

## 1. INTRODUCTION AND APPROACH TO ANALYSIS

Tennessee American Water Company (TAWC) retained Booz Allen Hamilton (“Booz Allen”) to provide an independent assessment of the costs incurred by the American Water Works Service Company (AWWSC) that are subject to potential allocation to TAWC. This report responds to the Tennessee Regulatory Authority’s (“TRA” or “Commission”) order requiring an independent assessment of service company costs, expressed in Director Pat Miller’s Motion (TRA Dockets 06-00290), which was adopted unanimously. Specifically, this report is designed to address the part of the Motion that “TAWC have a management audit performed in compliance with Sarbanes-Oxley requirements and to submit the audit results concurrent with the next rate case filing. This audit should determine whether all costs allocated to TAWC were incurred as a result of prudent or imprudent management decisions by TAWC's parent and should address the reasonableness of the methodology used to allocate costs to TAWC.”<sup>1</sup> The accompanying exhibits form a critical element of our analysis and should be reviewed in conjunction with the report.

The framework of our analysis began with an understanding of the organizational elements through which TAWC obtains support services and of overall cost trends. Through the establishment of this baseline, we developed an understanding of the structure of the enterprise as well as the principal drivers of costs and cost changes. With these basic components in mind, we were able to undertake an objective appraisal of TAWC’s costs from AWWSC, both direct and allocated.

Having established a baseline, we developed a comprehensive evaluative framework within which to undertake our overall AWWSC cost assessment. This framework led to the identification of several specific questions which served as evaluative attributes (or criteria) to guide the overall cost analysis. These included the following:

- Are the activities performed necessary for the enterprise?
- Do the activities performed provide demonstrated benefits?
- Is there duplication or overlap of activities among responsible entities?
- Does the budgeting process provide for effective control?
- Do ongoing control processes provide for effective cost management?
- Are cost allocation principles reasonable?
- Are costs comparable to those of other companies?

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<sup>1</sup> Tennessee Regulatory Authority – Pat Miller’s Motion. 5/14/07. Docket 06-00290.

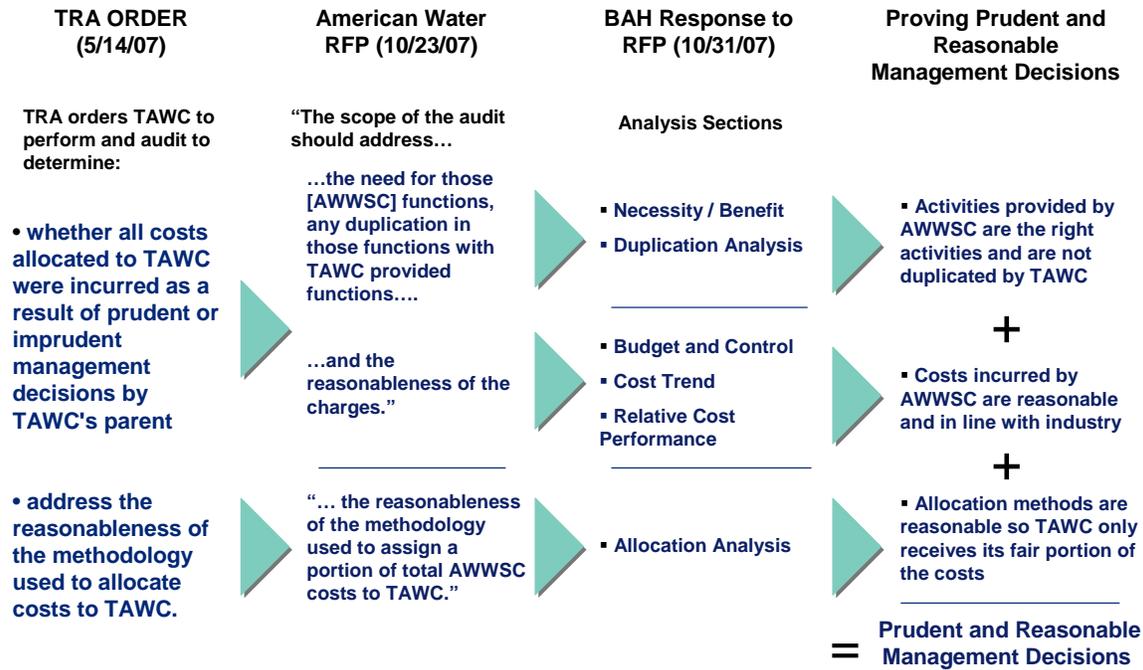
The above criteria were also supplemented in each analysis section of our report with more explicit criteria for that area of analysis.

Throughout the study, Booz Allen worked directly with AWWSC and TAWC personnel to understand the cost drivers impacting each function, the business impacts resulting in changes in costs between 2005 and 2006, the disaggregation of individual cost pools, and the apportionment of costs from AWWSC to TAWC. We conducted more than 30 interviews with both AWWSC and TAWC management to corroborate information discovered through the analytical work described above and to develop an understanding of the control processes in place to manage the relationship between AWWSC and TAWC. Discussion topics during the interviews included, but were not limited to:

- Organizational structure of AWWSC and its interfaces with TAWC
- Activities performed by AWWSC on behalf of TAWC
- Potential duplication of effort between AWWSC and TAWC activities
- Underlying reasons for cost changes within practice areas
- AWWSC's budgeting process and how it is applied in each functional area
- AWWSC's long term planning process and how it is applied in each practice area
- Formal and informal mechanisms for TAWC to provide input into AWWSC budgets and cost levels
- Development and management of service level arrangements ("SLAs") between AWWSC and TAWC
- AWWSC cost assignment and allocation processes, methods, and factors

The insights gained from these analyses and interviews enabled subsequent analysis and data collection related to comparative cost benchmarking, cost allocation, and budget and control processes. The formal analyses performed and the insights gained through the interviews provided the basis for the conclusions reached in each of the framework elements. Our approach to the analysis is directly related to both the order of the Tennessee Regulatory Authority as well as the RFP issued by TAWC. **Figure 1-1** illustrates this relationship.

**Figure 1-1  
Approach to Analysis**



The remainder of this report will describe each of the framework elements in greater detail and state the conclusions reached as a result of the analyses performed. The report is organized as follows:

- Executive Summary
- Organization Overview
- Necessity and Benefits Analysis
- Overlap and Duplication Analysis
- AWWSC Cost Allocation
- Budget and Control
- Cost Trends
- Relative Cost Performance

## 2. EXECUTIVE SUMMARY

Booz Allen undertook this study, at the request of AWWSC, under an order by the TRA to provide an independent assessment of the reasonableness of AWWSC charges to TAWC. This report has been prepared to be submitted concurrent with TAWC's next rate case filing with the TRA and responds to the Authority's request for a management audit, as set forth in its Orders in the most recent TAWC case (TRA Dockets 06-00290).

Our evaluation was conducted with the full cooperation of TAWC and its service company provider, AWWSC. We were provided with broad access to TAWC and AWWSC personnel as well as their documents and records. In performing our analysis, we utilized techniques and methodologies that we have employed in previous similar analyses.

The framework of our analysis began with an understanding of the organizational elements through which TAWC obtains support services and of overall cost trends. To provide a framework for the more specific evaluative analyses, several criteria were defined to guide the assessment of relevant AWWSC charges:

- Are the activities performed necessary for the enterprise?
- Do the activities performed provide demonstrated benefits?
- Is there duplication or overlap of activities among responsible entities?
- Does the budgeting process provide for effective control?
- Do ongoing control processes provide for effective cost management?
- Can evidence of effective cost control be demonstrated?
- Are cost allocation principles reasonable?
- Are costs comparable to those of other companies?

A brief summary of each of these elements of our analysis and the associated conclusions follows.

### **Organization Overview: Section 3**

TAWC is an operating subsidiary of American Water that engages in the production and delivery of water to customers. To facilitate the procurement, delivery, and management of support services that its operating subsidiaries commonly require, American Water formed a collection of organizations that together act as the American Water Works Service Company (AWWSC), whose

function is to provide necessary support services on a shared basis. AWWSC represents a service company model that is commonly used in the utility industry, and performs functions that are similar to those performed by service companies of other comparable utilities.

Several benefits flow from the consolidation of support services into AWWSC. Among other things, it has allowed TAWC to realize cost efficiencies while obtaining necessary services. It has also improved the quality of management information, enhanced implementation of best practices and enabled standardization of processes and activities. Currently, AWWSC consists of fourteen functions within two cost centers.

#### ***Necessity and Benefits Analysis: Section 4***

Our evaluation of AWWSC's activities focused on the necessity for performing them as well as the benefits that flowed from such performance. In conducting this assessment, we evaluated whether the activities that gave rise to TAWC costs serve a necessary, useful and legitimate business purpose; are consistent with activities performed by other utilities; and provide benefits to TAWC. We determined which activities gave rise to costs incurred at the service company level; we identified the activities performed by each AWWSC function; we evaluated the AWWSC organizational structure; we determined how activities are defined and performed within AWWSC; and we used our experience in defining the activities of service companies, such as AWWSC, at other utilities.

We then evaluated the necessity of each such activity according to six separate attributes: corporate governance, regulatory mandates, legal compliance, management control, operational execution and strategic planning. Based upon our analysis, we concluded that the AWWSC activities were necessary to the operation, management and conduct of TAWC's business.

In addition to being necessary, we concluded that AWWSC activities provide distinct benefits to the organization. We identified six separate potential benefits that may arise from the activities we examined: risk reduction, increased employee productivity, improved management information, corporate performance enhancement, cost reduction or avoidance, and increased reliability. At least one of these benefits (and in many cases more than one) can be linked to each activity performed by AWWSC.

To further validate our conclusions regarding the necessity and benefit of AWWSC activities and to provide an additional frame of reference, we reviewed each activity to determine its appropriateness for performance within a service company (or similar organization) versus an individual operating company. To do this, we reviewed FERC Form 60's for several peer utility companies in the power industry. Based on our review, we determined that services provided by

AWWSC on behalf of TAWC were typical of services provided by other utility service companies. This is important to recognize, as it indicates that the centralization of such functions within service companies is generally accepted as necessary and beneficial to the enterprise, creating economies of scale and procurement efficiencies.

### **Overlap and Duplication Analysis: Section 5**

Performance of certain operational, managerial, and back office activities in a centralized manner using a common business services' entity across an enterprise is not only an effective and cost efficient method of providing services, but also, by its nature, mitigates duplication of activities across an organization.

To confirm this general observation, we tested whether any activities undertaken by AWWSC were duplicative of, or overlapping with, functions that TAWC also performed. We evaluated whether a particular activity was being performed in a centralized or decentralized manner and whether, if potential duplication did exist, adequate differentiation in scope eliminated the possibility of overlap. Our investigation consisted of, among other things, review of internal documents, management interviews, and past PUC filings.

**Figure 2-1** summarizes the results of our assessment and provides the delineation between the types of activities being performed at each "level." There are three different organizational "levels" discussed in this section and four different activity "delineations":

Three different organizational levels:

- **Corporate:** This level includes the Shared Services Center (SSC) and is a part of the AWWSC along with all of the Regional levels (explained below). It is the part of the AWWSC that is not assigned to a specific region, but works across regions.
- **Southeast Region:** This level is the part of the AWWSC that performs services only on behalf of entities in the Southeast Region, which includes operations in Kentucky, Pennsylvania, Tennessee, Virginia, Maryland, and West Virginia.
- **TAWC:** This level is the actual Tennessee American Water Company. It is the local Tennessee operating company for which this report is being written.

Four different activity delineations:

- **SPG:** Strategy, Policy, Governance; Activities that are considered to be SPG provide strategy and direction for the given function, set policies and goals for the function, or provide governance for the overall function. SPG activities also include national level and enterprise-wide issues and initiatives, as well as providing expertise and developing standard practices and processes to be implemented throughout all of American Water.
- **Mgmt:** Management; Activities that are considered to be Mgmt are activities that provide oversight, guidance, and review and disseminate policies and standardized processes that were developed by SPG activities. These activities are also designed to provide support and coordination for the day to day operations of the actual function.
- **Ops:** Operations; Activities in which the actual day to day operations of the function are performed. This is where the actual job of the function is performed.
- **T:** Touch Point; Activities in which employees act as “Touch Points” or points of contact if there are questions, issues, or needs, such as data gathering for that function or to perform a minor role at a more localized level.

**Figure 2-1  
 Overlap and Duplication Analysis Areas**

Function	Corporate	Southeast Region	TAWC
<b>Accounting</b>	SPG, Mgmt, Ops	T	T
<b>Administration</b>	SPG, Mgmt	Ops	T
<b>Audit</b>	SPG, Mgmt, Ops	T	T
<b>Communications</b>	SPG	Mgmt	Ops
<b>Legal</b>	SPG	Mgmt, Ops	
<b>Engineering</b>		SPG, Mgmt, Ops	T
<b>Finance</b>			
All Finance Activities except for Rates and Regulations	SPG	Mgmt, Ops	Ops, T
Rates and Regulations	T	SPG, Mgmt, Ops	Ops, T
<b>Human Resources</b>	SPG	Mgmt	Ops
<b>Information Systems</b>	SPG, Mgmt, Ops	Ops	
<b>Operations</b>			
Production, Network, Maintenance	SPG	Mgmt, Ops	Ops
Business Development	SPG, Mgmt	Ops	T
<b>Rates &amp; Revenues</b>	SPG, Mgmt, Ops		
<b>Risk Management</b>	SPG	Mgmt, Ops	Ops
<b>Water Quality</b>	SPG	Mgmt, Ops	Ops
<b>Customer Service</b>			
All Customer Service activities except AR	SPG, Ops	Mgmt	T
Accounts Receivable	SPG, Mgmt, Ops		T

*Note: Please see section on cross-functional duplication regarding Rates and Regulation as a part of Finance vs. the Rates and Revenues' Function as these functions are complementary rather than duplicative.*

As shown in the Figure above, our detailed review of the particular activities confirms that each group has a defined scope of activities that was discrete and non-duplicative. Based upon our investigation of these activities performed by the Corporate, Southeast Regional, and TAWC levels, we concluded that no duplication of effort exists within AWWSC and TAWC.

**AWWSC Cost Allocation: Section 6**

We analyzed the allocation of costs from AWWSC to TAWC to determine whether TAWC was charged only an appropriate share of AWWSC costs. In conducting this analysis, we interviewed management, investigated the allocation methods employed to assess whether they reflect cost causation principles, and analyzed the allocation factors used by AWWSC in relation to those used at other similar service companies in the power industry.

Our evaluation found that:

- Charges to TAWC from AWWSC are allocated under a 1989 agreement that has been approved and in use in all jurisdictions of American Water's operating companies.
- AWWSC costs are directly charged to the entity that specifically demands the services that give rise to the cost, when costs can be identified and traced to a particular entity. In 2006, direct billed charges increased to 23% of total charges, up from 16% in 2005 showing a continued effort to direct charge as many costs as possible.
- AWWSC costs that cannot be directly traced to a particular entity (and not directly charged) are allocated on the basis of number of customers served by the operating company relative to total number of customers served by all of American Water, which was found to be a reasonable cost causative allocation factor.

As a check on the allocation process used by AWWSC, we reviewed the level of AWWSC billings to TAWC as compared to TAWC's relative presence in the overall enterprise, as reflected by headcount. This was done because in looking at the activities which have costs that are indirectly allocated, headcount and customers were the two most cost causative factors. TAWC's current total of indirectly allocated costs was 2.24% as compared to 2.37% if headcount were the allocation factor that was chosen to allocate indirect costs.

In sum, we concluded that the processes used to allocate AWWSC costs to TAWC were appropriate and yielded outcomes that were reasonable.

### ***Budget and Control: Section 7***

Our assessment included a review of the AWWSC budget process to determine whether the structure and execution of that process served as an effective means of controlling AWWSC O&M costs. To conduct our assessment, we reviewed (a) the planning process to understand how overall targets are established; (b) the budgeting process to assess its effectiveness in justifying and limiting planned costs; (c) the involvement of the various business units in the budgeting process to assess the nature and extent of the interface between AWWSC and its internal customers; and (d) cost control mechanisms to determine whether costs are properly managed.

Our review focused on how an operating company interfaced with AWWSC throughout the budget and cost control process. Of particular relevance to our analysis were the mechanisms by which an operating company monitors and manages AWWSC billings.

With respect to planning, the framework and overall direction of an operating company are established in conjunction with regular planning exercises undertaken on behalf of the enterprise as a whole. These include strategic and long-range planning, financial planning, and business planning. Such planning not only exerts pressure on each business unit to improve efficiency, but also serves as a discipline to management to ensure that capital was allocated appropriately and effectively.

Utilizing the plans developed on a strategic, financial, and business basis, the functions, in conjunction with AWWSC, develop detailed annual budgets. Concurrently, AWWSC works in an iterative and interactive process with operating companies to provide and obtain input for development of the AWWSC budget, which provides each operating company the opportunity to review and challenge proposed AWWSC budget amounts that relate to activities performed by AWWSC that are ultimately directly charged or allocated to a particular operating company. The budget development process is the primary mechanism by which an operating company is able to challenge service company costs. Once the initial budget is approved by Corporate Finance, it is then sent on to the Board of Directors for senior management review and approval. Presidents of the operating companies are members of the AWWSC Board of Directors, providing an additional opportunity to assess the budget and its drivers.

AWWSC has established several mechanisms to provide operating companies with oversight of AWWSC cost levels including Service Level Agreements, formal management processes to track performance against budget, monthly AWWSC management reviews of performance, and the monitoring of costs by senior leadership of operating companies.

American Water follows a Capital Investment Management Committee ("CIMC") process, as well as national Commercial Development Process ("CDP") for all major Fixed Asset investment, Material Contracts, Financial Investments, Joint Ventures, and Consultancy Contracts. All projects developed by the respective departments are subject to evaluation using the national Commercial Development Process.

In sum, rigorous budgeting and cost control processes support management's objectives to control costs. In addition, these process elements are being regularly executed throughout the business. The budgeting process provides adequate opportunities for an operating company to influence the extent to which costs are incurred on its behalf, demonstrating that it is not a "price taker" as AWWSC services and costs are established. Finally, an ongoing cost control process is in place that allows for monitoring throughout the year to ensure that expenditures are consistent with the budget and variances are discussed and challenged as appropriate. For these reasons, the budget and control processes

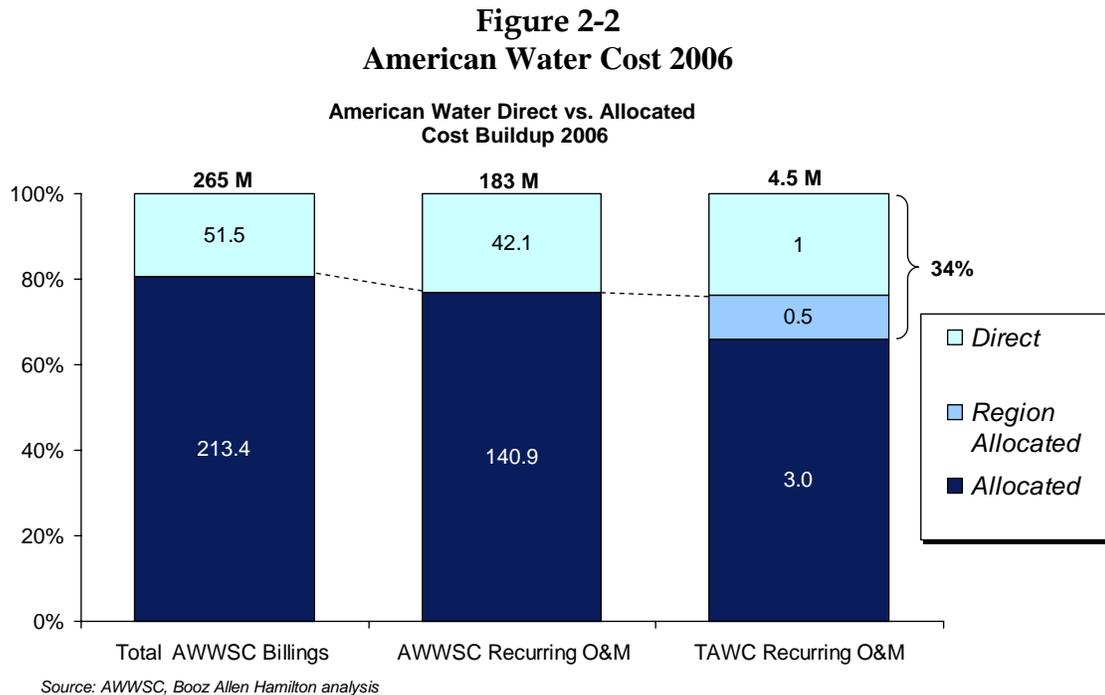
are effective in ensuring that AWWSC charges are appropriately and efficiently incurred.

**Cost Trends: Section 8**

To understand TAWC costs and their relationship with AWWSC, we performed analyses to determine the business drivers that impacted AWWSC as a whole, between 2005 and 2006, with respect to the nature of costs that were incurred, and consequently, how costs were charged.

In 2006, AWWSC incurred \$265 million in total charges for services provided. Of this amount, \$183 million was accounted for as AWWSC recurring O&M. The remaining \$82 million incurred by AWWSC was for one time extraordinary items, non-operating and maintenance costs, as well as amounts that have been capitalized on the balance sheet. TAWC incurred \$4.5 million in charges from AWWSC.

Figure 2-2 depicts 2006 total AWWSC costs incurred for the American Water enterprise as a whole, total recurring O&M costs billed to operating companies, and AWWSC costs billed to TAWC accounts, broken down by direct and allocated charges.

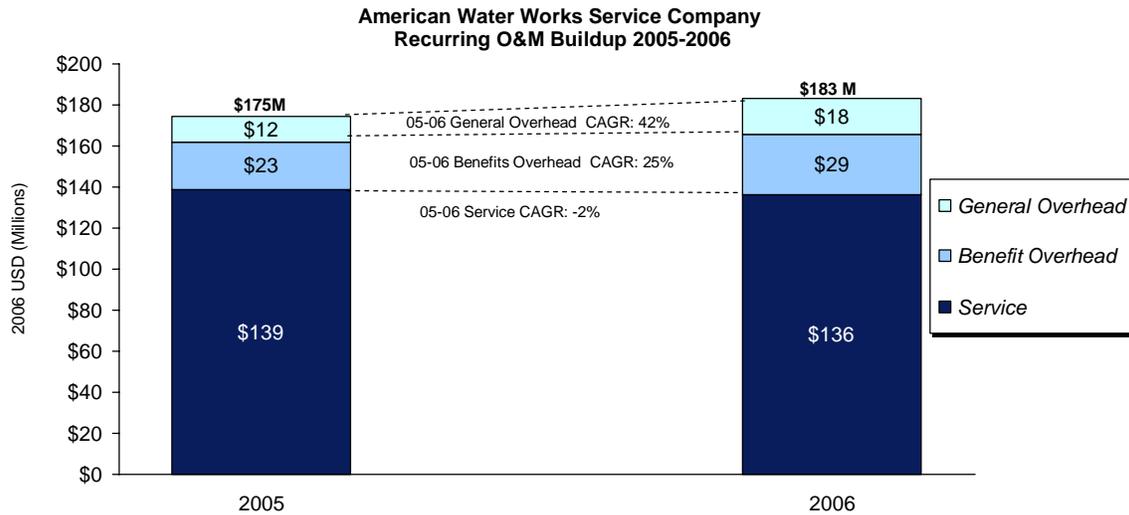


In 2005, AWWSC incurred \$240 million (\$2006), compared to \$265 million in 2006. Services provided are categorized into 14 functions, that will be discussed in Section 3 of this report. The growth in 2006 AWWSC total billings from 2005 represent a real increase of \$25 million in 2006 dollars (\$2006), i.e., inflation adjusted growth of 10% .

AWWSC incurred approximately \$183 million in recurring O&M in 2006 and \$175 million (\$2006) in 2005. Recurring O&M provides a perspective on the actual cost required to perform services. As a result of the business structure defined by management, recurring O&M provides insight into the ongoing cost to do business.

Moreover, as **Figure 2-3** demonstrates, the difference between 2005 and 2006 AWWSC recurring O&M represents a real increase of \$8.4 million, i.e., inflation adjusted growth of 4.8% over 2005. Recurring O&M service charges decreased by \$2.5 million, a 2% decline in 2006. Recurring O&M Benefit overhead increased by \$5.7 million, a 25% increase, to \$29 million in 2006. Recurring O&M General overhead increased by \$5.2 million, a 42% increase to \$18 million in 2006.

**Figure 2-3**  
**Recurring O&M Difference 2005 - 2006**



Source: AWWSC, Booz Allen Hamilton analysis

The real 4.8% increase in AWWSC cost from 2005 to 2006 suggests that cost control mechanisms in place at AWWSC have been instituted to control spending as business operations have grown. Although total AWWSC costs increased, those increases were driven by normal business changes such as call center expansions resulting in service and overhead increases, as more fully explained in Section 8 of this document.

**Relative Cost Performance: Section 9**

A benchmarking analysis was conducted to compare AWWSC cost levels to those of a number of a selected peer group. We compared AWWSC's costs on various per unit bases with those of a peer group consisting of twenty holding company systems with more than 10 service offerings.

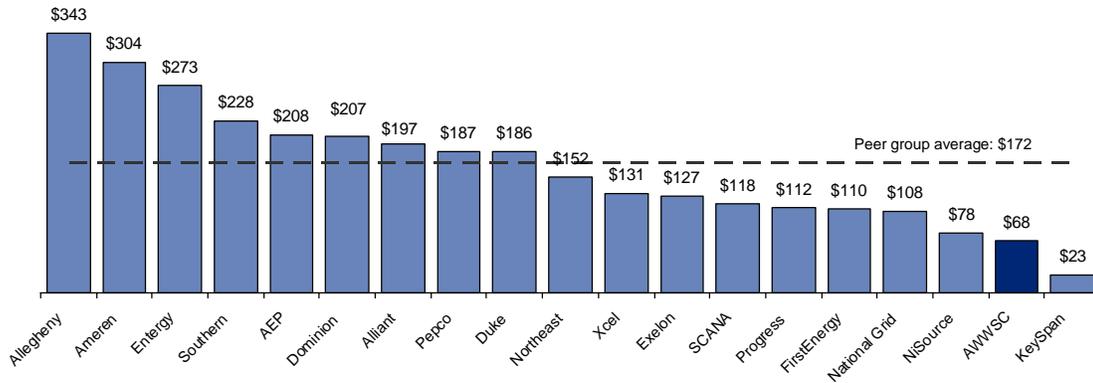
The results of these analyses show that AWWSC compares favorably to the peer utility service companies. Performance is generally average or below average (*i.e.*, lower cost). The results of the AWWSC comparison are set forth in **Figure 2-4**. This figure shows that AWWSC performed at or better than average with respect to six of the seven metrics measured.

**Figure 2-4**  
**Summary of Benchmarking Results using 2006 FERC Form 60 Data**

Benchmark	AWWSC Performance vs. Average
Service Co O&M as percentage of total assets	Below average cost
Service Co O&M as percentage of total company O&M	Below average cost
Service Co O&M as percentage of revenue	Average cost
Service Co O&M per customer	Below average cost
Service Co O&M per total company FTE	Below average cost
Service Co O&M per Service Co FTE	Below average cost
Service Co O&M Expense 2005 to 2006 Change	Above average cost change

As an example of the FERC Form 60 benchmarking analysis, we compared AWWSC O&M expense per customer to the peer group. Service company O&M includes such costs as salaries and wages, outside services, overhead costs, and rents. **Figure 9-3** shows that AWWSC's benchmark of \$68 per customer compares favorably to the peer group average of \$172.

**Figure 2-5**  
**2006 Service Company O&M Expense per Customer**



Source: Energy Velocity data, 2006 FERC Form 60 filings, Booz Allen Hamilton analysis.  
 Note: Statistical Outliers removed using the Inner Quartile Range Method

**CONCLUSION**

Overall, our assessment is that AAWWSC provides necessary services to TAWC, and that they are provided in a manner that results from prudent management decisions on the part of TAWC’s parent. Further, we believe that the methodology used to allocate costs to TAWC is reasonable.

Based on our analysis, we determined that each of the activities performed by AAWWSC on behalf of TAWC was necessary and provided specific benefits. Additionally, we noted that, while some activities performed by AAWWSC and TAWC may appear similar, the scope and responsibilities of such activities were distinct, leading us to conclude that there was no duplication of efforts that would result in excess cost. We also found that whenever possible, AAWWSC charges TAWC directly for services and used a reasonable allocation method when necessary. Our review of the budgeting and cost control processes revealed a thorough system that effectively plans for and controls spending at AAWWSC. Analysis of the cost trends at AAWWSC between 2005 and 2006 further indicated that costs were managed appropriately. Finally, our benchmarking analysis revealed that AAWWSC costs were generally at or better than average.

As a result of our comprehensive assessment, we concluded that TAWC receives necessary services that were provided in an effective, cost controlled manner by AAWWSC. Further, we found that the method used to allocate costs from AAWWSC to TAWC was reasonable.

### **3. ORGANIZATION OVERVIEW**

American Water Works Company, Inc. ("American Water") is a water utility holding company whose principal operating subsidiaries operate 22 water companies in four regions (northeast, southeast, central and west) that all provide water services, which are all regulated by the local Public Utility Commissions (PUC) in each state. American Water also has several non-regulated entities including its Contract Operations Group, its Applied Water Management Group, and its Homeowner Services Group.

TAWC is a wholly-owned subsidiary of American Water and is engaged in providing water services to customers.

To facilitate the procurement, delivery, and management of support services that its operating subsidiaries commonly require, American Water formed a collection of entities that together act as the American Water Works Service Company (AWWSC). Those entities included Corporate Services, Shared Services Center, and four Regional Service Companies (Central, Northeast, Southeast, and Western). The Corporate Services and Shared Services Center provide services to all regulated and non-regulated entities, while the Regional Service Companies provide services only to regulated entities within their respective region. TAWC is a part of the Southeast Region. In many instances, Corporate Services provides strategic direction, policies, and governance which the Regional Service Companies and the operating companies themselves implement, manage, and operate throughout their regions. The function of AWWSC is to provide necessary support services to American Water's operating subsidiaries, including TAWC, on a common and consistent basis. Several benefits flow to TAWC from the consolidation of support services into AWWSC, including the realization of substantial cost efficiencies. Additionally, with AWWSC primarily responsible for the coordination, delivery, and administration of support services, operating management, including that of TAWC, is allowed an increased opportunity to focus on operational, high-value, essential, and crucial activities, including focusing upon providing water service in a reliable manner.

Currently, AWWSC bills for services utilizing 14 primary functions and is structured into two cost centers as described in **Figure 3-1**:

**Figure 3-1  
 American Water Works Service Company Overview**

American Water Works Service Company (AWWSC)			
Functions			Overhead Cost Centers
Accounting	Engineering	Rates and Revenue	General
Administration	Finance	Risk Management	Benefit
Audit	Human Resources	Water Quality	
Communications	Information Systems	Customer Service	
Legal	Operations		

While the activities of most of the functions can be understood from their title alone, a full description of the functions is contained in the activity summary in **Exhibit 3-1**. The Overhead Cost Centers are explained below:

- **General:** office expenses that include office rent, equipment leases, telephone, power, office supplies, property taxes, and office maintenance.
- **Benefits:** labor related expenses that include employee benefit costs (payroll taxes, medical coverage, pensions, disability insurance) and other general expenses.

AWWSC represents a service company model that is commonly used in the utility industry, and AWWSC performs functions that are similar to those currently performed by service companies of other comparable utilities in the power industry, as depicted in Figure 3-2:

**Figure 3-2**  
**Service Company Comparison**

Services*	Allegheny	Alliant	Ameren	AEP	Black Hills	Dominion	Duke	Energy East	E.ON	Energy	Exelon	First Energy	Great Plains	KeySpan	National Grid	NISource	Northeast	Peperco	PNM	Progress	SCANA	Southern	Until	Xcel	AWWSC
Accounting	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Audit	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Business & Administrative Services	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Commercial Operations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Customer Operations/Service	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Distribution	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Engineering & Environmental Operations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Executive / Overhead	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Finance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Facilities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fuel	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Generation Operations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
HR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Investor Relations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
IT	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Legal	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Logistics and supply chain	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Marketing/sales	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Planning/Budgeting	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Communications	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Regulatory Relations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Risk Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Strategy-Corporate	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Security	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Shared or General Services	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Transmission	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Transmission Ops/Planning (reported jointly)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Treasury	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Utility Operations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Utility Operations Planning	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
External Affairs	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Other	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Number of Services Provided</b>	<b>21</b>	<b>19</b>	<b>19</b>	<b>24</b>	<b>17</b>	<b>17</b>	<b>20</b>	<b>9</b>	<b>25</b>	<b>11</b>	<b>13</b>	<b>23</b>	<b>6</b>	<b>20</b>	<b>18</b>	<b>19</b>	<b>14</b>	<b>17</b>	<b>5</b>	<b>12</b>	<b>15</b>	<b>13</b>	<b>9</b>	<b>22</b>	<b>23</b>

Source: 2006 FERC Form 60, Booz Allen Hamilton analysis. Note: "Other" refers to "Investment Management" for First Energy, "Right of Way" for Duke/Cinergy and "Competitive Group" for NE Utilities

AWWSC delivers its services to TAWC, and to the other American Water subsidiaries, through an Agreement dated January 1, 1989. The Agreement outlines all services that are to be provided to TAWC from AWWSC if TAWC elects to use AWWSC. The method for determining the charges to TAWC for those services and how those charges were billed are also described in detail. The agreement also provides that TAWC is not bound to use the Service Company for those services and is free to use its own personnel or engage another company to perform the services.

#### 4. NECESSITY AND BENEFITS ANALYSIS

Our evaluation of AWWSC's activities focused on the necessity of the activity performance, as well as the benefits that flowed from such performance. In conducting this assessment, we evaluated whether the activities that gave rise to AWWSC charges serve a necessary, useful, and legitimate business purpose; were discretionary and could be avoided by management; were consistent with activities performed by other utilities; and provided benefits to TAWC.

In conducting this qualitative analysis, we undertook a broad array of activities, including the following:

- Reviewed AWWSC activities which gave rise to costs incurred at the service company level and were subsequently passed onto TAWC;
- Reviewed prior PUC filings with various states to gain an understanding of the different activities that AWWSC performed for each of its regulated entities, including TAWC;
- Evaluated the AWWSC and TAWC organizational structure and alignment by conducting interviews of AWWSC and TAWC personnel and analyzing their respective organization charts;
- Interviewed department leaders to validate assumptions and findings;
- Leveraged Booz Allen experience in defining the activities of service companies, such as AWWSC, at other utilities.

Based upon our analysis, we concluded that the AWWSC activities, including those giving rise to costs attributed to TAWC as a result of those activities, were necessary to the operation, management, and conduct of TAWC's business. The majority of these expenses arise out of activities required to satisfy responsibilities to governmental entities and customers (*e.g.*, customer services, operations, corporate governance, legal compliance, and regulatory mandates) and, as such, AWWSC costs incurred in connection with these activities were non-discretionary and unavoidable. In fact, the services provided by AWWSC were services that TAWC would have to conduct on its own if it were not a part of American Water and are services that are comparable to those performed by other similar companies.

**Exhibit 4-1** sets forth our detailed analysis of the 75 distinct activities giving rise to recurring O&M expenses incurred by TAWC. It describes the nature of the particular activity and identifies the necessity for such expenditure according to six separate attributes: corporate governance, regulatory mandate, legal compliance, management control, operational execution, and strategic planning.

Figure 4-1 sets forth the definitions for each of these necessity attributes:

**Figure 4-1  
 Necessity Attributes Description**

Necessity Attributes	Definitions
Corporate Governance	Activities that are necessary to ensure that corporate and portfolio fiduciary responsibilities and enterprise-wide management and operation is effectively executed. Examples include performing shareholder activities, managing cross-business issues, performing risk management activities and evaluating internal controls
Regulatory Mandate	Activities that are required to fulfill statutory, regulatory and other commitments or mandates. Examples include submitting SEC filings, filing IRS documents and complying with other regulatory requirements
Legal Compliance	Costs incurred and activities performed as a direct result of legal proceedings, avoidance of legal proceedings, or compliance with legal requirements. Examples include performing litigation activities and responding to discovery requests
Management Control	Activities performed specifically to provide analysis, decision support data and results to management personnel. Examples include managing projects and reporting results and developing management reports
Operational Execution	Includes fundamental functions performed on a daily basis. Examples include performing maintenance activities, performing general accounting, and tracking employee information.
Strategic Planning	Activities that encompass business unit planning and activities directed at providing enterprise-wide direction. Examples include monitoring marketplace activities, performing strategic planning, and providing business planning assistance

These attributes encompass established and accepted views of why these types of centralized activities are undertaken and are necessary to the proper functioning of a business enterprise. They have been established through similar assessments that Booz Allen has conducted in the utility sector in other jurisdictions. We tested these attributes against the more than 75 discrete activities performed on behalf of TAWC, summarized in Exhibit 3-1 and discussed further in Exhibit 4-1. Based on our analysis, we concluded that each of the 75 identified activities is necessary.

Examples of how we applied this methodology for each attribute are set forth below:

**Corporate Governance:** The Finance function formulates the SOX controls to ensure that American Water meets its corporate responsibilities of complying with Sarbanes-Oxley. By ensuring that American Water meets its corporate responsibilities, the Finance function provides Corporate Governance. As part of providing enterprise wide management and ensuring operation is effectively executed, the Communications’ function also fulfills Corporate Governance by providing internal communications to ensure that all American Water employees are current on company policies, issues, and practices. The Engineering function provides governance and implements

standard best operating practices for all of its projects ensuring enterprise wide operation is effectively executed as part of Corporate Governance.

**Regulatory Mandate:** The Accounting function ensures that Property, Plant, and Equipment are properly accounted for in its Fixed Asset / Job Costing activity, which provides regulators with an accurate calculation of the rate base, which is required for regulatory filings. Regulatory mandates require accurate accounting for Property, Plant, and Equipment. Similarly, the Rates and Revenue function provides rate case support in which they gather all necessary data for filing rate cases, preparing testimony, putting together work papers, and performing analysis as part of rate case requirements. Rate case requirements are a regulatory mandate.

**Legal Compliance:** The Legal function performs, manages, or supervises the majority of all legal work done for the operating companies, including handling lawsuits, reviewing contracts, and handling the legal aspects of rate cases, which are all aspects of Legal Compliance. Similarly, the Risk Management function develops and implements policies that are designed to ensure health and safety in the work place, which is a requirement of labor laws and thus meeting Legal Compliance. The Water Quality function tests and treats water to ensure that it meets all governmental water quality standards; many substances must be tested for by law, thus also meeting Legal Compliance.

**Management Control:** The Administration function performs regional business administration, in which it consolidates all of the operating companies' operational information and data to provide oversight to the operating companies and to provide management reports to Corporate; this includes benchmarking data, Key Performance Indicator (KPI) data, etc. providing management with important decision support data as part of Management Control. In addition, the Audit function performs operational audits in which it tests the functionality of the entire business to ensure it is performing optimally and as designed. After the audit is finished, it provides key decision support data to management that management uses to make improvements as part of Management Control.

**Operational Execution:** The Information Systems function designs, installs, and handles all information technology work, such as ensuring users have the necessary computer hardware to perform their jobs. Servicing the information technology of American Water is a fundamental function performed on a daily basis as part of Operational Execution. The Customer Service function actively works to manage accounts receivable by working to collect all money that American Water is owed, which is a fundamental function of American Water.

**Strategic Planning:** The Human Resources function continually plans its human resources strategy to ensure that the appropriate number of human resources is available to handle all of the activities that American Water must perform. Part of that planning includes monitoring and strategically handling turnover, which is particularly important in today’s high turnover, aging workforce environments. As part of its work, the Operations function seeks regulated acquisition and other related growth opportunities providing enterprise wide direction as part of Strategic Planning.

In addition to being necessary, we concluded that AWWSC activities provide benefits to the organization. For purposes of this assessment, Booz Allen identified six separate potential benefits that may arise from the activities we examined, which are described in **Figure 4-2**.

**Figure 4-2  
 Benefits Attributes Description**

Benefits Attributes	Definitions
Reduce Risk	Actions designed to reduce liability and mitigate exposure to financial, operational, fiduciary and other types of risk through activities such as implementing safety programs, performing internal audit, and developing policies, procedures and manuals
Increase Employee Productivity	Programs that enhance employees' abilities to perform their jobs more productively. Examples include implementing certain automated systems, providing certain types of training, implementing and administering employee health awareness programs, developing procedures, policies and practice manuals, developing employee communications and implementing and administering quality programs
Provide Management Information	Activities conducted primarily to provide decision support data and analysis to management personnel. Examples include developing budgets, monitoring operational and financial performance, performing corporate development, conducting strategic assessments and developing integrated information systems
Enhance Corporate Performance	Activities performed to enhance the abilities and effectiveness of management with respect to the business, including developing strategic plans, managing the performance review process, maintaining the inter / intranet and conducting benchmarking studies
Reduce or Avoid Costs	Activities performed to improve the cost effectiveness of operations. Activities include implementing certain automated systems, negotiating discounts with outside vendors and performing certain credit and collections activities
Increase Reliability	Activities performed to increase the reliability of water distribution / production and to minimize the impact of disruptions

We tested these attributes against the 75 discrete activities identified as being performed on behalf of TAWC, summarized in **Exhibit 3-1** and discussed further in **Exhibit 4-1**. As **Exhibit 4-1** shows, we concluded that each of the activities provides direct and indirect benefits to TAWC.

An example of how we applied this methodology for each attribute is set forth below:

**Reduce Risk:** The Audit function performs financial audits to ensure that financial reporting controls required by Sarbanes-Oxley laws are functioning correctly, reducing financial risk. The Water Quality function reduces the operational risk of harmful chemicals infiltrating the waters delivered to customers by American Water operating companies.

**Increase Employee Productivity:** The Human Resources function works with the Information Services function to develop automated human resource systems that allow employees to spend less time on administrative HR related issues, which allows them to concentrate on their jobs. The Information Systems function puts together, obtains, manages, and designs technology systems including technical and functional applications, telecommunications, automated systems, computers, and much more, which are all designed to enhance the employees' abilities to perform their jobs more productively. The Customer Service function manages automated billing systems that allow employees to concentrate on billing issues, such as billing exceptions or corrections, instead of having to perform continually repeated processes.

**Provide Management Information:** The Finance group provides management with budgets and forecasts which are necessary decision support information. The Rates and Revenue function gathers data and performs analysis to provide management information used to construct rate case documentation and support.

**Enhance Corporate Performance:** The Operations function develops best operating practices providing management with the best tools and processes by which to run their respective groups thus enhancing corporate performance. The Administration function conducts performance reporting on the Shared Services Center. Obtaining a clear picture of performance increases management's effectiveness by allowing them to understand where improvement is necessary. The Communications function is responsible for building and marketing the American Water brand, providing a better connection between the company and its customers, which enhances overall corporate performance.

**Reduce or Avoid Costs:** Strategic sourcing is undertaken as a part of supply chain operations; by procuring resources as an entire company as opposed to just TAWC doing it alone, American Water can achieve large economies of scale savings, which it then passes on to its operating companies, such as TAWC. The Legal function actively works to protect the company against lawsuits or to work out favorable results, therefore reducing costs.

**Increase Reliability:** The Engineering function uses the best operating practices developed by the Operations function to deliver various projects. By using best operating practices, the reliability of the system is greatly increased. The Risk Management function performs an activity called Business Continuity in which the sole purpose is to provide emergency and contingency planning to ensure 24 hours a day, 7 day a week reliability.

To further validate our conclusions and provide an additional frame of reference, we reviewed each activity performed by AWWSC to determine its appropriateness for performance within a service company (or similar organization) rather than performance within an individual operating company. To do this, we reviewed FERC Form 60s<sup>2</sup> for several peer utility companies which capture the activities of such service companies in the utility industry. Based on our review, we determined that services provided by AWWSC on behalf of TAWC are typical of services provided by utility service companies as previously reflected in **Figure 3-2**. This is important to recognize, as it indicates that the centralization of such functions within such service companies is generally accepted as being necessary and as providing benefits to the enterprise (*e.g.*, economies of scale and procurement efficiencies).

## **CONCLUSIONS**

Activities undertaken by AWWSC satisfy several operational, legal, and regulatory needs for a water utility. All functions were required either to satisfy responsibilities to customers and governmental entities or support the operations of the enterprise and were not avoidable. When compared against the specific attributes used to establish necessity of performance, at least one of these attributes applied to each of the 75 activities reviewed.

These functions also provided direct and indirect benefits, such as standardization to improve productivity or provision of technical support to improve decision-making, that enhanced the effective management and efficiency of TAWC as again demonstrated by the applicability of the attributes used to evaluate whether benefits were derived. Most specifically, centralized performance of these functions created economic benefits which were realized by TAWC and the other operating companies. These functions were also consistent with, and similar to, functions provided by other utility service companies and other businesses outside of the industry.

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<sup>2</sup> The FERC Form 60 is a form that is required under the Public Utility Holding Company Act of 2005 and that contains detailed service company functional data, including descriptions of cost allocation approaches.

## 5. OVERLAP AND DUPLICATION ANALYSIS

Performance of certain common operational, managerial, and back-office activities in a centralized manner using a single business services entity is generally considered an effective and cost efficient method of providing services. This type of structure, by its nature, limits the amount of duplication of activities across an organization even where similar types of activities may be performed. In performing our analysis of any potential duplication among AWWSC and TAWC, we evaluated whether the activity was being performed in a centralized or decentralized manner and whether, if the potential for overlap did exist, there was adequate differentiation in scope among these entities.

Our investigation into any possible duplication of effort consisted of the following steps:

- Reviewed organizational charts for TAWC and AWWSC to provide an initial baseline for understanding the responsibility and focus of the activities performed within each entity.
- Defined the role that each functional area performs and assessed whether, based on such descriptions, the potential for activity overlap existed.
- Conducted individual interviews with management representatives within the TAWC and AWWSC functions to fully understand the activities that each area performs and assess whether differences in purpose, focus, or content of the activities in question existed.

We reviewed each of the activities of AWWSC previously described in detail in the activity summary in **Exhibit 3-1**, as well as functional activities of TAWC. Our detailed review of the activities of TAWC and AWWSC confirmed that the activities of each entity were not duplicative. While some activities require the participation of multiple levels of the organization, such as the preparation of budgets, this does not constitute duplication.

**Figure 5-1** summarizes the results of our assessment and provides the delineation between the types of activities being performed at each “level.” There are three different organizational “levels” discussed in this section and four different activity “delineations”:

Three different organizational levels:

- **Corporate:** This level includes the Shared Services Center (SSC) and is a part of the AWWSC along with all of the Regional levels (explained below). It is the part of the AWWSC that is not assigned to a specific region, but works across regions.

- **Southeast Region:** This organization within AWWSC performs services only on behalf of entities in the Southeast Region, which includes operations in Kentucky, Pennsylvania, Tennessee, Virginia, Maryland, and West Virginia.
- **TAWC:** This level is the actual Tennessee American Water Company. It is the local Tennessee operating company for which this report is being written.

Four different activity delineations:

- **SPG:** Strategy, Policy, Governance; Activities that were considered to be SPG, provide strategy and direction for the given function, set policies and goals for the function, or provide governance for the overall function. SPG activities also include national level and enterprise-wide issues and initiatives, as well as providing expertise and developing standard practices and processes to be implemented throughout all of American Water.
- **Mgmt:** Management; Activities that were considered to be Mgmt are activities that provide oversight, guidance, review and disseminate policies and standardized processes that were developed by SPG activities. These activities are also designed to provide support and coordination for the day to day operations of the actual function.
- **Ops:** Operations; Activities in which the actual day to day operations of the function are performed. This is where the actual job of the function is performed.
- **T:** Touch Point; Activities in which employees act as “Touch Points” or points of contact if there are questions, issues, or needs, such as data gathering for that function or to perform a minor role at a more localized level.

As **Figure 5-1** demonstrates, our thorough review revealed that while, in some cases, similar broad functional descriptions exist across two or more entities, the actual activities performed by each entity were different in scope and were not duplicative. In some cases, Ops occur at multiple organizational levels such as appearing in both Corporate and Regional. There were two reasons this occurred. The first reason was that the Ops’ activities being performed at one level were completely different activities within the same function as those being performed at the other level. The other reason was that some specialist employees, such as in the case of employees working on Non-Revenue water, which is a part of the work done for the Network, perform their Ops’ activity at two or more operating companies so they actually reside within the Southeast Regional level. Many of the employees that perform the Ops’ related activities within Network, however, were held at TAWC because they only perform work

for that level causing Ops' activities to show up at the Southeast Regional level and at the TAWC level. In short, the nature of activities performed within Corporate, Southeast Region, and TAWC was sufficiently delineated, distinct and focused on the requirements of the individual business.

**Figure 5-1  
 Delineation of Roles and Responsibilities**

Function	Corporate	Southeast Region	TAWC
<b>Accounting</b>	SPG, Mgmt, Ops	T	T
<b>Administration</b>	SPG, Mgmt	Ops	T
<b>Audit</b>	SPG, Mgmt, Ops	T	T
<b>Communications</b>	SPG	Mgmt	Ops
<b>Legal</b>	SPG	Mgmt, Ops	
<b>Engineering</b>		SPG, Mgmt, Ops	T
<b>Finance</b>			
All Finance Activities except for Rates and Regulations	SPG	Mgmt, Ops	Ops, T
Rates and Regulations	T	SPG, Mgmt, Ops	Ops, T
<b>Human Resources</b>	SPG	Mgmt	Ops
<b>Information Systems</b>	SPG, Mgmt, Ops	Ops	
<b>Operations</b>			
Production, Network, Maintenance	SPG	Mgmt, Ops	Ops
Business Development	SPG, Mgmt	Ops	T
<b>Rates &amp; Revenues</b>	SPG, Mgmt, Ops		
<b>Risk Management</b>	SPG	Mgmt, Ops	Ops
<b>Water Quality</b>	SPG	Mgmt, Ops	Ops
<b>Customer Service</b>			
All Customer Service activities except AR	SPG, Ops	Mgmt	T
Accounts Receivable	SPG, Mgmt, Ops		T

**SPG** = Strategy, Policy, Governance    **Mgmt** = Management    **Ops** = Operations    **T** = Touch Point

Note: Please see section on cross functional duplication regarding Rates and Regulations as a part of Finance vs. the Rates and Revenues Function as these functions are complementary rather than duplicative

Each of these areas is discussed separately and in more detail below.

**Accounting:**

All activities that were billed through the Accounting function were performed at the Corporate level. The main interaction that the Accounting function had with the Southeast Regional level was to provide the reports to the Regional Finance Director for review; however, those activities performed at the Southeast Regional Level were billed through the Finance function and were, therefore, included as part of the Finance function for the purposes of this report. Otherwise, TAWC had one individual responsible for acting as a Touch Point for the Corporate level. That individual was responsible for answering any questions the Accounting function had in regards to TAWC, and that individual provided the necessary data that the Accounting function required from TAWC. There is further review of potential cross functional duplication between Accounting and Finance later on in this section under "Cross Functional Duplication."

**Administration:**

Administration at the Corporate level consisted of three major activities, which are Executive Oversight, Business Liaisons, and Project Management (see **Exhibit 3-1**). Executive Oversight was responsible for providing overall executive oversight and strategic direction to American Water, making this a SPG activity. Business Liaison was a Corporate level activity that supported the Shared Services Center (SSC) through customer monitoring and performance analysis, which is a Mgmt activity because it provides review of business performance. Project Management was another Corporate level activity that managed continuous improvement project initiatives and other projects for the SSC making it another Mgmt activity.

Southeast Regional Administration was responsible for putting together reports for its operating companies on such things as Key Performance Indicators (KPIs) and compiling benchmarking data to provide benchmarks to Corporate. The day to day operations of Administration were therefore performed at the regional level, meaning that the Southeast Regional level performed the Ops' activities.

**Audit:**

All Audit activities were performed at the Corporate level. Audit had interaction with the Southeast Regional level and with TAWC while audits were being performed, requiring people from the Southeast Regional level and from TAWC to act as Touch Points to answer questions or gather necessary data for the audit to be performed.

***Communications:***

Communications at the Corporate level was responsible for handling all national level communications' activities. The Corporate level was also responsible for setting policy and providing governance for local government affairs. The Corporate level was in charge of marketing the American Water brand at a national level. Policy, strategy, and guidance for media relations and customer communications were provided at the Corporate level. The Corporate level was also responsible for providing internal communications such as company wide emails or newsletters that provide the company with enterprise wide communications. These were all SPG activities.

Communications at the Southeast Regional level was in charge of working closely with and managing local operating company Communications' Specialists. The Southeast Regional level disseminated Corporate policies to the operating companies and ensured their enforcement. It provided support, coordination, and expertise for the operating company Communications' groups and reviewed different communications' documents created by the operating companies. These were all Mgmt activities.

TAWC's Communications' group consisted of one person who created all local media relations documents, built relationships with local government officials, and made public appearances. TAWC Communications was responsible for the day to day activities of the Communications' functions making these all Ops' activities.

***Legal:***

Legal at the Corporate level provided legal support to all of American Water, while also setting ethics and compliance policies. It set overall legal policy and developed standardized contracts. It also handled all national level legal matters. Therefore, all activities within the Legal function at the Corporate level were SPG activities.

Legal at the Southeast Regional level was responsible for handling and coordinating all legal work at each operating company within the Southeast Region. It either performed or managed all legal work for TAWC and the rest of the operating companies within the Southeast Regional level, therefore handling all Mgmt and Ops' related Legal activities.

***Engineering:***

In rare circumstances, such as building very large projects that were outside the expertise of both TAWC and the Southeast Regional level or helping to standardize certain company reoccurring projects and best operating practices, did the Corporate level get involved in Engineering. The majority of

Engineering work was performed at the Southeast Regional level due to the uniqueness of each system, geography, and needs. The Southeast Regional level therefore provided all levels of work for the Engineering function, including SPG, Mgmt, and Ops' activities.

***Finance:***

Finance is one of the more complicated functions within American Water and required further division than just examining it at the Functional level to examine potential duplication. To better explain potential duplication in Finance, the function was split into two primary sub-functions: "All Finance Activities except for Rates and Regulations" and "Rates and Regulations."

*All Finance Activities except for Rates and Regulations:*

Corporate level Finance was responsible largely for setting policy and providing governance on items such as accounting, planning, budgeting, and forecasting. It also handled national level investor relations in preparation for the initial public offering (IPO) of its common equity. It also set the strategy for and the actual financing of all work done at American Water. These were all SPG activities because they provide governance, strategy, and policies and perform enterprise wide activities.

Southeast Regional Finance was largely in charge of ensuring these efforts were implemented throughout all operating companies in the region. The Southeast Region put consolidated regional budgets together after using TAWC as a Touch Point to gather all of the necessary data. The Southeast Region also performed regional planning and forecasting. It ensured that SOX controls designed by the Corporate level were implemented throughout the region. It was in charge of coordinating and performing all day to day functions of the Finance function for TAWC. Therefore, most Southeast Regional Finance activities were Mgmt and Ops related.

For the Finance function, TAWC was a Touch Point for all activities with one exception. It gathered and provided the necessary data for items such as budgeting and forecasting. The one exception is CSR, where TAWC actually performed the day to day operations of community relations and service work thus performing the Ops' activities of CSR.

*Rates and Regulations:*

The only exception to the delineations within all of the rest of Finance is the Rates and Regulations activity. For this activity, the Corporate Rates and Regulations group, within the Shared Services Center, provided historical information from the records to the Regional Rates group. This group also

provided assistance and analysis regarding SSC and Corporate level expenses during the rate case and supplied other necessary data which is based on the financial and accounting records maintained at the SSC. By providing data, the Corporate Rates and Regulations Group performed Touch Point activities, and by performing analysis, which was limited to Corporate level expenses, they also performed Ops' activities.

The Southeast Regional level of Rates and Regulations' activity was responsible for all aspects of rate case filings from gathering local operating data, to managing the strategy for filing rate cases, to hiring and managing outside consultants. Therefore, the SPG, Mgmt, and Ops' work were mostly done at the Regional level for Rates and Regulations with Corporate and TAWC serving as Touch Points.

Once again, TAWC acted as a Touch Point for Rates and Regulations by helping to gather data, answer questions, and offer information to the Rates and Regulations group to build the rate cases.

### ***Human Resources:***

Corporate Human Resources provided enterprise wide activities such as formulating job descriptions and designing performance appraisals. It provided strategy for union negotiations for all local operating companies and for workforce replenishment strategy. It provided governance through standardizing processes for treating employees and setting leave program policies and diversity initiatives. It did national level work by negotiating with national unions. These were all SPG activities.

Southeast Regional Human Resources maintained the applicant tracking system for the Southeast Regional level. It also helped to manage, direct, and provide support for Human Resources employees at the operating companies. Therefore it provided the Mgmt Activities to TAWC for the Human Resources function.

TAWC Human Resources was responsible for actually recruiting, hiring, and dealing with actual TAWC employee issues. These encompassed the actual day to day operations of the function. TAWC Human Resources reported to the Southeast Regional Human Resources function.

### ***Information Systems:***

Almost all Information Systems work was performed at the Corporate level. At the Corporate level, standard practices and definitions were created, policies were set, and the overall Information Technology (IT) infrastructure and IT solutions were developed to meet business requirements, which were all SPG activities. IT Project Management and managing day to day IT operations, such

as the service desk and information systems installation, were also both performed at the Corporate level and were both Mgmt activities. Installing the actual hardware and software and even providing the help desk for phone support on IT related issues were also performed at the Corporate level, which are both Ops' related activities. Therefore, the Corporate level performs SPG, Mgmt, and Ops' activities.

There was a small amount of Information Systems work performed at the Southeast Regional level. This consisted only of face to face PC support, providing assistance with programming for local operating company information systems, and help in writing queries for different computer programs at the local operating companies. The Southeast Regional level provided face to face support for the Regional operating companies, supporting day to day operations of the Information Systems function making the activities Ops related.

### ***Operations:***

Operations is one of the largest functions within American Water and required the most understanding. To better explain potential duplication in Operations, the function was split into two primary sub-functions: "Production, Network, and Maintenance" and "Business Development", which is billed under Operations on the service company bill, but is separately managed.

#### *Production, Network, and Maintenance:*

This activity was where the actual business of water delivery was performed. At the Corporate level there was one group in charge of working across all operating companies to develop best operating practices ("BOP") and standardizing them across the company. The Corporate level also provided expertise and assistance in large construction and technical projects. This level also set up policies and procedures for the capital project approval process and provided strategic handling of assets and capital. These were all projects of an SPG nature.

The Southeast Regional level implemented and standardized many of the BOP's developed at the Corporate level across the operating companies. This level also monitored performance and consolidated reports from each operating company, including TAWC, which were all Mgmt activities.

TAWC was responsible for actually doing the "on the ground" work of maintaining the network, the production, and keeping the entire water system working and functioning, which were all Ops' activities.

Business Development:

Many activities at the Corporate level for Business Development were of a SPG nature. It included developing overall strategy for growth by analyzing potential regulated acquisition targets developed by the Southeast Regional level, developing an overall strategy to understand the types of regulated acquisition targets it should be pursuing, and performing enterprise wide acquisition integration. The Corporate level also performed the Mgmt activities of business development by coordinating efforts across regions and supporting each region in its research.

The Southeast Regional level was in charge of performing the due diligence on an identified acquisition target or other business development opportunities. This level was also in charge of developing the opportunities all the way to the stage of making a formal proposal for approved acquisition targets and helping to perform the "on the ground" integration work, which were all Ops' activities of the Business Development activity.

**Rates and Revenues:**

All Rates and Revenues activities were performed at the Corporate level. This function was reviewed for the potential of "cross functional duplication," which is discussed later in this section.

**Risk Management:**

The Corporate level was responsible for health and safety strategy and planning on an enterprise wide basis; it set security policy and strategy such as where will security badges be required; it monitored IT firewalls on an enterprise wide basis; and, it developed contingency planning as well for all operating companies. All of these activities are SPG.

The Southeast Regional level ensured all of the Corporate initiatives that were developed were actually implemented at the operating companies through support and guidance, which were the Mgmt activities of this function. This level also performed facilities auditing, which is one of the Ops' activities of this function.

TAWC was responsible for actually performing the remaining Ops' activities of Risk Management, including handling claims such as Workman's compensation claims, ensuring OSHA compliance, and monitoring facilities for compliance, which were all Ops' activities.

### **Water Quality:**

The Corporate level was in charge of setting the environmental initiatives for all of American Water and performed several enterprise wide activities, such as inorganic / organic compound testing performed at the Belleville Laboratories for water samples coming from all operating companies. The Corporate level also monitored all national regulations, as well as provided a unified voice for all operating companies to provide advocacy in national regulatory issues on environmental compliance. It also performed applied research looking at products and services that could benefit all operating companies. All of these activities were SPG activities.

The Southeast Regional level monitored local environmental regulations and issues, and implemented some standardization of processes and new beneficial products developed or discovered at the Corporate level. This level also implemented Environmental Management Plans (EMPs) across the region. All of those activities were Mgmt activities. This level also performed one Ops' related activity by performing environmental audits of the operating companies within its region.

TAWC ensured the quality of the water as it left the production plant by monitoring production efforts, analyzing chemical levels, and performing quality control. These were all Ops' activities.

### **Customer Service:**

Customer Service is another complex function to explain as a whole. The Corporate level provided all SPG related activities for Customer Service, but when the Mgmt and Ops' related activities were examined, it is much easier to explain the potential for duplication within the function by breaking it into two sub-functions: "All Customer Service Activities except AR" and "Accounts Receivable."

#### All Customer Service Activities except AR:

Customer Service at the Corporate level for all activities except AR, performed the Ops' related activities of actually interacting with customers, creating the work orders, sending out bills after receiving the information from the Southeast Regional level, and managing credit and collections.

The Mgmt activities of Customer Service were performed at the Southeast Regional Level. The actual call center employees were managed at the Corporate level, however at the Southeast Regional level, they were responsible for receiving service orders from the Call Centers and then scheduling the actual service and closing the service order. The Southeast Regional level also scheduled meter reads and uploaded those reads so they could be passed onto to

the Corporate level to generate the bills. The Southeast Regional level also performed quality assurance to review new premises being created in the billing system to ensure proper functionality and SOX compliance. In short, they were in charge of coordinating, managing, and providing support and guidance for all customer service activities for TAWC except for emergency after-hours service.

TAWC employees acted as a Touch Point to help gather billing data and investigate meter read exceptions. TAWC employees within the Network, Maintenance, and Production groups (described in the Operations portion earlier in this section) actually performed the service, but since they were a part of Operations, they were not also considered a part of Customer Service for the purposes of this analysis and were therefore also qualified only as Touch Points.

Accounts Receivable:

All Accounts Receivables activities were performed at the Corporate level. Therefore, there was no potential for duplication.

**Cross-Functional Duplication:**

In some cases analysis was required to ensure activities were not being duplicated across functions. Some more obvious areas included comparing activities such as accounting performed in the Finance portion of the service company bill, to accounting billed in the Accounting portion. This was considered to have potential "Cross-Functional Duplication," and each area where this possibility existed is discussed below:

Accounting - Finance:

The SSC General Accounting activity performed certain aspects of tax, including gross Receipts Tax, Property Tax, Franchise Tax, and all tax activities with the exception of Corporate Income Tax and payroll related taxes, which were performed through Corporate Accounting, which is allocated and billed through the Finance function; so, therefore, there is no duplication of tax work. The SSC General Accounting activity performed as a part of the Accounting function is responsible for actually generating the operating company's financial statements and performed all accounting work for the actual operating companies. This is performed on behalf of and under the management of the Regional Finance Director. Corporate Accounting is responsible for accounting policies and governance for the operating companies, reviewing regulatory policies such as FASB, and creating accounting white papers. Also, Corporate Accounting, billed in the Finance function, was in charge of consolidating all of the operating companies' financials for consolidated reporting.

Finance – Rates & Revenues:

In the Finance function, there was an activity called Rates and Regulations in which almost all aspects of putting together a rate case for local operating companies were performed at the Southeast Regional Level. We reviewed the potential duplication of work done in this activity with activities performed in the Rates and Revenues function, which performed two major activities which were to handle broad, national issues and to look for means of recovering expenses. The Rates and Regulations activity within the Finance function also provided rate case support acting as a Touch Point for all Corporate level questions related to Corporate level expenses in a rate case. It should be noted that the Rates and Revenues function consisted of only four employees and was a relatively small function that primarily was concerned with broad national issues as opposed to local operating company issues, which were covered by Rates and Regulations allocated through the Finance function. Therefore, there was no cross functional duplication.

**CONCLUSIONS**

Based upon our investigation of substantive activities performed by Corporate, the Southeast Region and TAWC, we concluded that no duplication of effort existed among the business areas. Our initial review of the structure and organization of each entity identified several areas where potential overlap might exist, but our review of the particular activities satisfied us that each group had a defined scope of activities that was discrete and non-duplicative.

Moreover, the AWWSC organization model provides for effective centralization of resources without duplicating or overlapping activities performed within TAWC. By centralizing activities within AWWSC, we noted that the potential for duplication was actually reduced, providing greater evidence that costs were not replicated in multiple locations.

The analysis in this section should be viewed together with the Necessity and Benefits Analysis in Section 4. When taken together, these two analyses indicated that AWWSC and the operating companies were performing required activities in a reasonable manner and that their structure and execution minimized the costs of performance by avoiding duplication of efforts.

## 6. COST ALLOCATION

The allocation of costs from AWWSC to TAWC must be analyzed to determine that TAWC is charged only an appropriate share of AWWSC costs. In conducting this assessment, we evaluated whether the allocation methods were fully documented and consistently applied. This section discusses the process and methodology used to allocate AWWSC costs to American Water operating companies, including TAWC, and assesses whether that process and methodology were reasonable and appropriate.

Our evaluation of the cost allocation process involved multiple elements:

- Interviewed responsible AWWSC and TAWC management to understand the nature and application of the allocation methodology employed;
- Investigated the allocation processes to assess whether they were in alignment with the cost causative nature of the service provided (i.e., do the allocation methods used bear a reasonable and direct relationship to the actual activities performed on behalf of TAWC); and
- Evaluated the allocation methodology of electric utility service companies to determine whether customer count is an allocation metric used by electric utility service companies.

In our experience we normally see a broad range of cost allocation approaches to distribute costs. The primary purpose of cost allocation is to identify payment responsibility across multiple entities with respect to cost sharing based on the nature of the cost incurred. There are cost implications of different allocation approaches, but the intent should be to assign costs in accordance with the cause of their incurrence. An example of some common allocation factors include:

1. Customer Bills Ratio
2. Customers Ratio
3. Delivery Services Gross Plant Ratio
4. Employee Ratio
5. Invoice Transaction Ratio
6. Labor Dollars Ratio
7. Meters Ratio
8. Modified Massachusetts Formula (MMF)
9. Revenue ratio
10. Square Footage Ratio
11. Total Assets Ratio

We note that customers are used as a metric by most utility service companies; however, they are generally used as one of several allocation factors. In fact none of the companies that file a Form 60 use a single factor to allocate service

company costs. Often an allocation approach includes multiple allocation factors applied to cost. However, the customers' allocation method is utilized by other regulated water utilities as an allocation method. Furthermore the Pennsylvania Public Utility Commission Bureau of Audits concluded that "... there is merit in using the number of customers to distribute most costs among regulated water utilities."<sup>3</sup>

The AWWSC cost allocation process is well-structured, implemented in conformance with underlying objectives and results in a fair representation of underlying cost causation principles. Charges to TAWC are allocated from AWWSC under the agreement dated January 1, 1989. Furthermore, the cost allocation approach was consistent throughout the operating companies and jurisdictions of the regulated American Water.

The agreement between regulated operating companies and the AWWSC has been approved in all jurisdictions which require that approval. Furthermore this agreement has been in place for several years. The application of the provisions of the agreement results in each operating company paying the cost for services provided to that company. Direct charges can be made for services provided to an identifiable operating company, or for employees performing transactional services.

In addition, each regulated operating company pays its proportional share of all common costs that remain after all direct charges have been made. The common costs are allocated on the basis of number of customers served by the operating company relative to the total number of customers served by all of American Water. This method of cost sharing is utilized to allocate common costs that remain after the AWWSC has directly charged both regulated and non-regulated operating companies to the extent possible and has allocated the costs of providing services to non-regulated operating company.

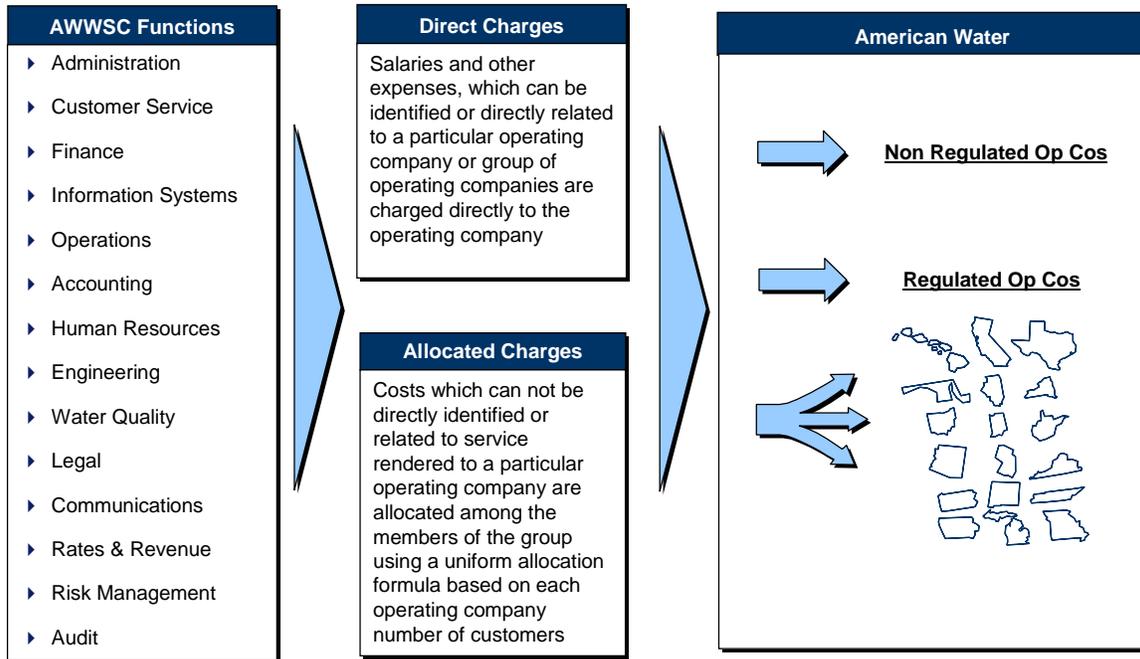
Current procedures support the allocation process. Specifically, operating companies were billed based on services performed by employees of AWWSC. Each employee of AWWSC charged his /her hours directly to each subsidiary for which they performed work, when possible. Where costs could not be directly traced and assigned to a particular entity, those costs were allocated based on the number of customers of each subsidiary in relation to the total customers of the regulated companies. If the function being performed was common to all operating companies or to a group of subsidiaries, the cost associated with the function was allocated across the group of operating companies. As an example within the Water Quality function, charges for routine

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<sup>3</sup> Focused Management and Operations Audit of Aqua Pennsylvania, Inc. prepared by The Pennsylvania Public Utility Commission Bureau of Audits, issued October 2006 Docket No. D-05MGT022

water testing required nationally for all regulated entities were allocated across the group. Irregular or one time water testing charges required for a specific locality were directly charged to the locality requiring the service. **Figure 6-1** illustrates the way that costs were charged to operating companies.

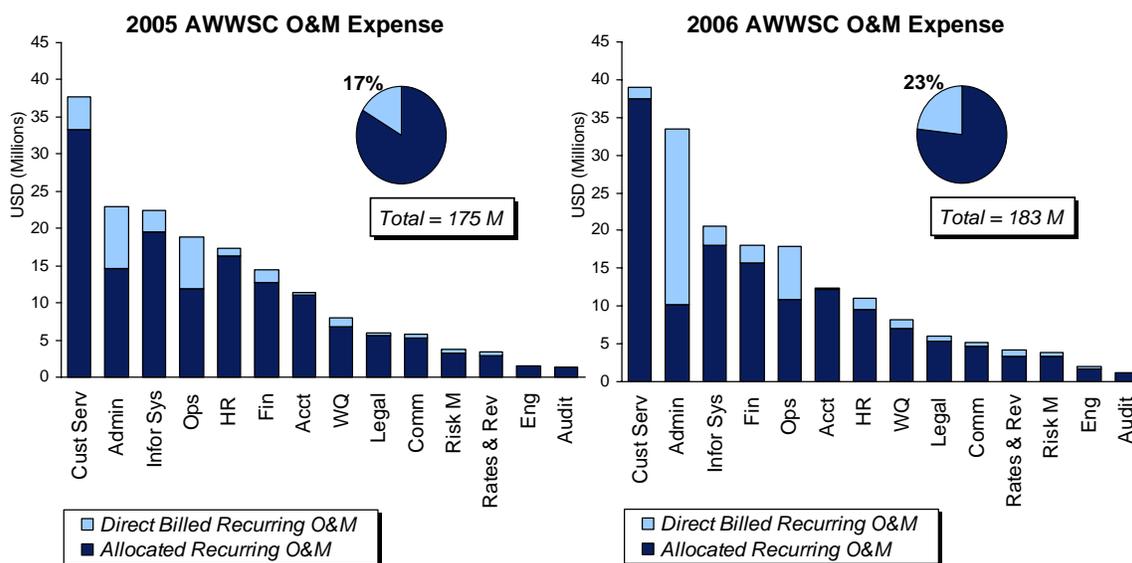
**Figure 6-1**  
**AWWSC Service and Overhead Charges Allocation Process**



Overhead charges are allocated using a slightly different allocation method. Benefits overhead and general overhead are allocated using ratios of total labor billed to operating companies. Total labor includes non administrative personnel cost associated with services rendered. Benefits overhead include payroll taxes, pensions, OPEB, and 401k. General overhead includes leases, rents, depreciation, interest, and IT maintenance. For example, each service company location’s office expenses are allocated to operating companies based on how professional labor charges for the office have been assigned. Also, support administrative personnel charge their time to the activity General overhead. Their labor charges are allocated to operating companies based upon how their office’s professional personnel labor charges are assigned. For instance the administrative personnel charges supporting the SSC would be allocated based on the SSC professional labor charges. If 2% of the SSC professional personnel charges were charged to an operating company, then 2% of the administrative personnel charges supporting the SSC would be also charged to the operating company.

AWWSC follows defined procedures to direct charge and allocate costs. Each AWWSC function costs are directly charged, where practical, to the entity that specifically demands the services that give rise to the cost. In our opinion, AWWSC attempts, and prefers, to charge costs directly to the entity that caused the cost to be incurred. AWWSC direct charges when costs can be identified and traced to a particular entity. As illustrated in **Figure 6-2**, in 2006, AWWSC direct billed charges increased to 23% of the total charges, up from 17% in 2005.

**Figure 6-2**  
**O&M Expense Allocation Analysis**

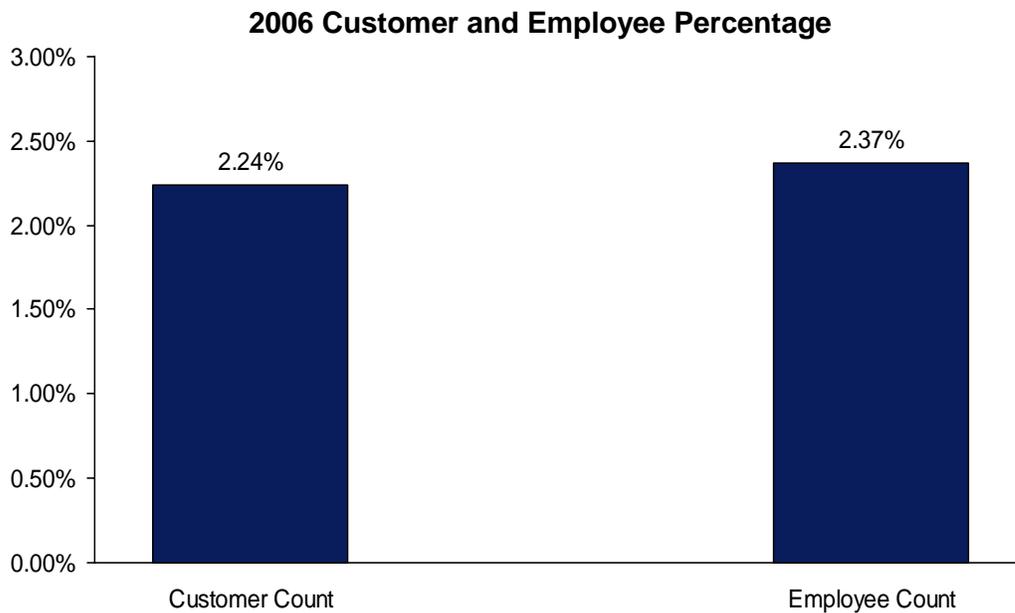


Source: AWWSC, Booz Allen Hamilton analysis

To assess the reasonableness of using customers as an allocation methodology, we looked at the functions that account for a majority of the allocable costs from AWWSC. Looking at the analysis of the Recurring O&M costs from AWWSC by function indicates the significant majority, 83%, of the O&M charges, are incurred within the following functions; Customer Service, Administration, Information Systems, Finance, Operations, Accounting and Human Resources. These functions are directly linked to the number of employees and /or the number of customers serviced by the operating company. As a share of the regulated water business of American Water, TAWC customers represent 2.24%. As a percentage of all operating company employees, TAWC employees represent 2.37%. Therefore, in the case of TAWC, because customers are such a close proxy for employees (within 10%), the customer allocation method does reflect cost causation principles. For example, providing call handling and billing services are direct causes for charges within Customer Service. These call

handling and billing charges are causally related to the number of customers being served. The Administration function, provides oversight and project management. A reasonable driver for business administration cost is the number of employees required by the organization. Within Information Systems, the information technology infrastructure is required to service customers and employees and, as such, the incurrence of information system cost is driven by both customers and employees. Finance and Accounting functions are largely a reflection of revenue. Because of the regulated nature of TAWC's business, revenue is effectively a function of customers. Operations costs, which represent maintenance and general operational activities, are driven by customers. Human Resources services, such as compensation, benefits administration and recruitment, are provided in direct proportion to the number of operating company employees. **Figure 6-3** shows the percentage of American Water customers and employees represented by TAWC.

**Figure 6-3**  
**TAWC Customer and Employee Share of Regulated AWWSC**



**CONCLUSIONS**

AWWSC charges were allocated to TAWC in a reasonable manner. Depending on the nature of the cost, AWWSC was able to select the most appropriate charging methodology - direct charge, or allocation formula. Where practical, AWWSC directly charged costs to TAWC. In 2006, AWWSC direct billed charges increased to 23% of the total charges.

There was a recent trend toward increasing the level of direct charges to TAWC. Additionally, the allocation methodology reflects the effective application of cost causation principles within the AWWSC cost distribution process. As a result of these analyses, we believe the processes used to allocate AWWSC costs to TAWC were reasonable and yielded outcomes that were appropriate.

Based upon our experience, we would have expected to see the use of multiple allocation factors to directly link the incurred services to the allocated charges. However, based upon our review, including a comparison of the allocation methods of other utilities that use a centralized service company model to those that TAWC and AWWSC employ, we concluded that the method used to allocate AWWSC costs to TAWC was reasonable. The customer based allocation method simplifies the data requirement for charges and has been approved in all jurisdictions. Additionally, we have found that the customer allocation metric has been upheld for water utilities in other jurisdictions. Furthermore there would be limited impact through the use of a complex multifactor allocation process, and, in fact, would likely increase AWWSC costs due to the additional administrative cost to maintain multiple allocation factors.

## 7. BUDGET AND CONTROL

Our assessment included a review of the AWWSC budget process to determine whether the structure and execution of that process served as an effective means of controlling AWWSC O&M costs. To conduct our assessment, we reviewed (a) the planning process to understand how overall targets are established; (b) the budgeting process to assess its effectiveness in justifying and limiting planned costs; (c) the involvement of the various business units in the budgeting process to assess the nature and extent of the interface between AWWSC and its internal customers; and (d) cost control mechanisms to determine whether costs are properly managed.

Our review focused on how an operating company interfaced with AWWSC throughout the budget and cost control process. Of particular relevance to our analysis were the mechanisms by which an operating company monitors and manages AWWSC billings.

With respect to planning, the framework and overall direction of an operating company are established in conjunction with regular planning exercises undertaken on behalf of the enterprise as a whole. These include strategic and long-range planning, financial planning, and business planning. Such planning not only exerts pressure on each business unit to improve efficiency, but also serves as a discipline to management to ensure that capital is allocated appropriately and effectively.

Utilizing the plans developed on a strategic, financial, and business basis, the functions, in conjunction with AWWSC, develop detailed annual budgets. Concurrently, AWWSC works in an iterative and interactive process with operating companies to provide and obtain input for development of the AWWSC budget. Each AWWSC function works with the operating companies, to understand their needs and priorities.

This process also provides each operating company the opportunity to review and challenge proposed AWWSC budget amounts that relate to activities performed by AWWSC that are ultimately directly charged or allocated to a particular operating company. The budget development process is the primary mechanism by which an operating company is able to challenge service company costs. Several built-in, front-end features of the process – such as formal dialogues and project specific reviews – allow operating companies to have visibility into AWWSC costs and to influence the level of costs budgeted. Once the initial budget is approved by Corporate Finance, it is then sent on to the Board of Directors for senior management review and approval. The Presidents of the operating companies, including John Watson, President of TAWC, are

members of the AWWSC Board of Directors on a rotating basis, providing an additional opportunity to assess the budget and its drivers.

AWWSC has established several mechanisms to provide operating companies with oversight of AWWSC cost levels. One such mechanism is the various Service Level Agreements, which set forth detailed descriptions of AWWSC services to be provided to operating companies, as well as the basis for any cost allocation. This process ensures that performance expectations are clearly defined and operating companies can measure the service levels against agreed-upon expectations.

Another oversight mechanism was formal management processes that are in place to track performance against the budget. AWWSC management reviewed performance monthly, which involved reviewing actual performance at the line-item level against the budget for each entity. Senior leadership of operating companies was actively engaged in monitoring costs in an effort to assure that functions were performed in an efficient and cost-effective manner. For example, a monthly bill from AWWSC is received for the actual services delivered to an operating company for the month. These reports provide a budget vs. actual comparison which permit the operating company's management to drill down into the back-up data if it needs to do so to question the variance. Utilizing this information, management demonstrated accountability and ensures that the service company charges are actually being delivered, were needed, and provided budget appropriate value to operating company customers.

American Water follows the CIMC process, as well as uses the national Commercial Development Process (CDP) for all major Fixed Asset investment, Material Contracts, Financial Investments, Joint Ventures and Consultancy Contracts. All projects developed by the respective departments are subject to evaluation using the National Commercial Development Process. All projects require CDP approval at the departmental level using the standard National CDP guidelines. To proceed beyond this review level, sign-off must be attained by several departmental representatives referred to as the Business Unit Management Committee. The management committee includes operating company Presidents.

## **CONCLUSION**

Rigorous budgeting and cost control processes support management's objectives to control costs. In addition, these process elements were being regularly executed throughout the business. The budgeting process provides adequate opportunities for an operating company to influence the extent to which costs are incurred on its behalf, demonstrating that it is not a "price taker" as AWWSC services and costs are established. Finally, an ongoing cost control process is in place that allows for monitoring throughout the year to ensure that expenditures

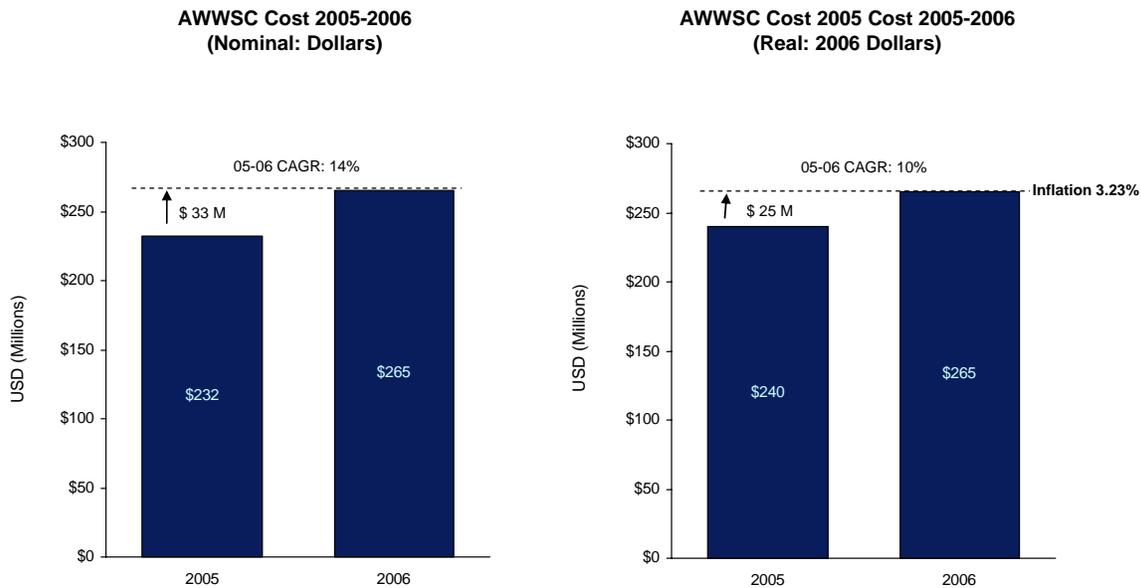
are consistent with the budget and variances are discussed and challenged as appropriate. For these reasons, the budget and control processes were effective in ensuring that AWWSC charges were appropriately and efficiently incurred.

### 8. COST TRENDS

To understand TAWC costs and their relationship with AWWSC, we performed analyses to determine the business drivers that impacted AWWSC as a whole between 2005 and 2006 with respect to the type of cost that were incurred, and consequently, how costs were charged. In conducting this assessment, we analyzed the drivers of cost trends of AWWSC. This section discusses the methodology used to analyze AWWSC costs trends and the results of the analysis.

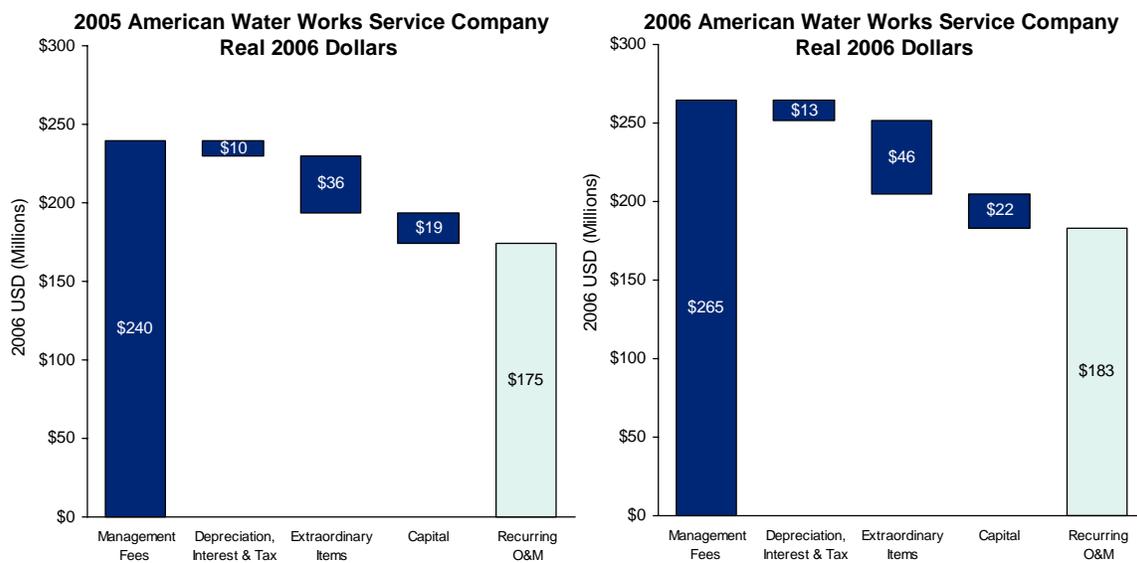
AWWSC billed \$265 million in 2006 and \$232 million in 2005 for services provided to operating companies. These services are categorized into 14 functions, including Administration, Customer Service, Finance, Information Systems, Operations, Accounting, Human Resources, Engineering, Water Quality, Legal, Communications, Rates & Revenue, Risk Management, and Audit. A detailed review of the services is provided in Section 3 of this report. To understand the determinants of the increase, AWWSC billed cost must be inflation adjusted. An inflation rate of 3.23% from 2005 to 2006 was calculated using a standard CPI inflation calculation. Hence AWWSC real cost in 2005 inflation adjusted is \$240 million. The growth in 2006 AWWSC billings from 2005 represent a real increase of \$25 million in 2006 dollars (\$2006), i.e., inflation adjusted growth of 10%.

**Figure 8-1**  
**AWWSC Cost Trend (2005 - 2006)**



AWWSC incurred approximately \$183 million in recurring O&M in 2006 and \$175 million (2006\$) in 2005. Recurring O&M provides a perspective on the actual cost required to perform services. As a result of the business structure defined by management, recurring O&M provides insight on the ongoing cost to do business. To calculate recurring O&M, AWWSC total costs were adjusted to exclude depreciation, interest, tax, capital and one time extraordinary items. Total excluded items equal \$82 million and \$65 million in 2006 and 2005 respectively. These excluded items were primarily attributable to extraordinary items.

**Figure 8-2  
 Recurring O&M by Year**



Note: Capital excludes capital cost associated with Extraordinary Items, Depreciation, Interest and Tax .  
 Source: AWWSC, Booz Allen Hamilton analysis

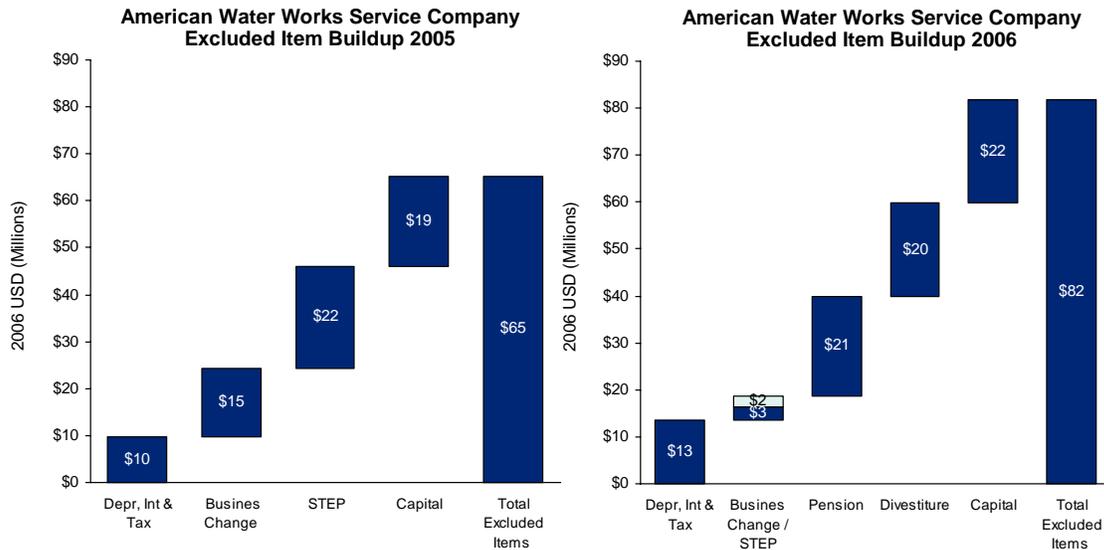
The recurring O&M costs above are subject to further analysis throughout the remainder of this report; however, a brief description of the excluded extraordinary items is warranted:

- Business Change (BC)** was a formal initiative of AWWSC during the period 2003 to 2006, including numerous different programs. The goal of the Business Change initiative was to re-engineer business processes and systems, change the culture of the business, and create a business environment that embraced change. The objective was to deliver sustainable service and efficiency benefits for customers and other key stakeholders of the business over the long term. There were a number of initiatives which took place as part of the Business Change program. The more significant initiatives were Ideas into Action, Procurement (which became Supply Chain, a regular AWWSC activity), License to Manage, Business Process Blueprinting, Energy Management Strategy, and the

- Diversity Recognition program. In 2005, \$15M costs were incurred and \$3M in 2006.
- A number of BC initiatives are continuing as part of several AWWSC groups, namely Innovation & Environmental Stewardship, Best Operating Practices, Supply Chain, and in the ITS function.
  - **Pension** extraordinary cost occurred due to the AWWSC transition from ERISA to FAS 87 pension recording. In Dec 2006, a \$21M charge was billed to the operating companies. Prior to this charge, the subsidiaries had recorded a payable on their books for pension costs billed from AWWSC. As most operating companies were moving to, or already being regulated on a FAS 87 basis, it was determined that instead of billing the subsidiaries on an accrual basis, AWWSC would bill the receivable in 12/06. Because the subsidiaries had payables on their books, this charge resulted in virtually no expense to the subsidiaries as they credited cash and debited the payable, while AWWSC debited cash and credited the receivables.
  - **Divestiture** extraordinary costs included efforts performed in preparation for divestiture. Significant effort began in 2006 regarding the American Water's return to a publicly traded entity, primarily in the area of SOX compliance. The consulting firm Ernst and Young was contracted to assist American Water in identifying and resolving any control weakness in its financial reporting processes. Those efforts were intensified throughout 2007. In addition to being SOX compliant, a return to a publicly traded company required regulatory approvals from 13 of the States in which American Water operated regulated subsidiaries. Significant effort was under-taken, primarily in-house, to obtain the approvals in each jurisdiction. By the end of the third quarter 2007, all approvals had been received. In 2006, \$20M in divestiture costs were incurred. Divestiture related extraordinary costs were not billed to regulated water operating companies during this period.
  - **The Standardized Technology Enabled Processes (STEP)** program was designed as a multiyear program to be undertaken by American Water to improve the delivery of service to its customers. STEP featured a series of technology-based programs designed to leverage the capabilities of today's technology to streamline business processes and to enable employees to better serve customers and, in some instances, to allow customers to serve themselves more efficiently and effectively. Fundamental to the success of this program was the underlying intention that many of the technologies included in STEP be implemented in a structured fashion, as there were dependencies between certain components of the solutions. As a result of the postponement of the

proposed ERP implementation, several projects that were originally planned have been postponed. Costs of \$22M in 2005 and \$2M in 2006 were incurred for STEP.

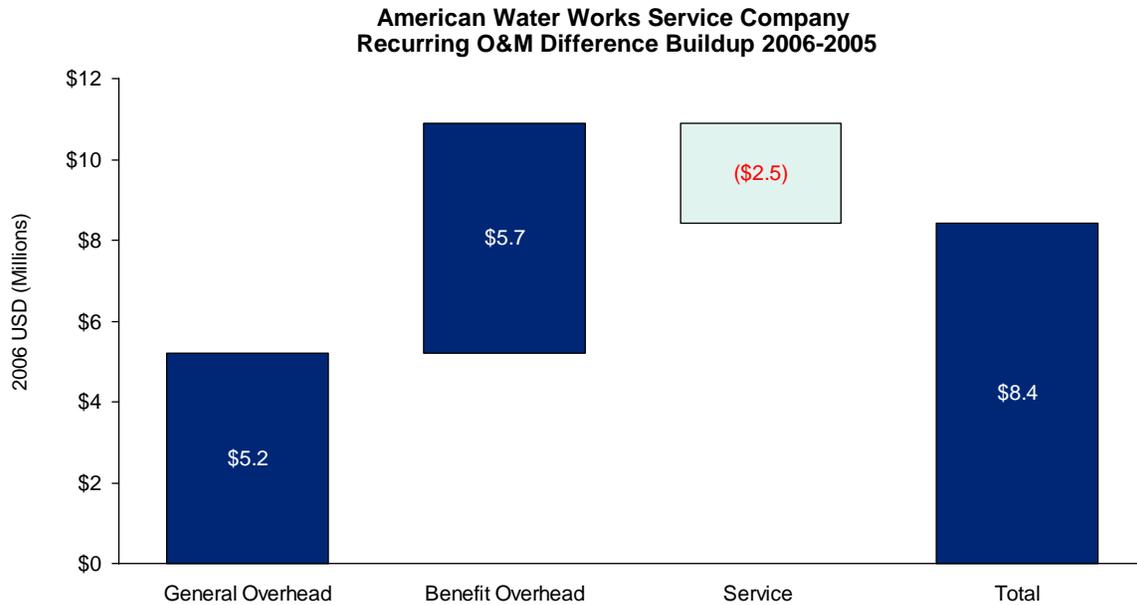
**Figure 8-3  
 Excluded Item Build-Up**



Note: Capital excludes capital cost associated with STEP, Business Change, Depreciation, Interest and Tax.  
 Source: AWWSC, Booz Allen Hamilton analysis

As mentioned, the difference between 2005 and 2006 AWWSC recurring O&M represents a real increase of \$8.4 million, i.e., inflation adjusted growth of 4.8% over 2005. Recurring O&M represents the ongoing cost of the business and is composed of Service, General overhead and Benefit overhead. Service costs are primarily composed of cost associated with labor, incentive pay, and contract services. Benefit overhead includes group insurance, payroll taxes and pension cost. General overhead costs include rent, miscellaneous maintenance cost and labor from administrative support personnel.

**Figure 8-4  
 Recurring O&M Difference 2005 - 2006**



Source: AWWSC, Booz Allen Hamilton analysis

- In 2006, the recurring O&M Service charges decreased by \$2.5 million, a 1.8% decline. Major drivers included:
  - **Labor \$3.8 million:** Over the 2005 – 2006 time period, the total Service Company headcount (system wide) increased by 330. Of these, 191 were attributable to a new Customer Call Center that was opened in Pensacola, FL. The increasing demands of the CSC function, including responding to customer inquiries and concerns, made it necessary to open a second call center location to provide quality customer service. This second site provides business continuity, disaster recovery and improved customer service response times. The CSC also has other benefits such as multilingual operators (along with a contractor, Language Line Services, which can interpret 161 languages, representing approximately 99% of customer requests).

Within Finance, 53 additional employees were added, 16 of which were directly attributable to regions outside of the southeast. In addition, over the two year period, 4 additional employees were added to the Planning group. Also, 7 employees were added to the Corporate income tax group, 4 in reporting and compliance and 2 in investor relations.

Within Human Resources, 9 employees were added over the time period. The primary reason for the increase was the relocation of the Benefits Center from SSC to Corporate.

In researching the drivers of the AWWSC cost increase, our analysis did discover a need for a record detailing the rationale for new positions. The rationale should be based upon required services outlined in the service agreement. The increases were included in the AWWSC budgeting process which was fully reviewed as to its impact on AWW and the operating companies.

- **Incentive Plan Payouts \$1 million:** There has been an increase in the incentive pay based on the long and short term financial performance of American Water. The long term performance payout is based on a 3 year cycle that represents the performance of the company, while the short term is based on annual figures. These payouts are agreed upon based on whether performance targets are met and not atypical in the industry.
- **Contract Services (\$3.3) million:** In 2005, \$820 thousand was incurred for executive search, recruitment and executive management costs not incurred in 2006. Promenix IVR (AP) costs in 2005 were \$516 higher than in 2006. In 2006, there was a reversal of a December 2005 accrual for ITS in the amount of \$1 million causing a \$2 million total difference 2005 – 2006.
- **Other Expenses (\$2.5) million:** In 2005, AWWSC incurred higher costs in accounts which include Other Welf Maint, and P-Card Undistributed accounts. These types of accounts fluctuate with the natural business cycle account expense. Examples include rent paid for one of the Thames Water expatriate employees. The P-Card Undistributed account is used to accrue for the use of the company purchasing card, transactions that have been incurred at the end of an accounting period, but have not been posted to the ledger yet. It is merely a timing or clearing type account.
- **Relocation Expenses (\$1.2) million:** A large portion of the new employees added in 2005 – 2006 were added prior to June of 2005. Since relocation expenses are typically associated with new hires vs. transfers, the wave of new hires in 2005 incurred greater Relocation Expense than in 2006.
- In 2006, the Recurring O&M Benefit overhead increased by \$5.7 million, a 25% increase, to \$29 million.
  - **Pension \$5.3 million:** There has been a fundamental change in AWWSC pension charges in 2006, as a result of the new recording

approach, there was an accounting difference represented within this change.

- **Group Insurance \$1.2 million:** American Water is essentially self-insured for employee medical costs with the exception of a Stop Loss Premium for extreme cases. Blue Cross / Blue Shield administers the program. Rates are set in two ways: 1) An external consultant examines claims experience as well as lends expertise regarding future costs, and 2) American Water makes contributions to a VEBA Trust for active insurance rates, with tax deductions limited to incurred claims. Therefore anticipated claims and the balance in the Trust account can affect costs.
- In 2006, the Recurring O&M General overhead increased by \$5.2 million, a 42% increase to \$18 million.
  - **Miscellaneous maintenance expense \$2.4 million:** A \$2.4 million Misc. Maintenance increase was primarily the result of an increase in software maintenance agreement charges. Maintenance agreements were required for new programs such as Mercury, ITRON, SAP, GLOBAL, and IMAGE.
  - **Rents \$1.6 million:** A \$1.6 million increase in rent can be attributed to 3 new offices. A new call center facility was added in Pensacola, FL. Additional offices were also added to the Woodcrest facility in Cherry Hill, NJ, to accommodate AWWSC employees transferred from Mt Laurel. Additional functional space was also required in the central region due to expanded employee requirements, which did not impact TAWC.
  - **Labor \$0.8 million:** An \$800 thousand increase in labor in general overhead was attributable to an increase in the labor of Admin personnel associated with the increase in service labor.
  - **Insurance \$0.7 million:** A \$700,000 increase in Insurance cost was directly attributable to the exposure (estimated annual payroll and number of vehicles) and average five year loss history. AWWSC loss history was fairly stable in 2005 and 2006; the increase in payroll was the primary reason for the corresponding increase in premium.

The real 4.8% increase in AWWSC cost from 2005 to 2006 suggests that cost control mechanisms in place at AWWSC have been instituted to control spending as business operations have grown. Although total AWWSC costs increased, those increases were driven by normal business changes such as call center expansions resulting in direct service and overhead increases. Prior sections of this report described additional tests Booz Allen performed to understand the design and effectiveness of those cost control mechanisms.

## 9. RELATIVE COST PERFORMANCE

The purpose of this section is to compare AWWSC cost levels to those of their peers. This process is typically referred to as “benchmarking” which is a commonly used method to gain an understanding of one company’s relative performance across a spectrum of relevant metrics, and provides some insight into the reasonableness of costs incurred. One important benchmarking consideration is to ensure that the peer groups selected are, in fact, comparable and that consistent data is used. It is also important to make the comparison to the group along metrics that will provide a true insight into a company’s performance.

Generally speaking, performance at or better than the average can be viewed as good in benchmarking. In the case of a service company, costs which are at or better than average of these peers provide an indication that a company is providing services in a cost effective manner. However, it is not appropriate to expect that all of a company’s costs will be better than average. There can be many extraneous factors that affect a particular company’s costs – geography, operating model, customer density, customer mix, system age, collective bargaining agreements, etc. – that contribute to increased expenses and are not practically surmountable or controllable. Measurement of a company’s performance relative to peers should reflect these factors. Better than average cost or even top quartile performance relative to peers should also reflect the starting position of a company and the relative rate of change or cost trend relative to business changes.

While better than average costs across all functions is a desired goal, it is very difficult to consistently expect such results across all functions within an enterprise. There are many factors in a business that cause functional performance to change or require trade-offs that may preclude consistent cost performance above the peer group average. For example, a company may focus on improving its performance along metrics such as system reliability. In such a case, it may spend more than its peers to obtain improved performance in customer satisfaction metrics. It is also therefore unreasonable, and potentially unwise, to expect a business to perform in the top quartile in cost performance because overall service delivery performance may be greatly affected.

Benchmarking results are also directional, rather than absolute, and do not, in and of themselves, indicate real opportunity for performance improvement, nor do they signify poor performance. Many factors may affect relative comparison and these need to be recognized and understood before conclusions are reached about the comparative results. There can be many explanatory factors that affect any comparisons among companies, some of which may be indigenous to the

situation and beyond management control, and others not readily identifiable, even though legitimate.

Regardless of the issues that often exist in regulatory proceedings around the use of benchmarking data, it still serves a very relevant purpose when assessing cost reasonableness. When used appropriately, it provides additional insight to regulators to aid in understanding how a company is performing relative to its peers.

### **Key Questions**

To initially assess the relative cost performance of AWWSC and TAWC, a number of initial characteristics were defined to guide the analysis. These considerations (expressed as questions) offer a basis for evaluation and are presented below:

- Are relevant costs consistent with those of similar companies?
- How do costs compare with similar companies?
- Are there unique factors that influence cost?

### **Peer Groups**

Our analysis consists of analyzing the AWWSC cost levels against utility service companies that file the FERC Form 60. Based on the limited public water utility service company peer data (2), we structured the peer group analysis to include electric utilities. Electric utilities are appropriate peers since their service companies perform similar services, as seen in **Figure 3-2**, making them comparable. The FERC Form 60 is filed annually by regulated energy utilities and is a reporting requirement by the Securities and Exchange Commission resulting from the Public Utilities Holding Company Act (PUHCA)<sup>4</sup>. This report contains detailed service company functional data during the annual reporting period including information describing cost allocation methodologies and cost distribution. Since the data provided in FERC Form 60 is provided on a non-uniform basis with differing levels of granularity and different levels of aggregation, benchmarking must be performed using aggregate service company O&M data. To gain insight into the relative cost position of AWWSC against other service companies, it is again important not to compare total costs, but rather costs that are calculated on a per-unit basis. Since each company can differ in the type and quantity of services it performs or obtains from its service company, similar per-unit comparison bases were developed to determine if scale differences affect the overall results. While American Water is a water

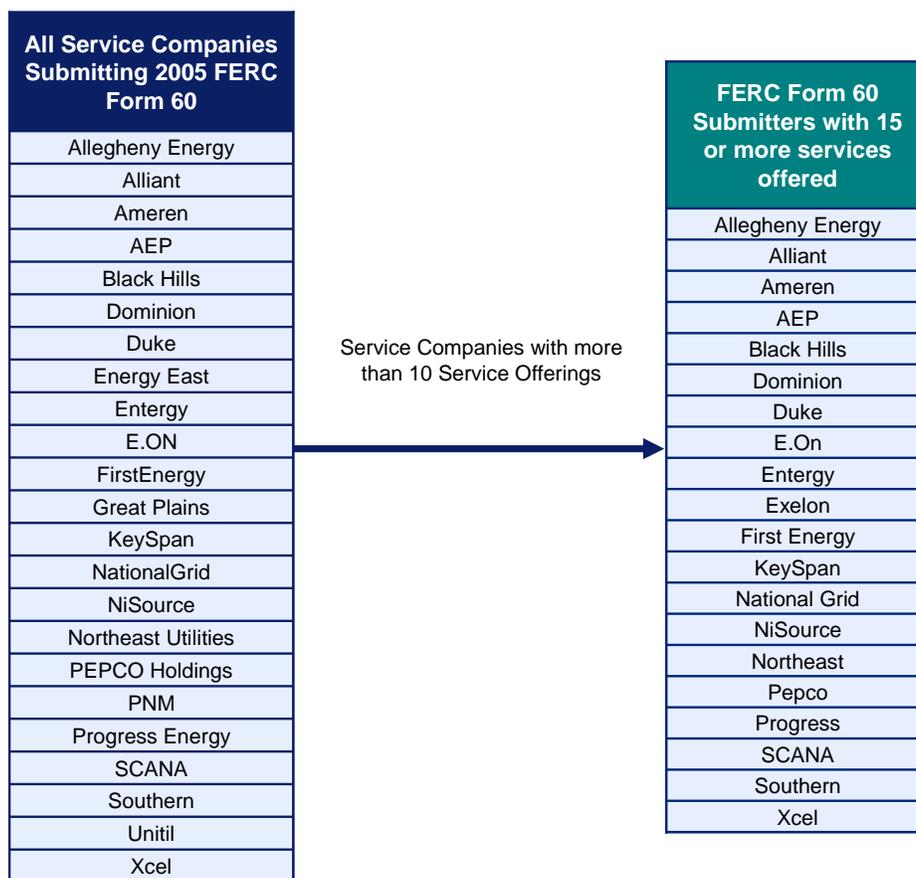
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<sup>4</sup> Recently the Federal Energy Regulatory Commission (FERC) was given reduced jurisdiction previously held by the SEC.

utility and the FERC Form 60 is designed for electric and gas utility service companies, the type of services offered are very similar as seen in **Figure 3-2**, and the cost for such services should be comparable.

We selected a peer group for the Form 60 service company cost analysis as shown in **Figure 9-1**. The peer group chosen was based on the number of services provided by a Service Company so as to use the most comparable group. Since we are analyzing the Form 60 data at an aggregate level as opposed to by function, it is important to use companies with a similar number and type of services. Since the type of services is generally similar among all of the Service companies, the only exclusion that was made was based upon the number of services offered.

**Figure 9-1: Service Company Peer Group**



For the Form 60 analysis, we developed factors to compare O&M cost levels on a per-unit basis or as a change compared to the previous year. All service company O&M costs were included in this analysis for each service company with the exception of uncontrollable or non-comparable costs such as depreciation, interest, and tax (for a full listing of accounts that were removed from the O&M costs used for benchmarking, please see the backup

documentation on benchmarking in Appendix 1). Service company O&M costs were compared against seven different factors – change from 2005, percentage of total company O&M, percentage of revenue, per customer, per total company full-time equivalent (“FTE”), per service company FTE, and percentage of total assets – to reflect a comprehensive basis from which to compare AWWSC cost performance against these peers.

Across the benchmarking analyses, we summarize results as average, above average or below average. Average is defined as being 10% above or below the average cost calculated for the peer group.

**Results of AWWSC Cost Analysis**

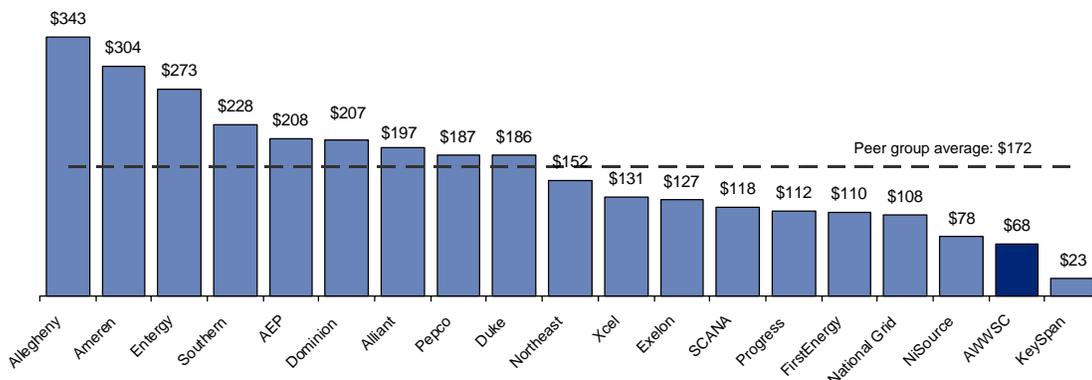
Figure 9-2 summarizes the results of the AWWSC cost comparison. Figure 9-2 shows that for the majority of the metrics evaluated (6 of 7 metrics measured), AWWSC performed at or better than average compared to the service company peers.

**Figure 9-2**  
**Summary of Benchmarking Results using 2006 FERC Form 60 Data**

Benchmark	AWWSC Performance vs. Average
Service Co O&M as percentage of total assets	Below average cost
Service Co O&M as percentage of total company O&M	Below average cost
Service Co O&M as percentage of revenue	Average cost
Service Co O&M per customer	Below average cost
Service Co O&M per total company FTE	Below average cost
Service Co O&M per Service Co FTE	Below average cost
Service Co O&M Expense 2005 to 2006 Change	Above average cost change

As an example of the FERC Form 60 benchmarking analysis, we compared AWWSC O&M expense per customer to the peer group. Service company O&M includes such costs as salaries and wages, outside services, injuries and damages, and rents. Figure 9-3 shows that AWWSC’s benchmark of \$68 per customer compares favorably to the peer group average of \$172.

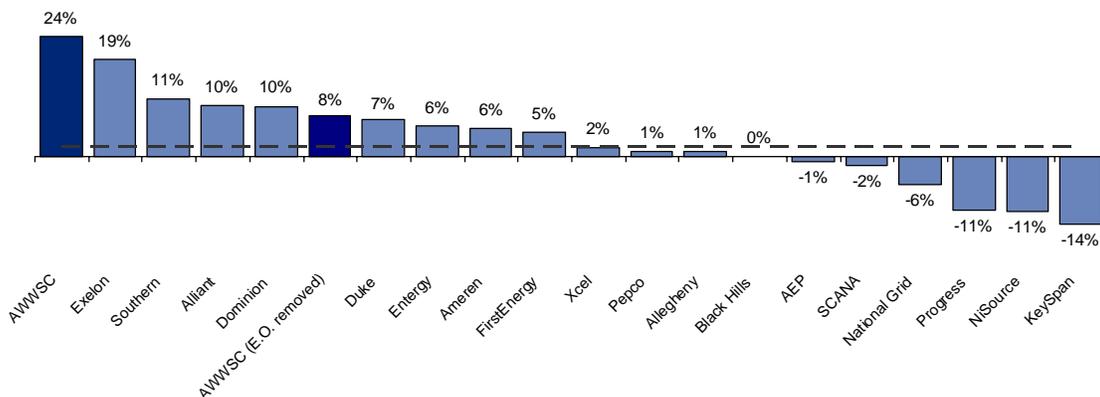
**Figure 9-3**  
**2006 Service Company O&M Expense per Customer**



Source: Energy Velocity data, 2006 FERC Form 60 filings, Booz Allen Hamilton analysis.  
Note: Statistical Outliers removed using the Inner Quartile Range Method

On the one metric that AWWSC performs above average cost change, titled "Service Company O&M Expense 2005 to 2006 Change," if extraordinary items (discussed in Section 8 of this report) are not removed, as they weren't for other service companies, then AWWSC year over year cost increases are 24%. The 24% increase is calculated based on removing all capital expenditures along with depreciation, interest, and tax from total American Water expenses. As previously mentioned, these are costs that can consistently be identified and removed from the set of peer companies and should not be considered in comparing the cost of providing services. If however, extraordinary items are also removed from both 2005 and 2006, then AWWSC year over year nominal costs increases are actually 8%, as shown in **Figure 9-4**. These costs, however, cannot be removed from each peer company because they require detailed insight into the operations of a company that is not available from public data.

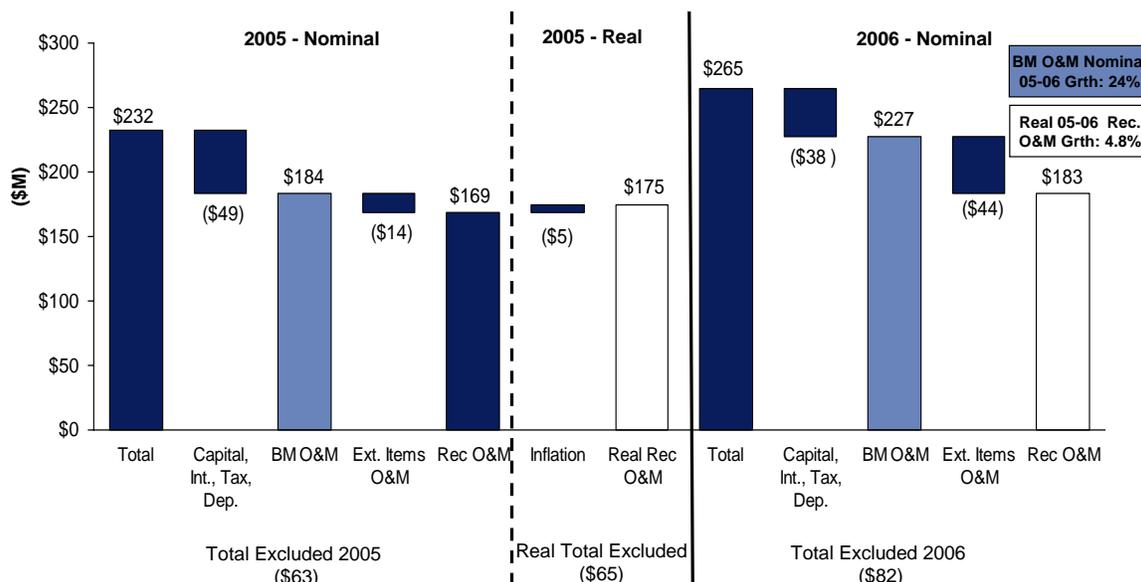
**Figure 9-4**  
**Service Company O&M Expense 2005 to 2006 Change**



Source: 2006 FERC Form 60 filings, Booz Allen Hamilton analysis.  
Note: Statistical Outliers removed using the Inner Quartile Range Method

As explained in the Cost Trends section of this report, year over year real costs increased by 4.8% after adjusting for inflation. The reason that the real recurring O&M year over year change that was calculated in the Cost Trends section was not used in this benchmark was so that the numbers would be comparable to the numbers used in the peer set benchmarking. The difference in the numbers used to calculate the 24% variance used in this benchmark and the 4.8% variance explained in the Cost Trends section is shown below in Figure 9-5.

**Figure 9-5**  
**Service Company O&M Expense Changes**



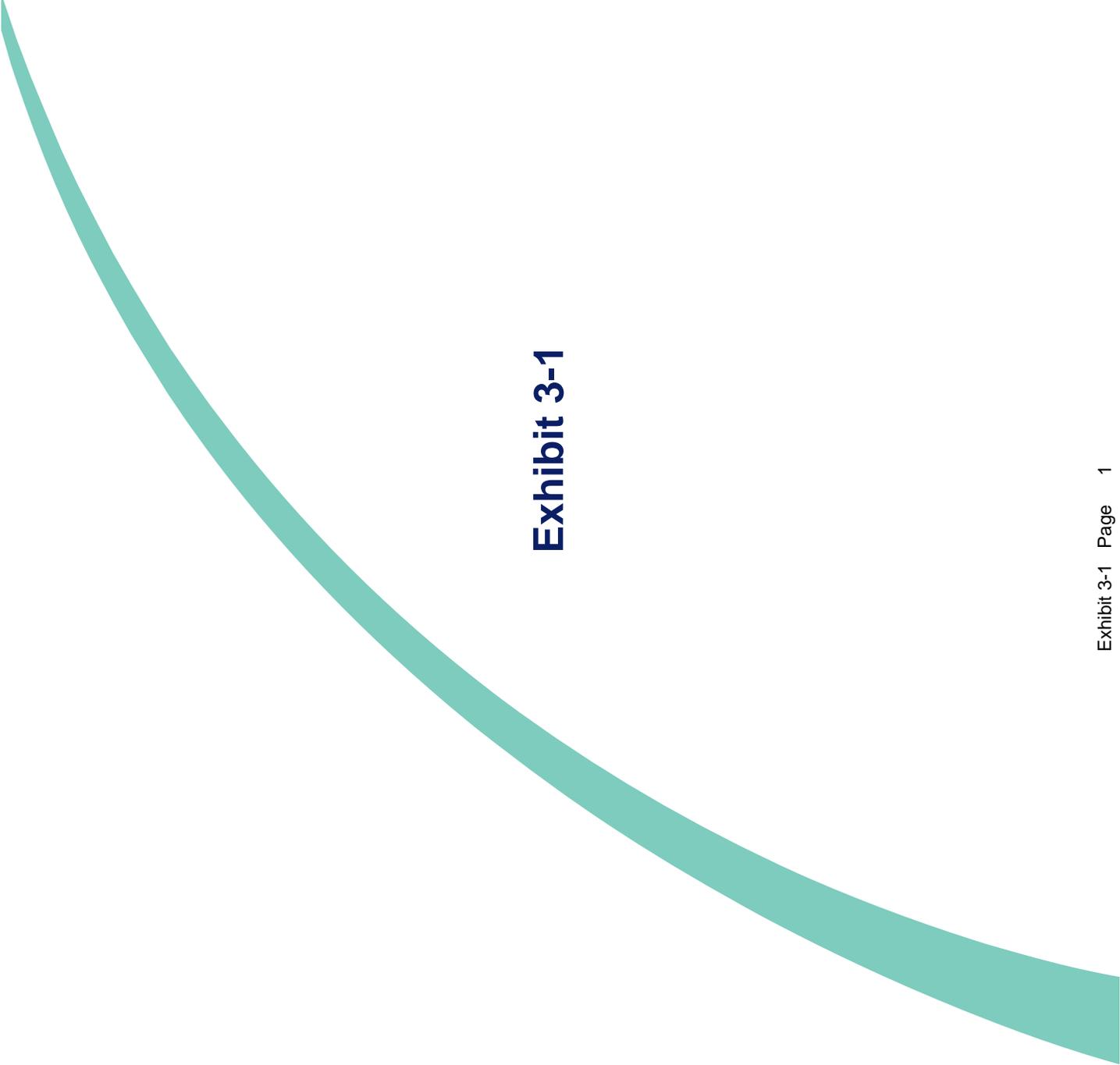
Note: Rec stands for "Recurring"; BM stands for Benchmarking

While AWWSC had a rate of increase that was higher than the average, this benchmark does not account for whether or not the number or the scope of services provided by service companies increased or decreased between 2005 and 2006, which could have a significant effect on costs; the overall costs for the companies for those services may not have changed, but the costs may have been moved out of or into the service company. For a detailed explanation of the cost increases for AWWSC, please see Section 8: Cost Trends.

The full results of the FERC Form 60 benchmarking analysis are included as **Exhibit 9-1**.

## **CONCLUSIONS**

Based on the analyses conducted, AWWSC costs compared favorably to those of the respective peer groups and were at or better than average across most measures. The multiple metrics used to compare the costs provided a comprehensive basis from which to assess relative cost performance. Regardless of the metric selected, AWWSC costs were reasonable when compared to similar peer groups.



**Exhibit 3-1**

## **Exhibit 3-1: AWWSC Activity Summary**

- As mentioned in Section 3 – Organization Overview, Booz Allen identified 75 distinct activities being performed by AWWSC. This exhibit provides a summary of those activities within each function. Please refer to the report for overall conclusions.

# Activities by Function

<b>Accounting</b>	<i>See activities below</i>
<b>Strategic Sourcing</b>	Procures products and services; monitors purchases at operating companies; maintains relationship with vendors
<b>Accounts Payable</b>	Performs invoice processing ; handles p-card issues; handles reconciliations from accounts payable to general ledger
<b>SSC General Accounting</b>	Maintains books and records for all operating companies; performs external financial reporting; prepares annual reports; provides single point of contact to Regional VP of Finance and has responsibility and accountability for quality of financial reporting in a SOX environment; maintains and updates service company allocation modules
<b>Tax</b>	Prepares Gross Receipts Tax, Property Tax, Franchise Tax; performs all tax activities except corporate income tax and payroll related taxes; plans tax strategies for the taxes it is responsible for
<b>Fixed Asset / Job Costing</b>	Accounts for property, plant, and equipment; processes disposal of assets
<b>Employee Services</b>	Performs payroll processing; files payroll related taxes
<b>Supply Chain Management</b>	Evaluates performance, quality, and cost with objective of continuous improvement; performs fleet management and energy management

# Activities by Function

<b>Administration</b>	<b>See activities below</b>
<b>Executive Oversight</b>	Provides overall executive oversight and leadership to all of American Water; provides strategic direction for the entire company
<b>Business Liaisons</b>	Supports SSC and Business Partner Organizations through customer monitoring, performance analysis and training; measures and reports on the performance of the SSC through the application of business performance measurement tools and techniques; manages the budget process to ensure adherence to plan
<b>Project Management</b>	Manages continuous improvement project initiatives and ensures successful project implementation
<b>Regional Business Administration</b>	Pulls all operational information and data together and reports it to the Corporate level; performs operational reporting; reports on the Key Performance Indicators (KPI's); performs benchmarking

<b>Audit</b>	<b>See activities below</b>
<b>Financial Audit</b>	Certifies financial statements of the operating companies; ensures compliance with GAAP, IRS and other requirements; performs SOX testing
<b>Operational Audit</b>	Audits entire business model; audits functional operations; tests different aspects of the business to ensure proper functionality

# Activities by Function

<b>Communications</b>	<p><i>See activities below</i></p>
<b>Government Affairs</b>	<p>Maintains communication with government entities on a national level; sets policy and provides governance for all other government communication at the operating company level</p>
<b>Advertising</b>	<p>Markets the American Water Brand for all of American Water</p>
<b>External Communications</b>	<p>Sets policy, strategy &amp; governance for media relations, customer awareness and communications; handles national level external communications</p>
<b>Internal Communications</b>	<p>Provides communications for the benefit of AW employees such as newsletters, emails, and different talking points for conference calls on topics such as company policies and changes across entire company</p>
<b>Regional Communications</b>	<p>Informs community and state leadership about company plans, news, capital improvement programs and other activities; works closely with local communications specialists for rate case communications; drafts testimony; ensures communications is performed consistently across all states within region; provides counsel to locals; shares overall American Water talking points; approves local external communications and gets further approval from Corporate when necessary; regional internal communications such as biweekly talking points are also provided</p>
<b>Legal</b>	<p><i>See activities below</i></p>
<b>Legal Support, Governance, and General Counsel</b>	<p>Provides legal support to operating companies; provides ethics and compliance policy; assists in larger, more complex lawsuits; sets legal policy; develops standardized contracts for typical contracts</p>
<b>Legal</b>	<p>Performs or coordinates all of the regional legal work (including court claims, real estate, any claims not covered by insurance, lawsuits); acts as supervisor for legal aspects of all local regulatory work; reviews contracts, in particular a lot of contract review for SOX compliance; take minutes for Board Meetings</p>

# Activities by Function

<b>Engineering</b>	<i>See activities below</i>
<b>Project Delivery and Developer Services</b>	Provides governance for, policy for, and oversees all aspects of project delivery; employs standard, best operating practices; developer services provides guidance and performs analysis of systems to determine the ability to serve to see what sort of systems are needed
<b>Capital Administration</b>	Pulls together all capital budgets for all state operations (state operations put together budgets and provide them to regional to manage at a regional level; regional helps operating companies identify and handle problems); provides capital investment management process for multiple state regions; reviews documentation for capital projects from operating companies and then presents them to Corporate
<b>Technical Services</b>	Works on anything that requires higher level of expertise than normal project delivery (example of normal is replacing pipe); looks at overall standards of the company and provides unique expertise on more complicated processes or work (such as large or complex water treatment process); provides work as needed; planning engineers look at the system to understand future needs for budgeting reasons

# Activities by Function

<b>Finance</b>
<b>Planning, Budgeting Forecasting</b>
<b>Internal Controls</b>
<b>Corporate Accounting</b>
<b>Investor Relations</b>
<b>Income Tax</b>
<b>Corporate Social Responsibility</b>
<b>Cash Management</b>

See *activities below*

Analyzes monthly results; provides governance for preparing budgets and forecasts and for the capital spending program; identifies potential spending issues

Advises and assists in the establishment and maintenance of Sarbanes-Oxley compliant systems of internal control in order to ensure proper financial reporting and safeguarding of company assets

Produces accounting governance for the operating companies; puts together accounting policies and white papers; researches and interprets accounting pronouncements and / or dictates of regulatory agencies such as the Financial Accounting Standards Board ("FASB"); creates consolidated financials; accounts for benefit plans

Prepares for requirements of American Water to become a Publicly Traded Company (expected to occur in 2008); communicates strategy and financial highlights of the company to the general public allowing the subsidiaries to lower their cost of equity and cost of debt

Accounts for income taxes and ensures compliance through preparation of income tax returns and payments for operating companies; researches and interprets regulations of the Internal Revenue Service ("IRS") and the various state taxing authorities

Develops programs including green initiatives, diversity, etc; handles community relations on national level

Performs debt administration, funding and assessment; performs check printing for payroll and AP checks and all cash receipts reconciliation; acts as in house bank for all subsidiaries; is responsible for payment of debt and accrual debt; provides short term financing and long term financing with parent; views and analyzes the cash that is coming into bank from main accounts from customers of the subsidiaries and moves cash over to one account for concentration and funding; uses American Water Capital Corp to handle disbursements and receipts; manages physical movement of funds

# Activities by Function

## Finance (cont'd)

See activities below

### Debt Compliance

Ensures long term debt balances out; ensures the debt payments are made in timely manner; acts as trustee

### Capital Markets

Raises capital through American Water Capital Corp (“AWCC”); provides long and short term debt financing to the regulated entities; drafts financing plans for TAWC and secures Corporate and TAWC approval; after IPO, will aggregate all regulated subsidiary financing requirements and enter the capital markets to secure cost effective long-term financing; has AWCC Commercial Paper program utilized to provide cost effective short term liquidity to regulated subsidiaries

### Rates and Regulations

Gets information from regional company on capital budgets, operational items, vacancies, org charts; works with SSC group who gets data from accounting systems; adds pro forma adjustments to data; manages rate case filing; provides testimony in rate cases; hires and manages consultants and outside experts

### Performance, Planning, and Reporting

Prepares capital expenditure budgets; handles requests for new employees; puts budget together and reviews it; performs monthly actual vs. budget variance analysis; coordinates budgets with each operating company by dept and coordinates that with SSC; makes quarterly forecasts and re-forecasts for year; performs performance analysis; reports information for quarterly board meetings; manages journal entries

# Activities by Function

Human Resources	See <i>activities below</i>
Compensation	Formulates job descriptions and pricing and performance metrics; negotiates benefits with unions; designs performance appraisals for merit pay increases and follows guidelines for promotional increases for nonunion employees; has approval control for special management requests
Organization and Talent Development	Develops training and development programs; develops and manages all training programs; conducts only some of the training programs; performs organizational development such as workforce replenishment strategy; performs succession planning; monitors turnover
Labor Relations	Sets labor strategy; designs strategy for union negotiations at local level; works with national unions; performs contract negotiations for nonunion employees; provides assistance in unfair labor practice issues; ensures consistency in treating employees and handling labor relations
Service Company Center Staffing	Performs all recruitment and hiring for the service company staff
HR Systems and Processes	Works with IT to design HR systems; sets policies on such programs like leave programs, diversity programs, etc., and presents them to the board
Benefits Administration	Addresses employee and retiree questions and concerns about benefits; provide administrative services for benefits
Hiring Process Oversight	Maintains applicant tracking system for the SE Region; helps manage, direct, and provide support for HR employees at the operating companies

# Activities by Function

<b>Information Systems</b>
<b>IT Capital Program Management</b>
<b>IT Help and Training</b>
<b>IT Project Management</b>
<b>IT Infrastructure</b>
<b>IT Operations</b>
<b>Business Solutions</b>
<b>Applications</b>
<b>Develop IT Infrastructure</b>
<b>SE ITS Client Relations</b>

See *activities below*

- Places orders, ensures receipt of systems, installs and configures all IT equipment and change orders
- Operates Service Desk that provides telephone support to all computer users of utility subsidiaries and service company employees; provides face to face assistance with IT issues; provides planned training throughout the year for staff as necessary
- Consolidates and orchestrates all project planning and execution activities in a consistent manner; helps the business and IT deliver quality projects; examines processes to ensure projects are delivered on time, budget and per specifications
- Provides secure, highly available, optimized and supportable shared computing, storage and communication; provides telecommunications
- Performs operations and maintenance for all data centers, systems, related equipment and services; handles data base administration; provides server administration and large hardware service
- Provides solutions (such as quality assurance) that meet the information and technology needs of business; standardizes processes across the enterprise
- Handles all software applications across the enterprise including functional applications (business analysis, business reports specialists) and technical applications (developers, webosphere, intranet); develops Business Information Model (BIM) ensures processes and definitions are standardized
- Develops effective architectural infrastructure designs and technologies that deliver standardized, secure, well performing, cost-effective and supportable technology solutions meeting business requirements
- Provides PC Support, works on hardware, network, software for regional operating companies; provides assistance with programming and writing queries

# Activities by Function

<b>Operations</b>	<i>See activities below</i>
<b>Business Development</b>	Develops overall growth strategy by identifying traits to look for in acquisitions and other related growth opportunities; performs acquisition integration; performs overall market research in the water industry
<b>Best Practices</b>	Identifies and develops best practices across the company in all areas of operations
<b>Capital Project Management</b>	Sets up policies and procedures for project approval; reviews exceptionally large projects; provides strategic handling of assets and capital
<b>Regional Production Management</b>	Standardizes practices for Production based upon best operating practices for all of SE Regional Production; provides governance, guidance, and support for all of Production operations in Southeast Region; collects performance data and creates reports for business reporting and regulatory purposes
<b>Network Policy Setting and Administration</b>	Provides standardization of processes such as implementing best operating practices across operating companies ; sets goals for Network operations for all of the operating companies; develops and implements plans to reduce Non Revenue Water; researches for new technologies that will help the operating companies; performed the Service First Project – getting laptop computers into all of the customer service vehicles; ensures regulatory compliance through such things as meter change out programs; reports on the Network on a regional basis
<b>Regional Maintenance Oversight</b>	Provides maintenance oversight; works on developing preventive maintenance; manages SCADA systems and security systems
<b>Client Executive</b>	Identifies and qualifies specific business development opportunities that could help grow the company to reach a company's goals and objectives; develops the opportunities to a preliminary agreement stage; promotes market awareness to facilitate lead development; monitors the general business environment for each of operating companies
<b>Regional Business Developer</b>	Performs due diligence once a viable opportunity is identified and deal structure determined; interfaces with the Client Executive; deals with engineers, operations, water quality and legal staff to get deal to point of formal proposal; develops and coordinates a final implementation plan
<b>Large Project Design</b>	Designs large non-reoccurring capital projects; provides governance for reoccurring projects; manages build of large non-reoccurring capital projects designed by technical services

# Activities by Function

## Rates & Revenue

See *activities below*

### Regulatory Management

Handles broad, national issues, pushing initiatives, and look at other means of recovering expenses; assists with more difficult regulatory situations at the local level; appears on NARUC programs and advocates for regulatory improvements

### Rate Case Support

Puts together rate case work papers; prepares testimony relative to Service Company expenses; loads test rate changes in systems; assists regional rates group with data and analysis needed for rate case; collects historical data for the operating company and service company and performs analysis

## Risk Management

See *activities below*

### Health and Safety

Formulates health and safety strategy; provides governance of workman's compensation claims and accidents, employee safety, training courses, and OSHA

### Physical Security

Sets security policy and strategy (e.g., where badges are used); manages nationwide contract with ADT

### IT Security

Monitors firewalls; ensures user access is properly handled

### Business Continuity

Develops emergency and contingency planning to ensure 24 / 7 reliability

### Loss Control

Implements health and safety plans, provide training; performs building and facility auditing including noise samplings; driver certification; manages local and regional security

### Claims

Handles workers compensation claims; handles and investigates insurance claims and reports them to the carrier (Traveler's Insurance); involved in litigation claims; handles public liability claims

# Activities by Function

<b>Water Quality</b>	<i>See activities below</i>
<b>Research Group</b>	Performs applied research; looks at products and best practices to analyze what would benefit utility
<b>Environmental Management</b>	Stays on top of all national regulations (Clean Water Act, Clean Air Act); fights against unfair regulations; interfaces with Government Orgs; puts together environmental audit program
<b>Water Quality</b>	Performs chemical analysis of water samples for regulated and unregulated chemical compounds as requested by EPA or internal customers; does not do routine water treatment
<b>Regional Environmental Management</b>	Provides regulatory insight for water quality compliance; performs some standardization of processes; designed and implemented Environmental Management Plans (EMP); performs environmental audits; provided some training to the operating companies

# Activities by Function

<b>Customer Service</b>	<i>See activities below</i>
<b>Call Handling</b>	Handles customer care; receives customer calls; initiates service orders
<b>Billing</b>	Generates bills after receiving information from Southeast Region, resolves billing exceptions, handles special accounts, creates standardization throughout billing; runs daily, weekly, monthly integrity reports
<b>Accounts Receivable</b>	Works to reduce and management of AR; maintains relationship with collection agencies; disputes resolution on collection accounts
<b>Customer Relations</b>	Field Resource Coordination Center in charge of receiving work orders from Corporate call center, scheduling available resources to perform the work order, coach and assist Field Tech, improve service quality; Service Support that does back office follow up to work performed by the Field Techs which may assist in the proper closing of the pending work request initiated by the customer; Meter Management creates monthly meter reading schedules and uploads reads and prints into billing system; Meter Exceptions investigates and performs follow up work on meter exceptions; Quality Assurance as a part of SOX reviews new premises being created in the billing system to ensure proper functionality; review incoming payments and open service orders pending for termination of non payment and perform follow up

**Exhibit 4-1**

# Corporate Cost Justification Definitions

## Necessity Attributes

## Definitions

### Corporate Governance

Activities that are necessary to ensure that corporate and portfolio fiduciary responsibilities and enterprise-wide management and operation is effectively executed. Examples include performing shareholder activities, managing cross-business issues, performing risk management activities and evaluating internal controls

### Regulatory Mandate

Activities that are required to fulfill statutory, regulatory and other commitments or mandates. Examples include submitting SEC filings, filing IRS documents and complying with other regulatory requirements

### Legal Compliance

Costs incurred and activities performed as a direct result of legal proceedings, avoidance of legal proceedings, or compliance with legal requirements. Examples include performing litigation activities and responding to discovery requests

### Management Control

Activities performed specifically to provide analysis, decision support data and results to management personnel. Examples include managing projects and reporting results and developing management reports

### Operational Execution

Includes fundamental functions performed on a daily basis. Examples include performing maintenance activities, performing general accounting, and tracking employee information.

### Strategic Planning

Activities that encompass business unit planning and activities directed at providing enterprise-wide direction. Examples include monitoring marketplace activities, performing strategic planning, and providing business planning assistance

# Corporate Cost Justification Definitions

## Benefits Attributes

## Definitions

**Reduce Risk**

Actions designed to reduce liability and mitigate exposure to financial, operational, fiduciary and other types of risk through activities such as implementing safety programs, performing internal audit, and developing policies, procedures and manuals

**Increase Employee Productivity**

Programs that enhance employees' abilities to perform their jobs more productively. Examples include implementing certain automated systems, providing certain types of training, implementing and administering employee health awareness programs, developing procedures, policies and practice manuals, developing employee communications and implementing and administering quality programs

**Provide Management Information**

Activities conducted primarily to provide decision support data and analysis to management personnel. Examples include developing budgets, monitoring operational and financial performance, performing corporate development, conducting strategic assessments and developing integrated information systems

**Enhance Corporate Performance**

Activities performed to enhance the abilities and effectiveness of management with respect to the business, including developing strategic plans, managing the performance review process, maintaining the inter / intranet and conducting benchmarking studies

**Reduce or Avoid Costs**

Activities performed to improve the cost effectiveness of operations. Activities include implementing certain automated systems, negotiating discounts with outside vendors and performing certain credit and collections activities

**Increase Reliability**

Activities performed to increase the reliability of water distribution / production and to minimize the impact of disruptions

# Exhibit 4-1: Necessity Analysis

Activity	Necessity Attributes					
	Corporate Governance	Regulatory Mandate	Legal Compliance	Management Control	Operational Execution	Strategic Planning
<b>Accounting</b>						
Strategic Sourcing					///	
Accounts Payable				///	///	
General Accounting		///	///	///		
Tax		///	///		///	
Fixed Asset / Job Costing		///		///		
Employee Services		///			///	
Supply Chain Management	///			///		///
<b>Administration</b>						
Executive Oversight	///					///
Business Liaisons				///		
Project Management					///	
Regional Business Administration				///		
<b>Audit</b>						
Financial Audit	///	///		///		
Operational Audit				///		

 Indicates underlying activity causation

# Exhibit 4-1: Necessity Analysis

Activity	Necessity Attributes					
	Corporate Governance	Regulatory Mandate	Legal Compliance	Management Control	Operational Execution	Strategic Planning
<b>Communications</b>						
Government Affairs						
Advertising						
External Communications						
Internal Communications						
Regional Communications						
<b>Legal</b>						
Legal Support, Governance, and General Counsel						
Legal						
<b>Engineering</b>						
Project Delivery and Developer Services						
Capital Administration						
Technical Services						

 Indicates underlying activity causation

# Exhibit 4-1: Necessity Analysis

Activity	Necessity Attributes					
	Corporate Governance	Regulatory Mandate	Legal Compliance	Management Control	Operational Execution	Strategic Planning
<b>Finance</b>						
Planning, budgeting forecasting						
Internal Controls						
Corporate Accounting						
Investor Relations						
Income Tax						
Corporate Social Responsibility						
Cash Management						
Debt Compliance						
Capital Markets						
Rates and Regulations						
Performance, Planning, and Reporting						

 Indicates underlying activity causation

# Exhibit 4-1: Necessity Analysis

Activity	Necessity Attributes					
	Corporate Governance	Regulatory Mandate	Legal Compliance	Management Control	Operational Execution	Strategic Planning
<b>Human Resources</b>						
Compensation					///	
Organization and Talent Development	///		///		///	///
Labor Relations	///		///			///
Service Company Center Staffing					///	
HR Systems and Processes	///				///	
Benefits Administration					///	
Hiring Process Oversight	///			///	///	
<b>Information Systems</b>						
IT Capital Program Mgmt					///	
IT Help and Training					///	
IT Project Management					///	
IT Infrastructure					///	
IT Operations					///	
Business Solutions					///	///
Applications					///	
Develop IT Infrastructure						///
Regional IT Support					///	

 Indicates underlying activity causation

# Exhibit 4-1: Necessity Analysis

Activity	Necessity Attributes					
	Corporate Governance	Regulatory Mandate	Legal Compliance	Management Control	Operational Execution	Strategic Planning
<b>Operations</b>						
Business Development	///					///
Best Practices	///				///	///
Capital Project Management	///					///
Regional Production Management	///			///		
Network Policy Setting and Administration	///			///		
Regional Maintenance Oversight	///			///	///	
Client Executive						///
Regional Business Developer						///
Large Project Design					///	
<b>Rates &amp; Revenue</b>						
Regulatory Management		///			///	///
Rate Case Support		///			///	



Indicates underlying activity causation

# Exhibit 4-1: Necessity Analysis

Activity	Necessity Attributes					
	Corporate Governance	Regulatory Mandate	Legal Compliance	Management Control	Operational Execution	Strategic Planning
<b>Risk Management</b>						
Health and Safety	///	///	///			///
Physical Security	///					///
IT Security	///					///
Business Continuity	///					///
Loss Control			///		///	
Claims			///			
<b>Water Quality</b>						
Research Group					///	///
Environmental Management	///		///			///
Water Quality		///	///			
Regional Environmental Management	///				///	
<b>Customer Service</b>						
Call Handling					///	
Billing					///	
Accounts Receivable					///	
Customer Relations				///	///	

 Indicates underlying activity causation

# Exhibit 4-1: Benefits Analysis

Activity	Benefit Attributes					
	Reduce Risk	Increase Employee Productivity	Provide Management Information	Enhance Corporate Performance	Reduce or Avoid Costs	Increase Reliability
<b>Accounting</b>						
Strategic Sourcing	///				///	
Accounts Payable	///				///	
General Accounting	///		///			
Tax					///	
Fixed Asset / Job Costing			///			
Employee Services		///			///	
Supply Chain Management			///	///		///
<b>Administration</b>						
Executive Oversight				///		
Business Liaisons		///		///		
Project Management		///		///		
Regional Business Administration			///	///		
<b>Audit</b>						
Financial Audit	///				///	
Operational Audit	///			///		

 Indicates underlying activity causation

# Exhibit 4-1: Benefits Analysis

Activity	Benefit Attributes					
	Reduce Risk	Increase Employee Productivity	Provide Management Information	Enhance Corporate Performance	Reduce or Avoid Costs	Increase Reliability
<b>Communications</b>						
Government Affairs	///					
Advertising				///		
External Communications	///	///				
Internal Communications		///	///			
Regional Communications	///					
<b>Legal</b>						
Legal Support, Governance, and General Counsel	///			///	///	
Legal	///				///	
<b>Engineering</b>						
Project Delivery and Developer Services		///		///	///	///
Capital Administration			///			
Technical Services	///	///				///

 Indicates underlying activity causation

# Exhibit 4-1: Benefits Analysis

Activity	Benefit Attributes					
	Reduce Risk	Increase Employee Productivity	Provide Management Information	Enhance Corporate Performance	Reduce or Avoid Costs	Increase Reliability
<b>Finance</b>						
Planning, Budgeting Forecasting			///		///	
Internal Controls	///					
Corporate Accounting	///	///			///	
Investor Relations	///			///		
Income Tax					///	
Corporate Social Responsibility				///		
Cash Management		///	///	///	///	
Debt Compliance	///				///	
Capital Markets				///	///	
Rates and Regulations			///	///	///	
Performance, Planning, and Reporting			///	///		

 Indicates underlying activity causation

# Exhibit 4-1: Benefits Analysis

Activity	Benefit Attributes					
	Reduce Risk	Increase Employee Productivity	Provide Management Information	Enhance Corporate Performance	Reduce or Avoid Costs	Increase Reliability
<b>Human Resources</b>						
Compensation		///		///	///	
Organization and Talent Development	///	///		///		
Labor Relations	///			///	///	
Service Company Center Staffing					///	
HR Systems and Processes		///		///		
Benefits Administration		///				
Hiring Process Oversight		///				
<b>Information Systems</b>						
IT Capital Program Mgmt		///				
IT Help and Training		///				///
IT Project Management		///		///		
IT Infrastructure		///			///	
IT Operations		///				///
Business Solutions	///			///		
Applications		///		///		
Develop IT Infrastructure:	///	///				
		///				

 Indicates underlying activity causation

# Exhibit 4-1: Benefits Analysis

Activity	Benefit Attributes					
	Reduce Risk	Increase Employee Productivity	Provide Management Information	Enhance Corporate Performance	Reduce or Avoid Costs	Increase Reliability
<b>Operations</b>						
Business Development						
Best Practices						
Capital Project Management						
Regional Production Management						
Network Policy Setting and Administration						
Regional Maintenance Oversight						
Client Executive						
Regional Business Developer						
Large Project Design						
<b>Rates &amp; Revenue</b>						
Regulatory Management						
Rate Case Support						

 Indicates underlying activity causation

# Exhibit 4-1: Benefits Analysis

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Health and Safety	///	///			///	
Physical Security	///					
IT Security	///					///
Business Continuity	///					///
Loss Control	///					
Claims					///	
<b>Water Quality</b>						
Research Group		///		///		///
Environmental Management	///			///		
Water Quality	///		///			
Regional Environmental Management	///	///		///		
<b>Customer Service</b>						
Call Handling		///				
Billing		///	///			
Accounts Receivable					///	
Customer Relations		///				///

 Indicates underlying activity causation

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## Exhibit 9-1

## Data Sources and Calculations

Data Field	Source	Calculation
Service Company O&M	FERC Form 60 Schedule XV, Line 30	N/A – Raw Data
Service Company Adjusted O&M	FERC Form 60 Schedule XV	Total (Expense) (Line 30) - Adjustments
Adjustments	FERC Form 60 Schedule XV, Lines 403 – 405, 408 – 411.5, 419, 427, 430, 431, 435	Total of all lines
Parent Co. Revenue	SEC Form 10-K annual report, Consolidated Statement of Operations	N/A – Raw Data
Parent Co. O&M	FERC Form 1 pgs. 320 – 323, Lines 100, 126, 134, 141, 148, 168	Total all of the lines for all operating companies for each given holding company
Retail Customers	FERC Form 1 pgs. 300 – 301, Line 12	Aggregate the customers from each Form 1 for all of the operating companies for each holding company
Service Company Employees	FERC Form 60 Account 920, Line 40	N/A – Raw Data
Parent Co Total Employees	SEC Form 10-K annual report, Item 1, Employees	N/A – Raw Data
Parent Co Assets	SEC Form 10-K annual report, Consolidated Balance Sheets	N/A – Raw Data

## 2006 AWWSC Peer Group

All Service Companies Submitting 2005 FERC Form 60
Allegheny Energy
Alliant
Ameren
AEP
Black Hills
Dominion
Duke
Energy East
Entergy
E.ON
FirstEnergy
Great Plains
KeySpan
NationalGrid
NiSource
Northeast Utilities
PEPCO Holdings
PNM
Progress Energy
SCANA
Southern
Unitil
Xcel

Service Companies with more than 10 Service Offerings

FERC Form 60 Submitters with 15 or more services offered
Allegheny Energy
Alliant
Ameren
AEP
Black Hills
Dominion
Duke
E.On
Entergy
Exelon
First Energy
KeySpan
National Grid
NiSource
Northeast
Pepco
Progress
SCANA
Southern
Xcel

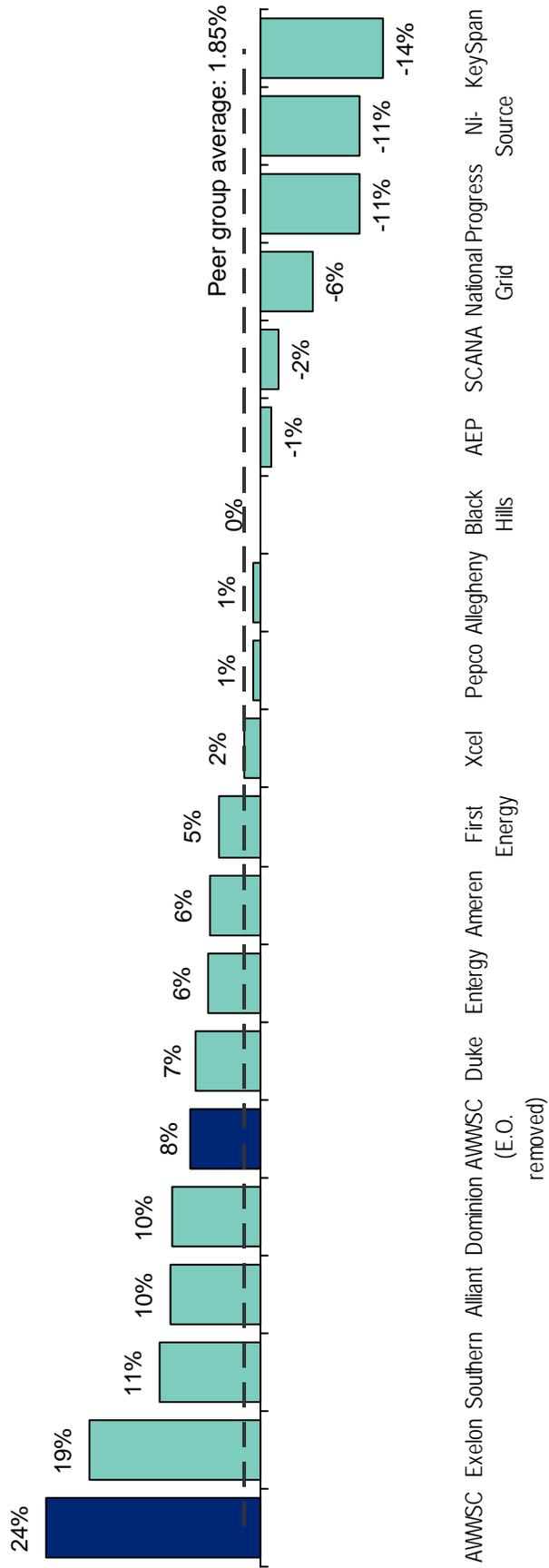
Source: FERC, BAH Analysis.

# Summary of Benchmarking Results using the FERC Form 60 Data for 2006

Benchmark	AWWSC Performance vs. Average
Service Co O&M as percentage of total assets	Below average cost
Service Co O&M as percentage of total company O&M	Below average cost
Service Co O&M as percentage of revenue	Average cost
Service Co O&M per customer	Below average cost
Service Co O&M per total company FTE	Below average cost
Service Co O&M per Service Co FTE	Below average cost
Service Co O&M Expense 2005 to 2006 Change	Above average cost change

# Service Company O&M Cost Trends

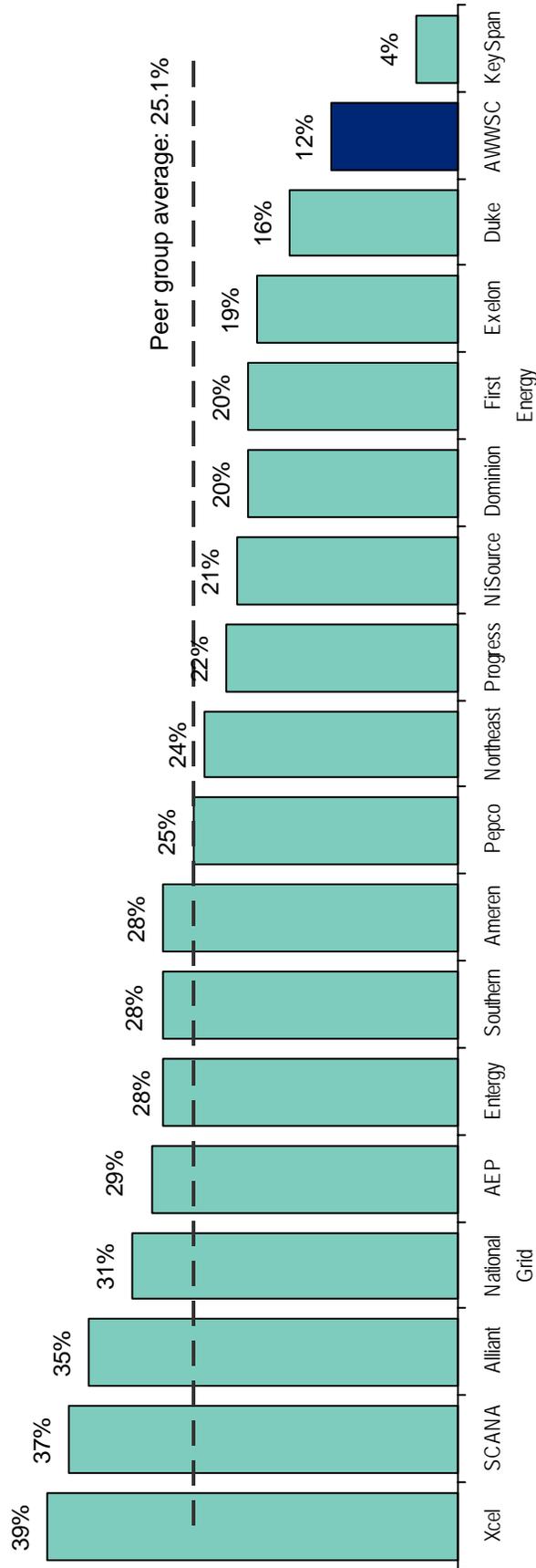
**2006 Service Company O&M Expense 2005 to 2006 Change (%)**



Source: 2006 FERC Form 60 filings, Booz Allen Hamilton analysis.  
 Note: Statistical Outliers removed using the Inner Quartile Range Method

# Service Company Benchmarking – Total Company

**2006 Service Company O&M Expense as a Percentage of Total O&M<sup>1</sup>**



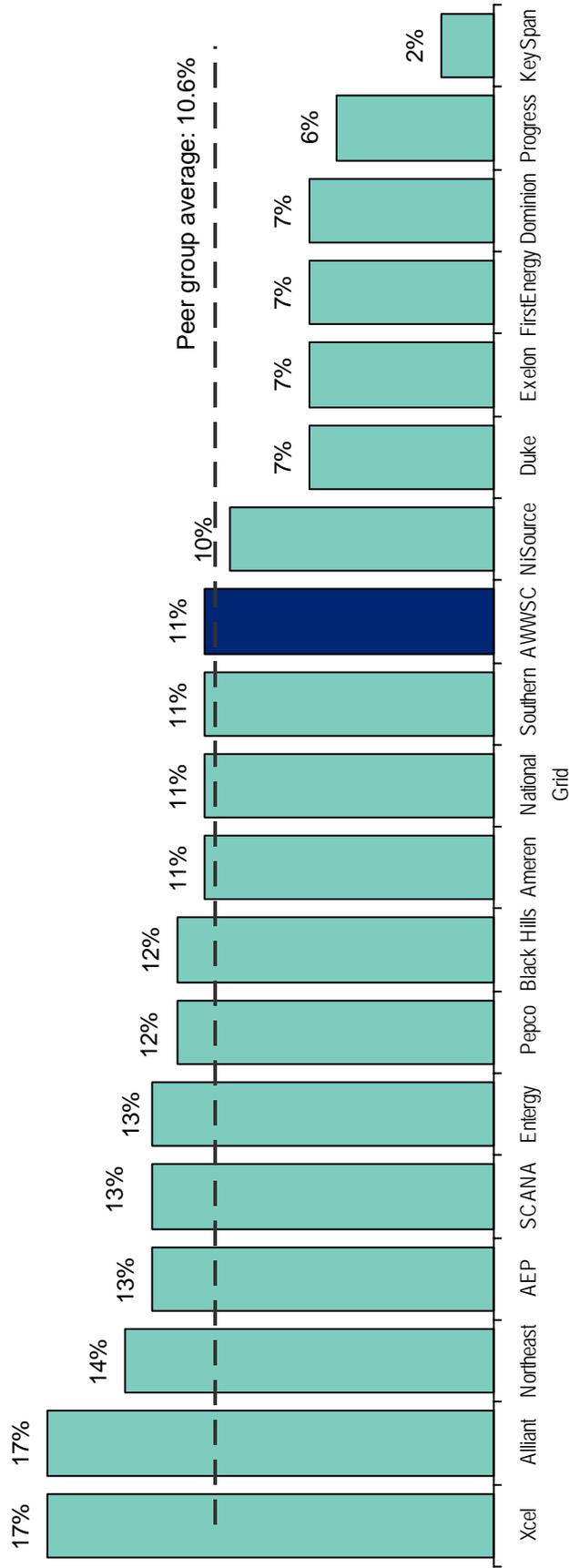
Source: Energy Velocity data, 2006 FERC Form 60 filings, Booz Allen Hamilton analysis.

<sup>1)</sup> Total O&M Excludes Fuel and Purchasing Power for electric and gas utilities.

Note: Statistical Outliers removed using the Inner Quartile Range Method

# Service Company Benchmarking – Revenue

**2006 Service Company O&M Expense as a Percentage of Revenue<sup>(1)</sup>**



Source: Energy Velocity data, 2006 FERC Form 60 filings, 2006 company SEC 10K filings, Booz Allen Hamilton analysis.  
 Note: Statistical Outliers removed using the Inner Quartile Range Method

# Service Company Benchmarking – Customers

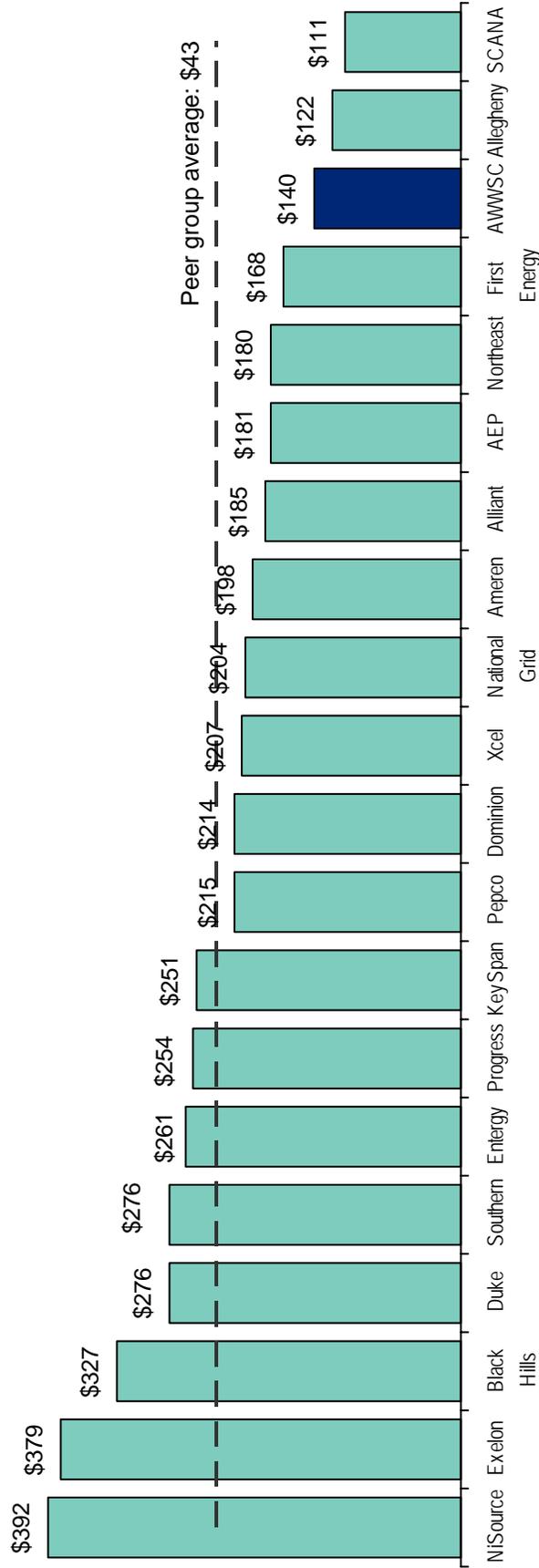
## 2006 Service Company O&M Expense Per Customer



Source: Energy Velocity data, 2006 FERC Form 60 filings, Booz Allen Hamilton analysis.  
 Note: Statistical Outliers removed using the Inner Quartile Range Method

# Service Company Benchmarking – ServCo FTEs

**2006 Service Company O&M Expense Per Service Company FTE (\$000s)**

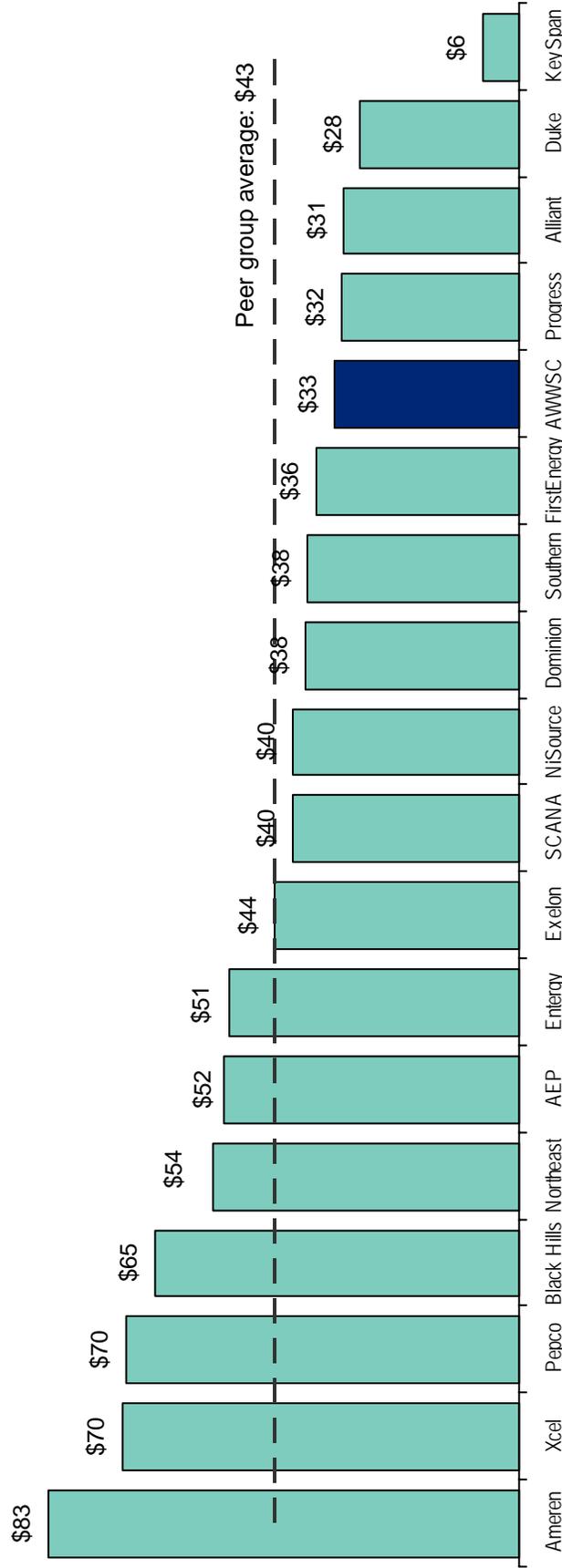


Source: Energy Velocity data, 2006 FERC Form 60 filings, Booz Allen Hamilton analysis.

Note: Statistical Outliers removed using the Inner Quartile Range Method

# Service Company Benchmarking – Total FTEs

**2006 Service Company O&M Expense Per Total Company FTE (\$000s)**

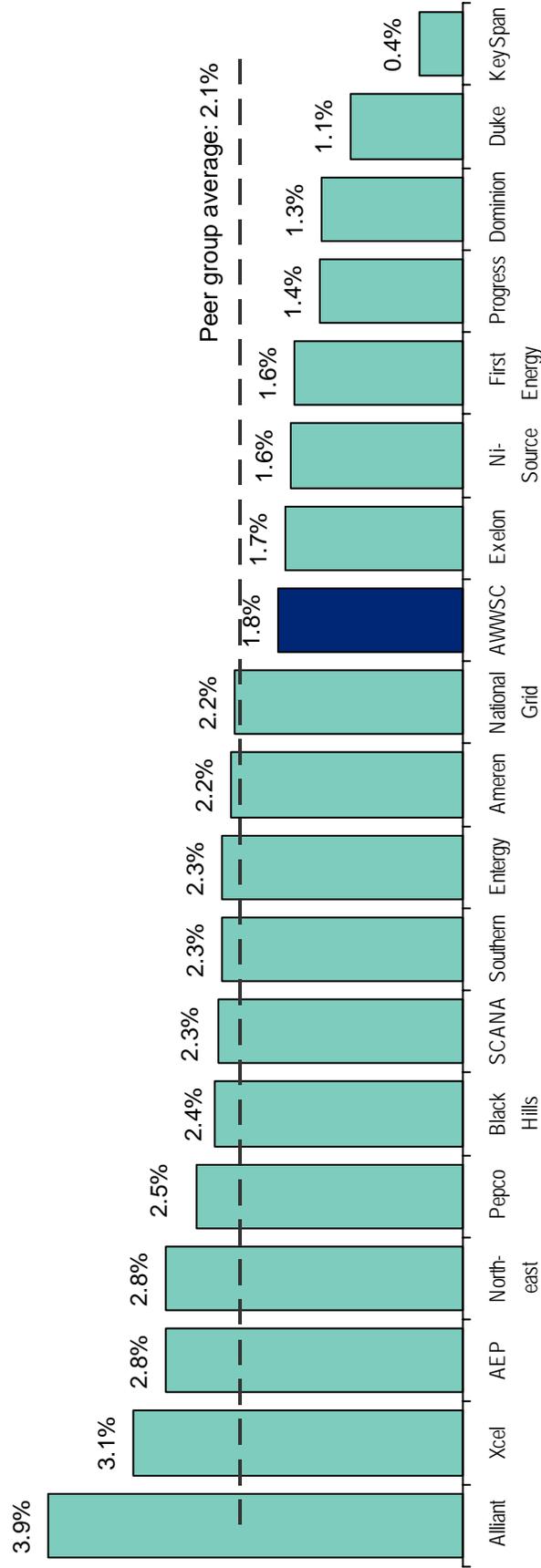


Source: Energy Velocity data, 2006 FERC Form 60 filings, 2006 company SEC 10K filings, Booz Allen Hamilton analysis.

Note: Statistical Outliers removed using the Inner Quartile Range Method

# Service Company Benchmarking – Assets

## 2006 Service Company O&M Expense as a Percentage of Total Assets



Source: Energy Velocity data, 2006 FERC Form 60 filings, 2006 company SEC 10K filings, Booz Allen Hamilton analysis.

Note: Statistical Outliers removed using the Inner Quartile Range Method