PETITIONER'S EXHIBIT GMV-1

TENNESSEE-AMERICAN WATER COMPANY, INC.

CASE NO. _____

DIRECT TESTIMONY

OF

GARY M. VERDOUW

ON

NEED FOR THIS RATE INCREASE,
CAPITAL STRUCTURE AND RISK FACTORS,
BUSINESS TRANSFORMATION,
DISTRIBUTION SYSTEM IMPROVEMENT CHARGE,
PURCHASED POWER AND CHEMICAL CHARGE,
AND PENSION TRACKER

SPONSORING PETITIONER'S EXHIBITS
FS-1-SUMMARY REVENUE REQUIREMENT-GMV,
FS-2-INCOME STATEMENT-GMV,
CS-1-CAPITAL STRUCTURE-GMV,
BT-1-BUSINESS TRANSFORMATION SUMMARY COSTS-GMV,
PPACC-1-PPACC SAMPLE CALCULATION-GMV,
AND
PN-1-PENSION RECOVERY-GMV

DIRECT TESTIMONY
OF
GARY M. VERDOUW

CASE NO. _____

BACKGROUND

Q. Please state your name and business address.

A. My name is Gary M. VerDouw and my business address is 727 Craig Road, Saint Louis, Missouri 63141.

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

A. I am employed by American Water Works Service Company ("Service Company") as the Director of Rates for American Water's seven-state Central Division, which includes Tennessee-American Water Company ("Tennessee American" or the "Company"). The Service Company is a subsidiary of American Water Works Company, Inc. ("American Water") that provides support services to American's subsidiaries, including Tennessee American.

Q. Please summarize your educational and professional qualifications.

A. I graduated from the University of Mary in Bismarck, North Dakota in 1981 with a Bachelor of Science degree in Business Administration. I returned to the University of Mary and completed a second major in Accounting in May of 1988. I have attended the Utility Rate Seminar sponsored by the National Association of Regulatory Utility Commissioners ("NARUC") Water Committee and have participated in various continuing education programs sponsored by my former employers and by the Service Company. I am a member of the American Water Works Association ("AWWA") and I

am also a member of the Indiana Utility Regulatory Commission ("IURC") Water Rate Design Committee.

Q. Please outline your business experience.

A. I began my employment in February of 1981 when I was hired as Reconciliation and Funds Administrator for the North Dakota State Treasurer's Office. In December of 1981, I was hired as a Field Accountant for ANG Coal Gasification Company, which was constructing North America's first commercial scale coal gasification project near Beulah, North Dakota. While employed with ANG, I was hired as the project's first permanent hire for its 80 person Accounting team and promoted to Accounts Payable Supervisor in 1982. I was again promoted to Cash Manager in 1984, where I oversaw daily cash management of over $1.5 billion in secured debt and over $400 million in daily cash balances. In January, 1988, I was hired as Business Manager for Capital Electric Cooperative, Inc. of Bismarck, North Dakota. My responsibilities there included the supervision and oversight of all accounting, finance, billing, budget, insurance, human resources, cash management, rate studies, and other functions for a growing electric distribution cooperative that currently serves over 15,000 consumers. I was employed at Capital Electric until October of 2004, at which time I moved to the Saint Louis area. In February, 2005, I accepted the position of Senior Financial Analyst – Rates and Regulations with the Service Company. I was promoted to Manager of Rates and Regulation in April of 2008, where I was responsible for all rate and regulatory issues for American Water operations in the states of Indiana, Ohio, and Michigan. I was promoted to Director of Rates – Eastern Division in January 2011, where I was responsible for rates and rate issues for the nine regulated subsidiaries that comprised the

Eastern Division of American Water, including Tennessee American. In November of 2011, American Water restructured its divisional alignment, and I was named Director of Rates for the newly created Central Division, where I am responsible for rates and rate issues for the seven regulated subsidiaries that comprise the Central Division of American Water, including Tennessee American.

Q. Have you testified before any regulatory agencies with respect to regulatory matters?

A. Yes. I have testified in numerous regulatory proceedings before the Indiana Utility Regulatory Commission, the Public Utilities Commission of Ohio, and the Illinois Commerce Commission.

SCOPE OF TESTIMONY

Q. What is the purpose of your testimony in this rate proceeding?

A. The purpose of my testimony in this proceeding is to address for the following:

i. the revenue requirement that Tennessee American is requesting in this rate case proceeding;

ii. the Company's Capital Structure, including risk factors specific to Tennessee American that further support the request for the Return on Equity recommendation of Company Witness James Vander Weide;

iii. the development and implementation of a new SAP based software platform to support our core functional areas, including: human resources, finance and accounting, purchasing and inventory management, capital planning, and customer and field services, which will be referred to as Business Transformation, or "BT";

iv. the Company's request in this proceeding to implement an infrastructure replacement recovery program, which will be referred to as a Distribution System Improvement Charge, or "DSIC";

v. the Company's request in this proceeding to implement pass through charges for future changes in purchased power and chemical expenses; and

vi. the Company's request in this proceeding to establish a pension "tracker", which would "balance" current and future pension costs to keep both the Company and its customers whole should pensions costs go up or down.

I will discuss each of these items in further detail in my testimony below.

Q. Please identify the exhibits you are sponsoring and describing in your testimony.

A. I am sponsoring the following exhibits:

- Petitioner's Exhibit FS-1-Summary Revenue Requirement-GMV
  Calculation of Proposed Revenue Increase
- Petitioner's Exhibit FS-2-Income Statement-GMV
  Pro Forma Income Statement
- Petitioner's Exhibit CS-1-Capital Structure-GMV
  Rate of Return Summary
- Petitioner's Exhibit BT-1-Business Transformation Summary Costs-GMV
  Business Transformation Costs
- Petitioner's Exhibit PPACC-1-PPACC Sample Calculation-GMV
  Sample Calculation of Purchased Power and Chemical Charge
- Petitioner's Exhibit PN-1-Pension Recovery-GMV
  Pension Recovery

Q. Were each of Petitioner's Exhibits listed above prepared by you or under your direction and supervision?

A. Yes.

Q. What were the sources of the data used to prepare Petitioner's Exhibits listed above?

A. The data used to prepare these exhibits was acquired from the books of account and business records of Tennessee American, the officers and associates of Tennessee American with knowledge of the facts based on their job responsibilities and activities,

and other sources which I examined in the course of my investigation of the matters addressed in this testimony.

Q. Do you consider this data to be reliable and of a type that is normally used and relied on in your business for such purposes?

A. Yes.

Q. Do Petitioner's Exhibits listed above accurately summarize such data and the results of analysis using such data?

A. Yes, they do.

BACKGROUND INFORMATION ON THIS FILING

Q. Why does Tennessee American see a need to file for an increase in its rates at this time?

A. Tennessee American has had a proud 125 year history of providing safe, reliable drinking water to it consumers. The employees, management, and support staff of Tennessee American take the job of providing safe and reliable drinking water to its customers very seriously. In fact, I believe most of our customers take our product (water) and our obligation to serve (safe, clean drinking water that is always available to them) for granted. Personally, I take that as a compliment to our employees and our commitment to the Chattanooga area when our customers take us for granted. We have very dedicated employees with years and years of experience who take a lot of pride in their work and in the responsibility and obligation to provide safe, clean, reliable water to the area. Having

said that, we operate a business that is the most capital intensive of any regulated utility. The United States Environmental Protection Agency ("EPA") has estimated that the nation's water utilities will need to make more than $355 billion in infrastructure improvements over the next 20 years to replace thousands of miles of pipe and for upgrades to treatment plants, storage tanks, and other assets to protect public health. Ideally, Tennessee American's investment level for infrastructure replacements and rehabilitation should be adequate to keep pace with the anticipated remaining useful life of the distribution system infrastructure. To ensure that we continue to have capital available to accelerate our infrastructure replacement and upgrade, it is important that we are able to recover a fair, equitable, and timely return on our capital investments. The long-term benefits of a better-maintained distribution system are the avoided costs of ever increasing amounts of future main breaks and service interruptions. The magnitude of the infrastructure costs to be deferred to future generations is, in essence, only kicking an ever growing can down the road.

We continually strive to find more efficient and cost effective ways to operate and maintain our business. However, we need to be able to recover the ongoing and prudent expenses that are a part of providing safe and reliable water, in addition to recovering a fair, equitable, and timely return on our investments. That is why Tennessee American has initiated this proceeding and has requested an increase in its rates. The increase that Tennessee American has requested is fully documented in the testimony and exhibits of this proceeding. We look forward to working with the Tennessee Regulatory Authority ("TRA"), the Tennessee Consumer Protection Division of the Office of the Attorney

General (the “Consumer Advocate” or “CAD”), and any other parties that may intervene in these proceedings to resolve this case in the best interests of all parties.

Q. What test year has Tennessee American utilized in this proceeding?

A. The Company has filed this rate proceeding on or around June 1, 2012. Tennessee American has used a historic base test year of the twelve months ended December 31, 2011. From there, this historic test year has been adjusted to reflect known and measurable changes for the period of January 1, 2012 through November 30, 2012, which represents the period from the end of the historic test year through the end of the period where any increases from this proceeding will take effect (December 1, 2012). Then, this period has been further adjusted to reflect known and measurable changes for the twelve months following the implementation of rates. This twelve month period is known as the Attrition Year and represents the period of time from December 1, 2012 through November 30, 2013.

Q. What rate base valuation date has Tennessee American used for purposes of this proceeding?

A. The rate base valuation date the Company has used is a thirteen month average of projected plant and rate base as of the end of the Attrition Year, or as of November 30, 2013. Rate Base balances as of the end of the historic test year dated December 31, 2011 were used as beginning balances for all Rate Base calculations. From there, actual and/or projected changes in Rate Base were reflected through November 30, 2012, and were further adjusted to reflect a thirteen month average of Rate Base changes for the Attrition Year of December 1, 2012 through November 30, 2013.

Q. Does the Company have an exhibit which sets forth the rate base calculation?

A. Yes. Tennessee American's proposed rate base is shown in Schedule RB-1.1 of Petitioner's Exhibit RB-1-Summary-LCB, and is included as part of the testimony of Company Witness Linda C. Bridwell. This exhibit starts with the net original cost of Tennessee American's utility plant in service and other rate base items as of the close of the historic test year (December 31, 2011) and then updates each rate base item to the Company's projected 13 month average (November, 2012 through November, 2013) to bring it to the end of the Company's proposed Attrition Year.

RATE CASE SUMMARY – REVENUE REQUIREMENT

Q. Would you please describe the contents of Schedule FS-1.1 of Petitioner's Exhibit FS-1-Summary Revenue Requirement-GMV?

A. Schedule FS-1.1 of Petitioner's Exhibit FS-1-Summary Revenue Requirement-GMV summarizes the determination of the requested revenue increase for this proceeding on a total company basis. The present rates operating income statement is taken from Schedule FS-2.1 of Petitioner's Exhibit FS-2-Income Statement-GMV, the weighted cost of capital from Schedule CS-1.1 of Petitioner's Exhibit CS-1-Capital Structure-GMV, and the original cost rate base from Schedule RB-1.1 of Petitioner's Exhibit RB-1-Summary-LCB. The Gross Revenue Conversion Factor of 1.720990 is shown on Schedule FS-1.3 of Petitioner's Exhibit FS-1-Summary Revenue Requirement-GMV.

Q. What net operating income ("NOI") is reflected in the Company's proposed rate increase?

A. As shown on Line 38, page 1 of 1 of Schedule FS-1.1 of Petitioner's Exhibit FS-1-Summary Revenue Requirement-GMV, the Company proposes an increase in revenues of $10,586,344 over present rate revenues based upon a proposed NOI of $11,178,007 as shown on Line 26 of the same schedule.

Q. How did the Company calculate the proposed NOI level?

A. The proposed NOI level was derived by multiplying the Company's net rate base of $135,820,256 (as shown on Line 23, page 1 of 1 of Schedule FS-1.1 of Petitioner's Exhibit FS-1-Summary Revenue Requirement-GMV) times the proposed weighted cost of capital of 8.23%, which is shown on Line 24, page 1 of 1 of Schedule CS-1.1 of Petitioner's Exhibit CS-1-Capital Structure-GMV.

CAPITAL STRUCTURE AND OVERALL COST OF CAPITAL

Q. Please describe the company's current capital structure.

A. As shown on Schedule CS-1.1, Page 1 of 4, of Petitioner's Exhibit CS-1-Capital Structure-GMV, the Company's capital structure as of December 31, 2011 is comprised of 0.33% short-term debt, 53.72% long-term debt, 1.19% preferred stock, and 44.76% common equity.

Q. Please explain the term "capital structure" for a public utility.

A. The capital structure contains the dollar amounts of the various funding sources used to finance rate base. Each capital component is expressed as a percentage to total capital. The capital structure is used to compute the overall cost of capital for the utility. That is, the overall cost of capital for a public utility is equal to the sum of the costs of the components of the capital structure (i.e., debt, preferred stock, and common equity) after weighting each component by its proportion to total capital. The overall cost of capital is also referred to as the weighted average cost of capital ("WACC").

Q. Does the Company plan to issue any long-term debt during the 2012 to 2013 time period?

A. Yes. The Company plans to issue $2,000,000 of long-term debt in mid-November 2012. This debt obligation is expected to be a taxable offering, and is projected to have a fixed interest rate of 5.10% with a 30-year term to maturity. In addition, the Company plans to issue $8,562,000 of long-term debt in mid-November 2013. This debt obligation is also expected to be a taxable offering, and is projected to have a fixed interest rate of 5.20% with a 30-year term to maturity. These obligations will be issued for the purpose of financing utility property that will be placed in service, and to pay down short-term bank debt that is expected to build up through the normal course of business.

Q. Please explain how the projected interest rates on the new long-term debt were determined.

A. Each projected rate is based on the 30-year U.S. Treasury forward curve rate and the American Water credit spread, as observed on May 2, 2012. The planned November 2012 issuance has a projected rate of 5.10%, derived from the December 2012 Treasury

forward rate of 3.221% plus a 190 basis point credit spread. The November 2013 issuance has a projected rate of 5.20%, derived from the average forward rate of 3.30% for calendar year 2013 plus a 190 basis point credit spread.

Q. Will Tennessee American seek approval from the TRA to issue the new long-term debt you describe?

A. It is my understanding that the Company has sufficient issuance capacity remaining under the authority granted to it by the TRA in Docket No. 09-00073. Thus, Tennessee American will not need to seek approval from the TRA to issue this debt.

Q. Does the Company plan to issue any common equity during the 2012-2013 time period?

A. No, it does not.

Q. Will the Company receive any equity infusions from American Water booked as additions to paid-in capital during the 2012-2013 time period?

A. Yes. The Company's financing plan includes equity infusions from American Water of $2,500,000 in December 2012 and $750,000 in November 2013. These equity infusions will be booked to paid-in capital.

Q. Please explain what you mean by "equity infusion."

A. An equity infusion represents funds provided to TAWC by its parent, American Water. These funds are booked to TAWC's paid-in capital account, and are included in the

balance of TAWC's total common equity. No stock is issued to the parent for receipt of these funds.

Q. Are the long-term debt and equity financings you discuss included in the Company's attrition year capital structure?

A. Yes, they are. These financings are reflected in the Company's financing plan, and thus, are included in the Company's forecasted long-term debt and common equity balances for the attrition year.

Q. Are any changes expected to the Company's balance of preferred stock?

A. Yes. The Company is currently planning to retire its one issue of preferred stock in the June-July 2012 time frame.

Q. Why is the Company planning to retire its preferred stock issuance?

A. The before-tax cost of this preferred issue is approximately 8.33%. Though the Company plans to use short-term debt to replace it in the near term, it will have new long-term debt financing in place by November 2012, as noted previously. The Company expects to achieve annual savings of approximately $40,000 relative to the cost of the new debt issuance.

Q. What goals does the Company seek to achieve with its capital structure?

A. The Company's goals are to minimize the overall cost of capital and to maintain financial ratios that allow the Company to attract new capital on reasonable terms. The Company also seeks to maintain flexibility to issue various types of securities (e.g., tax-exempt

debt, long-term taxable debt, preferred or common equity) under varying market conditions.

Q. What capital structure do you recommend in this proceeding?

A. I propose using Tennessee American's forecasted capital structure for the thirteen-month average of the attrition year ending November 30, 2013. That capital structure includes the long-term debt and equity financings and preferred stock retirement discussed above, and reflects the levels of short-term debt that will be in place after these financings and retirement are completed. The proposed capital structure contains 3.65% short-term debt, 51.35% long-term debt, and 45.00% common equity, and is included in the filing and attached to this testimony as Schedule CS-1.1, Page 1 of 4, of Petitioner's Exhibit CS-1-Capital Structure-GMV.

Q. Why do you recommend this capital structure?

A. The recommended capital structure, which was developed using average capital component balances over the period beginning December 1, 2012 and ending November 30, 2013, is consistent with the Company's attrition year in this proceeding. It is also consistent with the Company's proposed use of thirteen-month average balances for rate base items, and reflects the capital component balances that will be in place to finance the rate base supported by the Company in this case. In addition, because this proceeding will determine rates for future service, it is reasonable for the capital structure components to reflect the forecasted balances for those components during the time that rates will be in effect.

Q. Do you believe your recommended capital structure is reasonable for ratemaking purposes?

A. Yes, I do.

Q. How did you determine that your recommended capital structure is reasonable?

A. To determine whether my recommended capital structure is reasonable for ratemaking purposes, I compared my proposed common equity ratio for Tennessee American to the average actual common equity ratio of Dr. James Vander Weide's proxy group of six publicly-traded water companies as of December 31, 2011. These utilities and their corresponding capitalization data are shown on Schedule 9 attached to the Direct Testimony of Dr. Vander Weide. For the year ended December 31, 2011, the actual average common equity ratio of Dr. Vander Weide's proxy group of six water companies was 46.24%, with a standard deviation of 4.22. Using the mean as the midpoint, one standard deviation around the mean results in an equity ratio in the range of 42.01% to 50.46%. Thus, my recommended average common equity ratio of 45.00% forecasted for the attrition year in this case is less than one-half standard deviation below the average common equity ratio of Dr. Vander Weide's six-company water sample. I concluded that the Company's forecasted average capital structure for the attrition year ending November 30, 2013 is reasonable and should be used to compute the Company's WACCin this proceeding. The WACC is used as the authorized rate of return on rate base.

Q. Why is the amount of short-term debt included in the Company's capital structure appropriate for setting rates in this case?

A. The Company uses short-term debt to finance capital improvements and meet other short-term cash requirements. This type of financing is used to bridge the gap between permanent financings, such as equity infusions and long-term debt issuances. This allows the Company to time permanent financings in a cost-effective manner and to take advantage of opportunities in the market for debt capital as they occur.

Q. How were the weighted costs of long-term debt and preferred stock determined?

A. The total annual cost of long-term debt, which includes annual interest and annual amortization of issuance cost, was divided by the long-term debt total carrying value to arrive at an overall embedded cost of 6.02% for the attrition year. Carrying value is computed by subtracting the total unamortized debt expense balance from the total face amount outstanding. Similarly, the cost of preferred stock cost is computed by dividing the total annual cost by the total net proceeds. However, as noted previously, the Company's preferred stock is being retired prior to the attrition year and is not included in the Company's attrition year capital structure. These calculations are shown on pages 3 of 4 and 4 of 4, respectively, of Schedule CS-1.1 of Petitioner's Exhibit CS-1-Capital Structure-GMV.

Q. How was the cost rate for short-term debt determined?

A. The Company used its budgeted short-term debt rates for 2012 and 2013 and computed a weighted average for the attrition year. The resulting short-term debt interest rate is 1.42%, and is shown on Schedule CS-1.1, Page 1 of 4, of Petitioner's Exhibit CS-1-Capital Structure-GMV.

Q. In what manner is the Company currently obtaining its long-term and short-term debt?

A. The Company is currently utilizing the services of American Water Capital Corp. ("AWCC") to meet it debt financing needs. AWCC is an American Water Works Company subsidiary, and an affiliate of Tennessee American. AWCC was created to consolidate the financing activities of the operating subsidiaries to effect economies of scale on debt issuance and legal costs, and to attract lower debt interest rates through larger debt issues in the public market. The Company believes the use of AWCC has accomplished the goal of reducing issuance costs and attracting capital at lower interest rates though the purchasing power of the entire American Water system.

Q. What factors require the Company to seek additional capital?

A. The Company has documented in past rate cases and in this filing that capital improvements it has made to meet new and changing regulations in the water industry, to replace aged treatment and distribution facilities, and to provide high quality and reliable water service to its customers, have driven and will continue to drive the need for new capital. It is important that the Company maintain a strong financial position to attract this capital at the lowest possible cost, which in turn, will allow the Company to provide service improvements at the lowest possible cost to its customers.

Q. What weighted average cost of capital is the Company requesting in this case?

A. The overall weighted cost of capital being requested is 8.23%. The embedded cost of long-term debt is 6.02%, a decrease of 25 basis points from the 6.27% embedded cost of long-term debt approved in the Company's 2010 rate case. The 25 basis point decrease

results from favorable experience in the debt markets over the last two years, and the expected long-term debt costs for the new debt planned for 2012 and 2013.

Q. Have you reviewed the testimony of Company witness Dr. Vander Weide in this case regarding the cost of common equity?

A. Yes, I have. The Company has elected to base its filing on a requested cost of common equity of 11.30%, which is within the cost of equity range determined by Dr. Vander Weide. The cost of common equity used by the Company incorporates risk factors specific to Tennessee American that are not in the calculation provided by Dr. Vander Weide. Those risk factors are explained below. The Company has incorporated the 11.30% cost of equity into the weighted average cost of capital utilized by the Company in its filing.

TENNESSEE AMERICAN RISK FACTORS

Q. Are the factors driving your rate increase request a result of issues unique to the water industry?

A. Yes, many are. Reduced sales, for example, have been caused by a number of factors, some of which may impact other industries and others that are unique to water operations. The decline in demand has resulted from persistent conservation messages communicated to water customers, the increased efficiency of water using fixtures and appliances, and the impact of the economic downturn. Moreover, weather impacts water consumption not only as a result of cooling degree day variations, but also because of ground moisture, rain and even the threat of rain.

Q. Can you identify other risks that have a greater impact on the financial results of water companies as opposed to electric and gas utility operations?

A. Yes. The water industry is extremely capital intensive, much more so than electric, gas or any other utility regulated by the TRA. A 2008 study by AUS indicated that the ratio of dollars invested in utility plant per dollar of revenue for the water industry is slightly more than double that of the comparable ratio for the electric utility industry, nearly three times that of the gas distribution utility industry and more than ten times that of the S&P 500. This fact often goes unacknowledged because much of the water industry infrastructure is out of public view. Because of the larger amount of capital required to develop water infrastructure and the need to replace existing infrastructure, issues related to capital utilization and financing are more significant for water utilities than other utilities.

The immediacy of the problem of aging water infrastructure is not well understood but is becoming better known. It is clear that the general public does not understand the immediacy of the problem or the substantial cost to fix the problem. This lack of understanding adds to the risk faced by those companies in need of funds to meet the challenge of maintaining and replacing a failing system. Much of this country's investment in water and wastewater systems was made near the beginning of the twentieth century and is in dire need of replacement. "The Story of Our Water Infrastructure, 2009," a documentary of the University of Pennsylvania broadcast on the PBS network, cites the need for hundreds of billions of dollars nationwide for water and wastewater investment over the next twenty years. The United States Environmental Protection Agency ("USEPA") Office of Water, Drinking Water Infrastructure Needs

Survey issued in 2009 found that the total nationwide infrastructure need is $334.8 billion (in 2007 dollars) over the subsequent 20-year period. The USEPA Office of Clean Water Needs Survey issued in 2008 reported that $190 billion was needed for wastewater treatment, collection systems, and sewer overflow corrections. The American Society of Civil Engineers in 2009 gave water infrastructure in America a grade of D- and stated that the nation's drinking water and wastewater systems require a $255 billion dollar investment in the next five years. Along with the risk associated with replacing existing infrastructure, the water industry faces increasing maintenance costs, not covered by rates due to regulatory lag. Main breaks from aging infrastructure can cause fish kills from discharge into ponds and streams resulting in fines and lawsuits. Moreover, greater capital expenditures result in higher business risk associated with contracts and vendors.

In addition to infrastructure concerns, the water industry provides a product that is critical for the health and safety of every living person. As a result, the standards of availability and provision of water resources are established by governmental entities and statute. Water and wastewater operations are subject to federal, state and local laws and regulations which control environmental protection, health and safety, water quality, and collection, treatment and discharge of wastewater. Under the Safe Drinking Water Act, the requirements for monitoring and/or treatment of additional contaminants continue to increase over time and are subject to some uncertainty. Today the Safe Drinking Water Act requires the monitoring and/or treatment of 98 potential contaminants. The USEPA recently issued a list of 105 new contaminants from which candidates for new monitoring and/or treatment may be developed.

With respect to wastewater constituent limits placed on new or renewed National Pollution Discharge Elimination System ("NPDES"), permits issued by the USEPA are becoming increasingly stringent, requiring investment in new technology and infrastructure for the treatment of wastewater prior to its discharge into receiving streams. Security of water facilities is critical for the health and safety of customers and, therefore, a failure in security systems is more substantial than in other industries. Increased oversight results in protection for consumers but also in increased risks of fines and litigation in the event of system failures or even perceived failures. For example, changes in system pressure as a result of a power outage outside the control or influence of the water company can, as a result of existing regulations, result in costly boil advisories, even though the water treatment and delivery system was in no way compromised and no health risk was involved.

Q. Are there risks that are specific to Tennessee American as compared to the water industry as a whole?

A. Yes. Specific company risks are generally those associated with Tennessee American's sources of supply and the make-up of its service territory. The availability and quality of the Company's source water impacts the Company's ability to serve the current and future needs of its customers. As a general rule, Tennessee American does not own the water used in its operations, and the availability of its water supply is established through a combination of allocation rights, requirements set by governmental entities and other provisions of law. Allocation rights are imposed to ensure sustainability of major water sources. These requirements can change from time to time and adversely impact the Company's water supply. Surface water supplies from major commercial water ways,

such as the Tennessee River, are exposed to increased treatment costs and potential interruption of water supplies from river transportation related accidents. Surface water supplies from the Tennessee River make up over 99.95% of the Company's water supply capacity.

Q. Does Tennessee American face environmental risks with respect to wastewater collection, treatment, and disposal?

A. Yes, it does. The collection, treatment, and disposal of wastewater relative to the water treatment operations of the Company are subject to substantial regulation and involve significant environmental risks. If collection systems fail, overflow, or do not operate properly, wastewater or other contaminants could spill onto nearby properties or into nearby streams and rivers, causing damage to persons or property, injury to aquatic life and economic damages, which may not be recoverable in rates. This risk is most acute during periods of substantial rainfall or flooding, which are the main causes of overflow and system failure. Liabilities resulting from such damage could adversely and materially affect our business, results of operations and financial condition. Outcomes may include increased regulatory pressure resulting from more stringent permit requirements related to system maintenance and discharge limits. Moreover, in the event that we are deemed liable for any damage caused by an overflow, our losses might not be covered by insurance policies, and such losses may make it difficult for us to secure insurance in the future at acceptable rates.

Q. What additional risk does the Company face as a result of its physical make-up and service territory?

A. Tennessee American has significant business risk due to a concentration of sales in a

small number of Sale For Resale ("SFR") customers. Four SFR customers (City of Fort Oglethorpe, Walden's Ridge Utility District, Town of Signal Mountain, Catoosa County, Georgia) purchased $1,531,878 of water in 2011, representing 3.7% of the Company's water sales. This risk is highlighted by current discussions involving Walden's Ridge Utility District ("WRUD"). Tennessee American received a letter on September 30, 2011 notifying the Company of WRUD's intent to terminate its forty-year purchase agreement at an unspecified future date in order to either purchase water from Hixson Utility District or to re-start their water treatment plant. The agreement, which was signed on July 14, 2003, with an effective date of February 1, 2006, specified a set purchase price for three years, contingent upon the Company spending an estimated $2.431 million to construct a pump station and infrastructure to supply water. Tennessee American's 2008 and 2010 rate case orders from the TRA imputed increases of 12.77% and 15.21% respectively to the WRUD special contract price. In 2011, WRUD purchased $493,773 of water which represented 1.2% of Tennessee American's total water sales.

The new management team at Tennessee American has worked diligently with WRUD on many fronts during the past year to strengthen the business partnership. Tennessee American has renegotiated the charge it pays WRUD for wheeling water through its system to Lone Oak Utility District from $0.39 per thousand gallons to $0.75 per thousand gallons, as well as changing the CCF/MGD conversion on the wheeling bill from 7.50 to 7.4805. At its expense, the Company began sending a leak detection crew one day per month to survey WRUD's system to help them find leaks and reduce their nonrevenue water loss. Additionally, Tennessee American management has kept in regular contact with WRUD by attending monthly board meetings and numerous other

meetings in the attempt to work out a mutually beneficial arrangement to maintain the contract. This includes providing invoice level details of the $4.5 million construction project that was required to provide service to WRUD and to ensure proper accounting and valuation of the project. Per the contract, WRUD is required to purchase the constructed assets if it terminates the contract with the Company.

The Town of Signal Mountain purchased $405,136 of water from Tennessee American in 2011, representing 1% of total water sold. Signal Mountain continues to purchase water from Tennessee American, but their purchase agreement expired on December 31, 2010, and they have not yet re-signed. Signal Mountain has expressed its concern to the Company that the 2010 rate order imputed the same increase on their special contract rate as everyone else, even though they own the pump station at the base of Signal Mountain and bear their own electrical pumping expense. Also, the Company understands that cross connections have been established between the Signal Mountain and Walden's Ridge systems, which creates the potential for Signal Mountain to purchase water from WRUD, rather than Tennessee American, if WRUD terminates its contract with the Company. The loss of these customers would have a substantial impact on Tennessee American's demand and revenues, which exposes the Company to significant business risk as well as passing that impact to other rate payers. The Company's rate and tariff structure that has been proposed in this case attempts to address the concerns of its Sale for Resale customers.

In addition, the Company's concentration of resources in a single metropolitan area (i.e., Chattanooga) increases the potential impact from a catastrophic event, such as a tornado or an earthquake.

Q. Could the loss of SRF customers Signal Mountain and WRUD have a substantial impact on Tennessee American's other ratepayers?

A. Yes. As I noted earlier, due to the particular facts and circumstances that have developed over the years, Signal Mountain and WRUD are both under special contracts with TAW, which arrangements have been approved by the TRA. Part of the reason for these special contracts is to keep these two valued customers on the system, as a benefit to them, to TAW and to other ratepayers. In 2011 alone, Signal Mountain and WRUD together purchased $896,909 of water from TAW. This is not an aberration, but is very much consistent with their respective historical purchases. They are significant customers. If general rate increases continue to be generally spread "on top" of the special contracts these companies negotiated with the Company, in part to avoid system by-pass, the benefits to Signal Mountain and WRUD will continue to erode.

Since the TRA began the practice of generally spreading rate increases over these contracts, Signal Mountain and WRUD have communicated to the Company their growing concern with how, and to what extent, the TRA increases the rates of their respective special contracts. In essence, they no longer view the contracts as "special." In fact, Signal Mountain has been slow to execute a new special contract with TAW, and WRUD is seriously threatening to leave the system and has taken meaningful steps towards that end. Unfortunately, these SFR customers have the motive and the ability to

by-pass TAW. The departure of these two significant customers from the system will result in a loss of contribution to fix costs and in a material rate increase to the Company's remaining customers. In other words, the loss revenue that the Company would have received had these two customers been persuaded to remain on the system will now have to be recovered from other ratepayers. This is why the Company maintains that the full impact of spreading rate increases generally over special contracts must be heavily scrutinized in order to avoid unintended consequences that may be harmful to other ratepayers.

Q. Are the threats of actual by-pass by Signal Mountain and WRUD credible?

A. Yes. WRUD formally notified TAW of its intent to terminate its contract with the Company in September 2011. Further, it is our understanding from WRUD that it has engaged in preliminary negotiations to purchase its water from Hixson Utility District. Another option that WRUD is considering and evaluating is re-starting its water treatment plant, which it operated until about.

Q. Does Tennessee American have specific regulatory risks?

A. Yes, it does. Tennessee American's water operations are subject to federal, state and local laws and regulations which control environmental protection, health and safety, water quality, water allocation rights, and collection, treatment and discharge of wastewater through monitoring and reporting requirements. The Company must comply with a wide range of regulatory requirements that impact groundwater and surface water sources, water main distribution systems, and discharge points.

Many requirements related to the operation of Tennessee American's water business are included in the United States Clean Water Act of 1972 and the United States Safe Drinking Water Act of 1974. The Safe Drinking Water Act is considered a "moving target" because the requirement for monitoring and control of additional contaminants increases over time. In addition, numerous regulatory agencies require permits for various aspects of the business and the TRA sets standards for the Company's operations.

Given the nature of Tennessee American's business, which in part involves supplying water for human consumption, any potential non-compliance with environmental laws or regulations (whether or not within the control of the Company) represents a relatively greater risk for Tennessee American as compared to entities not similarly involved in the water industry. The security of the Company's operations, including treatment plants, storage facilities and distribution systems is critical to ensure protection of the Company's customers. Any failure of Tennessee American's security systems could result in a significant vulnerability.

BUSINESS TRANSFORMATION PROGRAM

Q. What is the purpose of your testimony on Business Transformation?

A. I will introduce the Business Transformation ("BT") program and explain why the program is reasonable and necessary. In addition, I will provide the estimated costs for BT, both in total and those to be incurred by Tennessee American, and will explain why those cost estimates are reasonable and should be approved. Finally, I will explain the proposed ratemaking treatment for Tennessee American's BT costs.

Q. Are you sponsoring any exhibits related to BT testimony?

A. Yes. I am sponsoring Petitioner's Exhibit BT-1-Business Transformation Summary Costs-GMV, which provides a breakdown of BT costs by year and by category, as part of my testimony.

Overview of the BT Program

Q. What is BT?

A. The term "Business Transformation" or "BT" refers to the development and system-wide deployment of new, integrated information technology systems and the process of implementing the new systems in a manner that properly aligns business processes with the increased capabilities of the new systems. Over the life of the BT program, there will be four primary areas of focus:

- Replace legacy systems that are at or near the end of their useful lives;
- Promote operating excellence, efficiency, and economies of scale;
- Enhance the customer experience; and
- Increase employee effectiveness and satisfaction.

The scope of the BT program includes a range of core functional areas, including: human resources, finance and accounting, purchasing and inventory management, capital planning, cash management, and customer and field services.

Q. What are the projects that comprise the BT program?

A. The BT program is a unique capital project both in scope and complexity. There are three projects that comprise the core of the BT program: Enterprise Resource Planning ("ERP"); Enterprise Asset Management ("EAM"), and Customer Information System ("CIS"). ERP includes human resource, finance and accounting, supply chain, and

procurement management. EAM includes the management of asset lifecycles including the design, construction, commissioning, operations, maintenance and decommissioning/replacement of plant, equipment and facilities as well as work management for both customer service field work (service turn-ons, leak inspections, etc.) and Transmission & Distribution system work. CIS includes all billing and personal data about our customers, including billing rates, water consumption, associated charges, meter information, and the strategy for managing and nurturing our interactions with our customers. Through these projects, Tennessee American will enhance its ability to continue delivering high-quality water and wastewater services to its customers.

Q. What is the estimated cost of BT to Tennessee American?

A. The capital cost of BT to Tennessee American is estimated to be $7.8 million, which is based upon a total estimated BT program cost of $320.3 million to American Water. This equates to a cost of just over $100 per Tennessee American customer, or approximately $10 per year per customer based on the anticipated life of ten years for the BT assets. The costs of BT are being allocated to Tennessee American and each of the American Water regulated utilities based on the percentage of their customer counts to the overall regulated utility customer count of American Water, as provided for in the Service Company Agreement. The measures taken by the Service Company to ensure that the BT program cost is reasonable and that costs are controlled are discussed below.

Need for BT

Q. Why is it necessary for Tennessee American to undertake the BT program?

A. To state it simply, Tennessee American's technology has become antiquated, and its information technology systems need to be replaced. In 2008-09, the BT team completed a comprehensive review and analysis of American Water's information technology systems and then made recommendations for their improvement. As a result of this comprehensive review and analysis, American Water identified the investments necessary to replace and upgrade applicable system components.

Q. What did the review find with respect to Tennessee American's existing information technology systems?

A. The Company's existing information technology systems are customized, stand-alone systems for use by specific departments or functions within a company, and the lack of systems integrations has resulted in isolated information "silos." These information technology systems are reaching or have reached the end of their useful life. JD Edwards (the system for accounting, procurement, and human resources functions) was first implemented for American Water in 1997 and for Tennessee American in 1998. ECIS (the customer service and information system) was first implemented for American Water in 2001 and for Tennessee American in 2003. The JD Edwards system is well beyond its useful life, and ECIS is approaching the end of its useful life.

Q. Are these current information technology systems adequate to support Tennessee American's customer and business requirements?

A. No. When Tennessee American's information technology systems were implemented in the mid-1990s and early 2000s, they met its customer and business needs at that time. The Company continues to run on the software and hardware solutions that were

implemented more than a decade and a half ago. Although Tennessee American's requirements still are being met through these existing systems, the systems are not integrated and have limited automation and functionality. At this point, American Water has fully maximized the software and systems used by its operating subsidiaries by implementing significant customizations or workarounds, in part, to meet requirements and expectations that the original software was not equipped to support. For example, there have been 65 JD Edwards and 305 ECIS customizations. These customizations have addressed the needs of the business, but the systems have reached a point where additional customizations would be inefficient and increasingly costly to maintain. Because the software has such a large number of customizations, system upgrades would be cost prohibitive and still would result in limited functionality. In addition, when customizations were too costly or impractical, manual processes were put in place. These manual solutions are not optimal because they introduce redundancy and inconsistency of data, require additional manual steps, and limit information availability. The increasing complexity of today's business and customer needs have grown beyond what the existing systems were designed to accommodate, and the information technology systems have become outdated and inflexible.

Over the last 10 to 15 years, more has changed than just technology. Customer expectations have also shifted. As always, Tennessee American's customers expect to receive high quality, reliable water service. Service, however, consists of more than just delivering water to the tap. Consider the technological advances that have taken place over just the last five years. Today, our customers and employees can access the internet on a hand-held smart phone at a faster speed than they could from a personal computer

only five years ago. Consequently, today's customers also expect more functionality than our existing information technology systems can readily support. The technology now being used at the Company is outdated, and lacks the functionality to meet today's customer expectations. BT will enable Tennessee American to meet those expectations**.**

Key Service Providers for the BT Program

Q. Please describe core enterprise software for the BT program.

A. American Water selected SAP as its new core software solution platform. Employees from across the organization, including Tennessee American, assisted in the review process. Based on the information gathered, the BT team determined that SAP was the best platform for our enterprise-wide systems. SAP is a leader in "enterprise" software development and its products and services have an excellent track record and are used widely by successful companies around the world. The "enterprise" software concept, which was pioneered by SAP, integrates functions and departments across a company into a single technology system, allowing all business processes to operate in a common data base sharing the information simultaneously across all functions in real time. Thus, enterprise computing is a relatively new concept for business and information management. As such, it is best understood in contrast to older software systems, which were customized, stand-alone systems for use by specific departments or functions within a company, resulting in isolated departments and functions in its own information "silo." Enterprise computing breaks down information barriers while also giving each department or function within a company the enterprise-compatible module it needs to do its job. In this way, enterprise computing bridges information gaps, reduces redundancy

and opportunities for error, and is a more powerful tool for effectively managing the business. The SAP software solution is a fully integrated software application that offers better real-time functionality to meet our current and future business requirements.

Q. Please describe the solution implementer selected for the BT program.

A. American Water selected Accenture to help implement the new software solutions. As the solution implementer, Accenture is responsible for working closely with American Water operating utilities and the BT team to realize the full potential of our new technology implementation by helping to confirm that American Water's business processes are aligned with the new software. Accenture has worked successfully with many companies over the years to implement SAP software and, like SAP, is highly regarded and has a strong track record of effectively meeting its customers' needs. Accenture and SAP will provide support and guidance and share their skills and knowledge about the new systems with American Water throughout the implementation process.

Q. How were service providers selected?

A. Key service providers (*e.g.*, SAP and Accenture) were selected through competitive bidding processes. The BT team, advisory council members, and other American Water employees, including Tennessee American employees, participated in this process. They attended software demonstrations and considered both core software applications (Oracle and SAP) and potential bolt-on software functionality. BT team members also participated in site visits to companies currently using enterprise software, conducted telephone reference checks, and made headquarter visits to Oracle and SAP sites.

American Water chose SAP based on a number of factors including the lower estimated total cost of ownership.

For its solution implementer, American Water considered several consultants who are experts in the field, including: Accenture, CSC, Deloitte, HCL AXON, IBM and Quintel. A Request for Proposal ("RFP") was developed to create a competitive bidding process to determine the right consultant for the job. The high and low bids were separated by approximately $50 million. As part of the solution implementer evaluation process, the BT team reviewed and evaluated several iterations of RFP responses from multiple candidates, reviewed and evaluated additional written question and answer ("Q&A") responses from multiple candidates, hosted several group oral presentations and Q&A sessions with some of the candidates, and conducted dozens of individual interviews over approximately a six month period. In July of 2010, the field of solution implementers was narrowed to two—Accenture and HCL AXON. The BT team then pursued parallel negotiations with both Accenture and HCL AXON. Accenture was the lowest bidder that met the RFP requirements, and ultimately, American Water determined that Accenture was the consultant best able to deliver the program needed.

Q. In addition to the competitive bidding process, what other steps were taken to ensure BT was undertaken at a reasonable cost?

A. Tennessee American is a registered licensee for the SAP software and, therefore, will be able to access the full and complete software applications resulting from the BT project for a fraction of the total license fees that it would have to pay were it to procure the

licenses on its own. This is an example of how the Service Company model benefits the American Water operating subsidiaries' customers.

American Water negotiated fixed price agreements with Accenture for its support and guidance throughout the entire BT program. The Master Service Agreement with Accenture is the umbrella agreement that governs the Statements of Work ("SOWs") that have been negotiated to support each phase of the BT program. The SOWs had the flexibility of being negotiated as either Time & Material or Fixed Price contracts. The work to be performed for American Water by Accenture was negotiated for a fixed price plus expenses not to exceed a percentage of the fixed price.

Status of BT Implementation

Q. What is the current status of the BT program?

A. The new enterprise systems and processes are anticipated to be deployed from 2012 through 2013. American Water plans to implement the projects in two phases. ERP will be implemented in Phase 1, with an estimated deployment by August 2012. The EAM and CIS projects will be implemented in Phase 2 and deployed in multiple waves in 2013. It is anticipated that EAM and CIS will be implemented for Tennessee American in June of 2013.

Q. Is Tennessee American participating in the design and implementation of the new systems?

A. Yes. Employees of Tennessee American have had, and continue to have, extensive involvement in the recommended improvements to the BT program and have actively

participated in various roles throughout the process. In fact, Tennessee American employees must be involved in the BT program to ensure Company business and IT needs are properly served by the program at all stages of the program.

On a personal note, I have been involved in the BT process as well. I participate in our internal BT Rates and Regulatory Council, which was set up to ensure that our BT software is being designed to meet all regulatory requirements across the country. I have also attended several software design meetings to add input from a regulatory perspective. I have led training sessions to help prepare employees for some of the changes that will be occurring with BT. In addition, I am participating in the many training sessions that all employees are attending to ensure that our employees are ready for the new software as it is implemented across our regulated water subsidiaries.

Benefits of the BT Program

Q. What are some of the anticipated benefits of BT to Tennessee American?

A. BT will provide the Company with an integrated information technology platform across all functions and departments, allowing all business processes to share information in real time. The process of aligning business processes with the increased capabilities of the new, integrated technology systems will enable the Company to capture, use and maintain critical business information, making it easier to access and share information across systems—breaking down information barriers—while also giving each department or function within the Company the compatible "module" it needs to do its job. In this way, BT will enable Tennessee American to bridge information gaps, reduce

redundancies and opportunities for error, and provide the Company a more powerful tool for effectively managing the business.

The ERP system will enable Tennessee American to automate processes, replace less efficient manual processes, improve workflow, and enhance back-office operations (*e.g.* accounting, procurement, and human resources) by automating and integrating the Company's data so it is readily accessible to multiple functions and sites at once, reducing the manual re-keying and validation processes that exist today. ERP benefits also will include:

- Improved purchase order processing from identifying the need through supplier completion;
- Improved tracking of vendor contracts and better electronic records to measure and monitor vendor performance across the company; and
- Increased Human Resource ("HR") focus on value-added activities such as training and ensuring compliance to human resources policies and practices versus providing manual transactional activity support.

The EAM module is integrated into the ERP system and will enable the Company to manage information about its physical assets more effectively. It allows for a holistic view of an organization's asset base, better enabling managers to optimize their operations for quality and efficiency. The CIS supports all processes involving direct customer contact throughout the entire customer relationship life cycle, from market segmentation and customer inquiry, to billing and collecting for services provided and post-services communication. Customer information will be captured and stored in a centralized database that is integrated with other systems throughout the Company. Currently, these systems are not integrated; multiple systems and manual processes must be utilized in order to receive required information and data. Some of the anticipated customer benefits include:

- More system functionality, such as group billing and budget billing, which will better meet customer needs;
- Opportunities for enhanced bill presentment options including additional detail of billed charges and transactional account activity (*e.g.* charges, payments, transfers, and adjustments);
- Greater first contact resolution because of greater automation in the billing process and redirected resources providing the opportunity to resolve customer requests in a timely manner; and
- Ability to introduce tools that would reduce or eliminate manually intensive processes and allow employees to work more efficiently.

BT Cost Allocation, Accounting and Rate Treatment

Q. Please explain Tennessee American's ratemaking proposal for BT costs.

A. The Company is proposing that all costs incurred in connection with BT be capitalized, and that these capitalized expenditures associated with the multi-year BT program be treated as construction work in progress until the various projects that comprise BT are in service. At that time, these assets would be placed into "plant-in-service" as appropriate components of rate base.

Q. What is the current estimated cost of the BT program, and how are these costs allocated to Tennessee American?

A. The overall BT budget for all of American Water is $320.3 million. As illustrated on Petitioner's Exhibit BT-1-Business Transformation Summary Costs-GMV, Schedule BT-1.1, Tennessee American's allocated share of these costs is $7.8 million based on a 2.42 percent customer count allocation. Tennessee American's cost allocation corresponds to Tennessee American's share of total, system-wide regulated utility customers at year end, through each year of the project, 2009-2014. This equates to a cost of just over $100 per customer at Tennessee American, or approximately $10 per year per customer based on the anticipated life of ten years for the BT assets. BT cost allocations are developed for

each state based on each state's customer count at the prior year end. This is a credible and fair way to allocate the costs of the project across the American Water system, including customers served by Tennessee American.

Q. Please describe how the cost allocation factor of 2.42% for the Tennessee American share was derived.

A. The cost allocation factor of 2.42% was derived by taking Tennessee American's total customer count as a percent of the entire American Water customer count for the years 2009 through 2014, at each year's end. The allocation factors for 2009 through 2011 are derived from historical data values. The allocation factors for the years 2012 through 2014 are derived from budget values.

As shown in Petitioner's Exhibit BT-1-Business Transformation Summary Costs-GMV, Schedule BT-1.1, the total project allocation factor for Tennessee American of 2.42% is the result of the sum of each year's allocation to Tennessee American, $7.8 million, divided by the total BT project cost for American Water, $320.3 million, resulting in the total project allocation factor to Tennessee American of 2.42% at project's end.

Q. Would you please provide an annual budget of the proposed cost for the American Water BT program by functional system?

A. Included with my testimony is Petitioner's Exhibit BT-1-Business Transformation Summary Costs-GMV, Schedule BT-1.1, which shows the functional expenditures, by year, of American Water's BT project for the years 2009 through 2014. The total BT project cost for American Water by year is summarized in the Table 1 below.

Table 1
American Water BT Expenditures by Year
($ Millions)

2009	$ 5.9
2010	28.2
2011	121.6
2012	114.5
2013	47.1
2014	3.0
Total Project	$ 320.3

Q. Would you please provide a proposed breakdown of the BT costs allocated to Tennessee American?

A. I have appended to my testimony Petitioner's Exhibit BT-1-Business Transformation Summary Costs-GMV, Schedule BT-1.1, which details the total cost and breakdown, by year, of those expenditures allocated to Tennessee American by each functional system component of the total BT program. Those cost allocations are reported for each year, 2009 through 2014, by functional item, based on the annual allocation factors reported in Table 1 above. The total BT consolidated project cost allocated to Tennessee American by year is summarized in the Table 2 below.

Table 2:
Tennessee American BT Expenditures Allocated by Year
($ Millions)

2009	$ 0.1
2010	0.7
2011	2.9
2012	2.8
2013	1.2
2014	0.1
Total Project	$ 7.8

Q. Why does Tennessee American treat BT program costs as capital expenditures rather than expense them?

A. The costs associated with the BT program are both significant and are being incurred over an extended period of time (2009-2014). A significant portion of these costs would be expensed as they are incurred if we are not permitted to capitalize the entire project. Given the sheer magnitude and timing of the costs of the BT program, it would be problematic to expense these costs as incurred. First, expensing the costs would require a more significant increase to the revenue requirement for the years the expenditures were made than if they were given rate base treatment. By using the rate base treatment we propose, those costs will be spread over the useful life of the project and be recovered on a levelized basis. Further, as the BT expenditures will provide service to ratepayers over their useful life, the recovery of these significant costs on a levelized basis over that useful life is a better matching of the revenue with the expense and a more equitable ratemaking method than seeking to recover the costs over the shorter period during which these costs are initially incurred. Finally, recovering the costs of these assets on a levelized basis over their useful lives more properly assigns the cost responsibility to the customers who will actually benefit from the implementation of assets over their useful lives as opposed to the singular year in which the systems were first placed into service.

Q. Please describe the cost categories for the BT program.

A. There are four distinct areas of cost related to the BT project: (i) physical assets (e.g., primarily servers, networking equipment, etc.), (ii) software licenses, (iii) capitalized labor costs required to design, modify the base software package as required, develop transition routines to transfer historical data from existing systems, modify business processes to be compatible with the new software, implement the go-live use of the software, and train employees on the use of the new software, and (iv) the initial planning

studies. The accounting for each of the four areas of BT costs will be described separately below.

Q. Please describe the accounting for the hardware portion of the BT costs.

A. The hardware procured for BT will be purchased by Laurel Oak Properties, leased to the Service Company, and a percentage of that leasing expense will be distributed to each of the regulated utilities based on the percentage of their customer base to the overall regulated utility customer base of American Water. The capital lease charges to the regulated utilities will include the equivalent of depreciation expense plus a finance cost.

Q. Please describe the accounting for the SAP software licenses for the BT costs?

A. A portion of the SAP software license fees included in the BT project is being accounted for on the books of the Company. Tennessee American is an authorized licensee and has the right to use the licensed software as a permitted licensee under the license agreements. The license fees will be billed to Tennessee American by the Service Company, but appropriately capitalized because Tennessee American is a separate licensee for the software. Tennessee American will pay its share of the license fees through the Service Company to be more efficient so that the vendor will not issue individual invoices to each participating regulated utility. The method of payment does not change the appropriate accounting for costs at the regulated utilities. The regulated utilities' assets listed as software are licenses, and legal ownership of the software is retained by the licensor, SAP. Given that Tennessee American is a registered licensee for the software and the cost of the license is paid for by the Company, that software is an appropriate utility plant asset under generally accepted accounting principles and

National Association of Regulatory Utility Commissioners ("NARUC") accounting guidelines and should be capitalized by the operating companies.

Q. Please describe the accounting for the capitalized labor portion of the BT costs.

A. The capitalized labor and overheads portion of the BT costs are being accounted for in the same manner that the regulated utilities have accounted for comparable costs in the past. They are being charged to the utility plant asset created at each regulated utility, including Tennessee American. Capitalization of Service Company labor charges to Tennessee American is a normal process and is consistent with the 1989 Service Company Agreement.

Q. Please describe the accounting for the BT Planning Studies.

A. The Company has requested that the proportionate share of the costs related to the planning studies be deferred and accounted for as capitalized costs and will be capitalized as part of the BT costs when it is placed in service. This is consistent with the accounting for a preliminary engineering or planning study associated with a particular project.

Q. What is the anticipated life cycle of the BT assets?

A. The anticipated life cycle of the BT assets is ten years.

Q. What is the appropriate depreciation rate for the assets that comprise the BT program?

A. Given an estimated service life of ten years, the appropriate annual depreciation rate for the BT assets is ten percent.

Q. Does Tennessee American currently have an approved depreciation rate that would encompass the BT assets?

A. No it does not. As such, I am asking that the TRA to grant the Company the authorization to set up a ten year depreciation rate for BT assets so they may be properly depreciated over the estimated service life of those assets once they are placed in service.

Q. Please summarize the BT program.

A. Tennessee American's current information technology systems are at or near the end of their useful life and need to be replaced. Therefore, the decision to replace these systems is prudent. The BT program is a unique capital project both in scope and complexity, and is prudent and necessary for Tennessee American. As indicated above, the costs of BT are reasonable, and the BT team has carefully managed the costs of the BT program in an effort to provide its customers and other stakeholders with the greatest value at a reasonable cost. American Water has conscientiously and successfully pursued the goal of choosing the best solutions and consultants for the BT program at the most reasonable price.

DISTRIBUTION SYSTEM INFRASTRUCTURE CHARGE ("DSIC")

Q. Please explain why the Company is proposing the adoption of a Distribution System Infrastructure Charge ("DSIC"), a tariff rate adjustment mechanism for the replacement of aging infrastructure.

A. As is true with many water service providers in Tennessee and nationwide, Tennessee American's infrastructure is in substantial part nearing the end of its life expectancy and

must be replaced. Tennessee American has an obligation to provide safe, adequate and reliable service, and the quality of the service it provides is dependent, in part, upon the ongoing replacement of this aging infrastructure. However, the cost of infrastructure replacement is substantial, and if Tennessee American must not only advance the cost of the investment, which incrementally has increased significantly over the years, but also to bear the burden of the associated carrying costs of depreciation and interest while waiting for a Base Rate case filing and the completion of such case to be able to recover these necessary costs, it simply will not have the opportunity to achieve the rate of return set by the TRA. Tennessee American is thus proposing the DSIC, as a well-accepted, regulatory approach, to mitigate this problem, while providing the Company with a tool to help address the DSIC's primary objective of accelerating the pace of essential infrastructure upgrades and replacements. In addition, the DSIC mechanism has many other customer benefits and protections that will be addressed later in this testimony, one of which is to help mitigate the potential "rate shock" associated with Base Rate increases which incorporate on-going plant investments into Rate Base on a lump sum basis rather than on a systematic annual basis as contained in the Company's DSIC proposal.

Q. Do you know of any assessments of the state of the infrastructure and costs of replacement?

A. Yes. In 2009, the American Society of Civil Engineers ("ASCE") published a report entitled, "2009 Report Card for America's Infrastructure," in which it graded the nation's water infrastructure at a 'D-' level, or poor. In its report, the ASCE identifies a shortfall of $11 billion of investment each year to replace aging infrastructure and maintain reliable and safe drinking water systems.

Q. Are there other estimates of infrastructure replacement costs?

A. Yes. In its Fourth Report to Congress, published in February 2009 (the "2009 Report"), USEPA presented the results of its fourth Drinking Water Infrastructure Needs Survey and Assessment. In the 2009 Report, the USEPA estimated that $334.8 billion (in 2007 dollars) would be needed nationwide to replace aging drinking water infrastructure and comply with regulatory requirements over the next 20 years. A similar USEPA Report published in 2002, based on 1999 dollars, estimated that $150.9 billion $182.6 billion adjusted to January 2007 dollars) would be required for these purposes over the next 20 years. In unadjusted dollars, therefore, infrastructure replacement needs have increased in excess of 100% (or about 80% on an adjusted basis) in just eight years.[1]

Q. Do you know of estimates of infrastructure replacement needs for the State of Tennessee?

A. Yes. The 2009 Report indicates that $3.5 billion of investment is needed for the State of Tennessee over the next 20 years for replacement of aging infrastructure and other regulatory costs. The 2002 Report referenced above, adjusted to January 2007 dollars, indicated that the 1999 need for Tennessee was about $1.9 billion. Tennessee's infrastructure investment needs have, therefore, also significantly increased over the last decade. See 2009 Report, p. 23, Ex. 2.5.

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1 The 2009 Report can be found at:
http://water.epa.gov/infrastructure/drinkingwater/dwns/upload/2009_03_26_needssurvey_2007_report_needssurvey_2007.pdf

The 2002 Report can be found at:
http://water.epa.gov/aboutow/ogwdw/upload/2005_02_03_gapreport.pdf

Q. Why is Tennessee American requesting a DSIC in this rate case?

A. A substantial portion of Tennessee American's infrastructure is between 50 and 100 years old and is nearing the end of its useful service life. The pace of infrastructure replacement is an increasing concern for Tennessee American. The anticipated level of infrastructure improvement projects is increasing at a rapid pace, in part due to the advanced age of the Company's water facilities. A DSIC will more accurately reflect the ongoing investments and improvements that are made in the water distribution system versus the less frequent but larger step increases that would result from base rate increases without a DSIC. The timely recovery of the fixed costs of infrastructure replacement through the DSIC provides an incentive for increased and continued levels of capital infusion. This results in a stronger and more reliable water distribution system for both current and future customers. As described by Company Witness Mr. Kevin Rogers, the Company is focusing its replacement program on small diameter mains (4" in diameter and less), which are responsible for the majority of distribution system leaks and failures. The larger mains are also increasing in age and must be considered in our infrastructure replacement planning. In addition, the need to replace service lines, meters and hydrants, which is necessary to maintain public safety, is continuous and cannot be delayed.

Q. Beyond the DSIC being a regulatory tool to help enable water utilities to accelerate the improvement of critical infrastructure on a continuing basis while mitigating the impact of large rate increases, are there other customer benefits?

A. Yes. Replacing aged infrastructure on an accelerated basis and on a proactive rather than reactive basis, will achieve direct customer benefits in the form of improved and

sustained water quality, increased pressure, improved fire protection, fewer service disruptions and lower operating and maintenance costs over time. Capital cost savings may also be achieved through increased coordination and sharing of paving costs with the Tennessee Department of Transportation ("TDOT"), local government, and other utilities.

Q. Are there other benefits as well?

A. Yes. An effective DSIC will also benefit the State of Tennessee, City of Chattanooga and the surrounding communities through an increase in construction jobs brought about by the increased investment in infrastructure provided for by a DISC program. An improved water distribution system and the resulting customer benefits noted above can also attract new business to the area and support the economic development goals.

Q. Are there other reasons the Company is proposing this DSIC?

A. Yes. In the Company's last rate case, former TRA Director Eddie Roberson opined that Tennessee American should establish a "tracker" to aid the timely and proper deployment of, and appropriate recovery for, capital additions. As outlined in summary form by him, his tracker would require the Company to first submit documentation of its capital additions, not to exceed the projected cost, including all associated depreciation and tax effects. While his concepted tracker does not mirror the DSIC that I am proposing on behalf of the Company step for step either in form or in anticipated application, Director Roberson's deliberations highlight the potential benefit of a regulatory mechanism designed to ensure the proper funding of, and timely recovery for, essential infrastructure improvements. Moreover, the proposed DSIC's annual reconciliation underscores

Director Roberson's "'trust but verify"'[2] standard. In sum, our proposal is an attempt to be responsive to the concerns expressed by the TRA in previous rate cases.

Q. Have any other states adopted tariff riders similar to Tennessee American's proposed DSIC?

A. Yes. The States of Pennsylvania, Indiana, Illinois, Missouri, Ohio, Delaware, California, Connecticut, and New York have adopted similar programs. Most recently, the State of New Jersey on May 2, 2012 approved a new rule creating a Distribution System Improvement Charge. Although the mechanisms employed in these other states may go by a different name, (e.g. the Illinois rider is referred to as Qualified Infrastructure Plant ("QIP") and the Missouri rider is referred to as Infrastructure System Replacement Surcharge ("ISRS")), they are all defined similarly and share the same objectives.

Q. Please describe the categories of utility plant that would qualify for inclusion in the Company's proposed DSIC.

A. The specific utility plant categories proposed for inclusion in the DSIC are: (1) Account 331, Transmission and Distribution Mains, including valves; (2) Account 333, Services; (3) Account 334, Meters and Meter Installations; (4) Account 335, Hydrants. The above would include main extensions to eliminate dead ends and the unreimbursed costs associated with relocations of mains, services, and hydrants occasioned by street or highway construction. Mains installed to provide service to new customers would not be included in the DSIC.

[2] *See* Concurrence and Dissent of Director Roberson, p. 4, *In Re: Petition of Tennessee American Water Company for a General Rate Increase*, TRA Docket No. 10-00189 (April 27, 2012).

Q. Please discuss the general operation of the proposed DSIC mechanism.

A. The DSIC mechanism is a regulatory tool to provide for the recovery of the costs of capital and depreciation (return on and return of) associated with qualified infrastructure investment between Base Rate case filings. The DSIC will apply only to qualified, non-revenue producing plant investment that has not been included in rate base in a prior Base Rate case proceeding. The DISC would be established on an annual prospective basis utilizing 13 month average end-of-month balances and would reflect only those qualified plant additions installed after the conclusion of the initial rate year after the TRA's final order in this case. The qualified plant additions would be reduced by the projected retirements associated with the DSIC additions in the calculation of applicable depreciation and property tax expense. The Company would make its DSIC filing establishing the applicable DSIC not later than 90 days prior to the effective date of each DSIC implementation.[3] Not later than 60 days after the conclusion of each DSIC year, the Company would file reconciliation schedules detailing any over/under recoveries, with such over/under recoveries returned to or recovered from customers as applicable in the succeeding DSIC year. The DSIC would be cumulative and remain in place until reset to a zero % at the conclusion of the Company's next Base Rate case filing, at which point the capital costs and depreciation previously recovered through the DSIC are then subsumed within Base Rates. The Company proposes to cap the DSIC between Base Rate cases at 10.0% of the authorized revenue level as established by the TRA in the Company's most recent rate proceeding, prior to the inclusion of any other surcharges.

[3] For illustrative purposes, assuming the TRA were to issue its Order in this Base Rate case proceeding with Base Rates effective 12/1/12, with such rates inclusive of utility plant additions based on 13 month average month-end balances for the attrition year 12/1/12 to 11/30/13, then the first prospective DSIC year would be 12/1/13-11/30/14, with the DSIC filing not later than 9/2/13 for rates implementation on 12/1/13.

Q. Please discuss any specifics to the operation of the proposed DSIC not addressed above.

A. Tennessee American will utilize an annual prospective approach to the utility plant additions that would be included for recovery through the DSIC. The DSIC will provide for the recovery of revenue sufficient to cover the capital cost, depreciation and property expense related to the projected investment in qualified utility plant net of accumulated depreciation, including associated retirements ("Net Plant") for the period at issue. To determine this amount, the actual projected increase in the level of qualified investment for the period based on an average of 13 end-of-month balances would be utilized. The current approved pre-tax rate of return ("PTROR") would then be applied to this net amount to determine the revenue requirement of the rate base portion to which the related depreciation expense ("NetDep"), utilizing the current TRA approved depreciation rates by account, would be added. Next, incremental new property and Franchise taxes ("PFT") would be added. Then, any over or under DSIC collection of prior periods would be added or subtracted as applicable ("R"). The sum of these components would be grossed up to include the recovery of the associated additional revenue taxes (Gross Receipts and TRA Utility Fees) and Uncollectible expense ("RT") to derive the final revenue requirement. This total would then be divided by the projected annual level of general metered service and private fire service customer revenues subject to the DSIC, i.e. not including any other revenues, ("PAR") to render the new DSIC percentage. Prior to the implementation of the next year's DSIC, a similar analysis and approval process will occur and the DSIC will be adjusted accordingly on a cumulative basis until Base Rates are established in Base Rate case and the DSIC is reset to zero.

Q. Can the above described DSIC mechanism be shown as a formula?

A. Yes, the calculation of the DSIC would be as follows:

$$\text{DSIC \%} = \frac{[\{(\text{NetPlant} \times \text{PTROR}) + \text{NetDep} + \text{PFT} + \text{R}\} / 1 - \text{RT}]}{\text{PAR}}$$

where:

(i) NetPlant: average forecasted cost of DSIC qualified plant additions less forecasted accumulated depreciation on the DSIC additions (both computed by use of average of 13 end-of-month balances).

(ii) PTROR: current TRA approved pre-tax rate of return from most recent Base Rate case Order.

(iii) NetDep: net annual depreciation expense related to the average forecasted DSIC additions, net of retirements, per application of current TRA approved depreciation rates by account.

(iv) PFT: property taxes and Franchise Tax

(iv) R: reconciliation component related to over/under recovery of DSIC costs during the prior DSIC year.

(v) RT: sum of revenue taxes % (Gross Receipts Tax and TRA Utility Fees) and uncollectible expense %, expressed as a decimal

(vi) PAR: projected annual base revenue subject to DSIC

Q. How will the DSIC revenue be recovered?

A. The DSIC would be expressed as a percentage and would be applied to the total amount billed to each customer under the otherwise applicable rates and charges for basic service, metered usage charges, and private fire charges, and would be applied prior to the inclusion of any other surcharge. The DSIC would be reflected as a line item on the bill of each customer.

Q. What will happen to the DSIC upon approval of new rates in a rate case proceeding?

A. The DSIC will be reset to zero as of the effective date of the new base rates which Base Rates then provide for the recovery of the annual costs that had theretofore been recovered through the DSIC. Thereafter, only the new DSIC qualified plant additions not previously included in rate base and Base Rates will be reflected in the future DSIC filings.

Q. What cost of capital will be utilized in the DSIC formula?

A. The cost of capital will be the approved overall rate of return (on a pre-tax basis) established by the TRA in the Company's immediately preceding Base Rate case Order.

Q. What depreciation rates will be used to determine the depreciation expense to be recovered by the DSIC?

A. The depreciation rates last approved by the TRA, for the respective plant accounts in which the specific items of qualified DSIC plant are recorded, would be used to determine the depreciation expense.

Q. Could the amount of DSIC revenue collected from Tennessee American's customers vary from the actual amount of revenue needed to cover a return of and a return on the Company's DSIC infrastructure investment and taxes?

A. Yes. This could occur as a result of a difference between the actual and the allowed water operating revenues upon which the DSIC is based.

Q. Does the DSIC include a reconciliation mechanism for the protection of the Company's customers in the event that the level of revenue varies from the actual costs?

A. Yes. As discussed earlier, the DSIC will be subject to an annual reconciliation whereby the revenue received under the DSIC for the reconciliation period will be compared to the revenue necessary for the Company to recover its return of and return on investment plus taxes, for that DSIC year. Any over or under recovery will be included in the calculation of the next adjustment to the DSIC.

Q. In addition to the protections provided to customers through the Company's proposed annual reconciliation filings, are there others?

A. Yes, the DSIC mechanism will ensure smaller more gradual increases to customers' bills rather than the larger rate increases associated with Base Rate cases resulting in part from the recognition in rates of the Company's plant investments on single lump sum bases. Also, the Company is proposing a cap on the amount of the customer bill increase of 10.0% between Base Rate cases. Lastly, qualifying plant for the DSIC will not include infrastructure investments made by the Company that would produce new customer sales revenues.

Q. Has Tennessee American filed a tariff rider addressing the proposed DSIC as a part of this proceeding?

A. Yes. A DSIC tariff rider has been included in the tariffs filed as Petitioner's Exhibit REV-10-Tariffs-DJP and supported by Company Witness Donald Petry.

PROPOSAL FOR IMPLEMENTATION OF AN ADJUSTMENT MECHANISM TO ADJUST FOR FUTURE PURCHASED POWER AND CHEMICAL EXPENSE CHANGES

Q. Please describe the Company's proposal for the adoption of a Tariff Rider for the recovery of incremental changes in purchased power and chemical costs.

A. The Company is proposing a Purchased Power and Chemicals Charge ("PPACC") Tariff Rider, which is a Tariff rate adjustment mechanism, for recovery or crediting to customers incremental changes in purchased power and purchased chemical costs above or below the level authorized for recovery in a Base Rate case proceeding through Base Tariff Rates. The reasons for the Company's PPACC Rider proposal and a description of the mechanism are provided below.

Q. Please explain why the PPACC is being proposed.

A. The combined cost of purchased power and chemicals is the largest non-labor related component of the Company's operations and maintenance expenses. Additionally, the cost of purchasing these commodities is generally outside the control of the Company's management, while at the same time very volatile in nature. The ever-changing nature of purchased power and chemical costs does not fit well within the traditional test year ratemaking framework that requires pro forma rate case adjustments to be fixed, known and measurable and occurring before the end of the attrition year. The Company therefore does not have the opportunity to recover or credit changes in these significant and potentially volatile costs beyond that timeframe. The timely recovery of prudently incurred costs is reasonable from a ratemaking perspective, in that a basic tenet of regulation is that the utility should have a reasonable opportunity to recover its prudently-incurred costs of providing service to its customers. The nature and basis of the Company's pro forma purchased power and purchased chemical expenses for inclusion in

base rates in this proceeding is described in the direct testimony of Company witness Lewis Keathley.

Q. In your opinion, what factors should the TRA consider in evaluating whether a PPACC tariff rider is an appropriate ratemaking tool for the recovery or crediting of these costs?

A. In my opinion, the traditional ratemaking approach described above is not the appropriate means for recovery when the following characteristics are present:

- Costs are certain to occur and necessary, but future levels are variable from year to year, and accurate projections for pro forma adjustments are not easily determined;
- Costs are to a great extent beyond the control of the utility;
- Costs are a significant expense of the utility and have a significant probability of cost increases or decreases;
- Cost over-recovery or under-recovery is possible due to the above factors, creating the possibility of a detrimental impact on customers or shareholders.

When these characteristics are present, the most accurate, fair and efficient means of matching recoveries with costs is through the use of the tracker regulatory ratemaking mechanism.

Q. Are the above characteristics present with respect to the purchased power and chemical costs that are proposed to be subject to the PPACC?

A. Yes. These costs are certain to occur and necessary, while substantial uncertainties exist with respect to the level of those costs. Moreover, purchased power and chemical costs

are to a great extent beyond the control of the utility. Finally, these costs represent the largest non-labor component of the Company's operation and maintenance expenses.

Q. Please describe the Company's proposed PPACC Rider.

A. The proposed PPACC Tariff Rider would have the following features:

- An appropriate pro forma amount of purchased power and chemical costs would be determined and included within base rates. The PPACC, then, would reflect only the incremental increase or decrease in actual purchased power and chemical costs from the amount included in base rates, which amount would be reflected as a deferral on the Company's accounting books.
- The PPACC would be based on actual historical purchased power and chemical costs incurred during a previous twelve month period. To allow for TRA examination and approval of each PPACC, the Company would make an annual filing with the TRA that would consist of the actual purchased power and chemical costs incurred, as well as the reconciliation of any prior period PPACC Rider over or under-recoveries.
- The PPACC would be determined by dividing the cumulative annual incremental increase or decrease in purchased power and chemical costs, grossed-up for the associated impact of revenue taxes, by projected annual base rate revenue subject to the PPACC Rider.
- The PPACC Rider would be expressed as a percentage and would be applied to the amount billed to each customer under the otherwise applicable rates and charges for basic service, metered usage charges and private fire charges and would be applied to the inclusion of any other charge. The PPACC Rider amount would be reflected as a separate line item on the bill of each customer.
- The PPACC Rider would be subject to an annual reconciliation to determine the amount of any prior period PPACC Rider over or under-recovery which amount would be deferred and included in the Company's next PPACC for return to or recovery from customers.

Q. How will the historical actual purchased power and chemical costs be determined?

A. Purchased power costs are segregated and recorded in Account 515100 and chemicals in account 518000. Therefore the historical actual costs recorded in these accounts for the previous 12 months would be used as the basis for comparison to the amounts included in Base Rates.

Q. How will the incremental difference between the actual cost and the base rate cost level be determined and then deferred for inclusion in a future PPACC?

A. The purchased power and chemical costs per 100 cubic feet of water sales as authorized in the Company's prior Base Rate case for recovery in Base Rates will be compared to the corresponding actual costs on a per 100 cubic feet of water sales basis on a current monthly basis. The unit cost difference would be applied against the authorized Base Rate case water sales level on a monthly basis. The resulting amount would be deferred for recovery or crediting through the PPACC Rider. This methodology ensures that only the incremental changes in the unit costs of purchased power and chemicals is deferred and not changes in the expense resulting from increases/decreases in water sales. The purchased power and chemical costs per 100 cubic feet of water sales as authorized in the Company's Base Rate case would be identified as part of the PPACC Tariff Rider and utilized in comparison to the current actual cost for the monthly deferral calculation.

Q. Please discuss the general operation of the proposed PPACC Tariff Rider mechanism.

A. The PPACC Rider would provide for the implementation of a charge/credit between Base Rate case filings to for the recovery or crediting of incremental changes in purchased power and chemical costs, with such amount grossed-up for the associated impact of revenue taxes (sum of Gross Receipts Taxes, TRA Utility Fees and Uncollectible expense). The PPACC Rider would be implemented on an annual basis reflecting the 12 month cumulative deferral amount (the PPACC deferral period) calculated in accordance

with the description above, and billed for recovery, or crediting as applicable, to customers over a 12 month period (the PPACC Rider year).[4]

Q. Has a schedule been presented that demonstrates the various calculations supporting the proposed PPACC?

A. Yes. Attached to this testimony is Petitioner's Exhibit PPACC-1-PPACC Sample Calculation-GMV, Schedule PPACC-1.1, which contains calculations based on hypothetical amounts demonstrating the following:

(i) calculation of the Base Rate Cost of purchased power and chemicals as determined and authorized in the Base Rate case;

(ii) deferral calculation of Actual Cost of purchased power and chemicals vs. Base Rate Cost; and

(iii) calculation of PPACC Rider percentage.

Q. Mr. VerDouw, please explain the calculations that are shown in Petitioner's Exhibit PPACC-1-PPACC Sample Calculation-GMV.

A. The calculations shown in Petitioner's Exhibit PPACC-1-PPACC Sample Calculation-GMV, Schedule PPACC-1.1, are fairly self-explanatory in the fact that each of the calculations made references the line numbers used in making that calculation. Essentially, the calculation starts with levels of purchased power and chemicals (Line 1.) and water sales (Line 2.) that are authorized in the Company's most recent rate case. In this hypothetical example, an authorized level of purchased power and chemicals of

[4] For illustrative purposes, assuming the TRA were to issue its Order in this Base Rate case proceeding with Base Rates effective 12/1/12, with such Base Rates reflecting purchased power and chemical costs for the attrition year 12/1/12 to 11/30/13, then the initial PPACC deferral period would be 12/1/12-11/30/13, with the initial PPACC filing not later than 60 days thereafter or 1/29/14. It is proposed that the TRA would have 60 days to review the PPACC filing. Accordingly, the effective date of the initial PPACC Rider year would be 4/1/14-3/31/15.

$3,700,000 and an authorized level of water sales in hundred cubic feet ("CCF") of 15,200,000 are assumed. From there, the example goes on to show a hypothetical "actual" level of purchased water and chemical expense (Line 4.) and water sales (Line 5.). Please note that in this example the "actual" level of purchased power and chemicals shown on Line 4. has decreased from the authorized level shown on Line 1., while "actual" water sales (Line 5.) has increased from the authorized level of sales (Line 2.). In this example, the combination of lower power and chemical expense and increased sales would result in a calculated PPACC decrease (Line 15.) to Tennessee American's customers. What this example shows is that the PPACC calculation can result in either an increase or a decrease to the Company's customers.

Q. Please continue with your description of the operation of the proposed PPACC.

A. The PPACC Rider would be subject to an annual reconciliation to determine the amount of any prior period PPACC Rider over or under-recovery. Any such amount would be deferred separately from the purchased power and chemical cost deferral and would be included in the Company's next PPACC for return to or recovery from customers.

Q. Has the Company filed a Tariff Rider addressing the proposed PPACC?

A. Yes. A PPACC Rider schedule has been included as part of the Company's overall proposed tariffs filed as Petitioner's Exhibit REV-10-Tariffs-DJP and supported by Company Witness Donald Petry.

PROPOSAL FOR IMPLEMENTATION OF A PENSION COST TRACKER

Q. What method has been used to establish pension expense in the past for Tennessee American?

A. In previous Tennessee American rate cases, ordered pension expense has been based on Tennessee American's allocation of the ERISA "minimum funding requirement" found on the Company's pension plan actuarial report, as prepared by Towers Watson.

Q. What has been the result of this basis for pension expense calculation?

A. The result of this has been an authorized expense level which does not allow Tennessee American to recover its prudent actual pension expense. From January 1, 2008 through December 31, 2011 alone, when many of the drivers described below began to impact the Company, this resulted in pension rate allowances $3.8 million lower than actual pension expense. Please see Petitioner's Exhibit PN-1-Pension Recovery-GMV, Schedule PN-1.1 for the calculation of variances between actual pension expense and rate allowance for this time period.

Q. Why is this method of pension expense calculation not allowing adequate recovery when compared to actual expenses?

A. This method is not allowing adequate recovery of pension expense due to three primary factors:

1) The impacts of the 2006 Pension Protection Act;
2) Unrecognized changes to American Water Works Service Company accounting methods; and
3) Difficulty in establishing a representative year of expense using previous rate making methods, due to both volatility of prudent pension expense and timing issues.

Q. Can you please elaborate on the first factor "1) the impacts of the 2006 Pension Protection Act"? Please begin by explaining, at a high level, the major changes instituted by the Pension Protection Act.

A. On August 17, 2006 the Pension Protection Act ("PPA") was passed into federal law. The PPA represented a significant reform of the nation's pension laws and established new funding requirements for defined benefit plans.

The PPA was passed in the wake of several significant pension plan defaults by large U.S. companies. The legislation was designed both to prevent future defaults and also to restore adequate funding to the Pension Benefit Guarantee Corporation (PBGC), whose position was compromised by this rash of defaults. The PBGC was established by the 1974 Employee Retirement Income Security Act (ERISA) to insure pension benefits of private-sector defined benefit pension plans.

The PPA aimed to either encourage or force employers to better fund their defined benefit pensions and to restore sound funding to the PBGC, by establishing the following:

- Stricter standards for actuarial valuation assumptions;
- Premium payments to the PBGC for all defined benefit pension plans;
- Higher premium payments to the PBGC for defined benefit pension plans with unfunded vested benefits;
- Establishment of standards for determining which plans were "At-Risk"; and
- Punishments and benefit restrictions for "At-Risk" plans.

Q. How do these impacts relate to pension expense calculation?

A. While the ERISA "minimum funding requirement" may reflect some of the changes to actuarial assumptions caused by the PPA, it will not always reflect a funding level

adequate to avoid penalties and restrictions under this new law. It specifically does not account for the following two additional elements of prudent pension expense:

1) Funding required to avoid "At-Risk" status and / or benefit restrictions; and
2) Funding required to pay down unfunded liabilities in order to reduce PBGC variable premiums.

Both of these elements are prudent expenses and thus should be recognized in the calculation of appropriate pension expense levels.

Q. What are the legal consequences of falling into "At-Risk" status?

A. Under the Pension Protection Act, the Company would face the following consequences if its pension plan was deemed "At-Risk":

1) Mandated use of specific actuarial assumptions that will force the calculation of higher minimum contributions.
2) Required disclosure to all plan participants indicating that the plan is "At-Risk"

Most plans that qualify for "At-Risk" status also face benefit restrictions which can directly affect participants and the ability to pay benefits from the plan. Depending on the plan's funded level, the type of benefit restrictions that may apply include:

1. Restrictions on benefit payments, such as lump sums;
2. Restrictions on benefit increases;
3. Restrictions on shutdown benefits; and
4. Restrictions on future benefit accruals

In addition, if any of these restrictions apply, then the company must notify plan participants that the restrictions apply.

Q. Does that list include all consequences of "At-Risk" status?

A. No. Another consequence is additional variable PBGC premiums. We mention above that a plan in "At-Risk" status must use mandated assumptions that will result in higher minimum contributions. These same assumptions apply when determining the premiums the company must pay to the PBGC. In addition, a plan that has benefit restrictions has increased costs for plan administration.

Q. How do plan sponsors avoid "At-Risk" status and benefit restrictions?

A. The primary method used by plan sponsors to avoid both "At-Risk" status and benefit restrictions is to keep the plan funded above 80%. The PPA defines minimum required contributions that are designed to make plan sponsors fully fund their plan over a 7 year period. However, depending on the economic environment, there may be years when even the minimum required contributions do not result in the plan being above 80% funded. In these years, the Company has chosen to fund to at least 80% in order to avoid both "At-Risk" and benefit restrictions.

Q. Has the Company's pension plan fallen into the "At-Risk" category?

A. The Company's pension plan has not fallen into the "At-Risk" category, but only because of the significant contributions we have made to the plan above and beyond the "ERISA minimum" since the PPA was passed, to drive down our funding shortfall.

Q. Has the Company had to pay PBGC variable premiums?

A. The Company's pension plan has been below the funding target every year since 2008, despite significant contributions. As a consequence, the Company has had to pay increased premiums to the PBGC in the amount of 0.9% of its unfunded vested benefits.

Q. Can you explain the second identified driver of pension underfunding, "Unrecognized changes to American Water Works Service Company accounting methods"?

A. In 2007, the American Water Works Service Company began billing Service Company pension expense to its subsidiaries based upon FAS 87 accounting, rather than on contributions. Service Company pension expense had previously flowed through the Service Company bill to the subsidiaries based on actual contributions. Consequently, Tennessee American's Service Company pension expense had been consistent with the contributions-oriented approach taken in prior Tennessee American orders in setting pension expense levels.

When the Service Company changed its pension accounting to FAS 87 however, this meant that the amount coming through the bill was no longer consistent with the pension recovery method authorized for Tennessee American. As a consequence, the difference between the Service Company FAS 87 expense and the Service Company contributions expense was booked through a separate journal entry to Tennessee American's pension expense account (object 506100). Because contribution levels have exceeded FAS 87 levels of expense for each year since 2008, these entries have created an increase to Tennessee American's pension expense.

In reviewing prior exhibits, testimony and rate orders, it would appear that this incremental Service Company pension cost has not previously been taken into consideration for either requesting or setting pension rate recovery levels for the Company. Between 2008 and 2011, $888,151 of the $3.8 million gap between rate

allowance and actual expense was due to these entries. Please see Petitioner's Exhibit PN-1-Pension Recovery-GMV, Schedule PN-1.2 for the calculation of the amount incurred over the amount allowed.

Because this accounting change has not been considered previously, the Company asks that the matter be addressed in this proceeding. Pro forma pension expense for the attrition year includes an incremental cost of $260,929.80 for these transactions. The Company requests that the funds for this Service Company incremental cost either be included in authorized pension expense or that the Authority rule that Service Company pension expense should be recovered on the Service Company bill's current FAS 87 basis. If the latter were the case, this incremental cost element of pension expense would become unnecessary.

Q. Can you explain the final factor affecting Tennessee American's pension under-recovery, "Difficulty in establishing a representative year of expense using previous rate making methods, due to both volatility of prudent pension expense and to timing issues"?

A. Volatility is the first part affecting the recovery of actual pension expenses. Unlike other expenses which may trend with inflation, pension expense can change dramatically from one year to the next due to changes in market conditions and/or legislative changes. Due to this fluctuation, it is difficult to calculate a representative year of expense to use in setting rates based on a prior year.

This volatility, while frustrating, is part of the prudent expenditure. In fact, some of the features of the PPA (such as plan asset valuation methods and interest rate development

methods) use shorter time frames for measurement than allowed previously, which intentionally reduces smoothing and increases volatility. However, these were enforced for the purpose of ensuring that defined benefit plans are properly funded.

Since 2008 especially, this volatility has hampered the Company's ability to recover its pension expenses because expenses have gone up dramatically following rate cases. However, it could just as easily result in an over-recovery, with customers bearing unnecessary burdens, if pension expenses went down dramatically following a rate case.

The second part of this factor is the timing issue. Chiefly, this is the difference between attrition years and actuarial report years. While Tennessee American is regulated using a forward-looking attrition year, the document which has been used previously to set Tennessee American authorized pension rates actually refers to a backward-looking time period. For example, the Company's actuarial report published in 2012 will refer to the funding period of July 1, 2011 to June 30, 2012. While this covers a portion of the test year, it does not cover any part of the attrition year.

As a consequence of this volatility and the timing difference between actuarial reports and attrition years, future levels of appropriate pension expense are not readily established by either inflating a prior year of expense or by referencing a prior year's actuarial report. In order to manage these problems, the Company recommends that a new method of pension calculation and recovery be instituted.

Q. What method of pension calculation and recovery does the Company recommend, and how can pension expense be managed for rate-making purposes, while meeting

the needs of the 2006 PPA, accounting for changes to Service Company accounting methodology and protecting both the customers and the Company from the impacts of volatility and timing issues?

A. Tennessee American proposes a two-step process:

1. Establishment of a reasonable expense level for the attrition year; and
2. Establishment of a method for deferring costs in excess or deficiency of this amount for future rate recovery or refund.

To establish a reasonable level of pension expense for this case, the Company proposes that attrition year pension expense be based on projected contributions for the period of December 2012 – November 2013, as detailed in Exhibit EXP-8-Pensions-MLS. These projections reflect professional estimates of prudent funding, including funding required to meet ERISA minimums, to avoid "At-Risk" status and / or benefit restrictions, and to drive down the liabilities which drive PBGC variable premiums. Proposed expense levels also include the entries to true-up the Service Company bill FAS 87 amount to a contribution amount.

To establish a method for deferral, the Company requests that Tennessee American be authorized to defer pension expenses that either fall short of or exceed the amount allowed in this rate case until new rates are set for pension expense. Tennessee American requests that it be authorized to refund or recover these deferrals in future rate cases. In addition, the Company requests that the deferred pension balance be recognized in rate base, thus reducing rate base if the Company has over-collected pension expense, or increasing rate base should the Company fund more than the established level of pension expense for this case. The Company requests that the expenses deemed prudent for this process should include contributions made to pay ERISA minimums, contributions made

to avoid “At-Risk” status and / or benefit restrictions and funding made to reduce PBGC variable premiums. The Company will file an Exhibit and supporting work papers in the next rate case which will show the details of the over or under status of the pension contributions, when compared to authorized level of rates, and the proposed amortization period of the deferral.

Q. Does this conclude your prepared direct testimony?

A. Yes it does.

STATE OF MISSOURI

COUNTY OF ST. LOUIS

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for the State and City aforesaid, personally came and appeared Gary VerDouw, being by me first duly sworn deposed and said that:

He is appearing as a witness on behalf of Tennessee-American Water Company before the Tennessee Regulatory Authority, and if present before the Authority and duly sworn, his testimony would set forth in the annexed transcript.

Gary VerDouw

Sworn to and subscribed before me
this 24th day of May, 2012.

Notary Public

JULIE M. POLZIN
Notary Public - Notary Seal
STATE OF MISSOURI
St. Louis County
My Commission Expires 6/11/2012
Commission # 08575308

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Tennessee American Water Company
Docket No. 12-XXXXX
Calculation of Proposed Revenue Increase
Based on Pro Forma Operating Results for the Attrition Period Ending November 30, 2013
and Rate Base as of November 30, 2013

Type of Filing: __X__ Original _____ Updated _____ Revised

Line Number	Description	Total Company
1		
2	**Present Rate Utility Operating Income:**	
3		
4	**Operating Revenue at Present Rates:**	$ 42,842,514
5		
6	**Less: Deductions:**	
7	Operating and Maintenance:	$ 24,343,120
8	Depreciation:	7,155,805
9	Amortization:	29,307
10	General Taxes:	5,009,904
11	State Income Taxes:	202,652
12	Federal Income Taxes:	1,126,738
13	**Total Deductions:**	$ 37,867,524
14		
15	**Pro Forma Present Rate Utility Operating Income:**	$ 4,974,990
16		
17		
18		
19		

Line Number	Revenue Requirement and Increase Comparison:	Total Company
20		
21		
22		
23	Net Original Cost Rate Base	$ 135,820,256
24	Rate of Return	8.23%
25		
26	Net Operating Income Required for Return on Original Cost Rate Base	$ 11,178,007
27		
28	Less: Pro Forma Net Operating Income Based on Current Rates	$ 4,974,990
29		
30	Increase in Net Operating Income Required	$ 6,203,017
31		
32	Gross Revenue Conversion Factor	172.0990%
33		
34	Increase in Revenue Requirement (Based on Net Original Cost Rate Base)	$ 10,675,330
35		
36	Less: Additional Late Payment Fee Attributable to Rate Increase	$ 88,986
37		
38	Total Revenue Requirement Requested	$ 10,586,344
39		
40	**Percentage Increase in over Operating Revenue at Present Rates:**	24.92%
41		
42		

Tennessee American Water Company
Docket No. 12-XXXXX
Income Statement at Proposed Rates

Type of Filing: __X__ Original _____ Updated _____ Revised

Line Number	Description	Gross Revenue Conversion Factor Percentage	Total Company
1			
2	**Increases by Line Items from Gross Revenue Conversion Factor Calculation**		
3	Operating and Maintenance Expenses	2.1483%	$ 94,167
4	General Taxes	7.8421%	343,745
5	State Income Taxes	15.3259%	671,784
6	Federal Income Taxes	74.6837%	3,273,631
7			
8	Total Increase:	100.0000%	$ 4,383,327
9			
10	Operating Income		$ 6,203,017
11			
12	Revenues		$ 10,586,344
13			
14			
15	**Income Statement at Proposed Rates:**		
16			
17	**Operating Revenues at Proposed Rates:**		$ 53,428,858
18			
19	**Less: Deductions:**		
20	Operating and Maintenance Expenses		$ 24,437,287
21	Depreciation		7,155,805
22	Amortization		29,307
23	General Taxes		5,353,649
24	State Income Taxes		874,436
25	Federal Income Taxes		4,400,369
26			
27	**Total Deductions:**		$ 42,250,853
28			
29	**Pro Forma Operating Income:**		$ 11,178,005
30			

Tennessee American Water Company
Docket No. 12-XXXXX
Calculation of Gross Revenue Conversion Factor

Type of Filing: __X__ Original _____ Updated _____ Revised

Line Number	Gross Revenue Conversion Factor Calculation	Gross Revenue Conversion Factor Calculation	Percentage of Total
1	Gross revenue Change	100.0000%	
2	Less: Bad Debt Rate/ Uncollectible Expense	0.9000%	2.1483%
3	Total Before Gross Income and TRA Fees	99.1000%	
4			
5	Less: TRA Utility Fee (Calculated at 0.325% of all revenue over $1,000,000)	0.3221%	0.7688%
6	Income Before State Income taxes	98.7779%	
7			
8	Less: State Income Tax @ 6.5%	6.4206%	15.3259%
9	Less: Gross Income Tax @ 3.0%	2.9633%	7.0733%
10	Income before Federal income Taxes	89.3940%	
11			
12	Less: Federal income Tax @ 35%	31.2879%	74.6837%
13			
14	Income after Income Taxes	58.1061%	100.0000%
15			
16	Gross Revenue Conversion Factor	172.0990%	

Petitioner's Exhibit FS-2-Income Statement-GMV
Schedule 1

Tennessee American Water Company
Docket No. 12-XXXXX
Pro Forma Income Statement
For Test Year Ended 12/31/2011 & Attrition Year Ended 11/30/2013 (At Both Present and Proposed Rates)

Line Number	Description	Supporting Exhibit Reference	Test Year Ending 12/31/2011			Attrition Year at Present Rates		Attrition Year at Proposed Rates	
			Per Books	Test Year Adjustments	Normalized Test Year	Attrition Year Adjustments	Attrition Year at Present Rates	Adjustments for Proposed Rates	Attrition Year at Proposed Rates
1	**Operating Revenues**	Exhibit REV-1-Summary-DJP	$ 42,729,568	$ 445,591	$ 43,175,159	$ (332,644)	$ 42,842,514	$ 10,586,344	$ 53,428,858
2									
3	**Operating Expense**								
4	**Operation and Maintenance:**								
5	Labor	Exhibit EXP-1-Labor-MLS	$ 5,460,560	$ (319,062)	$ 5,141,498	$ 408,329	$ 5,549,827	$ -	$ 5,549,827
6	Purchased Water	Exhibit EXP-2-Purchased Water-LEK	44,212	5,088	49,300	859	50,159	-	50,159
7	Purchased Power	Exhibit EXP-3-Purchased Power-LEK	2,738,627	19,882	2,758,509	29,704	2,788,212	-	2,788,212
8	Chemicals	Exhibit EXP-4-Chemicals -LEK	1,039,056	(2,130)	1,036,926	(6,799)	1,030,128	-	1,030,128
9	Waste Disposal	Exhibit EXP-5-Waste Disposal-LEK	204,868	-	204,868	3,568	208,436	-	208,436
10	Support Services	Exhibit EXP-6-Support Services-LCB	5,081,165	319,830	5,400,995	415,571	5,816,566	-	5,816,566
11	Group Insurance	Exhibit EXP-7-Group Insurance-MLS	1,700,927	-	1,700,927	73,509	1,774,436	-	1,774,436
12	Pensions	Exhibit EXP-8-Pensions-MLS	2,872,406	-	2,872,406	(1,351,555)	1,520,851	-	1,520,851
13	Regulatory Expense	Exhibit EXP-9-Regulatory Expense-LCB	663,237	(406,041)	257,196	369,754	626,950	-	626,950
14	Insurance Other Than Group	Exhibit EXP-10-Insurance Other than Group-LCB	348,026	(790)	347,236	17,821	365,057	-	365,057
15	Customer Accounting	Exhibit EXP-11-Customer Accounting-DJP	1,256,731	(57,299)	1,199,432	15,321	1,214,752	94,167	1,308,919
16	Rents	Exhibit EXP-12-Rents-MLS	52,359	(43,985)	8,374	-	8,374	-	8,374
17	General Office Expense	Exhibit EXP-13-General Office Expense-LCB	319,665	(49,582)	270,083	10,646	280,729	-	280,729
18	Miscellaneous	Exhibit EXP-14-Miscellaneous Expense-DJP	2,444,361	(286,745)	2,157,616	(42,531)	2,115,085	-	2,115,085
19	Maintenance Expense	Exhibit EXP-15-Maintenance Expense-LEK	976,549	-	976,549	17,008	993,557	-	993,557
20									
21	**Total Operation and Maintenance Expense (Total of Lines 5-19):**		$ 25,202,749	$ (820,834)	$ 24,381,915	$ (38,795)	$ 24,343,120	$ 94,167	$ 24,437,287
22									
23									
24	**Depreciation Expense**	Exhibit EXP-16-Depreciation Expense-LCB	$ 4,615,384	$ 799,815	$ 5,415,199	$ 1,740,605	$ 7,155,805	$ -	$ 7,155,805
25	**Amortization**	Exhibit EXP-17-Amortization-LCB	422,920	(293,080)	129,840	(100,533)	29,307	-	29,307
26	**General Taxes**	Exhibit EXP-18-General Taxes and Fees-LEK	4,496,448	(18,982)	4,477,466	532,438	5,009,904	343,745	5,353,649
27	**State Income Taxes**	Exhibit EXP-19-State Income Tax-DJP	405,914	(32,456)	373,458	(170,806)	202,652	671,784	874,436
28	**Federal Income Taxes**	Exhibit EXP-20-Federal Income Tax-DJP	1,774,925	211,757	1,986,682	(859,944)	1,126,738	3,273,631	4,400,369
29									
30	**Total Operating Expenses (Line 21 + Lines 24-28):**		$ 36,918,340	$ (153,780)	$ 36,764,560	$ 1,102,964	$ 37,867,524	$ 4,383,327	$ 42,250,851
31									
32	**Utility Operating Income (Line 1 less Line 30):**		$ 5,811,228	$ 599,371	$ 6,410,599	$ (1,435,608)	$ 4,974,990	$ 6,203,017	$ 11,178,007
33									
34									
35									

TENNESSEE AMERICAN WATER COMPANY
Docket No. 12-XXXXX
Rate of Return Summary
For the Twelve Months Ended December 31, 2011 and November 30, 2013

Type of Filing: __X__ Original _____ Updated _____ Revised

Line No.	Class of Capital	Test Year Amount at 12/31/2011	% of Total	(%) Cost	Weighted Cost
1					
2	Short-Term Debt	$ 379,325	0.33%	0.41%	0.00%
3					
4	Long-Term Debt	62,152,612	53.72%	6.08%	3.27%
5					
6	Preferred Stock	1,381,600	1.19%	5.00%	0.06%
7					
8	Common Equity	51,793,796	44.76%	11.30%	5.06%
9					
10	Total Capitalization	$ 115,707,332	100.00%		8.39%
11					

Line No.	Class of Capital	13-Mo Average at 11/30/2013	% of Total	(%) Cost	Weighted Cost
1					
2	Short-Term Debt	$ 4,594,554	3.65%	1.42%	0.05%
3					
4	Long-Term Debt	64,574,762	51.35%	6.02%	3.09%
5					
6	Preferred Stock	-	0.00%	0.00%	0.00%
7					
8	Common Equity	56,587,945	45.00%	11.30%	5.09%
9					
10	Total Capitalization	$ 125,757,261	100.00%		8.23%
11					

TENNESSEE AMERICAN WATER COMPANY
Docket No. 12-XXXXX
Common Equity Summary
For the Twelve Months Ended December 31, 2011 and November 30, 2013

Type of Filing: __X__ Original _____ Updated _____ Revised

Description	Balance at 12/31/2011	13-Month Avg at 11/30/2013
Common Stock	$ 13,754,235.04	$ 13,754,235.04
Paid-in Capital	15,839,524.50	18,206,540.36
Retained Earnings	22,200,036.70	24,627,169.72
Total Common Equity	$ 51,793,796.24	$ 56,587,945.12

TENNESSEE AMERICAN WATER COMPANY
Docket No. 12-XXXXX
Embedded Cost of Long-Term Debt
For the Twelve Months Ended December 31, 2011

Type of Filing: __X__ Original _____ Updated _____ Revised

Debt Issue Type	Coupon Rate	Issue Date	Maturity Date	Principal Amount	Face Amount Outstanding at 12/31/11	Unamortized (Discount) or Premium	Unamortized Debt Expense at 12/31/11	Carrying Value	Annual Interest	Annual Amortization of Issue Expense	Annual Cost
General Mortgage Bonds:											
9.25% Series	9.250%	1/12/1990	12/1/2019	2,500,000.00	-	-	-	-	-	-	-
7.84% Series	7.840%	10/4/1996	9/1/2026	5,700,000.00	5,700,000.00	-	33,180.82	5,666,819.18	446,880.00	2,262.24	449,142.24
Long-Term Debt Issued by AWCC:											
5.39% Series	5.390%	2/15/2007	12/21/2013	15,000,000.00	15,000,000.00	-	14,562.16	14,985,437.84	808,500.00	7,281.12	815,781.12
5.62% Series	5.620%	3/29/2007	3/29/2019	19,000,000.00	19,000,000.00	-	37,476.39	18,962,523.61	1,067,800.00	5,169.12	1,072,969.12
6.00% Series	6.000%	12/4/2009	12/1/2039	10,650,000.00	10,571,022.50	-	353,172.54	10,217,849.96	634,261.35	12,651.00	646,912.35
6.00% Series	6.000%	5/15/2011	10/15/2037	10,000,000.00	10,000,000.00	-	409,310.14	9,590,689.86	600,000.00	14,154.84	614,154.84
5.90% Series	5.900%	5/19/2011	12/1/2040	2,500,000.00	2,500,000.00	-	77,535.99	2,422,464.01	147,500.00	3,011.16	150,511.16
Capital Lease	9.489%	12/1/2007	5/1/2013		306,827.14	-	-	306,827.14	29,114.83	-	29,114.83
					63,077,849.64	-	925,238.04	62,152,611.60	3,734,056.18	44,529.48	3,778,585.66
								Embedded Cost			6.08%

Debt Issue Type	Coupon Rate	Issue Date	Maturity Date	Principal Amount	Face Amount Outstanding at 11/30/2013	Unamortized (Discount) or Premium	Unamortized Debt Expense at 11/30/2013	Carrying Value	Annual Interest	Annual Amortization of Issue Expense	Annual Cost
					13-Month Average		13-Month Average				
General Mortgage Bonds:											
7.84% Series	7.840%	10/4/1996	9/1/2026	5,700,000.00	5,700,000.00	-	29,975.98	5,670,024.02	446,880.00	2,262.24	449,142.24
Long-Term Debt Issued by AWCC:											
5.39% Series	5.390%	2/15/2007	12/21/2013	15,000,000.00	15,000,000.00	-	4,247.24	14,995,752.76	808,500.00	7,281.12	815,781.12
5.62% Series	5.620%	3/29/2007	3/29/2019	19,000,000.00	19,000,000.00	-	30,153.47	18,969,846.53	1,067,800.00	5,169.12	1,072,969.12
6.00% Series	6.000%	12/4/2009	12/1/2039	10,650,000.00	10,571,022.50	-	335,250.29	10,235,772.21	634,261.35	12,651.00	646,912.35
6.00% Series	6.000%	5/15/2011	10/15/2037	10,000,000.00	10,000,000.00	-	389,257.45	9,610,742.55	600,000.00	14,154.84	614,154.84
5.90% Series	5.900%	5/19/2011	12/1/2040	2,500,000.00	2,500,000.00	-	73,270.18	2,426,729.82	147,500.00	3,011.16	150,511.16
5.10% Series	5.100%	11/15/2012	11/15/2042	2,000,000.00	2,000,000.00		-	2,000,000.00	102,000.00	-	102,000.00
5.20% Series	5.200%	11/15/2013	11/15/2043	8,562,000.00	658,615.38		23,348.37	635,267.01	34,248.00	422.15	34,670.15
Capital Lease	9.489%	12/1/2007	5/1/2013		30,626.80	-	-	30,626.80	2,906.18	-	2,906.18
					65,460,264.68	-	885,502.98	64,574,761.70	3,844,095.53	44,951.63	3,889,047.16
								Embedded Cost			6.02%

TENNESSEE AMERICAN WATER COMPANY
Docket No. 12-XXXXX
Embedded Cost of Preferred Stock
For the Twelve Months Ended December 31, 2011

Type of Filing: __X__ Original _____ Updated _____ Revised

Subledger	Description	Date Issued	Par Value Outstanding at 12/31/2011	Premium or (Discount)	Unamortized Issue Expense	Gain or (Loss) on Reaquired Stock	Net Proceeds at 12/31/2011	Annual Dividends	Annual Amortization of Issue Expense	Annual Cost
PS260002	5.00% Series $100 Par Value	3/1/2001	1,381,600.00	-	-	-	1,381,600.00	69,080.00	-	69,080.00
			1,381,600.00	-	-	-	1,381,600.00	69,080.00	-	69,080.00
								Embedded Cost		5.00%

Subledger	Description	Date Issued	Par Value Outstanding at 11/30/2013	Premium or (Discount)	Unamortized Issue Expense	Gain or (Loss) on Reaquired Stock	Net Proceeds at 11/30/2013	Annual Dividends	Annual Amortization of Issue Expense	Annual Cost
			13-Month Average				13-Month Average			
PS260002	5.00% Series $100 Par Value	3/1/2001	-	-	-	-	-	-	-	-
			-	-	-	-	-	-	-	-
								Embedded Cost		0.00%

Tennessee American Water Company
Docket No. 12-_____
Business Transformation ("BT") Costs (2009-2014) for American Water Company (Total)
As Well as Tennessee American Water's Allocation of Those Costs

Consolidated Totals

Line Number	Description	Total	Year 2009	2010	2011	2012	2013	2014
1.	**Labor**							
2.	Internal - Business	$ 50,217,502	$ -	$ 3,407,264	$ 14,223,384	$ 19,828,003	$ 10,812,021	$ 1,946,830
3.	Internal - ITS	21,942,489	-	600,000	7,597,272	8,540,443	5,204,774	-
4.	External - Support	110,076,964	-	4,584,586	54,228,792	41,704,262	9,559,324	-
5.	External - Other	7,572,960	-	546,374	4,569,587	2,245,800	207,300	3,899
6.	**Labor Subtotal (Total of Lines 2. - 5.):**	$ 189,809,915	$ -	$ 9,138,224	$ 80,619,035	$ 72,318,508	$ 25,783,419	$ 1,950,729
7.	Employee Expenses	$ 18,997,741	$ -	$ 965,675	$ 3,504,690	$ 6,937,128	$ 7,400,478	$ 189,770
8.	Hardware	18,181,054	-	-	11,272,267	5,417,909	1,490,428	450
9.	Software	28,780,876	-	15,911,971	9,250,137	2,712,468	906,300	-
10.	Program Operations	3,996,660	-	562,704	1,010,296	1,172,640	1,043,270	207,750
11.	Comprehensive Planning Study	6,341,302	5,725,099	616,203	-	-	-	-
12.	Contingency	14,300,003	-	-	3,407,740	6,970,146	3,279,147	642,970
13.	**BT Subtotal (Lines 6. + Lines 7. - 12.):**	$ 280,407,551	$ 5,725,099	$ 27,194,777	$ 109,064,165	$ 95,528,799	$ 39,903,042	$ 2,991,669
14.	**Other**							
15.	AFUDC - BT	$ 20,238,249	$ 127,375	$ 993,388	$ 4,121,353	$ 8,807,960	$ 6,188,173	$ -
16.	**Total BT (Line 13. + Line 15.):**	$ 300,645,800	$ 5,852,474	$ 28,188,165	$ 113,185,518	$ 104,336,759	$ 46,091,215	$ 2,991,669
17.	BT Controls/Organizational Integration	$ 18,345,618	$ -	$ -	$ 8,361,387	$ 9,429,998	$ 554,233	$ -
18.	BT Controls/Organizational Integration - AFUDC	1,289,735	-	-	70,667	742,787	476,281	-
19.	**Total BT Controls/Organizational Integration (Line 17. + Line 18.):**	$ 19,635,353	$ -	$ -	$ 8,432,054	$ 10,172,785	$ 1,030,514	$ -
20.	**BT Grand Total - American Water (Line 16. + Line 19.):**	$ 320,281,153	$ 5,852,474	$ 28,188,165	$ 121,617,572	$ 114,509,544	$ 47,121,729	$ 2,991,669
21.	**Tennessee American Water Allocation Percentage:**	2.42%	2.42%	2.42%	2.42%	2.42%	2.42%	2.42%
22.	**Total Cost Applicable to Tennessee American (Line 20. * Line 21.):**	$ 7,750,804	$ 141,630	$ 682,154	$ 2,943,145	$ 2,771,131	$ 1,140,346	$ 72,398

Tennessee American Water Company
Docket No. 12-_____
Business Transformation ("BT") Costs (2009-2014) for American Water Company (Total)
As Well as Tennessee American Water's Allocation of Those Costs

Enterprise Resource Planning

Line Number	Description	Total	Year 2009	2010	2011	2012	2013	2014
1.	**Labor**							
2.	Internal - Business	$ 23,289,266	$ -	$ 1,779,595	$ 8,118,252	$ 11,176,115	$ 1,989,249	$ 226,055
3.	Internal - ITS	9,109,068	-	300,000	4,480,206	4,002,368	326,494	-
4.	External - Support	54,220,088	-	1,828,042	29,912,071	22,252,578	227,397	-
5.	External - Other	3,595,430	-	272,688	2,195,748	1,113,047	12,204	1,743
6.	**Labor Subtotal (Total of Lines 2. - 5.):**	$ 90,213,852	$ -	$ 4,180,325	$ 44,706,277	$ 38,544,108	$ 2,555,344	$ 227,798
7.	Employee Expenses	$ 7,277,333	$ -	$ 481,303	$ 1,622,076	$ 3,340,194	$ 1,817,850	$ 15,910
8.	Hardware	6,969,823	-	-	4,610,660	2,358,023	939	201
9.	Software	10,866,449	-	5,223,787	5,049,288	593,374	-	-
10.	Program Operations	1,792,768	-	282,646	493,716	527,145	396,386	92,875
11.	Comprehensive Planning Study	3,216,567	2,908,464	308,103	-	-	-	-
12.	Contingency	7,227,333	-	-	2,121,800	4,398,266	707,267	-
13.	**BT Subtotal (Lines 6. + Lines 7. - 12.):**	$ 127,564,125	$ 2,908,464	$ 10,476,164	$ 58,603,817	$ 49,761,110	$ 5,477,786	$ 336,784
14.	**Other**							
15.	AFUDC - BT	$ 6,044,224	$ 63,687	$ 387,370	$ 1,993,194	$ 3,599,973	$ -	$ -
16.	**Total BT (Line 13. + Line 15.):**	$ 133,608,349	$ 2,972,151	$ 10,863,534	$ 60,597,011	$ 53,361,083	$ 5,477,786	$ 336,784
17.	BT Controls/Organizational Integration	$ 9,255,439	$ -	$ -	$ 4,180,693	$ 4,890,002	$ 184,744	$ -
18.	BT Controls/Organizational Integration - AFUDC	320,059	-	-	35,320	284,739	-	-
19.	**Total BT Controls/Organizational Integration (Line 17. + Line 18.):**	$ 9,575,498	$ -	$ -	$ 4,216,013	$ 5,174,741	$ 184,744	$ -
20.	**BT Grand Total - American Water (Line 16. + Line 19.):**	$ 143,183,847	$ 2,972,151	$ 10,863,534	$ 64,813,024	$ 58,535,824	$ 5,662,530	$ 336,784
21.	**Tennessee American Water Allocation Percentage:**	2.42%	2.42%	2.42%	2.42%	2.42%	2.42%	2.42%
22.	**Total Cost Applicable to Tennessee American (Line 20. * Line 21.):**	$ 3,465,049	$ 71,926	$ 262,898	$ 1,568,475	$ 1,416,567	$ 137,033	$ 8,150

Tennessee American Water Company
Docket No. 12-_____
Business Transformation ("BT") Costs (2009-2014) for American Water Company (Total)
As Well as Tennessee American Water's Allocation of Those Costs

Enterprise Asset Management

Line Number	Description	Total	Year 2009	2010	2011	2012	2013	2014
1.	**Labor**							
2.	Internal - Business	$ 11,336,802	$ -	$ 838,190	$ 2,717,054	$ 3,308,777	$ 3,816,831	$ 655,950
3.	Internal - ITS	6,358,514	-	150,000	1,748,542	2,290,406	2,169,566	-
4.	External - Support	25,906,674	-	1,571,510	11,844,190	8,737,851	3,753,123	-
5.	External - Other	1,966,049	-	136,843	1,087,042	596,241	144,933	990
6.	**Labor Subtotal (Total of Lines 2. - 5.):**	$ 45,568,039	$ -	$ 2,696,543	$ 17,396,828	$ 14,933,275	$ 9,884,453	$ 656,940
7.	Employee Expenses	$ 4,730,908	$ -	$ 267,234	$ 740,380	$ 1,265,805	$ 2,402,735	$ 54,754
8.	Hardware	6,171,451	-	-	3,196,776	1,763,196	1,211,365	114
9.	Software	8,215,157	-	4,778,431	2,112,144	926,582	398,000	-
10.	Program Operations	1,042,107	-	139,261	247,257	299,361	303,470	52,758
11.	Comprehensive Planning Study	1,541,266	1,387,216	154,050	-	-	-	-
12.	Contingency	3,536,335	-	-	642,970	1,285,940	1,285,940	321,485
13.	**BT Subtotal (Lines 6. + Lines 7. - 12.):**	$ 70,805,263	$ 1,387,216	$ 8,035,519	$ 24,336,355	$ 20,474,159	$ 15,485,963	$ 1,086,051
14.	**Other**							
15.	AFUDC - BT	$ 6,017,611	$ 31,844	$ 288,231	$ 893,504	$ 2,178,040	$ 2,625,992	$ -
16.	**Total BT (Line 13. + Line 15.):**	$ 76,822,874	$ 1,419,060	$ 8,323,750	$ 25,229,859	$ 22,652,199	$ 18,111,955	$ 1,086,051
17.	BT Controls/Organizational Integration	$ 4,077,539	$ -	$ -	$ 1,843,656	$ 2,095,324	$ 138,559	$ -
18.	BT Controls/Organizational Integration - AFUDC	433,568	-	-	11,773	208,097	213,698	-
19.	**Total BT Controls/Organizational Integration (Line 17. + Line 18.):**	$ 4,511,107	$ -	$ -	$ 1,855,429	$ 2,303,421	$ 352,257	$ -
20.	**BT Grand Total - American Water (Line 16. + Line 19.):**	$ 81,333,981	$ 1,419,060	$ 8,323,750	$ 27,085,288	$ 24,955,620	$ 18,464,212	$ 1,086,051
21.	**Tennessee American Water Allocation Percentage:**	2.42%	2.42%	2.42%	2.42%	2.42%	2.42%	2.42%
22.	**Total Cost Applicable to Tennessee American (Line 20. * Line 21.):**	$ 1,968,282	$ 34,341	$ 201,435	$ 655,464	$ 603,926	$ 446,834	$ 26,282

Tennessee American Water Company
Docket No. 12-_____
Business Transformation ("BT") Costs (2009-2014) for American Water Company (Total)
As Well as Tennessee American Water's Allocation of Those Costs

Customer Information System

Line Number	Description	Total	Year 2009	2010	2011	2012	2013	2014
1.	**Labor**							
2.	Internal - Business	$ 15,591,434	$ -	$ 789,479	$ 3,388,078	$ 5,343,111	$ 5,005,941	$ 1,064,825
3.	Internal - ITS	6,474,907	-	150,000	1,368,524	2,247,669	2,708,714	-
4.	External - Support	29,950,202	-	1,185,034	12,472,531	10,713,833	5,578,804	-
5.	External - Other	2,011,481	-	136,843	1,286,797	536,512	50,163	1,166
6.	**Labor Subtotal (Total of Lines 2. - 5.):**	$ 54,028,024	$ -	$ 2,261,356	$ 18,515,930	$ 18,841,125	$ 13,343,622	$ 1,065,991
7.	Employee Expenses	$ 6,989,500	$ -	$ 217,138	$ 1,142,234	$ 2,331,129	$ 3,179,893	$ 119,106
8.	Hardware	5,039,780	-	-	3,464,831	1,296,690	278,124	135
9.	Software	9,699,270	-	5,909,753	2,088,705	1,192,512	508,300	-
10.	Program Operations	1,161,785	-	140,797	269,323	346,134	343,414	62,117
11.	Comprehensive Planning Study	1,583,469	1,429,419	154,050	-	-	-	-
12.	Contingency	3,536,335	-	-	642,970	1,285,940	1,285,940	321,485
13.	**BT Subtotal (Lines 6. + Lines 7. - 12.):**	$ 82,038,163	$ 1,429,419	$ 8,683,094	$ 26,123,993	$ 25,293,530	$ 18,939,293	$ 1,568,834
14.	**Other**							
15.	AFUDC - BT	$ 8,176,414	$ 31,844	$ 317,787	$ 1,234,655	$ 3,029,947	$ 3,562,181	$ -
16.	**Total BT (Line 13. + Line 15.):**	$ 90,214,577	$ 1,461,263	$ 9,000,881	$ 27,358,648	$ 28,323,477	$ 22,501,474	$ 1,568,834
17.	BT Controls/Organizational Integration	$ 5,012,640	$ -	$ -	$ 2,337,038	$ 2,444,672	$ 230,930	$ -
18.	BT Controls/Organizational Integration - AFUDC	536,108	-	-	23,574	249,951	262,583	-
19.	**Total BT Controls/Organizational Integration (Line 17. + Line 18.):**	$ 5,548,748	$ -	$ -	$ 2,360,612	$ 2,694,623	$ 493,513	$ -
20.	**BT Grand Total - American Water (Line 16. + Line 19.):**	$ 95,763,325	$ 1,461,263	$ 9,000,881	$ 29,719,260	$ 31,018,100	$ 22,994,987	$ 1,568,834
21.	**Tennessee American Water Allocation Percentage:**	2.42%	2.42%	2.42%	2.42%	2.42%	2.42%	2.42%
22.	**Total Cost Applicable to Tennessee American (Line 20. * Line 21.):**	$ 2,317,473	$ 35,363	$ 217,821	$ 719,206	$ 750,638	$ 556,479	$ 37,966

Tennessee American Water Company
Docket No. 12-_____
Sample Calculation (*) of Purchased Power and Chemical Charge ("PPACC")
To Determine PPACC Tariff Rider

Line Number	Description	Amount
	I. Calculation of the Base Rate Cost of Purchased Power and Chemicals as authorized in the Base Rate case:	
1	Pro Forma Purchased Power and Chemicals Expense	$ 3,700,000
2	Pro Forma Water Sales (WS) in 100 Cubic Feet (CCF)	15,200,000
3	Base Rate Cost per CCF WS (Line 1 / Line 2)	$ 0.24342
	II. Deferral calculation - Actual Cost Purchased Power and Chemicals vs. the Base Rate Cost:	
4	Actual Purchased Power & Chemicals Expense	$ 3,600,000
5	Actual Water Sales (CCF)	15,300,000
6	Actual Rate Cost Purchasd Power & Chemical per CCF WS (Line 4 / Line 5)	$ 0.23529
7	Base Rate Cost per CCF WS (Line 3)	$ 0.24342
8	Incremental Change in Purchased Power and Chemical Costs per CCF WS	$ (0.0081)
9	Base Rate Case Water Sales CCF (Line 2)	15,200,000
10	Deferral Amount (Line. 8 * Line 9)	$ (123,576)
	III. Calculation of Purchased Power and Chemical Charge ("PPACC") Tariff Rider	
11	Total Deferred Amount (Line 10)	$ (123,576)
12	Total Deferred Amount Grossed Up for revenue taxes (sum of Gross Receipts	
13	Tax, TRA Utility Fees and Uncollectibles (Line 11 / (1.0-.04325)) (**)	$ (129,162)
14	Projected Annual Base Rate Revenue subject to PPACC	45,000,000
15	PPACC % (Line 13 / Line 14)	-0.29%

(*) The numbers and calculations shown on this schedule are for illustrative purposes only and do not necessarily represent actuals.
(**) Assumes Gross Receipts Tax @ 3.0%, TRA Utility Fees @ .325% and Uncollectibles @ 1.0%

Tennessee American Water Company
Docket No. _____
Ordered Pension Recovery vs. Actual Pension Expense, 2008- 2012

Ordered Pension Recovery by Case Number:

Line #	Description	2007	2008	2009	2010	2011	2012
1	Case Number	06-000290		08-00039		10-00189	
2	Effective Date	5/14/2007		1/13/2009		4/21/2011	
3	Allowed	$ -	$ -	$ 1,156,442	$ 1,156,422	$ 839,965	$ 839,965

Calculation of Ordered Pension Recovery for Each Fiscal Year (Based on Number of Days at Each Rate):

Line #	Description	2008	2009	2010	2011	Jan. - Nov. 2012
4	Days at Prior Allowed Amount	365	12	365	111	334
5	Days at New Allowed Amount	0	353	0	254	
6	Weighted Prior Allowed Amount (Daily Rate x Number of Days) (Line 3 Column to Left of Calculation/365) x Line 4 Column of Calculation	$ -	$ -	$ 1,156,442	$ 351,679	$ 768,626
7	Weighted New Allowed Amount (Daily Rate x Number of Days) (Line 3 Column of Calculation/365) x Line 5 Column of Calculation	0	1,118,422	0	584,524	0
8	**Prorated Allowed Amount (Line 6 + Line 7)**	**$ -**	**$ 1,118,422**	**$ 1,156,442**	**$ 936,203**	**$ 768,626**

Comparison of Allowed Recovery vs. Actual Expense:

Line #	Description	2008	2009	2010	2011	Jan. - Nov. 2012	Sum 2008 - Nov. 2012
9	**Prorated Allowed Amount (Line 8)**	$ -	$ 1,118,422	$ 1,156,442	$ 936,203	$ 768,626	**$ 3,979,692**
10							
11	**Net Annual Pension Expense Per General Ledger**	1,362,254	1,272,526	1,589,535	2,872,408	1,204,016	**8,300,738**
12							
13	**Fiscal Year Over or (Under) Recovery (Line 9 - Line 11)**	**$ (1,362,254)**	**$ (154,104)**	**$ (433,093)**	**$ (1,936,206)**	**$ (435,390)**	**$ (4,321,046)**
14							
15	**Running Total Over or (Under) Recovery (Running Total of Line 13)**	**$ (1,362,254)**	**$ (1,516,358)**	**$ (1,949,451)**	**$ (3,885,656)**	**$ (4,321,046)**	**$ -**

Tennessee American Water Company
Docket No. _____
Unrecovered Incremental Pension Costs to True-Up Service Company Bill, 2008-2011

Service Company Incremental Costs as a Component of Pension Expense:

Line Number	Description	2008	2009	2010	2011	Sum
1	TAWC Pension Expense	$ 1,456,476	$ 1,445,368	$ 1,720,628	$ 2,821,063	$ 7,443,535
2	Service Company Incremental Pension Expense	172,953	71,871	142,992	500,335	888,151
3	Miscellaneous Journal Entries		80			
4	Capitalization	(267,175)	(244,793)	(274,085)	(448,990)	(1,235,043)
5	Net Pension Expense	$ 1,362,254	$ 1,272,526	$ 1,589,535	$ 2,872,408	$ 7,096,643

Unrecovered Service Company Incremental Pension Under-Recovery:

Line Number	Description	2008	2009	2010	2011	Sum
6	Over or (Under) Recovery	$ (172,953)	$ (71,871)	$ (142,992)	$ (500,335)	$ (888,151)