plants relative to environmental issues. There are two Chemists and one Lab Worker in addition to the Water Quality Supervisor. Two Senior Cross Connection Specialists also report to the Supervisor, although they are not in the Water Quality area.

- ◆ *Non Revenue Water*— The Non Revenue Water Department, which is comprised of one Senior Specialist, provides an oversight role in the operation of the water delivery systems. The ongoing reporting and monitoring of non-revenue water is an indicator of the condition of the water delivery system.



B. Findings & Conclusions

Finding IV-1 **The composition and mix of responsibilities as identified by functions and associated services provided by the AWWSC and utility company organizations, such as TAWC, is reasonable.**

The table on the following pages, shown as *Exhibit IV-13*, illustrates AWWSC functions and areas/services segmented by organization, specifically whether the services are performed by the AWWSC national organization, the AWWSC divisional organizations, or TAWC.²⁰⁸ The composition and mix among the various groups is reasonable, in which the national AWWSC organization typically provides corporate governance services or those support services in which all states benefit. The regional AWWSC organization, such as the Eastern Division where TAWC resides, typically provides implementation support services for one state or a group of states. Finally, TAWC and other utility operating companies are the organizations providing services that benefit the company's customers.

Exhibit IV-13
Configuration/Mix of Services Among National/Regional AWWSC Organizations and TAWC
2009

Function	Area/Services	National AWWSC Organization		Regional AWWSC Organization		TAWC	
		Included	#	Included	#	Included	#
Executive Management		Yes		Yes		Yes	2
Administration & Property	Building management services	Yes	12				
	Investor relations	Yes	3				
	Other (1 in External Affairs and 2 in Operations Services)	Yes	3				
Audit	Internal auditing/ SOX testing	Yes	9				
Business Development	Policy guidance/oversight; R&D/ analytical tools/consultation	Yes	6				
	Regional support to operating companies			Yes	7		
Business Transformation	Business process improvement	Yes	11				
Customer Service	Customer relations management	Yes	1				
	Call center functions, including call handling, customer billing, collections, special handling, time critical services, training, and quality assurance	Yes	666				
	Field Resource Coordination Center (FRCC) activities, including dispatching, service order scheduling, and back office support			Yes	85		

		National AWWSC Organization		Regional AWWSC Organization		TAWC	
Function	Area/Services	Included	#	Included	#	Included	#
External Affairs and Communications	Communication with government entities on national level while providing governance for all communication activities at the operating company level with customers, employees, state and local government officials, and various regulatory agencies	Yes	16				
	Regional support to operating companies, including communications to state and community leadership about company plans, capital improvement programs and rate case communications			Yes	19		
	Local customer and regulatory activities and coordination of efforts with AWWSC staff					Yes	1
Field Operations	Operations and maintenance in water distribution, meter reading, meter maintenance and customer services orders areas					Yes	70
Finance	Financial governance	Yes	10				
	Finance, income tax (including both federal and state income tax returns), treasury, controller (reporting), compliance, and planning & reporting (budgets/ financial forecasts) functions	Yes	52				
	TAWC business plan, monthly variance analysis and reports, Board meeting materials, and coordination of TAWC data with AWWSC staff					Yes	1
	Financial business services at the Shared Services Center (SSC):						
	Accounting: general accounting, utility plant accounting, and accounts payable	Yes	102				
	Cash management (debt administration, funding and assessment, including check printing for payroll and A/P checks and all cash receipts reconciliation for American Water subsidiaries, including AWWSC.	Yes	20				
	Employee services/payroll and payroll-related taxes for American Water subsidiaries, including AWWSC.	Yes	27				



Function	Area/Services	National AWWSC Organization		Regional AWWSC Organization		TAWC	
		Included	#	Included	#	Included	#
	Financial business services at the Shared Services Center (SSC) (continued):						
	SSC rates and regulation assistance to state or regional employees	Yes	12				
	General tax, including gross receipts, property, franchise and other general taxes for American Water subsidiaries, including AWWSC.	Yes	12				
	Business support services and project management services	Yes	16				
	Regional finance management			Yes	2		
	Regional rates and regulation/coordination of information from state operating companies on capital budgets, operational items, extract data from accounting and other system; management of rate case filings			Yes	31		
	Regional planning, budgeting and forecasting/governance in preparation of budgets and forecast for revenues, expenses, taxes, capital spending, and financings			Yes	26		
	Capital compliance/ensuring that operating companies are operating within bounds of and in accordance with bond covenants and debt payments made in a timely manner			Yes	1		
	Administration, compliance, and business development financial management employees			Yes	16		
Human Resources	HR management	Yes	5				
	Compensation and benefits	Yes	4				
	Employee and labor relations	Yes	2				
	HR systems and processes	Yes	1				
	Business center and corporate staffing	Yes	21				
	Organizational and talent development	Yes	5				
	Regional management and support to operating companies			Yes	21		
	Maintenance of TAWC HR data and coordination with AWWSC staff					Yes	1

		National AWWSC Organization		Regional AWWSC Organization		TAWC	
Function	Area/Services	Included	#	Included	#	Included	#
Information Systems	Enterprise architecture, Security architecture, production/ project management, business applications development, client services and support, infrastructure and operations, service desk and desktop automation	Yes	137				
	Direct support to operating companies to maintain and support day-to-day business computer needs			Yes	28		
Legal	Corporate governance/ Corporate Secretary functions and preparation of materials operating company Board of Directors meetings	Yes	1				
	Legal advice: litigation, regulatory matters (including SEC), ethics and compliance, business development, contract negotiations, financings, labor (including collective bargaining and grievance handling), purchasing, environmental laws and regulations, and general corporate matters	Yes	11				
	Regional counsel activities, including state support; contract administration			Yes	26		
Operations Services	Operations services management	Yes	8				
	Engineering, including asset planning and capital investment management, technical services and design management, and operational performance (project delivery and construction management)	Yes	41	Yes	14	Yes	6
	Supply chain	Yes	37				
	Operational risk management (health/safety, operational/ physical security, business continuity/emergency response planning, event management, accident investigation/claims management (workers compensation), general/auto liability, hazardous materials management	Yes	8	Yes	13	Yes	1
	Maintenance/SCADA services			Yes	17		



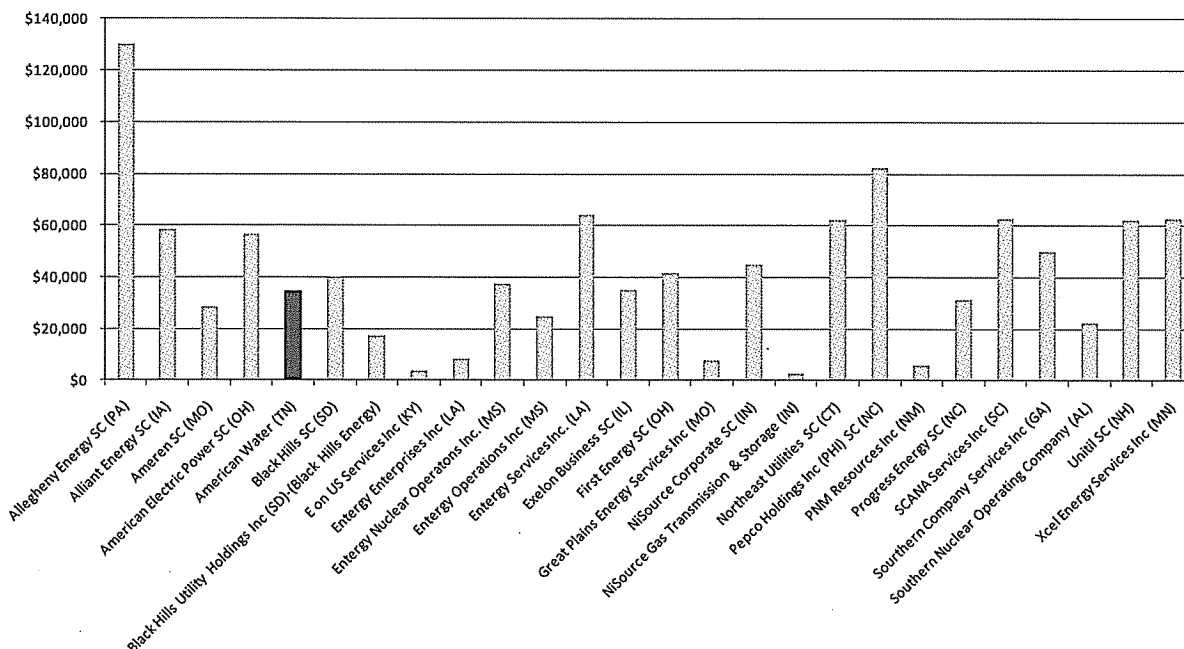
Function	Area/Services	National AWWSC Organization		Regional AWWSC Organization		TAWC	
		Included	#	Included	#	Included	#
Operations Services (continued)							
	Regional support to states involving network operations, service delivery, and administration			Yes	21		
	Non-revenue water					Yes	1
Production	Operations and maintenance related to the water treatment plant and processes					Yes	17
Regulatory Services	Expertise and support with respect to regulatory issues and policies; also support for litigation involving rate cases and other regulatory proceedings or investigations, as well as civil litigation	Yes	2				
Water Quality	Water quality management	Yes	1				
	Governs efforts in the areas of water quality operations as well as research and environmental engineering	Yes	17				
	Belleville Central Water Quality Laboratory services	Yes	35				
	Regional support to states			Yes	2		
	Water quality testing, collections of field samples, and cross connections programs					Yes	6

Source: Information Response 3 and Various Interviews

Schumaker & Company also reviewed certain service company operating expense performance measures of AWWSC against other electric and gas service company organizations, as this was the most recent publicly-available data.

Exhibit IV-14 illustrates service company operating expenses per employee (based on total number of corporate employees). The AWWSC organization is roughly \$34,500 per employee, which is below many of the other service company organizations shown.

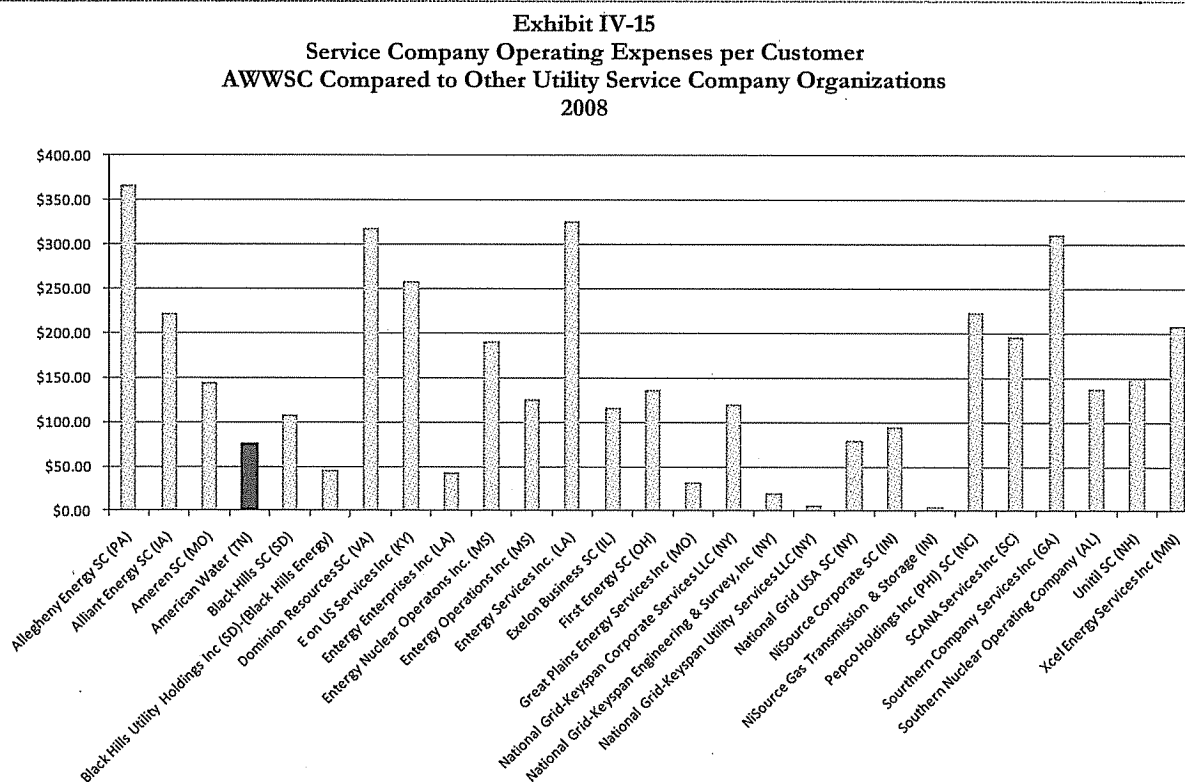
Exhibit IV-14
Service Company Operating Expenses per Employee
AWWSC Compared to Other Utility Service Company Organizations
2008



Source: Schumaker & Company Analysis based on FERC Forms, Annual Reports, and 10k Filings



Exhibit IV-15 illustrates service company operating expenses per customer for 2008 (based on total number of corporate customers). The AWWSC organization is roughly \$76 per customer, which is below many of the other service company organizations shown.



Source: Schumaker & Company Analysis based on FERC Forms, Annual Reports, and 10k Filings

Based on Schumaker & Company's investigations and analyses, including interviews, document reviews, and comparisons with other utility organizations, overlap and duplication do not appear to exist within the current configuration/mix of the American Water national, regional, and operating company organizations. Consolidation and centralization of governance, strategy, policy development, and support functions is generally considered a cost effective way to provide such services. Schumaker & Company found no evidence to the contrary within the American Water organization.

Customer Service-National Call Centers

Finding IV-2 TAWC 2009 customer surveys show a recovery in customer satisfaction following a significant drop in the 2008 timeframe.

American Water uses Opinion Research Corporation (ORC) to conduct annual customer satisfaction surveys and quarterly service-quality assessments, which include separate results for TAWC customers. The customer satisfaction survey is conducted in the fourth quarter, and seeks to measure customer satisfaction with the American Water brand. The service quality assessments are summarized quarterly, based on monthly interviews with randomly-selected customers who had recent contact with the Customer Service Center. These transactional-based surveys seek to measure customer satisfaction with that specific contact experience.

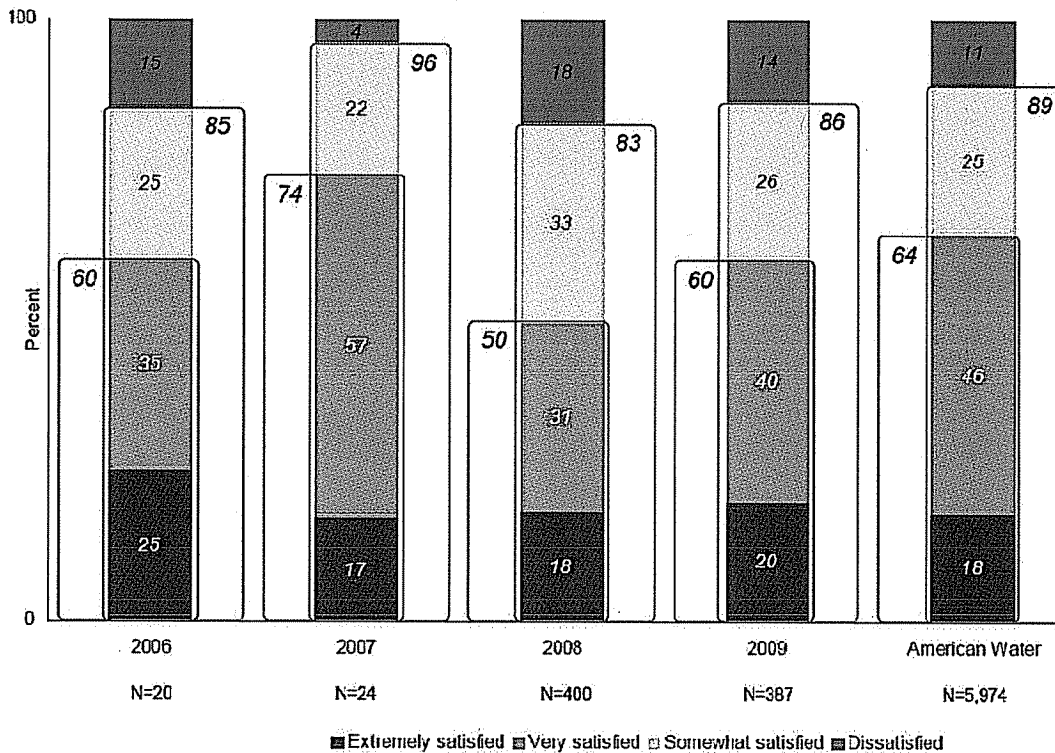
The AWWSC organization is responsible for annual customer satisfaction surveys for each of American Water's operating companies. An outside third party is used to conduct these surveys. There are two methodologies employed in the surveys, which are:²⁰⁹

- ◆ *Overall customer survey* – A statistically valid random sample of American Water customers.
- ◆ *Tactical customer survey* – A statistically valid random sample of American Water customers who have had a recent interaction, such as called call center or had a service person visit premise.

As shown in *Exhibit IV-16*, the results of these surveys show a significant dip in customer satisfaction levels occurring in the 2008 timeframe with a slight recovery since that time. TAWC moved from being one of the operating companies with one of the highest ratings in customer satisfaction in the 2007 timeframe to one of the lower-rated operating companies in the 2008 timeframe. The ratings have shown significant improvement since 2008, although there is still more improvement needed to return to the 2007 levels.²¹⁰



Exhibit IV-16
Customer Satisfaction Results
2004 to 2008

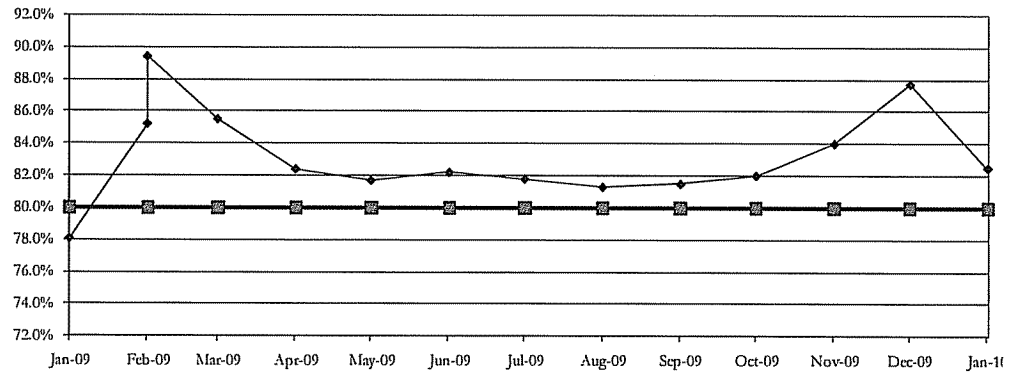


Source: Information Response 80

Finding IV-3 Service levels at the national call centers have improved since the last audit Schumaker & Company conducted in 2008.

Prior to 2006, customer service performance data, including percentage of calls answered within 30 seconds, were tracked and reported only for American Water as a whole. Beginning in 2006, percentage of calls answered within 30 seconds has been tracked and reported separately for TAWC. Prior to 2009 and consistent with our findings during Schumaker & Company's 2007 management audit of Pennsylvania-American Water Company during which we reviewed the AWWSC national call center, the call center had not been consistently achieving the service level targets – i.e. 80% of calls answered within 30 seconds. *Exhibit IV-17* illustrates percentage of calls answered within 30 seconds for 2009 through 2010 (June 2010) for TAWC and American Water as a whole.²¹¹

Exhibit IV-17
American Water % of Calls Answered within 30 Seconds
2009 to 2010



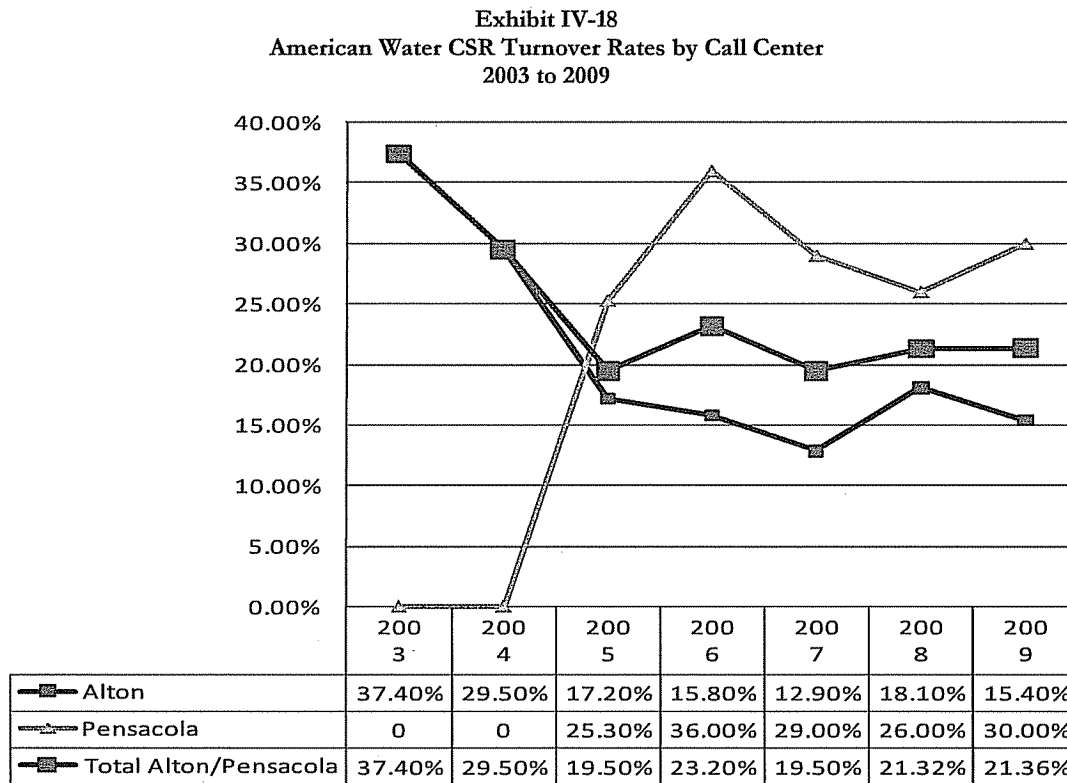
	Jan-09	Feb-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10
Actual Average SL	78.1%	85.2%	85.5%	82.4%	81.7%	82.2%	81.8%	81.3%	81.5%	82.0%	84.0%	87.7%	82.5%	89.4%
Target SL	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%

Source: Information Response 50



Finding IV-4 **CSR turnover rates at the national call centers have improved in recent years, although improvement is still possible.**

Exhibit IV-18 shows the annual turnover rate at American Water's two national call centers in Alton and Pensacola. (Data specifically for TAWC is not available.)²¹²



Source: Information Response 77

A 2007 study by the International Customer Management Institute (ICMI) found that 54% of call centers had external turnover rates of 20% or less. Alton's rate would place it roughly comparable to those call centers. Of greater concern is the Pensacola call center, which is the primary center serving Tennessee customers. It has an unfavorable rate exceeding the average. It should be noted that the Pensacola geographical area contains several call centers, which creates a business environment for call center representatives to move from one call center to another more easily.²¹³

Finding IV-5 **American Water has significantly improved on line access for its customers.**

American Water has implemented a customer website which permits customers, including TAWC customers, to perform basic activities, including reviewing bills and making payments. A soft launch of

the site occurred on September 2009 – i.e. the site was put up but not advertised. Press releases were made in December 2009 and current bills now have references to the site. As of the end of March, 2010 approximately 3% of American Water customers have used the site. American Water has not yet implemented any type of electronic billing.

Finding IV-6 The American Water IVR system has been replaced in 2009.

The IVR system that went live in August 2005 has not delivered the desired results (reduction in “live” calls). The IVR was originally brought on-line January 3, 2005, but crashed on February 10, 2005. It was then on-line and off-line multiple times until August 2005. The CSC has not realized the projected decrease in live calls, which left the call centers understaffed during the busy summer season and unable to effectively respond to the actual call volume.

Recently, American Water has changed the IVR technology being used in the national call centers to improve performance. The new IVR system was implemented in January 2009. The voice recognition technology employed in the old IVR proved to be problematic. Therefore, the new system prompts customers to make selections from the telephone key pad.

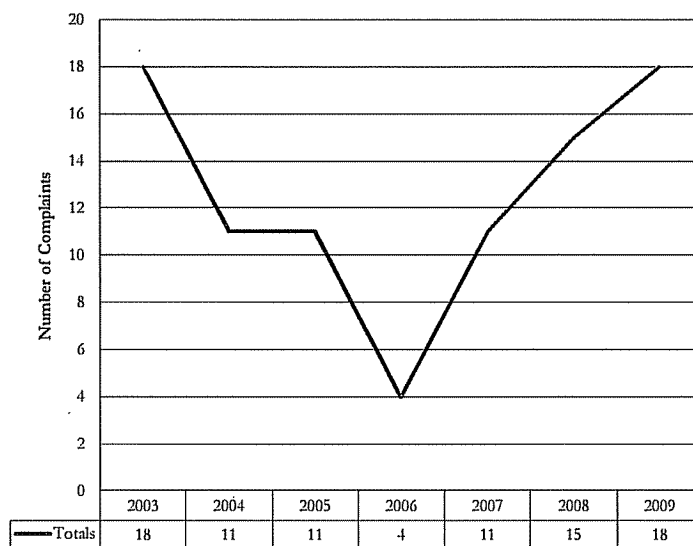
Some electric utilities have recently reported that the number of customers using the web and the IVR has exceeded the numbers that have talked to a customer representative.

Finding IV-7 The number of complaints handled by TAWC is relatively low; however, the number of complaints has increased over the last three years.

Although other utilities with which we have been involved have implemented formal processes for categorizing (executive, formal, and informal), handling, and resolving complaints, TAWC does not have such a program. The only complaints that are tracked are those reported to the Tennessee Regulatory Authority. The number of complaints documented by TAWC over the last seven years is shown in *Exhibit IV-19*. Although the number of complaints is relatively small, as shown in the *Exhibit IV-19*, the number of complaints had been decreasing until 2006 at which time the number of complaints began to increase.²¹⁴



Exhibit IV-19
Complaints Reported to Tennessee Regulatory Authority
2003 to 2009



Source: Information Response 71 Updates

A breakdown of these complaints by reason is shown in *Exhibit IV-20*.²¹⁵

Exhibit IV-20
Complaints Reported to Tennessee Regulatory Authority by Reason
2003 to 2009

TYPE	2003	2004	2005	2006	2007	2008	2009
High Bill	3	3	2	1	4	5	2
Estimate	1	1	2				
Non-Pay	2	1	1		1	2	4
Main Extension			1				
Customer Service							
Meter Leak	2	2	1		2		
Pressure					1	1	
Water Quality	1						
Off-In Error	1				1		
New Service		1					1
Disputed Bill	3	1	2		2	4	6
Billing Error							1
Other	5	2	2	3		3	4
Totals	18	11	11	4	11	15	18

Source: Information Response 71 Updates

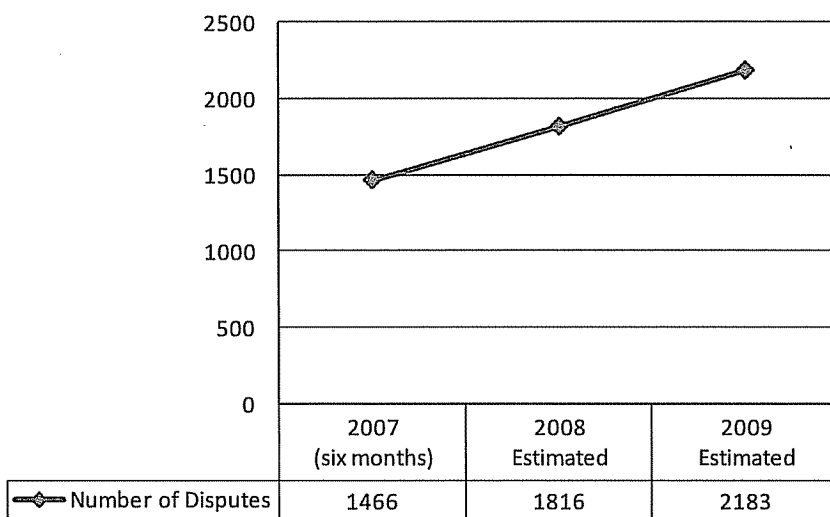
The numbers do not reveal any specific trends except that most of the complaints over the last several years appear to be arising from billing issues, either high bill, non-pay, disputed bill, and billing error. Interviews conducted at TAWC indicated that there are few complaints received in a year and they are handled informally.²¹⁶

Finding IV-8 The number of disputes appears to be increasing slightly since 2007.

Disputes are complaints handled within the CSC organization. Disputes are considered those customer inquiries that cannot be satisfied by a Customer Service Representative and his or her supervisor based on information available to them and that are forwarded to the Account Resolution Team (ART) for further action or research in an effort to satisfy the customer's concern. As such, these disputes are tracked by state in ECIS via a dispute follow-up (DISPFLWP) work basket.

As such, their numbers reflect customer satisfaction with various aspects of the CSC operations. The trend in disputes over the last several years is shown in *Exhibit IV-21*.²¹⁷ There is a significant increasing trend in disputes.

**Exhibit IV-21
TAWC Dispute Trends
2002 to 2007**



(a) The number of TAWC disputes for July 2007 to December 2007 was 1,466; prior to that time data was not kept, therefore the 1,466 number is only for the last six months

(b) The total number of TAWC disputes for 2008 is estimated at 1,816; this figure is estimated because August 2008 data was not available; therefore, the data for the other 11 months were normalized to arrive at this estimate.

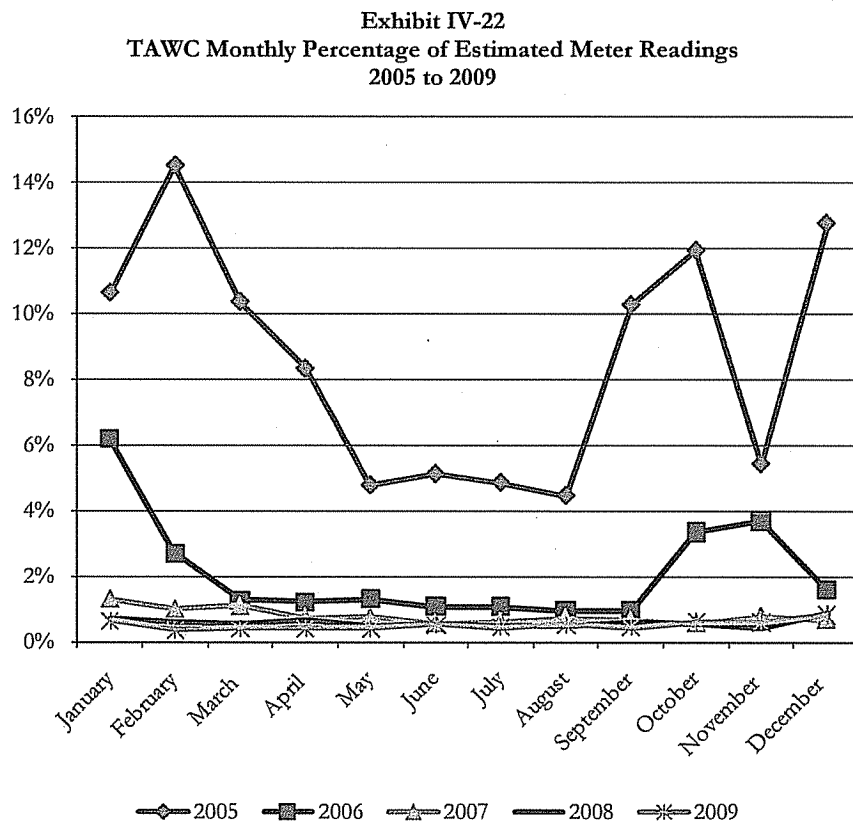
(c) The total number of TAWC disputes for 2009 is estimated at 2,183; this figure is estimated because July 2009 and September 2009 data was not available; therefore, the data for the other 10 months were normalized to arrive at this estimate.

Source: Information Response 78



Finding IV-9 **TAWC has significantly reduced the number of estimated bills over the last five years.**

TAWC has made a significant reduction in the number of estimated meter readings in the last five years (2005 to 2009), as shown in *Exhibit IV-22*.²¹⁸



Source: Information Response 47

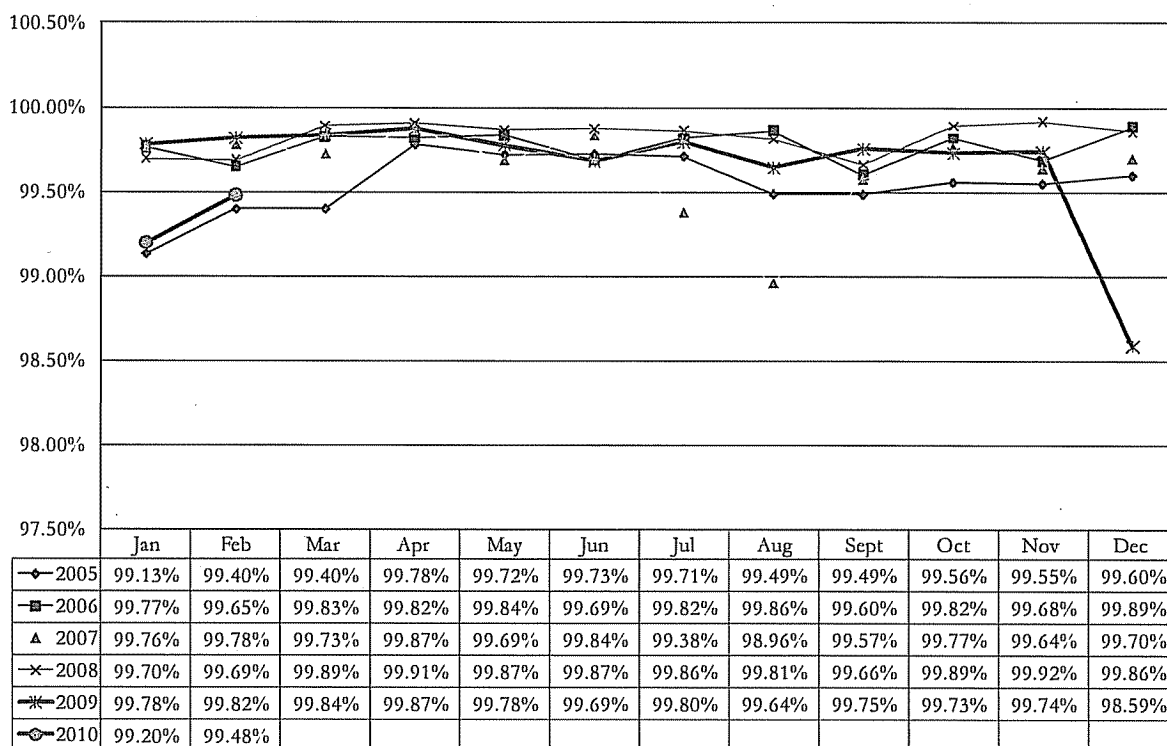
Many utilities have significantly eliminated over estimates by going to automatic meter reading. One of the biggest drivers of estimating is not being able to read each meter every month due to access problems due to weather. TAWC's water meters are predominantly outside meter settings and reading these meters can be impacted by inclement weather. Meter readers are still the predominate method used for reading meters at TAWC. TAWC meters are predominately located outside the house in a meter pit.

Customer Service-FRCC

Finding IV-10 TAWC success at meeting service appointments has generally exceeded 99% in the last six years within only two exceptions.

TAWC performance in meeting appointments is shown in *Exhibit IV-23*.²¹⁹

Exhibit IV-23
TAWC Met Appointments
2005 to 2010 (Through February 2010)



Source: Information Response 47

Finding IV-11 Emergency response rates have improved from 2008 to 2009.

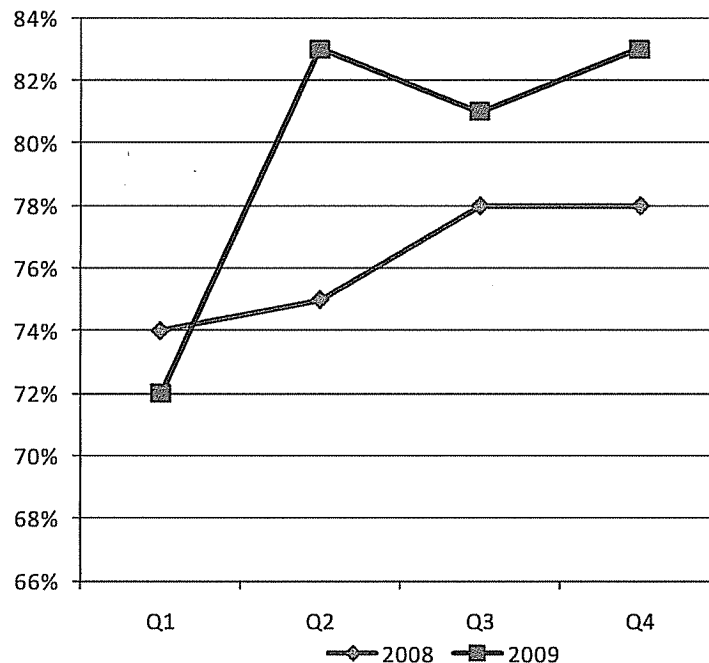
To ensure timely and accurate dispatch of emergency service orders, American Water measures total emergency orders processed within the target time frame (30 minutes) of receipt / total emergency orders received. The goal is to have 85% of all emergency orders assigned and acknowledged by the field service representative within 30 minutes of creation.²²⁰



In 2008 and 2009, the CSC in Alton was responsible for the dispatch function after working hours and on weekends. Results were tracked for CSC and as combined figures for all states dispatched from both the FRCCs (during working hours) and the CSC (after working hours). In 2008, the numbers were provided for CSC and by region; in 2009, the figures were provided for CSC and by division.²²¹

As shown in *Exhibit IV-24*, emergency response performance has improved from 2008 to 2009. In 2008, 79% of all Emergency service orders were assigned and acknowledged by the field within 30 minutes of creation. In 2009, 84% of all emergency service orders were assigned and acknowledged by the field within 30 minutes of creation.²²²

Exhibit IV-24
Emergency Response Results
2008 - 2009



Source: Information Response 70

Finding IV-12 **TAWC has achieved its target on all other types of service orders in the last two years.**

There are other types of orders for which the FRCC has established performance objectives. Each order type has a unique expiry period as follows:

- ◆ *NPOFF* – non pay off for collection - 11 days

- ◆ *Bill Read* – high dollar amount based on customer previous usage identified prior to new bill being issued - 4 days
- ◆ *Inactive with Consumption* – an inactive account (no active ratepayer) at premise with meter displaying consumption - 15 days
- ◆ *Meter Edit* – high reading based on customer previous usage identified prior to new bill being issued - 4 days
- ◆ *Estimate* – customer request actual read due to a previously estimated bill – 1 day as scheduled by customer
- ◆ *Zero Consumption* – an active account registering zero consumption for 3 consecutive months - 30 days

The FRCC has achieved its objectives in 2009 for these other types of service orders, as shown in *Exhibit IV-25*.²³³

Exhibit IV-25
Service Order Response Targets
2009

	Target	2009 Results
Non Pay Offs	98%	98.25%
Bill Read	90%	97.80%
Inactive with Consumption	90%	93.81%
Meter Edit	90%	98.32%
Estimate	90%	100%
Zero Consumption	90%	95.04%

Source: Information Response 69



Water Operations

Finding IV-13 The operating support services that are being provided by AWWSC to TAWC are reasonable.

The American Water Works Service Company (AWWSC) provides certain specialized support services to TAWC. Many of these AWWSC activities would be construed as the provision of some form of operating support services. These items, which were identified through interviews with TAWC operating personnel, include the following.²²⁴

Maintenance Services

The AWWSC Maintenance Services organization is responsible for providing various technical and testing services in support of ongoing maintenance of TAWC production and, to some extent, distribution facilities. There are approximately 22 employees located in the AWWSC Maintenance Services Department throughout the various regions. The Maintenance Services Department is responsible for two major activities: (1) the establishment of a proactive maintenance program throughout American Water and 2) development and maintenance of the supervisory control and data acquisition (SCADA) system. These services are provided primarily by two individuals located within the Eastern Division – one who is actually physically located within Chattanooga (TN) and the other located in the Lexington (KY) area. One individual handles the proactive maintenance activities throughout the region, including TAWC, and the other handles SCADA support.²²⁵

Proactive Maintenance

The proactive maintenance program consists of a schedule of such things as pump testing (such as vibration and load) in production plants and in booster stations, infrared scans, and other similar technical performance tests, which are used to measure and predict the need for maintenance attention. In addition, this group is also leading the implementation of a computerized maintenance management system (CMMS) throughout the American Water system. CMMS will eventually be implemented at TAWC in the production area. There is one individual within the Maintenance Services Department, located in Lexington (KY) who provides maintenance services relative to the proactive maintenance program at TAWC. This employee is directly responsible for performing various testing on equipment and recording results according to a schedule to drive the proactive maintenance program. This person travels to the various production plants within the Eastern Division based on the testing schedules developed within the maintenance service area.²²⁶

SCADA Support

AWWSC has an in-house staff that has implemented and supported the TAWC supervisory control and data acquisition (SCADA) system, which is a common system throughout American Water. SCADA systems provide the ability to remotely and locally view the operational status of the various equipment and facilities and, if enabled, actually remote control this equipment. The AWWSC employee within the

maintenance services area, who happens to be located within Chattanooga but travels throughout the Eastern Region as necessary, is directly responsible for providing support for TAWC SCADA.²²⁷

Supply Chain

The AWWSC Supply Chain area is responsible for sourcing and negotiating national master contracts for all the materials and supplies (pipe, valves, meters, etc.) that the operating companies need on an ongoing basis. In essence, AWWSC procures and negotiates contracts for materials and supplies on a nationwide basis within deliveries in the quantities and timeframes required by each individual operating company.²²⁸

Fleet Services

AWWSC provides fleet management services through an outside third-party contractor (PHH Corporation) for all American Water operating companies. This service includes everything from vehicle and equipment acquisition to ongoing maintenance and disposal. There is one person at AWWSC that provides the interface and coordination with the outside fleet management contractor. Maintenance is performed by local garages or specialized outside vendors arranged through PHH.²²⁹

Environmental Services

AWWSC has an Environmental Services group that provides overall education and coordination on environmental issues relevant to the water operating company's day-to-day operations. Each operating company has water quality personnel who are informed of current and potential environmental issues that could effect their operations via meetings and other written notices emanating from this AWWSC group.²³⁰

Best Practices Group

There is a small Best Practices group (two employees) within AWWSC that provides ongoing support for identifying, documenting, and disseminating business processes that are identified as best practices throughout the American Water system. This group provides this overall coordination and support for assisting in the identification and implementation of these best practices. Some of these best practices are identified through the various monthly Field Manager calls that are held among the various AW operating companies.²³¹

As discussed above, AWWSC provides certain operating support services to TAWC that, in Schumaker & Company's opinion, are beneficial and not readily available from an external source. For instance, many of the services provided by the maintenance services areas would be difficult to obtain on the outside market and, even if available, would require a level of oversight and coordination that would not result in any cost savings. The services provided compared to the resources being committed are reasonable. In other cases, with respect to supply chain and fleet service functions, AWWSC has consolidated its purchasing power and/or engaged an outside firm with the specific expertise that can be best provided on a larger scale.

C. Recommendations

**Recommendation IV-1 Place greater emphasis on measuring internal business processes that could foretell customer satisfaction issues.
(Refer to Finding IV-2, Finding IV-4, Finding IV-7, and Finding IV-8)**

Customer satisfaction surveys have revealed some issues in customer perceptions of TAWC. Although the recent results are trending upward, we are concerned that more could be done in this area. The number of disputes in the call center is also increasing. Improvement in Pensacola turnover rates is still possible. All of these are internal indications of potential customer satisfaction issues. TAWC and AWWSC should place greater emphasis on measuring these internal business processes, so they can begin efforts to improve these processes.

¹ / American Water 2009 Annual Report Pages 3/4 and 41

² / American Water web site and 2009 Annual Report

³ / Information Response 1, 3, and 8 and 2009 Form 10-k Filing

⁴ / Information Response 1

⁵ / Information Response 1

⁶ / Information Response 99

⁷ / Information Response 2

⁸ / Information Response 2

⁹ / Information Response 3 Attachment 1

¹⁰ / Information Response 3 Attachments 2 and 3

¹¹ / Information Response 3 Attachment 4

¹² / Interview 5, Information Response 7, and Company Update

¹³ / Interview 5, Information Response 25, and Company Update

¹⁴ / Interviews 5,7, and 8 and Information Response 86

¹⁵ / Information Response 5 and Company Update

¹⁶ / Information Response 24

¹⁷ / Information Response 24

¹⁸ / Information Responses 9, 10, and 65

¹⁹ / Information Responses 9 and 10

²⁰ / Information Responses 9 and 10

²¹ / Information Responses 9 and 10

²² / Information Response 9

²³ / Information Response 65

²⁴ / Information Response 65

²⁵ / Company Update (status)

²⁶ / Interview 9

²⁷ / Information Response 95

²⁸ / Information Response 49

²⁹ / Interview 2

³⁰ / Information Response 11

³¹ / Information Response 12

-
- ³² / Information Response 30
 - ³³ / Interview 9?
 - ³⁴ / Interview 9?
 - ³⁵ / Interview 9 and Information Response 17
 - ³⁶ / Information Response 17
 - ³⁷ / Information Response 15, 25, and 37
 - ³⁸ / Information Response 25 Pages 15-18 and Information Response 37
 - ³⁹ / Interviews 2 and 9
 - ⁴⁰ / Information Responses 15 and 37
 - ⁴¹ / Information Responses 15 and 37
 - ⁴² / Information Responses 15 and 37
 - ⁴³ / Information Responses 15 and 37
 - ⁴⁴ / Interviews 9 and 24
 - ⁴⁵ / Various interviews, including Interview 5, 9, 10, 18, and 20
 - ⁴⁶ / Interviews 5 and 9
 - ⁴⁷ / Interview 2 and Company Update
 - ⁴⁸ / Various interviews and Information Response 38
 - ⁴⁹ / Information Response 38
 - ⁵⁰ / Information Response 19
 - ⁵¹ / Information Response 18
 - ⁵² / Information Response 18 and 32 and Company Update
 - ⁵³ / Schumaker & Company analysis
 - ⁵⁴ / Schumaker & Company 2008 Stratified Management Audit Report of Pennsylvania-American Water Company
 - ⁵⁵ / Information Responses 15 and 37
 - ⁵⁶ / Interview 5 and Company Update
 - ⁵⁷ / Interview 2 and Information Response 3
 - ⁵⁸ / Interview 9 and Information Responses 15 and 37 and Company Update
 - ⁵⁹ / Interview 2
 - ⁶⁰ / Information Response 8
 - ⁶¹ / Information Response 63
 - ⁶² / Company Update
 - ⁶³ / PAWC Audit Supporting Documentation and Final Report (Kentucky, West Virginia, and New Jersey) and Company Update
 - ⁶⁴ / Company Update
 - ⁶⁵ / PAWC Audit Supporting Documentation and Final Report (Kentucky, West Virginia, and New Jersey: 2006-20007 and Tennessee: 2010)
 - ⁶⁶ / PAWC Audit Supporting Documentation and Final Report
 - ⁶⁷ / PAWC Audit Supporting Documentation and Final Report
 - ⁶⁸ / Company Update
 - ⁶⁹ / Company Update
 - ⁷⁰ / Interview 2
 - ⁷¹ / PAWC Audit Supporting Documentation and Final Report and Interview 9
 - ⁷² / Interview 2
 - ⁷³ / Various TAWC interviews, including Interview 18
 - ⁷⁴ / Information Response 24
 - ⁷⁵ / Information Response 67
 - ⁷⁶ / Information Response 88
 - ⁷⁷ / Information Response 24
 - ⁷⁸ / Information Response 74



-
- ⁷⁹ / Interview 2
⁸⁰ / Information Response 45
⁸¹ / Consultant's Opinion
⁸² / Information Response 28
⁸³ / Information Response 35 and Interviews 5 and 9 (October 2009 changed to November 2009 per interviews)
⁸⁴ / Information Response 15
⁸⁵ / Information Response 16
⁸⁶ / Information Response 28
⁸⁷ / Information Response 28
⁸⁸ / Information Response 28
⁸⁹ / Schumaker & Company analysis
⁹⁰ / Information Response 26 and Company Update
⁹¹ / Sarbanes-Oxley Internal Controls, by Robert R. Moeller
⁹² / Information Response 31, February 2009 Form 10K filing Page 138
⁹³ / Information Response 27 and Company Update
⁹⁴ / Information Response 27
⁹⁵ / Information Response 2
⁹⁶ / Interview 6 and Company Update
⁹⁷ / Interview 6
⁹⁸ / Interview 21 and Company Update
⁹⁹ / Interview 21
¹⁰⁰ / Interview 6
¹⁰¹ / Information Response 31, March 2010 Form 10K filing Pages 34-35
¹⁰² / Interview 6 and Company Update
¹⁰³ / Information Response 61 and Company Update
¹⁰⁴ / Interview 6
¹⁰⁵ / Information Response 61
¹⁰⁶ / Interview 6 and Company Update
¹⁰⁷ / Interview 6 and Company Update
¹⁰⁸ / Information Response 26, 27, 34, and 59
¹⁰⁹ / Information Response 31, February 2009 Form 10K filing Page 38
¹¹⁰ / Company Update
¹¹¹ / Company Update
¹¹² / Information Response 31, February 2009 Form 10k filing Page 46
¹¹³ / Information Response 31, March 2010 Form 10K filing Pages 34-35
¹¹⁴ / Information Response 31, February 2009 Form 10K filing Page 46
¹¹⁵ / Interview 159
¹¹⁶ / PAWC Management Audit Report (Legal Services section) and Company Update
¹¹⁷ / Information Response 339
¹¹⁸ / Interview 21 and Company Update
¹¹⁹ / Interview 21 and Company Update
¹²⁰ / Information Response 31, March 2010 10K filing, Page 41
¹²¹ / Interviews 3 and 6, and PAWC Management Audit Report (Financial Management section) and Company Update
¹²² / Information Response 31, March 2010 10K filing, Page 41
¹²³ / Information Response 82
¹²⁴ / Interview 3 and Company Update
¹²⁵ / Interview 3

126 / Information Response 66
127 / Interview 3
128 / Interview 3
129 / Information Response 22, Attachment 37
130 / Interview 3
131 / Interview 3
132 / Interview 3
133 / Information Response 66
134 / Information Response 66
135 / Information Response 41
136 / Interview 9
137 / Information Response 90
138 / Information Response 90
139 / Information Response 41
140 / Interview 5 and Information Response 16
141 / Interview 10
142 / Interview 20
143 / Interview 18
144 / Information Response 16
145 / Interview 5
146 / Information Responses 86 and 98
147 / Interview 10
148 / Information Response 55
149 / Interview 10
150 / Interview 20
151 / Information Response 57
152 / Interview 10
153 / Interview 20
154 / Interview 18
155 / Information Response 22
156 / Interview 3
157 / Interviews 3 and 5 and Information Responses 7 and 22
158 / Interviews 3 and 5 and Information Responses 7 and 22
159 / Interview 3 and Company Update
160 / Information Response 66 and Company Update
161 / Information Response 66
162 / Information Response 68
163 / Information Response 68
164 / Company Update (reasons why increases have occurred)
165 / Information Response 2
166 / Interview 13
167 / Interview 13 and Information Response 75
168 / Tour of facilities conducted on Pennsylvania-American Water Management audit performed by Schumaker & Company consultants
169 / Tour of facilities conducted on Pennsylvania-American Water Management audit performed by Schumaker & Company consultants
170 / Information Response 76
171 / Interviews 11, 12, and 13
172 / Interviews 11, 12, and 13



173	/ Information Response 79
174	/ Information Response 79
175	/ Interview 13 and Information Response 75
176	/ Interview 13 and Information Response 75
177	/ Interview 13 and Information Response 75
178	/ Interview 13 and Information Response 75
179	/ Interview 13 and Information Response 75
180	/ Interview 13 and Information Response 75
181	/ Interview 13 and Information Response 75
182	/ Interview 13 and Information Response 75
183	/ Interview 13 and Information Response 75
184	/ Interview 13 and Information Response 75
185	/ Interview 13 and Information Response 75
186	/ Interviews 11, 12, 14, and 17 and Information Response 75
187	/ Interviews 11, 12, 13, 14, and 17 and Information Response 75
188	/ Interviews 11, 12, 13, 14, and 17 and Information Response 75
189	/ Interviews 11, 12, 13 and Information Response 75
190	/ Interviews 11 and 12 and Information Response 5
191	/ Information Response 5
192	/ Information Response 51
193	/ Information Response 52
194	/ Interviews 11 and 12
195	/ Interview s11 and 12
196	/ Interview s11 and 12
197	/ Interview s11 and 12
198	/ Interview s11 and 12
199	/ Interview 12
200	/ Interview s11 and 12
201	/ Information Response 81
202	/ Interview 14, 15, 16,17, 18, and 19
203	/ Interview 14, 15, 16,17, 18, and 19 and Company Update
204	/ Interview 14, 15, 16,17, 18, and 19
205	/ Information Response 5 and Interview 14, 15, 16,17, 18, and 19 and Company Update
206	/ Interview 14, 15, 16,17, 18, and 19
207	/ Interview 14, 15, 16,17, 18, and 19
208	/ Information Response 3
209	/ Information Response 80
210	/ Information Response 80
211	/ Information Response 50
212	/ Information Response 77
213	/ Schumaker & Company 2008 Management Audit of Pennsylvania American Water Company
214	/ Information Response 71 Updates Following Initial Draft Report Submittal
215	/ Information Response 71 Updates Following Initial Draft Report Submittal
216	/ Interview 14
217	/ Information Response 78 Note: The number of disputes for Tennessee-American Water Company for the period of July, 2007 through December, 2007 was 1,466. Prior to that time, data was not kept; therefore the number of 1,466 is only for the last 6 months of 2007. The total estimated number of disputes for TAWC for the period of 2008 is 1,816. This figure is estimated because data for August, 2008 is not available. The data for the other 11

months were normalized to arrive at this estimate. Similarly, the total estimated number of disputes for TAWC for the period of 2009 is 2,183. This figure is estimated because data for July 2009 and September 2009 is not available. The data for the other 10 months were normalized to arrive at this estimate.

²¹⁸ / Information Response 74

²¹⁹ / Information Response 47

²²⁰ / Information Response 70

²²¹ / Information Response 70

²²² / Information Response 70

²²³ / Information Response 69

²²⁴ / Interview 14, 15, 16,17, 18, and 19

²²⁵ / Interview 14, 15, 16,17, 18, and 19

²²⁶ / Interview 14, 15, 16,17, 18, and 19

²²⁷ / Interview 14, 15, 16,17, 18, and 19

²²⁸ / Interview 14, 15, 16,17, 18, and 19

²²⁹ / Interview 14, 15, 16,17, 18, and 19

²³⁰ / Interview 14, 15, 16,17, 18, and 19

²³¹ / Interview 14, 15, 16,17, 18, and 19

