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April 26, 2007

VIA HAND-DELIVERY

Chairman Sara Kyle
c/o Sharla Dillon
Tennessee Regulatory Authority
460 James Robertson Parkway
Nashville, Tennessee 37243-0505

Re: Petition Of Tennessee American Water Company To Change And Increase Certain Rates And Charges So As To Permit It To Earn A Fair And Adequate Rate Of Return On Its Property Used And Useful In Furnishing Water Service To Its Customers; Docket No. 06-00290

Dear Chairman Kyle:

Enclosed please find an original and sixteen (16) copies of Tennessee American Water Company's Direct Testimony of A. Joseph Van den Berg.

Please return three copies of the Testimony, which I would appreciate your stamping as "filed," and returning to me by way of our courier.

Should you have any questions concerning any of the enclosed, please do not hesitate to contact me.

With kindest regards, I remain

Yours very truly,



b/p M.S.

R. Dale Grimes

RDG/ms
Enclosures

Chairman Sara Kyle

April 26, 2007

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cc: Hon. Pat Miller (*w/o enclosure*)
Hon. Ron Jones (*w/o enclosure*)
Hon. Eddie Roberson (*w/o enclosure*)
Ms. Darlene Standley, Chief of Utilities Division (*w/o enclosure*)
Richard Collier, Esq. (*w/o enclosure*)
Mr. Jerry Kettles, Chief of Economic Analysis & Policy Division (*w/o enclosure*)
Ms. Pat Murphy (*w/o enclosure*)
Michael A. McMahon, Esq. (*w/enclosure*)
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Vance Broemel, Esq. (*w/enclosure*)
Henry Walker, Esq. (*w/enclosure*)
David Higney, Esq. (*w/enclosure*)
Mr. John Watson (*w/enclosure*)
Mr. Michael A. Miller (*w/enclosure*)

Petitioner's Exhibit AJV

TENNESSEE-AMERICAN WATER COMPANY, INC.

DIRECT TESTIMONY

OF

A. JOSEPH VAN DEN BERG

ON

AMERICAN WATER E-CIS INVESTMENT

SPONSORING

PETITIONER'S EXHIBIT AJV -1

THROUGH

PETITIONER'S EXHIBIT AJV-3

DIRECT TESTIMONY

OF A. JOSEPH VAN DEN BERG

1 **Q. Please state your name and business address.**

2 A. My name is A. Joseph Van den Berg. My business address is 8283
3 Greensboro Drive, McLean, VA 22102.

4 **Q. By whom are you employed and in what capacity?**

5 A. I am a Partner with Booz Allen Hamilton.

6 **Q. Would you please summarize your academic and professional**
7 **background?**

8 A. I hold a Bachelor of Sciences degree in Mechanical Engineering from the
9 Virginia Polytechnic Institute and State University, and a Masters of
10 Business Administration in Finance and Investments from George
11 Washington University. Post graduation, I worked for Potomac Electric
12 Power Company before joining the Edison Electric Institute where, as a
13 Director, I was responsible for regulatory and marketing activities related
14 to the use of energy. In that capacity, I directed activities related to least-
15 cost planning, demand-side management, new technology investments,
16 and environmental externalities. I have made presentations to, and have
17 been active with, the National Association of Regulatory Utility

1 Commissioners. I have testified before the U.S. Department of Energy on
2 a number of matters including energy regulation, energy economies,
3 environmental impacts, and technology communications.

4 At Deloitte Consulting, I directed several engagements focused on
5 developing a customer care and operations strategy resulting in improved
6 cost performance from the bottom quartile to the top quartile. Strategies
7 implemented included standardizing business processes, simplifying
8 governance and work activities, and implementing technology enablers.
9 Additional scope has included leading strategy development for the
10 potential outsourcing of customer care functions. Related roles include
11 scope definition, negotiation preparation and strategy, contract structuring,
12 value proposition determination and business requirements creation. I
13 have also been involved in optimizing processes for retail and delivery
14 segments. Activities have included management of marketing, sales and
15 service technology integration platforms with the appropriate design of
16 business intelligence transfer protocols, cost allocation requirements,
17 process handoffs and interfaces, and roles and responsibilities of
18 marketing and sales functions. I was the Strategy and Operations and
19 Customer Relationship Management ("CRM") Lead Partner for the Energy
20 and Utilities practice within Deloitte. Since joining Booz Allen Hamilton, I
21 have focused my efforts in the customer operations arena, specializing in
22 assisting companies achieve improvements in customer service,
23 performance and costs.

1 In addition, I have participated in numerous other utility consulting
2 engagements in the area of merger and acquisitions, corporate growth,
3 diversification, restructuring, organizational analysis, business process
4 reengineering, strategic planning and strategic marketing. I have been the
5 joint witness for merger applicants in state proceedings.

6 **Q. What is the purpose of your testimony in this rate case?**

7 A. I was engaged to study and evaluate the cost incurred by Tennessee
8 American to implement Orcom System, Inc.'s ("Orcom") Enhanced
9 Customer Information System ("E-CIS") software program.

10 **Q. Please describe the activities you performed that helped enable your**
11 **examination and evaluation of these issues.**

12 A. I was hired by Missouri American and the American Water Works
13 Company, Inc. ("AWW") in July of 2003 to conduct a financial and
14 performance review of the American CSC. Since that time, I have been
15 engaged by other AWW subsidiaries, including Missouri-American and
16 Indiana-American Water Companies, to evaluate customer care costs
17 related to the Orcom E-CIS solution. As part of those evaluations, I toured
18 both the Alton and Pensacola facilities and was exposed to the E-CIS
19 software and American CSC's call center technologies. With respect to
20 my study of Tennessee American's implementation of E-CIS, I have
21 incorporated and relied on information gathered for my previous

1 engagements on the subject of E-CIS, applying that knowledge to
2 Tennessee American.

3 **Q. Are you sponsoring any exhibits discussed in your testimony?**

4 A. Yes. The following Exhibits are referenced in this testimony and included
5 at the end:

6 AJV-1 – Orcom E-CIS Upgrade Cost Distribution by State

7 AJV-2 – Orcom E-CIS Upgrade Costs

8 AJV-3 – Orcom E-CIS Upgrade Costs Over Time

9 **Q. Was all of the work performed and were all of the exhibits prepared**
10 **by you or under your supervision?**

11 A. Yes.

12 **Q. Could you please summarize your testimony?**

13 A. Yes. In my testimony I will first explain the costs incurred upgrading
14 Tennessee American to Orcom E-CIS software, demonstrate that the cost
15 of the upgrade was consistent with the industry as a whole, compare the
16 actual costs of the new systems with a forecast of what the cost to the
17 customers would be had Tennessee American tried to update its existing
18 software and demonstrate the importance of investing in customer
19 information systems.

20 **Orcom E-CIS Software**

1 **Q. What ratemaking treatment associated with the E-CIS software**
2 **implementation is Tennessee American seeking in this case?**

3 A. Tennessee American is seeking to include in original cost rate base \$3.27
4 million associated with the E-CIS project. As shown by Petitioner's Exhibit
5 AJV-1, this is Tennessee American's share of the \$73.7 million cost of the
6 E-CIS project. Petitioner's Exhibit AJV-2 shows the break down of these
7 costs.

8 **Q. Can you respond to why the costs of E-CIS increased from**
9 **\$7,326,422 to its final cost?**

10 A. Yes, I can. First I must clarify the meaning of the 1996 ORCOM
11 Agreement. AWW never expected to be able to upgrade to the Orcom E-
12 CIS for a total cost of \$7,326,422. That figure is not explicitly set forth in
13 the Orcom contract. The Orcom agreement specifies a cost for the Orcom
14 software and billing rates and maximum numbers of service hours that
15 Orcom was willing to commit to the project absent change orders. In no
16 respect did Orcom commit that AWW would be able to complete the
17 installation of E-CIS for a total cost of \$7,326,422 (or any other figure, for
18 that matter). That cost figure would have been an unreasonable estimate
19 that correlates to a cost of \$2.53 per customer for Tennessee American,
20 while the typical cost of a CIS implementation in the utility industry is
21 significantly more, ranging anywhere from \$25 to \$100 per customer. The
22 \$7,326,422 figure represents only the amount that was to be paid to
23 Orcom for the software and the specific set of hours committed and

1 ignores change orders and other external and internal costs to AWW
2 dedicated to the integration. The Orcom contract assumed by its terms
3 that the integration would be accomplished internally with AWW resources.
4 In 1996, Orcom Systems was contracted to provide a CIS system for
5 AWW. The process was initiated with the expectation that AWW would
6 have sufficient resources and technical expertise to assist Orcom in
7 customizing, implementing and integrating the new CIS. Indeed, the
8 contract requires AWW to establish a team of experts for these purposes
9 to work with Orcom. Obviously, AWW's own internal integration costs
10 would not be covered by the Orcom contract. AWW began the investment
11 in 1996 by dedicating an internal team, as stipulated in the original Orcom
12 contract, to work with Orcom on the configuration and implementation of
13 the ECIS. Through 1999, \$16 million had been spent. The project
14 continued under this leadership, but AWW realized it did not have the
15 internal resources or expertise necessary to successfully complete the E-
16 CIS configuration and installation on its own. For the first eight months of
17 2000, the AWW team re-evaluated the need for outside expertise. As can
18 be seen in Petitioner's Exhibit AJV-3, there was a decrease in project-
19 related expenses during this time.

20 **Q. What was the result of the re-evaluation of the E-CIS project?**

21 A. The increase in the investment during the last four months of 2000 and
22 over the next four years resulted from the review of the progress to date,
23 including third party input, and the realization that a more intensive effort

1 would be required to complete the E-CIS implementation. This resulted in
2 a decision that efforts should be coordinated and a resultant request for
3 proposal for integrated services was issued. In 2001, Accenture (formerly
4 Andersen Consulting) was selected to partner with AWW and Orcom to
5 assist in the installation, configuration and testing of ECIS. Over the
6 course of the next few years, their work included development of the
7 application functionality required to standardize the Orcom platforms and
8 providing functional configuration requirements allowing Orcom to support
9 improved business processes (i.e. Orcom reporting requirements.)¹

10 **Q. Did AWW's re-evaluation result in an unreasonable cost for the**
11 **installation of E-CIS?**

12 A. No. In fact, the final project expenses are in line with industry averages.
13 Industry research performed by TMG Consulting² (a firm specializing in
14 assisting utilities in determining the costs of CIS implementations, both
15 insourced and outsourced solutions) demonstrates Tennessee American
16 would have expected to pay as much as \$110 per customer (or almost
17 \$7.7 million) for a full CIS implementation. The first \$30 per customer
18 would be spent on vendors, consultants and integrators for hardware,
19 software and services. Another \$30 per customer would be spent on
20 payroll costs and additional out-of-pocket expenses for items such as
21 overtime pay, bonuses, temporary staffing, project space, training facilities,

¹ Accenture Consulting Services Agreement, June 2001

² UtiliPoint International. White Paper: Effective Project Management Ensures a Positive Return: On-Time and On-Budget Customer Care/CIS Implementation No Longer Just Wishful Thinking, March 23, 2004.

1 etc. required during the implementation phase. Finally, if Tennessee
2 American opted for extended CIS capabilities, such as bill production,
3 change management, and data warehouse, it would have expected to pay
4 \$30 per customer for extended services and \$20 per customer for
5 extended products.

6 Similarly, an article appearing in Public Utilities Reports, Inc. estimated the
7 cost of CIS replacement at an average of \$50 per customer.³ This
8 estimate projects a price of installing a CIS system for Tennessee
9 American at \$3.5 million, based on Tennessee American's 2003 customer
10 base of 70,372. AWW's total expense considering a 2003 customer base
11 of 2.9 million would have been \$145 million, \$3.5 million of which would
12 have been allocated back to Tennessee American.

13 Based on the industry benchmarks, I estimate that the current costs for a
14 CIS implementation for a company the size of Tennessee American and
15 with similar functionality, would exceed \$3.5 million. These estimates are
16 validated by my client experiences, proprietary knowledge of non-clients
17 costs, and internal estimates of proposal-quality costs. Tennessee
18 American implemented its Orcom E-CIS for much less.

19 **Q. What elements make up the total investment in E-CIS?**

³ Dr. Zarko Sumic. North American CIS Market in Transformation Public Utilities Reports, Inc..
May, 2004

1 A. The investment includes Orcom software and implementation expenses,
2 AWW internal labor, overhead and expenses, Professional Fees
3 (Accenture and third party expenses) and allowance for funds used during
4 construction (AFUDC).

5 **Q. When was the investment made?**

6 A. The investment in the E-CIS software and its implementation began in
7 1996 and continued on through 2005, with the majority of the investment
8 being made between 1997 and 2003. Petitioner's Exhibit AJV-3 outlines
9 the investment made by year.

10 **Q. Did you complete an analysis of these project-related expenses?**

11 A. Yes. Documentation of the associated contracts and fees was provided to
12 me and my team by AWW for analysis.

13
14 **Q. Please categorize the costs impacting the total investment and what
15 they represent.**

16 A. Approximately \$5.2 million was spent on the Orcom software and \$18.4
17 million was spent on Orcom services. Professional fees, including fees
18 paid to the system integrator, third party contributors and all related
19 expenses, accounted for \$27.3 million of the total spend. AWW internal
20 labor and expenses contributed \$13.1 million to the total. The remainder
21 of the costs consist of \$6.1 million in AFUDC and \$3.6 million of

miscellaneous expenses. These expenditures are shown by year in the following table:

| | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | Total |
|--------------------------|------|-------|-------|-------|-------|--------|--------|-------|------|---------------|
| AWW | 368 | 1,474 | 1,474 | 1,474 | 2,322 | 2,166 | 2,591 | 1,181 | 67 | 13,118 |
| ORCOM Services | 9 | 1,501 | 3,640 | 1,607 | 1,529 | 4,705 | 4,656 | 485 | 249 | 18,380 |
| ORCOM Software | 261 | 1,044 | 627 | 430 | 767 | 2,025 | - | - | - | 5,155 |
| Professional Fees | - | - | - | - | 1,841 | 10,088 | 10,476 | 4,197 | 725 | 27,328 |
| Miscellaneous | 172 | 615 | 615 | 615 | 605 | - | 611 | 394 | - | 3,626 |
| AFUDC | | | | | | | | | | 6,135 |

Q. How much capital would have been invested for Tennessee American to upgrade the EDIS system?

A. Chartwell's CIS Report⁴ (Chartwell Inc. publishes comprehensive in-depth research reports on management practices and new technologies in the utility industry), which was based on 2003 data, put the average cost for upgrading an existing CIS at between \$22 and \$28 per customer. With a customer base of 70,327 (at the time the decision was being made), it would have cost Tennessee American between \$1.5 million and \$2 million just to upgrade its existing CIS. However, EDIS was in dire need of replacement, not just an overhaul, because an upgrade would not have included the required functionality to provide the standard services needed today.

Q. Would Tennessee American have incurred any capital costs if it continued to use EDIS?

⁴ Dunklin, Philip I. et al. The Chartwell CIS and Customer Care Systems Report 2004. March 2004.

1 A. Yes, in my opinion, it would have been necessary for Tennessee
2 American to upgrade EDIS and thus incur the capital costs associated
3 with an upgrade. Upgrades to software systems are common, and are
4 generally required to enhance functionality, repair programming issues in
5 prior versions, improve reliability, and keep the software up to date with
6 interfacing systems. Additionally, software companies will not support out
7 of date versions. This creates a burden for internal maintenance
8 capabilities and/or additional risk for the user who chooses not to upgrade.

9 **Q. In your opinion, was it reasonable and prudent for Tennessee**
10 **American to acquire E-CIS and incur the cost thereof?**

11 A. Yes. The acquisition of E-CIS was a prudent and required cost of
12 providing an acceptable standard of customer service to the customers of
13 Tennessee American. The cost incurred by Tennessee American was
14 reasonable and consistent with costs incurred by other utilities
15 implementing similar systems, and the cost was much less than the cost
16 of implementing this technology on its own.

17 **Q. What benefits does the ORCOM E-CIS offer over the EDIS software?**

18 A. The E-CIS is more sophisticated, more consistent and more user-friendly.
19 E-CIS is Windows-based and has a Graphical User Interface (GUI) as
20 opposed to the mainframe "green-screen" approach of EDIS. This
21 immediately improved the ease of use since most computer users are
22 more familiar and more comfortable with the Windows operating platform.

1 In addition, being Windows-based allows E-CIS to be compatible with
2 other packages and programs currently in use. For example, E-CIS has
3 numerous pre-populated form letters pre-installed so that an agent can
4 automatically complete and mail specific form letters to the customer.
5 Another benefit is that E-CIS supports enhanced reporting. With the EDIS
6 software, the IT department had to manually build queries to gather
7 information for reports, and none of the information could be gathered in
8 real time. By way of contrast, E-CIS can automatically generate reports in
9 real time using reports already installed in the system. Finally, EDIS was
10 more operator-intense since it performed batch-type processing, one job
11 after another instead of simultaneously.

12 **Q. How does the E-CIS software benefit Tennessee American's**
13 **customers?**

14 A. E-CIS has many more billing capabilities and allows users to personalize
15 the customer's experience. For example, a customer can request the day
16 of the month he/she wants to be billed. If a customer wants an end-of-the-
17 month billing cycle, the customer gets an end-of-the-month billing cycle.
18 With EDIS, the billing date was pre-selected and could not be changed. A
19 second benefit to the customer is that E-CIS allows more time for billing
20 personnel to review bills and correct mistakes before the bills are mailed
21 out. This helps to ensure that the customer receives an accurate bill the
22 first time. A third example of the benefits E-CIS provides to customers is
23 its ability to generate detailed bills. Bills are now itemized by every

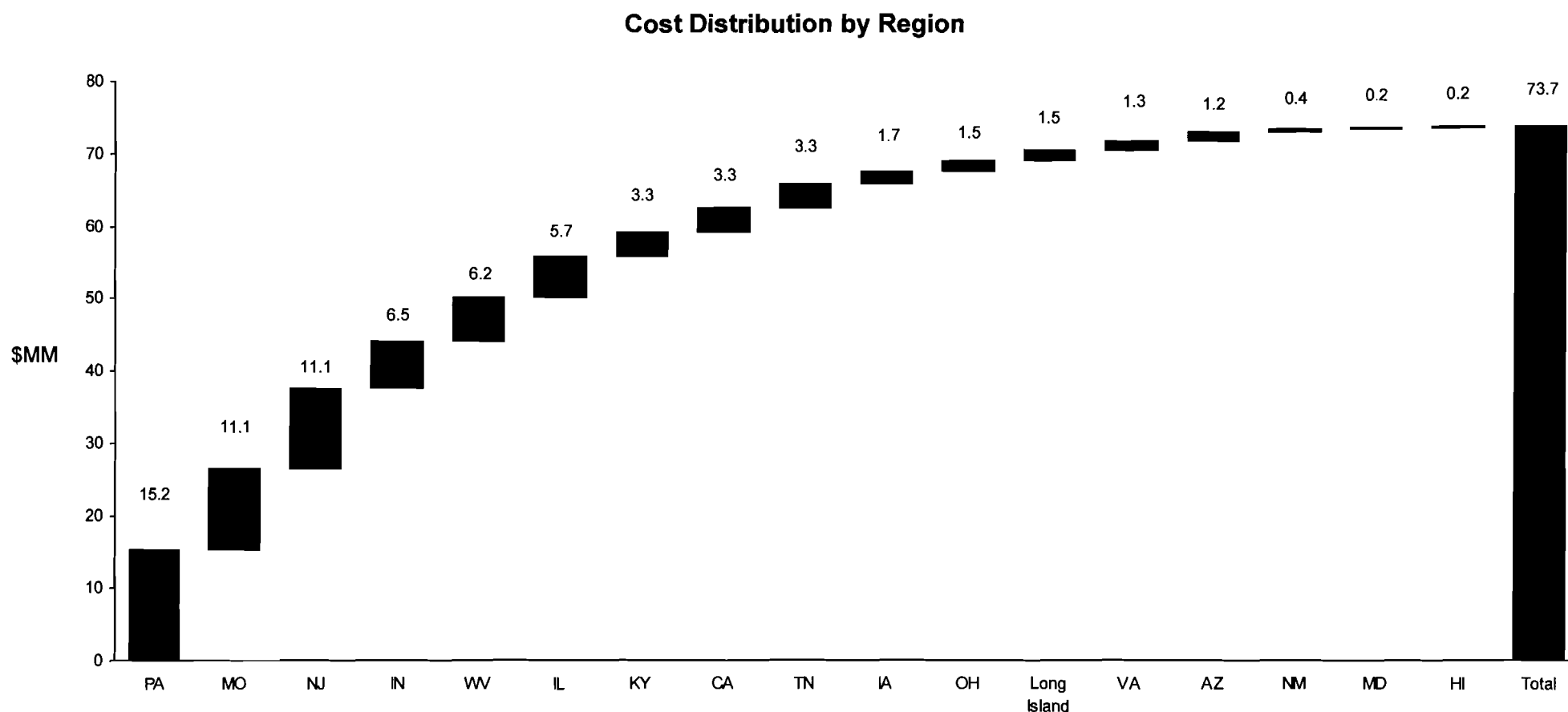
1 component of the total bill amount. Customers can actually see the usage
2 applied against the tiered-rate structure, as well as all the fixed charges
3 individually broken out. EDIS could only display the lump sum bill amount.
4 The E-CIS software makes it easier for the customer to understand his/her
5 bill and will help to reduce the number of bill-related calls that stem from
6 the fact that the customer cannot clearly ascertain how the bill was
7 calculated or where the charges come from. Standardization of E-CIS
8 throughout AWW contributes to more consistent data reporting and
9 understanding of issues which enhances service to customers.

10 **Q. Does this conclude your prepared testimony?**

11 **A.** Yes, it does.

Exhibit AJV – 1

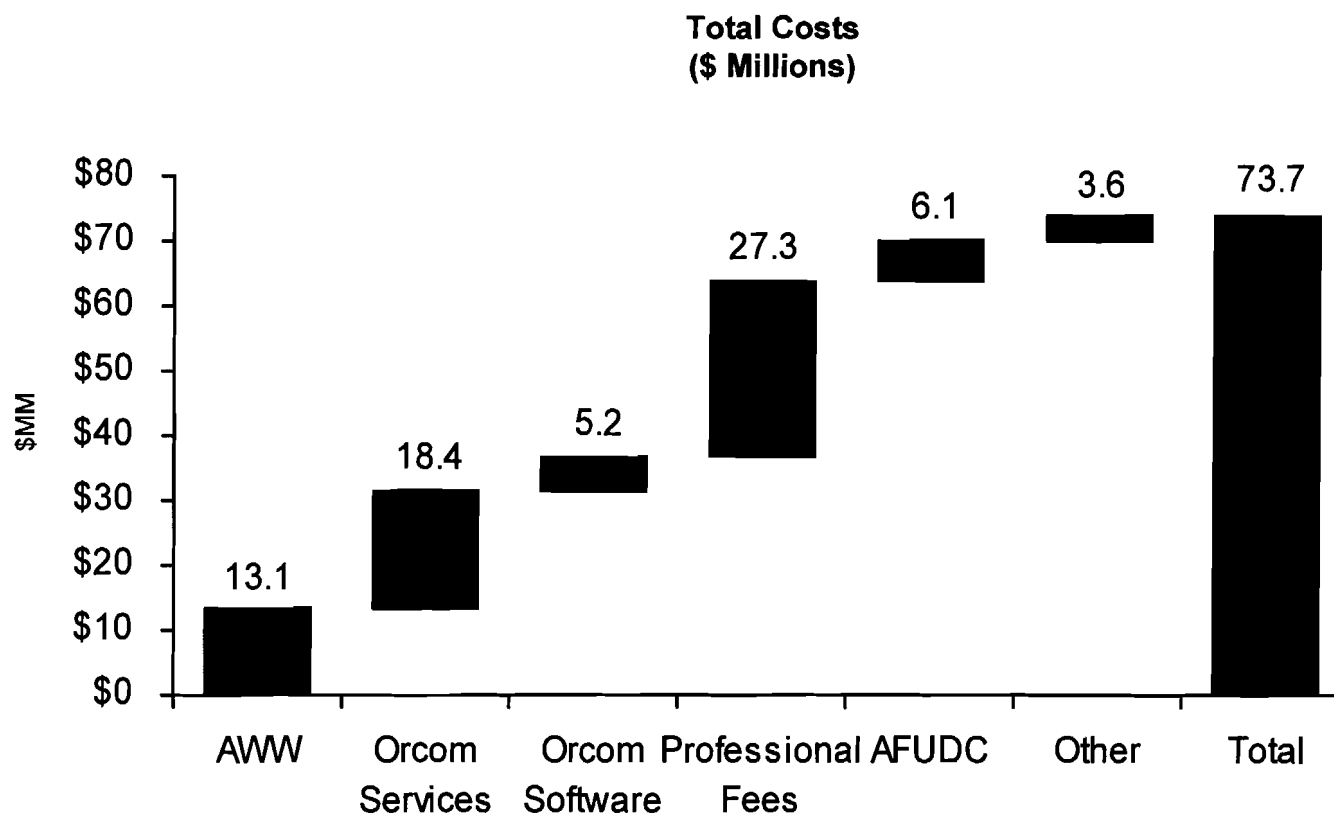
ORCOM E-CIS Upgrade Cost Distribution



Source: American Water "IDT Orcom Charges 2004"

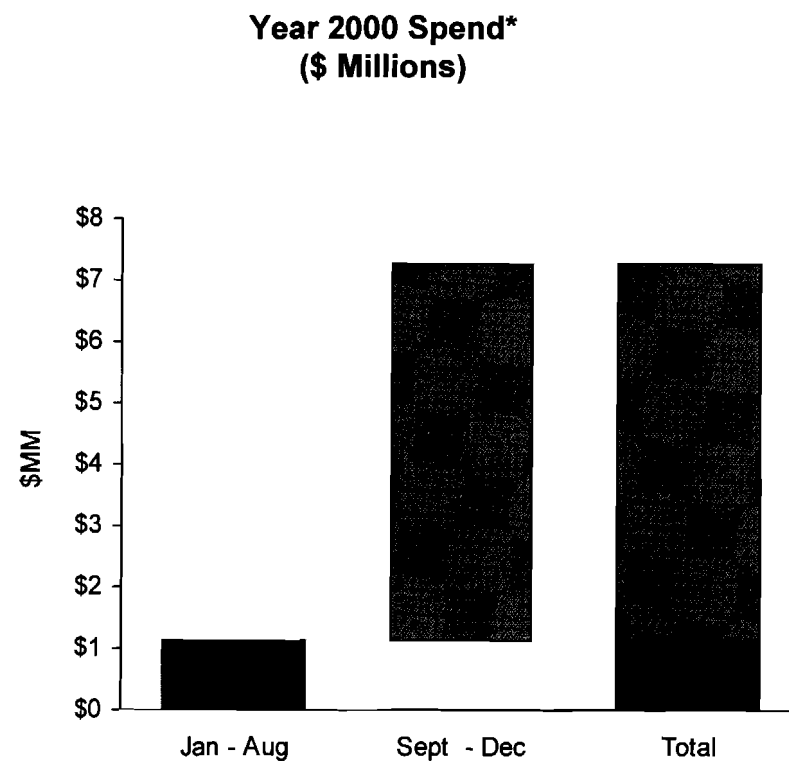
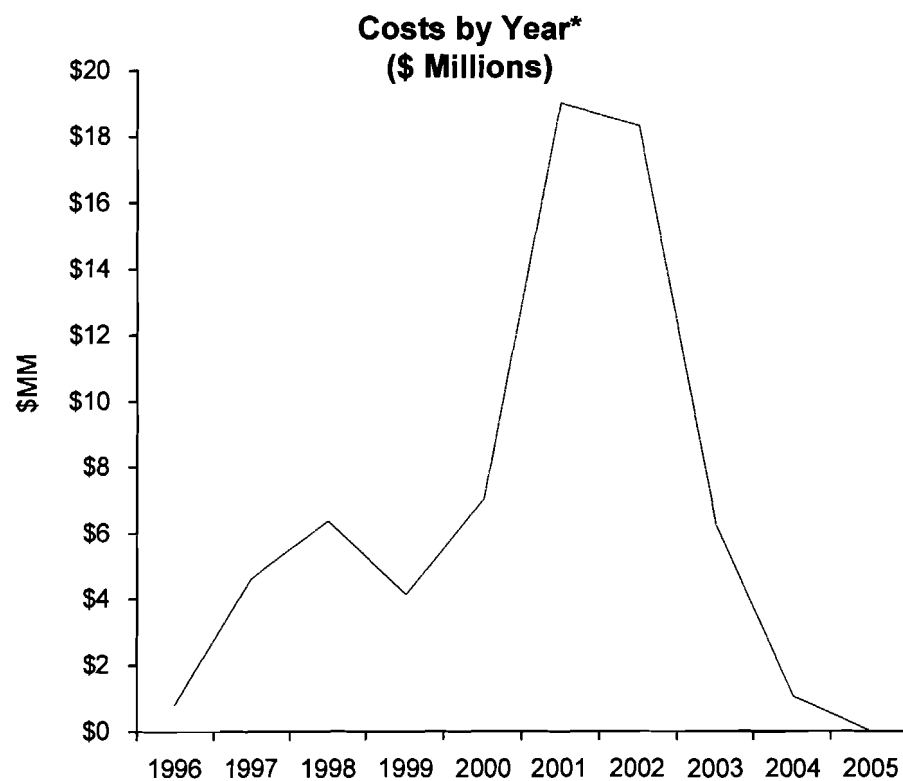
Exhibit AJV - 2

ORCOM E-CIS Upgrade Costs



Source: American Water "ECIS Implementation Details"

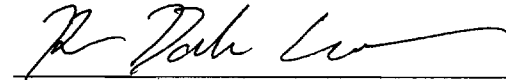
Exhibit AJV - 3 ORCOM E-CIS Upgrade Costs Over Time



Source: American Water "ECIS Implementation Details"

*Excludes AFUDC Expense

Respectfully submitted,

A handwritten signature in black ink, appearing to read "R. Dale Grimes", written over a horizontal line.

b/p M. S.

R. Dale Grimes (#6223)

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Counsel for Petitioner

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing has been served via the method(s) indicated, on this the 26th day of April, 2007, upon the following:

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