COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:	**)**	
	)	
THE APPLICATION OF KENTUCKY-AMERICAN WATER COMPANY FOR AN ADJUSTMENT OF RATES	**)**	**CASE NO. 2015-00418**
	)	
	)	

REBUTTAL TESTIMONY OF NIKOLE L. BOWEN

June 14, 2016

Q. Please state your name and business address.

A. My name is Nikole L. Bowen. My business address is 727 Craig Road, St. Louis Missouri 63141.

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

A. I am employed by the American Water Works Service Company, Inc. ("Service Company") as a Rates & Regulatory Analyst. The Service Company is a wholly-owned subsidiary of American Water Works Company, Inc. ("American Water") that provides support services to American Water utility subsidiaries, including Kentucky-American Water Company ("Kentucky-American" or "Company").

Q. Please describe your educational background.

A. I am a graduate of Fontbonne University in Missouri with a Bachelor of Business Administration.

Q. Please summarize your employment experience.

A. I have been employed with American Water since 2002. I started my career in 2002 in the Customer Service Center ("CSC") in Alton IL, holding various positions throughout the Center. In 2009, I moved into the role of Billing Manager, responsible for all facets of the revenue generation process, new business integration into the Customer Service Center, rate implementation, and Sarbanes Oxley Compliance for billing related controls. In March 2015, I moved to Rates and Regulatory Support as a Rates & Regulatory Analyst III.

Q. What are your responsibilities as a Rates and Regulatory Analyst?

A. My responsibilities include the preparation of testimony, exhibits and workpapers and related activities in support of rate applications and other regulatory filings for American Water's utility subsidiaries including Kentucky-American.

Q. Have you previously testified before the Kentucky Public Service Commission?

A. No, I have not previously testified before the Kentucky Public Service Commission. I have provided testimony to the Missouri Public Service Commission, on behalf of Missouri-American Water Company regarding a 2015 rate filing. I have also provided testimony to the Iowa Utilities Board, on behalf of Iowa-American Water Company regarding a 2016 rate filing.

Q. Did you previously file direct testimony in this case?

A. No, I did not. I am adopting the Direct Testimony of witness Donald J. Petry, which includes 1) Support Services and 2) labor and related expenses, including labor expense, payroll taxes, group insurance expense, 401(k) and defined pension contribution expense, pension expense, and other post-employment benefit ("OPEB") expense.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to address the issues related Service Company costs and Salary and Wage Expense raised in the Direct Testimony of Andrea C. Crane on behalf of Office of the Attorney General for the Commonwealth of Kentucky and Lexington-Fayette Urban County Government.

SERVICE COMPANY

Q. Ms. Crane, on page 51 of 66 of her testimony, proposes an adjustment to eliminate costs associated with Business Development, Government Affairs, and Regulatory Policy costs. Do you agree with Ms. Crane's adjustment?

A. No I do not. Ms. Crane indicates in her testimony that the costs associated with the functions of Business Development, Government Affairs and Regulatory Policy do not provide benefits to regulated ratepayers and recommends the removal of the costs associated with these functions. This adjustment results in a reduction to Service Company costs in the amount of $257,350. (Business Development costs in the amount of $195,842, Government Affairs costs in the amount of $21,475, and Regulatory Policy costs in the amount of $40,033.) I respectfully disagree with the conclusion that the services do not provide benefits to regulated ratepayers. Business Development activities provide a number of benefits to the Company and our customers. Kentucky-American has made, and is currently in the process of making, acquisitions that provide growth (thus spreading fixed costs to a bigger pool of customers) and that fit well into the Kentucky-American footprint (thus providing synergies). The Company has worked with all stakeholders to structure these acquisitions so that they are beneficial not only for the customers of the acquired operation but also for Kentucky-American's existing customer base. Thus, a definite benefit is being provided to the Company's customers. This growth, synergies, and benefits to Kentucky American customers would not happen without the Business Development supported by Company and Service Company personnel. As a result, I disagree with Ms. Crane's proposal to eliminate costs associated with Business Development in the amount of $195,842.

Similarly, both the Government Affairs and Regulatory Policy functions provide benefit to regulated ratepayers. As noted in the Company's response to PSC 3-28, the Government Affairs services provided include monitoring proposed legislation at both the national and state level and providing assistance with any emerging issues as they arise that impact our utility customers. In the same response, the Company explained that the Regulatory Policy services include business support, and external communications support on key water service and regulatory matters. This includes assistance with emerging issues as they arise, technical support for any policy changes and their implementation, and ongoing support of informational presentations, communications, and trainings within the regulatory community such as NARUC. As such, the Government Affairs costs in the amount of $21,475, and Regulatory Policy costs in the amount of $40,033 should be allowed. The efforts that are put forth for Business Development, Government Affairs, and Regulatory Policy activities do indeed benefit both Kentucky-American as well as its customers. Therefore, the costs associated with these functions, in the amount of $257,350 should be recoverable.

SALARIES AND WAGES

Q. Ms. Crane, on page 37 line 3, indicates an adjustment is necessary to account for employee vacancies complimented by an increase in overtime hours. Do you agree with the adjustment made by Ms. Crane?

A. No, I do not. Ms. Crane indicates that there are typically vacancies in a company as large as Kentucky-American. Despite acknowledging this is typical, she nevertheless argues the cost associated with the seven positions that were vacant at the time of filing should not be included in the Company's revenue requirement. This adjustment results

in a reduction in expense of ($519,442). Ms. Crane does recognize that the lack of filling these positions will result in additional overtime expense, thus increasing the overtime hours calculated by the Company, which she has calculated based on a three-year historical average. Her recognition of the need for additional overtime reflects the fundamental concept that there is a certain amount of work that must be performed to provide safe and reliable service. Thus, she recommends an overtime adjustment of $299,636 in additional overtime expense. The net of her two adjustments result in an overall reduction to expense in the amount of ($219,786).

Ms. Crane does not recommend removal of the seven positions; rather just the expense associated with salaries & wages, payroll tax, 401k expense, retirement, and group insurance, and again, recognizes an increase in expense of overtime. But the logic Ms. Crane used to develop the overtime hours, however, is not based on actual workload nor tied directly to the hours associated with the seven vacancies. Seven vacant positions (including six hourly positions at 2088 regular hours annually, and one exempt position at 2080 regular hours annually) would result in a total of loss of 14,608 regular work hours, which equates to a total expense of $519,442. Ms. Crane's adjustment to overtime allows only for an additional 8,645 hours, at the cost of $40.09 per hour, yielding a total expense of $346,578. Thus, Ms. Crane's adjustment would lead to a shortfall of 5,963 hours and $172,864. As stated above, in recognizing the potential increase in overtime, Ms. Crane's argument confirms that the work associated with these seven vacant positions must be completed. If the seven positions are not filled, the work would be shifted to other workers creating additional need for overtime and/or potentially resulting in hiring of temporary staff to complete the work.

Q. Has Kentucky-American filled the vacant positions since filing its application in this case?

A. Since filing the application, two of the seven positions have been filled. Kentucky-American is actively recruiting for the remaining vacancies and anticipates filling the positions prior to the end of the rate year.

Q. Has the Commission ruled on this issue in prior Kentucky-American rate cases?

A. Yes, in Case No. 2010-00036, the Commission stated, "The AG's proposed adjustment is similar to those that we have rejected in prior Kentucky-American rate proceedings because of its failure to 'consider the vacancies' effect on Kentucky-American's overtime and temporary contract forecasts. We continue to adhere to this position. If vacant employee positions exist, work will either be shifted to other employees and thus result in an increase in overtime costs or Kentucky-American will hire additional temporary/contract labor. Kentucky-American has shown that its forecasts for overtime and temporary/contract labor have been reduced to reflect a full workforce. The vacant employee positions to which the AG refers will result in decreased direct labor costs, but that decrease will be offset by increases in overtime or temporary labor costs. Therefore, the overall impact of these vacancies on Kentucky-American's operating expenses and ultimately its revenue requirement is unknown. Accordingly, we deny the AG's proposed adjustment." The same reasoning applies in this case, as even Ms. Crane concedes that the work to be performed by the unfilled positions must be transferred to other employees, thus raising overtime expense.

Q. What does Kentucky-American recommend?

A. Kentucky-American requires 138 full time employees to perform the set amount of work needed to provide reliable and adequate service. With the use of a forecasted test period, two methods are available to address employee vacancies. The Company can project salaries and wages based upon the assumption that all employee positions are filled. This method recognizes that, while vacancies may occur throughout the year, the job requirements associated with those vacancies continue to exist and must be met. Second, it can estimate the average number of vacancies expected to occur throughout the forecasted period and quantify the level of temporary and overtime labor that will be necessary to perform the tasks associated with the vacant position. Kentucky-American utilized the first option in developing its forecasted labor expense. In addition, Kentucky-American has shown reduced overtime and temporary workforce to reflect a fully staffed workforce of 138 employees. The Company requests that the full salaries and wages expense for the 138 employees for the gross amount of $9,209,772, and expense amount of $7,352,130 be included in the revenue requirement. If the Commission accepts Ms. Crane's adjustment on vacancies the Company would ask that her adjustment for overtime hours be increased to include the total hours equal to the 14,608 associated with the vacant positions.

Q. Does this conclude your testimony?

A. Yes it does.

VERIFICATION

STATE OF MISSOURI)
) **SS:**
CITY OF ST. LOUIS)

The undersigned, **Nikole L. Bowen**, being duly sworn, deposes and says she is a Rates and Regulatory Analyst for American Water Works Service Company, that she has personal knowledge of the matters set forth in the foregoing testimony, and the answers contained therein are true and correct to the best of her information, knowledge, and belief.

NIKOLE L. BOWEN

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 10th day of June, 2016.

Notary Public (SEAL)

My Commission Expires:
July 17, 2016

DONNA S. SINGLER
Notary Public, Notary Seal
State of Missouri
St. Louis County
Commission # 12368409
My Commission Expires July 17, 2016

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REBUTTAL TESTIMONY OF LINDA C. BRIDWELL, P.E.

June 14, 2016

Q. Please state your name and business address.

A. My name is Linda C. Bridwell. My business address is 2300 Richmond Road, Lexington, Kentucky 40502.

Q. Did you file direct testimony in this case?

A. Yes.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to address the Company's revisions filed as part of the Base Period Update with the Commission on June 7, 2016. I will also address certain comments, questions, and revenue requirement adjustments that were made by Andrea Crane, one of the two witnesses who is jointly sponsored by the Attorney General ("AG") and the Lexington-Fayette Urban County Government ("LFUCG"), and Malcolm Ratchford, who filed testimony on behalf of the Community Action Council.

Q. What are the specific issues you will be addressing in your rebuttal testimony?

A. The issues that I will be addressing are: 1) Revisions to the forecasted revenue requirement filed June 7, 2016; 2) KAW forecasted sales and declining usage; 3) Other Revenues; 4) Deferred Maintenance and Maintenance Supplies and Services Expenses; 5) Accrued Pensions in rate base; 6) Working Capital; 7) Customer Accounting Expenses; 8) Insurance Other than Group Expenses; 9) Rate Case Expense; 10) Meals and Entertainment Expense; 11) Miscellaneous Expense; 12) the QIP Mechanism; and 13) Rate Design.

REVENUE REQUIREMENT RESULTS

Q. What Revenue Requirement results from the revision made to the filing?

A. The revised revenue requirement filing on June 7, 2016 as part of the Base Period Update is $101,666,708 which is a reduction of $137,952 from the original filing. This represents a requested increase in revenues of $13,311,438. This does not include the appropriate reduction in interest as discussed in Mr. Rungren's rebuttal testimony.

Q. What are the items that are included in the revision to the revenue requirement?

A. There are two items included in the revision to the revenue requirement. The first item in the revised filing is the application of the slippage factor that was addressed in response to Item 37 of the Commission Staff's Second Request for information and clarified in response to Item 21 of the Commission Staff's Third Request for information. The second item is a mathematical correction on the calculation of income tax that was addressed in response to Item 3 of the Commission Staff's Second Request for information. Other changes to the capital structure and capitalization, rate base, and tax expenses flowed from the application of the slippage factor or the true-up of the Base Period to actual costs.

Q. What was the slippage factor that was applied in the revision?

A. The Company applied the slippage factors, as calculated by the Commission, of 117.7% to all recurring capital expenditure projects from November 2015 through the end of the forecasted test year of August 2017, and a slippage factor of 91.16 % to all investment project expenditures for that same time period.

Q. Does the Commission generally apply a slippage factor to the utility plant in the Company's filing?

A. Yes, it has been the past practice of this Commission to apply a slippage factor. When the Commission applied the first slippage factor in Case No. 92-452, KAW recognized that it had to shift its entire process and culture on planning, implementing, and completing capital construction. This was appropriate for both the customers and the business, and resulted in an improved delivery of capital construction. KAW increased the level of detail and oversight involved in identifying and planning projects. Additional engineering resources were allocated and comprehensive planning across the operations was heightened. Projects were planned to a much higher degree before capital construction dollars were included in the budget. This resulted in a frequent re-assessment and re-engineering of projects to assure that the project delivered was the most effective manner of addressing solutions. KAW looked at the timing of construction projects to shift across fiscal years, allowing more flexibility to accelerate or delay projects as needed in managing the overall capital construction spending. Most importantly, capital construction budgets no longer have large contingency percentages budgeted on a project level. KAW approves individual project cost increases after the budget is approved on an individual, as needed basis.

Q. Why has the Company adjusted the Revenue Requirement for Income Taxes?

A. Based on the response to Item 3 of the Commission Staff's Second Request for Information, KAW confirmed that there was a mathematical error in the calculation of income taxes. Correcting this error results in a decrease to the revenue requirement of $9,785.

Q. Why did the Company not include the revision to the interest calculations in the revision to the revenue requirement?

A. The Company decided to file the revisions to the revenue requirement and the Base Period update a few days early to give the intervenors in the case additional time to review the actual results in the Base Period. The information regarding the interest expense forecast was still coming together at the time of the filing. As described in the testimony of Mr. Rungren, the Company now expects a decrease in interest expense in the forecasted period of $103,808.

REVENUES

Q. Have you reviewed the adjustments that Ms. Crane has proposed for KAW forecasted revenues?

A. Yes, I have.

Q. Do you agree with those adjustments?

A. No, I do not. Ms. Crane took a simple annual average of residential consumption per customer for each of the last ten years, and with no analysis whatsoever, came to the conclusion that all consumers have already completely and fully adjusted their consumption and thus no further declining usage should be included in the forecast. She claims that the Company did not support its forecast, although the Company provided an extensive regression analysis prepared by Dr. Edward Spitznagel. The Company provided information in the case to support the accuracy of Dr. Spitznagel's previous modeling efforts. I provided extensive information in my direct testimony regarding the impact of various items on customer usage, including the nationwide trends on customer efficiencies and resource conservation. Other trends that may or may not have lasting

impacts on customer usage trends include economic conditions, increasing wastewater rates, and smaller household sizes on average. Ms. Crane provided her conclusion regarding residential customer demand with absolutely no analysis at all regarding any of the factors that may impact water usage during any given year, and did not rebut the detailed testimony I provided. Her conclusion is flawed based on the simplistic assumption it is based on, and should be rejected. Further, Ms. Crane indicates that she has a similar concern with regard to the Company's commercial sales forecast because the average commercial consumption per customer usage actual increased between 2013 and 2015. Again, she conducted no analysis at all regarding any factors that may impact water usage. Her overall proposal to project forecasted per customer usage at base period levels should be rejected.

Dr. Spitznagel provides further rebuttal testimony regarding why the weather normalization model should be used to forecast customer usage that is included in the proposed revenue requirement. Dr. Spitznagel's model has been used in many previous KAW rate cases without protest and his accuracy in predicting usage has been has been excellent (see KAW's response to Item 80 of the Commission Staff's Second Request for Information, and Item 30 of the Commission Staff's Third Request for Information). Finally, the AG vehemently protested KAW's decision not to use Dr. Spitznagel in the 2012 case so it is both interesting and surprising to see opposition to his modeling in this case.

Q. Does Ms. Crane provide any other projections regarding Revenues?

A. Yes. Ms. Crane proposed to adjust forecasted Other Revenues including late payment charges, rent, application fees, reconnect fees, and fees for other miscellaneous services downward.

Q. Do you agree with that proposed adjustment?

A. No, I do not. Over the last four years, the Company added the late payment fee to its tariff, increased the disconnect fee, increased its threshold for turn-offs from $25 to $75 and rolled out an electronic billing and payment option. All of these actions were taken to conveniently provide payment options, minimize actual service disconnects, encourage timely payment, and put more of the cost for late payments and disconnects to the cost causers. Other Revenues have gradually increased over the last three years, however, KAW believes that overall customer behavior will respond to these efforts and the Company will experience a slight downturn in Other Revenues. KAW further believes that with the proposed elimination of customers' additional cost to utilize a credit card for their bill payment, that customers will also reduce the amount of late payments and disconnects.

RATE BASE ADJUSTMENTS

Q. Has Ms. Crane proposed any adjustments to rate base?

A. Yes, she has. She has included a reduction to rate base for deferred maintenance items, accrued pensions, working capital, and an adjustment to accumulated deferred income taxes. Further, she recommends that if the Commission elects to reject those reductions, the Commission should limit rate base in this case to more than the Company's projected average Test Period capitalization.

Q. Do you agree with those adjustments?

A. No, I do not. I will discuss the deferred maintenance adjustment, the accrued pension adjustment, the working capital adjustment and the limit of rate base to capitalization. Mr. John Wilde, in his rebuttal testimony, will discuss the adjustment to Accumulated Deferred Income Taxes.

Q. What is the deferred maintenance adjustment proposed by Ms. Crane?

A. Ms. Crane recommends eliminating all deferred maintenance projects that have not been undertaken from the Company's revenue requirement. I strongly disagree with that adjustment. Ms. Crane indicates that she believes these costs are speculative, and are therefore uncertain as to whether or not they will occur. These costs are primarily associated with re-painting tanks, which are critical to the ongoing water quality and operations of the business. They are neither speculative, nor uncertain, and are amortized over the expected life of coating, which is fifteen years.

Ms. Crane offers no basis for her claim that they are speculative, and KAW has provided a detailed schedule of which tanks are scheduled for re-painting and when they are expected to be completed. These deferred maintenance efforts are critical to preserving the assets in working condition and avoiding operational disasters due to a failure at a tank. Periodically, water utilities that don't maintain their paintings will have a catastrophic failure occur at the tank, which needs to be avoided. For the projects that are completed and authorized, amortization begins immediately upon that project completion. However, the critical nature of these maintenance items demands that work continue even during periods that are outside of a rate review period. Therefore, the total cost of the projects completed outside of a rate period is deferred until the projects are

authorized as part of the subsequent rate case. In this manner, the ratepayers only provide recovery for the expected life of the maintenance work.

Q. Do you agree with Ms. Crane's recommendation to adjust rate base for working capital?

A. No, I do not. Ms. Crane states that Cash Working Capital is the amount of cash that is required by a utility to cover cash outflows between the time revenues are received from customers and the time that expenses must be paid. The Working Capital Allowance was calculated to provide the correct amount of additional rate base to compensate investors for funds provided by them which are used in the business to pay expenses prior to the receipt of revenues.

Ms. Crane recommends that the Service Company lag days be increased from 7.58 days used for a pre-paid amount, to 12.0 days, which equates to the labor expense lag. Ms. Crane supports her position by suggesting that the personnel cost represents labor and labor-related costs for services that would be provided by KAW in the absence of a centralized Service Company, and that the Company does not typically prepay for service from unaffiliated vendors. By making this recommendation, Ms. Crane alleges that the services provided by the Service Company could be provided as efficiently by the Company's direct employees. She has not produced any evidence to support this allegation. In the absence of such evidence, her proposed adjustment is nothing but a baseless attempt to reduce the working capital allowance.

Additionally, Ms. Crane asserts that the services provided by Service Company, if obtained from a non-affiliated third party, could be paid for in arrears, or on some other schedule more favorable to the Company than the agreed upon contractual arrangement.

Her proposed adjustment assumes that the Service Company, merely because of its affiliation, would be willing and able to provide the same services to KAW, at the same costs, if it were to be paid later. In fact, the Service Company has its own cash working capital needs and, like any other business, if payment terms were modified to be net 12.0 versus the current contracted payment agreement, it would have to compensate for the financial loss by (i) charging KAW more, (ii) providing KAW with less services, or (iii) suffer an unrecoverable financial loss. Ms. Crane has offered no proof that the Company could obtain the same level of services at the same cost on a 12.0 day payment lag. Again, her adjustment is merely speculation.

Finally, Ms. Crane's inference that the Service Company agreement with KAW already includes a working capital provision is false. The "interest on working capital" referenced in Article III of the Service Company Agreement is attributable to the cost of interest expense on short-term borrowings to fund its own cash working capital needs. It is not equitable to the working capital allowance the Company is seeking to ensure its investors are made whole on their return on invested funds.

As a second adjustment to Working Capital, Ms. Crane notes a discrepancy in the total Revenue lag days filed for the Base Period and the Forecasted Test Period. Namely, Schedule B-5.2 of Exhibit 37 reflects 43.92 total revenue lag days for the Base Period and 44.65 days for the Test Period. The variance of 0.73 days is attributable to the Company's calculated lock box lag period which was inadvertently omitted from the total revenue lag days reported in the Base Period. As the lock box collection creates a genuine lag in the Company's access to its funds, the Company believes that the total revenue lag of 44.65 days is appropriately utilized in the calculation of the Test Period

Working Capital and does not agree with Ms. Crane's proposal that the total revenue lag should be 43.92 days.

Q. Do you agree with Ms. Crane's adjustment for Accrued Pensions?

A. No, I do not. Ms. Crane alleges that over the past few years, many utility companies have used pension funding as a source for significant earnings growth and therefore KAW has incentive to use excess funding of their pension as a profit center. She does not provide any evidence to support this allegation. While the Company cannot speak to the practices of other utilities, this allegation with regard to American Water is without merit. As discussed extensively in my testimony, the water and wastewater infrastructure investment in this country is nearly at a crisis, with the need for replacement far outpacing the actual investment levels. In this case, KAW is asking for a mechanism to attempt to provide recovery on increased capital investment to replace infrastructure, while reducing the regulatory lag on that investment. If KAW were simply looking for growth in earnings, the Company could increase its investment level and return to the Commission more frequently for rate increases.

The purpose of addressing the accrued pension asset in rate base, which was authorized at least as early as Case No. 97-034, was to assure that the utility was providing sufficient coverage to meet its pension obligations without penalizing either the ratepayers or the shareholders for actuarial or market fluctuations. As Ms. Crane notes, the Commission agreed at that time that it would be unfair to stockholders to recognize the accrued pension balance only when it results in a rate base deduction. Yet that is exactly what Ms. Crane recommends. In the current climate of unfunded and underfunded pensions, Ms. Crane proposes to penalize a Company that is working to

appropriately maintain its fiduciary obligations on pensions. This should be rejected as an attempt simply to reduce rate base without merit to the detriment of the Company's employees.

Q. Do you agree with Ms. Crane's recommendation that a regulated utility's capitalization should serve as an upper limit on rate base used to establish an overall return?

A. No, I do not. The Company does not agree that it is either appropriate or necessary in this case. The proposed rate base levels have been developed on a month-by-month basis from the actual capital asset records of the Company, with forecasted changes by plant account based on the anticipated projects. The rate base amount recommends an accurate forecast of the investment level the Company will have during the forecasted test period. As noted in response to Item 6 of the Commission Staff's Third Request for Information, the Company did not forecast adequate levels of short-term debt to provide capitalization for that investment level. KAW does not believe it is appropriate to reduce the amount of return based on the forecast of capitalization.

However, Ms. Crane is not recommending that the return be limited to the amount of capitalization, she recommends that a "regulated utility's capitalization should serve as an upper limit on the rate base used to establish an overall return." She goes on to recommend that the Commission "limit the Company's rate base in this case to no more than its projected average Test Period capitalization." This recommendation is wholly different from limiting the amount of authorized return to the forecasted capitalization and should thus be rejected. Ms. Crane does not propose how the rate base should be limited, and whether or not depreciation and amortization would still be accrued on the

items excluded from rate base, or how those items are determined. This distinction is important as the Commission considers Ms. Crane's recommendation with regard to rate base.

OPERATING EXPENSE ADJUSTMENTS

Q. Do you agree with Ms. Crane's recommendation to adjust customer accounting expenses?

A. No, I do not. The Company's customer accounting expense includes costs for items such as postage, telephone, forms utilized for customer service and billings, uncollectible accounts, collection agencies, etc. In addition to these items KAW proposed inclusion of credit card fees in the amount of $318,000. Currently when a customer makes a payment using a credit card, a transaction fee of $1.95 is charged by the Company's payment vendor, Paymentus, directly to the customer at the time of the transaction. KAW is proposing to include this fee in base rates, therefore included the $318,000 expense amount. In its approach, the Attorney General and the LFUCG removed proposed removal of the $318,000 dollar expense, offset by a combined tax rate of 38.90% or ($123,702) for a net reduction of $194,298.

Q. What was the basis for removal for the expense?

A. The recommendation was made to remove the expense as KAW didn't provide a supporting study as evidence to make the change. In addition there was concern noted that customers who do not make payments using a credit card would be subsidizing those who chose to pay using the credit card option.

Q. Why do you disagree with Ms. Crane's recommendation?

A. KAW believes these costs should be included in base rates. With an increasing level of online transactions, more and more customers have expressed a desire to utilize credit cards for payment. Though no formal study was conducted, the Company believes that by offering its customers this payment option, at no additional upfront cost, the current 16.9% of customers who pay using credit and debit card payment method will increase. The Company has based this assumption on customer's utilization of e-check. When the Company was able to offer free e-check through its Web Self Service tool, the Company saw an increase in utilization of e-check payments from 32% to 71% among the customers using the Web Self Service tool. Regardless of the customer's payment method, with the exception of the Paymentus credit card option, there is a cost to process the customer's payment. These costs are currently spread across the customer base and collected as part of base rates. Only a very few customers use the teller windows in the lobby of the office building, however, those costs are spread across the entire customer base. Likewise, KAW is experiencing a reduction in postage costs with more and more customers preferring electronic billing, however, those costs are still spread across the entire customer base. The Company believes that this is an option that our customers want, that most of our customers who use credit cards will use the electronic billing service which may further reduce postage costs, and that credit card transaction fees should be treated no differently than costs attendant to other payment methods offered to our customers.

Q. What is the adjustment proposed by Ms. Crane regarding Insurance Other than Group ("IOTG")?

A. The Company has proposed a Test Period IOTG expense of $808,380 following a Base Period IOTG expense of $798,704. Ms. Crane is basing her adjustment on the response to Item 102 of the Attorney General's First Request for Information to suggest that there has been an unjustified level of General Liability insurance costs. The Request for Information asked only about general liability, workers compensation, and property insurance. The Company's Insurance Other than Group includes other policies such as Crime, Directors and Officers, Employment Practices, Fiduciary, Travel Auto Liability (AL), Excess Liability, Cyber Crime, Special Contingency Risk, Collateral, and retrospective adjustment.

Q. Do you agree with Ms. Crane's Adjustment?

A. No, I do not. As indicated above, the overall IOTG expense in the base period was not unjustified, or an anomaly, and the test period expenses are forecasted with an appropriate level of increase based on anticipated insurance expenses. The overall ITOG expenses for the last five years are:

Type	2015	2014	2013	2012	2011
Crime	$461	$415	$448	$475	$ 701.02
Directors and Officers	5,924	6,140	6,928	7,060	6,286
Employment Practices	4,642	4,008	3,159	2,776	2,248
Fiduciary	2,217	2,194	2,371	2,515	2,254
Travel	141	141	106	106	106
Auto Liability	32,965	30,771	27,255	35,390	29,473
General Liability	252,364	209,401	226,581	212,222	247,043
Workmens Compensation	142,219	163,926	181,097	162,845	162,862
Consult Fee (AL,GL,WC)	6,100	5,860	6,046	6,466	5,797
Excess Liability	65,683	63,968	71,308	74,216	76,332
Property	134,606	138,719	143,671	114,738	122,152
Cyper Crime	5,060	4,762	4,926	4,955	4,593
Special Contingency Risk	87	87	95	0	0
Collateral	703	0	0	0	739
Retrospective Adj	318,409	75,643	40,879	(5,974)	(28,018)
Total	$971,580	$706,036	$714,869	$619,554	$634,386

Based on the table above, Kentucky American IOTG forecasted expenses are appropriate.

Q. What is Ms. Crane's proposed adjustment for Maintenance Supplies and Services Expenses?

A. As discussed in the Rate Base Adjustment section of my testimony, Ms. Crane proposes to eliminate deferred maintenance projects. The proposed elimination, however, results in not only a reduction in rate base, but a corresponding adjustment to eliminate the amortization expense associated with these deferred costs. As I indicated previously, these projects are absolutely critical for maintaining the water system, and there has been a long-standing practice established to defer these maintenance items, then amortize the expenses over the expected life of the maintenance. As I indicated above, Ms. Crane's basis for the recommendation to remove the items is unfounded and puts the customers at risk for operational service failures if the items are not appropriately maintained. The recommendation to remove the projects from rate base, and the corresponding adjustment of the amortization expense is inappropriate and should be rejected.

Q. Do you agree with Ms. Crane's recommendation for an adjustment to Regulatory Expense?

A. No, I do not. KAW has requested a three-year recovery of total rate case costs for estimated cost of the current case. KAW makes a significant effort to hold rate case expenses down, while recognizing that it is necessary and beneficial to all parties for the Company to utilize the resources to present a clear, concise, and understandable case. KAW believes it has done so in this case, with limited corrections that need to be made, timely filings, and has made every effort to be responsive to all requests for information. Ms. Crane fails to recognize that this case includes a depreciation study ($32,000) and a Weather Normalization Study ($21,820) that were not performed in the last base rate case. By recommending actual expense from the last base rate case, there is also no allowance for inflation. Ms. Crane further indicates that the rate case expense proposed in this case is higher than in the 2008 case, which was a settled case. There is no question that a fully litigated case will be significantly higher than a settled case, as the cost of a hearing alone is significant in legal and consulting fees. The current cost of the case does not represent an acceleration in rate case costs, but an effort to be as precise as possible in reflecting the true costs of preparing and presenting an appropriate but fully litigated case.

Q. Does Ms. Crane mention sharing of rate case expense between the shareholders and the ratepayers?

A. Yes, Ms. Crane indicates that the Commission may want to take a fresh look at how such costs are recovered in Kentucky. An example is given that the state of New Jersey shares rate case costs 50/50 with shareholders and ratepayers. The Company respectfully

disagrees with a sharing approach between shareholders and ratepayers. Interestingly enough, Ms. Crane does not propose that this Commission adopt any of New Jersey practices that the Company has proposed in this case, including higher ROEs, or an infrastructure replacement mechanism.

Rate case expense, just like every other expense item, is subject to audit by the Commission Staff and the interveners and disallowance for imprudence and other grounds. A prudent expense is an expense that would be incurred by a reasonable person acting reasonably under the circumstances. Rate case expenses are no different than other prudent costs. The burden of proof lies with the utility in rate cases. The cost of meeting that burden, however, can be driven by the complexity and number of issues raised by other parties, including the level of discovery. Rate cases require the hiring of outside attorneys and consultants who have the expertise to address complicated regulatory issues. The Company does not have the resources to retain those experts in-house 100% of the time, so it must rely on outside resources to file and prosecute a rate case. A utility should be allowed to utilize the resources that it needs to present and respond to issues in a rate case. Sharing of rate case expenses restricts the Company's ability and right to direct its presentation of its case. Further, sharing of rate case expense is arbitrary because it disallows reasonable and prudently incurred rate case expense. Rate case expense is not necessarily discretionary, as the Company has limited amount of control over the amount or nature of the discovery that will be requested in a rate case. The recommended adjustment is inappropriate and should be rejected.

Q. Do you agree with Ms. Crane's proposed adjustment for meals and entertainment expense?

A. No, I do not. Ms. Crane has recommended that the Commission disallow 50% of the meals and entertainment expense based on IRS limiting the tax deduction to 50% of these expenses. The ability to deduct these items for federal income tax purposes has no relevance or logical connection to rate recovery. The IRS limit in no way indicates that these are not legitimate business expenses for employees that should appropriately be recovered from ratepayers. American Water has strict policies regarding meals and entertainment expenses and they must be for legitimate business purposes as approved by the employee's supervisor. These expenses should be allowed in their entirety in this case.

Q. Does Ms. Crane recommend an adjustment for Miscellaneous Expenses?

A. Yes, she does. She alleges that expenses related to Community Partnerships, based on a one line description, are related to goodwill advertising and corporate promotional activities. Further, she alleges that the Community Relations costs included in the Company's request are also related to promotional activities. She calls them "soft-lobbying" of ratepayers and recommends their removal.

Q. Do you agree with her portrayal of these items as advertising or corporate promotional activities?

A. No, I do not. KAW has accounting separation for both advertising and charitable contributions that are tax deductible. These Community Partnerships are opportunities for the Company, on behalf of the ratepayers, to partner in the support of community events and serve as an active, supportive corporate citizen. These expenses are related to

community events and community partnerships which help educate our customers and/or enhance the quality of life for our customers and the community. Community events and partnerships are focused on economic development, environmental education or arts and leisure efforts, and some are supported with staffing by Company volunteers. Some programs benefit customers by increasing their understanding of water resources and systems. Others help improve the local economy through economic development activities, programs that enhance the community's quality of life through the arts, and programs that highlight the importance of diversity. Sometimes an ad in an event's printed program is included as a benefit of the sponsorship, but the ad is not the objective of the company's participation in the program or event. It is unclear how Ms. Crane concluded that the Community Relations expenses are somehow "soft-lobbying" from the response to Item 46 of the Staff's Second Request for Information since absolutely nothing in the response or the workpapers indicates working specifically with elected officials or targeting any activity that could be described as lobbying. Again, these expenses are related to KAW working in partnership in the community to provide educational information outside of conservation specific information and to enhance the community's viability and quality of life. This may include water quality information, watershed protection information, or providing giveaways at community events that promote environmental activities.

QUALIFIED INFRASTRUCTURE PROGRAM

Q. Has KAW proposed an infrastructure surcharge in this case?

A. Yes, it has. KAW has proposed a Qualified Infrastructure Program ("QIP") mechanism that would allow recovery between rate cases as a surcharge on customer bills. This surcharge would be to specifically address distribution system infrastructure items that

are not being replaced at a rate consistent with its expected service life. In addition to providing recovery between rate cases, these programs have been demonstrated to increase the time between regular rate case filings.

Q. Does Ms. Crane agree with the adoption of such a program?

A. No, she does not. She alleges that the shareholders benefit from such a program without acknowledging the benefits that ratepayers receive from such a program. She further indicates that the regulatory lag for KAW is already minimized by the use of a fully forecasted test period, although she is clearly not in agreement with the use of a fully forecasted test period, portraying it as an opportunity to "reflect in rates investment and increases in operating expenses that may not be recoverable if an historic Test Period is used." She does not provide documentation or even any supposition how this may occur. She goes on to suggest adjustments to revenues, investment and expenses that simply ignore the concept of a forecasted test period by utilizing a base year period level.

Q. Do you agree that the shareholders benefit tremendously from the implementation of the QIP?

A. The reason that KAW has proposed the QIP is that all parties benefit from the implementation of such a mechanism. The customers receive improved water service, greater opportunities for protecting water quality, gradual rate increases, and appropriate levels of the cost of replacement of infrastructure. Customers will benefit from reduced maintenance, reduced carbon footprints and power costs, reduced unaccounted-for water levels, and savings on regulatory expenses. Shareholders can offset the risk of increased investment levels with reduction of regulatory lag. Regulators have an opportunity to review infrastructure replacement on a very detailed, program level annually with a

reduction in regulatory expense due to more frequent rate filings. These benefits have been recognized in other jurisdictions as described in my direct testimony, and in response to data requests. The Commission has recognized the benefits of these type of mechanisms in both electric and gas utility investment programs. The Company believes that this mechanism is an opportunity to benefit all stakeholders.

Q. Do you agree with Ms. Crane that if the QIP surcharge is approved, that the rate of return should be reduced on those investments?

A. No, I do not. Part of the benefit of this surcharge is to incentivize the company to increase investment by reducing regulatory lag. This leads to less frequent rate cases and reduced regulatory expenses. A lesser rate of return on the QIP investments between rate cases minimizes any of those benefits. The financing of these investments is no different in costs than any other investment that the utility should make and there is no basis to suggest that a reduced rate of return is appropriate.

Q. Ms. Crane also suggests that if it is authorized, it should be contingent on KAW making a commitment to a four-year period before filing its next rate case. Do you agree with that recommendation?

A. No, I do not. KAW explained in its response to Item 11 of the Commission Staff's Third Request for Information that it would consider extending the time between filing rate cases along with approval of a QIP (in connection with resolution of a number of issues in the case), but a commitment to a four-year period is not appropriate. The Company has experienced an extended period of declining customer usage. The actual amount of customer usage decline in any given year is difficult to predict considering all of the factors that may impact that trend of decline including weather. While KAW certainly

hopes that the increased time between rate case filings will happen here as has been experienced in other jurisdictions, it will be largely dependent on the nature of the program as approved by the Commission and other economic issues that may impact the operations and financial stability of the Company.

RATE DESIGN

Q. Can you summarize the testimony of Mr. Malcolm Ratchford, on behalf of the Community Action Council?

A. Certainly. Mr. Ratchford recommends that KAW and the Commission restructure KAW's rates to a graduated or tiered rate structure that would provide an initial amount of water at free or very low cost and then increases as consumption levels increase. He alleges that these rates would determine a minimum amount of life-sustaining water a household needs which customers would receive at a free or substantially reduced rate.

Q. Do you agree with Mr. Ratchford's proposed rate design?

A. No, I do not. Mr. Ratchford admitted that the CAC is not aware of any study that demonstrates a graduated or tiered rate structure specifically benefits low income customers. This type of rate structure completely disregards cost of service principles, and is just as likely to benefit the type of customers that can most afford rates in our community as low-income households. These may include professionals with smaller household sizes, living in newly constructed single family dwellings. These homes are more likely to have newer, more efficient plumbing fixtures and appliances and less likely to have leaks. While KAW applauds the work of the Community Action Council, it respectfully disagrees with its proposed rate design changes.

Q. Does this conclude your testimony?

A. Yes it does.

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF FAYETTE)

SS:

The undersigned, **Linda C. Bridwell**, being duly sworn, deposes and says she is the Manager of Rates and Regulation for Kentucky-American Water Company, that she has personal knowledge of the matters set forth in the foregoing testimony, and the answers contained therein are true and correct to the best of her information, knowledge, and belief.

Linda C. Bridwell

LINDA C. BRIDWELL

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 13th day of June, 2016.

Debra A Fraley (SEAL)

Notary Public

My Commission Expires:

DEBRA A. FRALEY
NOTARY PUBLIC
Kentucky, State At Large
My Commission Expires 1/22/2017
I.D. # 481931

KENTUCKY PUBLIC SERVICE COMMISSION

DOCKET NO. 2015-00418

REBUTTAL TESTIMONY OF

ROBERT V. MUSTICH

KENTUCKY-AMERICAN WATER COMPANY

JUNE 14, 2016

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KENTUCKY PUBLIC SERVICE COMMISSION

DOCKET NO. 2015-00418

REBUTTAL TESTIMONY OF

ROBERT V. MUSTICH

KENTUCKY-AMERICAN WATER COMPANY

I. WITNESS IDENTIFICATION AND BACKGROUND

Q. Please state your name and business address.

A. My name is Robert V. Mustich. My primary business address is 901 North Glebe Road, Arlington, Virginia 22203

Q. Are you the same Robert V. Mustich who previously provided testimony in this proceeding?

A. Yes, I am.

II. PURPOSE OF REBUTTAL TESTIMONY

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

A. The purpose of my rebuttal testimony is to respond to the direct testimony of Attorney General/Lexington-Fayette Urban County Government witness Andrea Crane regarding variable compensation.

III. RESPONSE TO AG WITNESS CRANE

Q. What adjustment does Ms. Crane propose to variable compensation costs?

A. She recommends that the Commission deny Kentucky American Water's proposal to include variable compensation in regulated rates.

Q. If Kentucky American Water employees didn't receive variable compensation, how would it affect their compensation?

A. If Kentucky American Water employees didn't receive variable compensation, or even a portion of it, they would receive compensation that is well below the total direct compensation that their industry peers receive. As I explained in my direct testimony, Kentucky American Water employees' total direct compensation, which includes base pay, short-term variable compensation (Annual Performance Plan), and long-term variable compensation (Long-term Performance Plan), is 16% and 11% below the total direct compensation Regional Midwest and National market medians, respectively. Since Kentucky American Water employees' compensation is below market overall, if they didn't receive any portion of their variable compensation, they would be compensated significantly below the market compared to their industry peers. If Kentucky American Water employees received only their base pay, they would receive compensation 26% below what their Midwest peers receive, and 31% below that of their national peers. Kentucky American Water would be at a significant competitive disadvantage in attracting, retaining, and motivating the talented employees that it needs to provide utility service to customers.

Q. Does Ms. Crane contend that Kentucky American Water employees are over-compensated?

A. No. She does not take this position.

Q. Does Ms. Crane dispute that Kentucky American Water should compensate its employees at levels that are consistent with the market?

A. No. She does not take this position.

Q. Does Ms. Crane contend that Kentucky American Water employees should only receive base pay?

A. No. She does not take this position.

Q. Does Ms. Crane rely on any studies to support her claim that using industry benchmarks results in a "spiraling of compensation costs" or that "benchmarking steadily increases compensation levels for all utility employees to which it is applied, regardless of their actual job performance?"

A. No. She did not rely upon a specific study to develop her testimony.

Q. What, then, is Ms. Crane's basis for recommending disallowing a portion of Kentucky American Water's compensation?

A. Ms. Crane argues that the Commission should disallow the costs of financial goal-based variable compensation because it has disallowed these costs before and because, as she sees it, the costs benefit utility shareholders, not ratepayers.

Q. What's wrong with this position?

A. It ignores what she doesn't dispute: that Kentucky American Water employees should receive compensation consistent with the market, and that, without variable compensation, that compensation simply isn't consistent with the market. Her position also ignores both common and industry practices regarding employee compensation.

Q. What common industry compensation practices does Ms. Crane's recommended variable compensation adjustments ignore?

A. As I explained in my direct testimony, and as the results of Willis Towers Watson's compensation study show, 26 of 29 (90%) of Kentucky American Water's utility peers have a short-term variable compensation program, and 27 of 29 (93%) have a long-term variable compensation program, i.e., a combination of stock options, full-value shares, and/or a performance plan. As covered in my direct testimony, Kentucky American Water's positions are below the market range for base salary, total cash compensation and total direct compensation for both perspectives examined, i.e., National and Midwest Region.

From an attraction, engagement and retention standpoint, short-term and long-term variable compensation are expected to be part of the total compensation program provided to eligible employees since the vast majority of employers in the peer groups we used to review Kentucky American Water's programs and the broader utilities industry provide them. Since these programs are integrated in Kentucky American

Water's total direct compensation program and designed to provide, on average, market median compensation for meeting performance objectives, the absence of these programs without any consideration for any type of replacement compensation will cause already below market median compensation to be significantly below market compensation. This will have a direct impact on Kentucky American Water's ability to attract, retain and motivate critically skilled employees needed to successfully run the business and serve customers. These programs also enable companies to align compensation expense to performance. When performance objectives are not met, variable compensation levels and expense are reduced.

Q. How prevalent are financial and operational measures in variable compensation plans?

A. They are very prevalent. Twenty-five of 26 (96%) of Kentucky American Water's utility peers with a short-term variable compensation program use one or more financial measures to determine payout. Twenty-three of 23 (100%) of Kentucky American Water's utility peers with a performance plan component of their long-term variable compensation program use one or more financial and/or stock-based measures to determine payout.

The approach that Kentucky American Water uses reflects a balanced approach between financial (50%) and operational metrics (50%). We understand that operational metrics may appear to reflect a more direct benefit to customers. However, the financial metrics in Kentucky American Water's short-term and long-term variable compensation

programs send a message to employees regarding what is important to the Company and its stakeholders, including customers. Strong financial performance enables the Company to invest in resources—both physical and people—that ensure the efficient operation of the Company, which benefits customers.

Q. Why are short-term and long-term variable compensation programs that include financial measures so prevalent?

A: Using variable compensation as a component of total compensation is an industry best practice, for the reasons I've explained. Using variable pay programs that include both operational and financial goals, like the approach that Kentucky American Water uses, is prevalent because it reflects a balance between, and interdependence of, a company's financial and operational success.

The balance of financial and operational metrics is common across all types of organizations, even those that are not publicly traded, or owned by publicly traded parent companies, as Kentucky American Water is. Many privately held companies—and even not-for-profit organizations—balance operational and customer metrics to send the correct balanced message to employees, and ensure financial viability and efficiency.

Q. Does Kentucky American Water's short-term variable compensation program include a threshold level of performance, and how does this compare to peers?

A: Yes. Kentucky American Water's program requires the achievement of at least 90% of target corporate EPS performance to ensure the financial viability of the plan before any short-term variable compensation payment can be made to any participant. Seven of 26 (27%) utility peers with a short-term variable compensation program require some minimum level of financial performance before any award payment is made. The use of a circuit breaker makes Kentucky American Water's short-term variable compensation program more conservative than market practice, i.e., pay is more at risk than is typical in the market.

Q. Is there a benefit to ratepayers from Kentucky American Water providing variable compensation to employees?

A: Yes. Through the Willis Towers Watson study submitted in this case, Kentucky American Water has shown that its total compensation, including variable compensation, is below market median. To the extent that Kentucky American Water is spending less than competitors on compensation, this could be a quantifiable benefit to customers. This would only be true if compensation is not so far below market that it would prevent the company from being able to attract and retain qualified employees. Variable compensation is paramount to overall total compensation being in the broad range of competitiveness in the employment marketplace.

Without qualified employees, safe and reliable service is not possible. Thus, the very real benefit of Kentucky American Water's variable compensation to its customers is the

provision of safe and reliable service—a benefit which is virtually impossible to exactly quantify.

Q. Are benchmarking studies commonly used by other utilities?

A. Yes. Pay benchmarking studies are regularly conducted by Willis Towers Watson and other firms for utilities. The purpose of these studies is precisely to "objectively report compensation results," contrary to Ms. Crane's claim. It is imperative that companies understand the competitive talent market so they are able to attract and retain the people needed to support customers, drive business strategy and efficient operations. Consistent with our advice, most companies do not blindly use market data to make compensation adjustments. Rather, they consider many elements—the company's compensation philosophy, merit budget, competitive market, performance, tenure, and other factors—when making adjustments to salaries. It is not accurate that "benchmarking steadily increases compensation levels for all utility employees to which it is applied, regardless of their actual job performance." More and more companies are emphasizing performance by providing very low or even no salary increases to low performers. Also, employees whose competitive positioning against market is very high may not receive a salary increase, even if they are strong performers. As shown in Willis Towers Watson's total compensation study attached to my Direct Testimony in this matter, all elements of Kentucky American Water's compensation are below market median.

We have been performing compensation studies for American Water for over 10 years. Contrary to Ms. Crane's unsubstantiated opinion that "The use of industry benchmarks, which are widely used by utility companies to support their compensation policies, results in a spiraling of compensation costs as companies that are below the market median attempt to improve their position relative to the utilities at or above the median," this has clearly not been the case.

Q. In Ms. Crane's response to Item No. 10 of KAW's Request for Information, Ms. Crane describes two assumptions that she relies on for her position: that companies target salaries at the median benchmark level, and companies do not reduce their salaries. Are these valid assumptions?

A. No. While many companies target market median for salaries in the aggregate, some do not. Furthermore, even if a company targets salaries in the aggregate at the median, this does not mean that every employee's salary will always be brought to market median if found in a compensation study to be below-market. By definition, 50% of employees in an industry at any one time will be paid below median. Employees that are more likely to be paid below median are low performers and those with limited tenure in their role.

If Kentucky American Water did not provide variable compensation, base salaries would need to increase to provide competitive total compensation. This would increase fixed costs. It is more desirable to provide a balance of fixed and variable pay, as it is indeed

more practical to vary target variable compensation based on company and individual performance than to cut base salaries.

Q. Ms. Crane in her testimony reports that Kentucky American Water's short-term variable compensation plan's financial metrics are weighted (55%) and other factors are weighted 45%. Is this correct?

A. This is not correct. As noted above, Kentucky American Water's short-term variable compensation program has balanced weighting of 50% financial objectives and 50% operational objectives (safety, customer satisfaction, environmental leadership and operational efficiency).

Q. What do you conclude regarding Ms. Crane's recommended adjustment to Kentucky American Water's variable compensation costs?

A. The Commission should reject this adjustment. She does not claim that Kentucky American Water employees are overcompensated or that they should not receive compensation competitive with their peers. Kentucky American Water employees' total direct compensation levels are demonstrably reasonable, so the Commission should not disallow any portion. If Kentucky American Water employees didn't receive the variable compensation that Ms. Crane would disallow, they would receive total compensation that is significantly below their market peers, and that would be unreasonable. In addition, it removes an important management tool for managing employee performance and compensation expense. Based on our on-going review of American Water Service Company total direct compensation program, the same argument from

our perspective applies, since the program (base salary, short-term and long-term incentives) are within median market practice and would fall below market without variable compensation.

IV. CONCLUSION

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

VERIFICATION

COMMONWEALTH OF VIRGINIA)
) **SS:**
COUNTY OF ARLINGTON)

The undersigned, **Robert V. Mustich**, being duly sworn, deposes and says he is the Managing Director and the U.S. East Division Practice Leader, Executive Compensation for Willis Towers Watson, that he has personal knowledge of the matters set forth in the foregoing testimony, and the answers contained therein are true and correct to the best of his information, knowledge, and belief.

Robert V Mustich

ROBERT V. MUSTICH

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 10 day of June, 2016.

(SEAL)
Notary Public

My Commission Expires:
August 31, 2019

MILENA L FORONDA
NOTARY PUBLIC
REG. #7505987
COMMONWEALTH OF VIRGINIA
MY COMMISSION EXPIRES AUG. 31, 2019

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:	**)**	
	)	
THE APPLICATION OF KENTUCKY-AMERICAN WATER COMPANY FOR AN ADJUSTMENT OF RATES	**)**	**CASE NO. 2015-00418**

REBUTTAL TESTIMONY OF SCOTT W. RUNGREN

June 14, 2016

Q. Please state your name and business address.

A. My name is Scott Rungren. My business address is 727 Craig Road, St. Louis, Missouri 63141.

Q. Did you previously file direct testimony in this case?

A. Yes, I did.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to:

- describe Kentucky American Water Company's ("KAWC" or "the Company") updates to the capital structure and weighted average cost of capital ("WACC") filed with the Commission on June 7, 2016. These revisions impact both the base period ending April 30, 2016 and the forecast period, which is based on the twelve months ending August 31, 2017;
- explain the Company's decision to defer the new $7.25 million long-term debt issuance originally planned for June 2016 to November 2016;
- respond to the Direct Testimony of AG and LFUCG witness J. Randall Woolridge as it pertains to KAWC's costs of short-term debt and long-term debt used in the WACC calculation.

BASE PERIOD UPDATES TO CAPITAL STRUCTURE & WACC

Q. Please explain how you have updated the Company's capital structure for the base period ending April 30, 2016.

A. The Company's April 30, 2016 capital structure, which reflected projected data when initially filed, was updated on June 7, 2016 to reflect actual balances for short-term debt and common equity. No updates were needed to the balances of long-term debt, preferred stock, and Job Development Investment Tax Credits ("JDITC"). The Company's cost of short-term debt for April 2016 was also updated to the actual rate of 0.759%.

Q. What is the updated April 30, 2016 capital structure and WACC?

A. The updated capital structure at April 30, 2016 is comprised of 6.703% short-term debt, 48.779% long-term debt (55.482% total debt), 0.563% preferred stock, and 43.955% common equity. The resulting weighted average cost of capital is 7.810%.

FORECAST PERIOD REVISIONS TO CAPITAL STRUCTURE & WACC

Q. Please explain the revisions you have made to the Company's capital structure for the forecast period ending August 31, 2017.

A. The revisions pertain to the following four areas:

1) Updating the long-term debt schedule to reflect the deferral to November 15, 2016 of the $7.25 million issuance originally planned for June 15, 2016;

2) Updating the interest rate projection for the long-term debt issuance planned for November 15, 2016;

3) Updating the Company's projection for the cost of short-term debt; and

4) Providing an updated WACC based on the revisions noted in items 1 through 3 above.

Q. Please discuss the deferral of the $7.25 million long-term debt issue that was planned for June 2016.

A. The Company's 2016 budget included a $7.25 million long-term debt issuance scheduled for June. This debt is expected to be issued through American Water Capital Corp. ("AWCC"), which is KAWC's financing affiliate. However, subsequent to the filing of the Company's direct case, AWCC re-scheduled the issuance to November 2016. The planned issue amount of $7.25 million has not changed.

Q. Please explain why the new debt issuance has been deferred to November 2016.

A. The new long-term debt issuance, which was originally scheduled for June 2016, has been deferred to November 2016 in the effort to manage the Company's interest expense. Because the Company expects short-term interest rates to be lower than the projected rate on the new long-term debt issuance, holding the $7.25 million as short-term debt for five additional months will result in lower interest expense.

Q. Have you updated the interest rate for the long-term debt issuance now planned for November 2016?

A. Yes, I have. The updated projected interest rate for the November 2016 issuance is 4.05%. This debt issuance is expected to be a taxable issue with a 30-year term. The

base rate for this estimate is 2.60%. Consistent with the methodology used in my direct testimony, to that rate I added 1.45% to capture the estimated spread at which 'A' rated utilities have issued above the 30-year U.S. Treasury bond rate.

Q. What is KAWC'S updated overall cost of long-term debt for the forecast period?

A. The updated overall cost of long-term debt is 6.04% for the 13-month average forecast period ending August 31, 2017.

Q. Have you also updated KAWC'S projected cost of short-term debt for the forecast period?

A. Yes, I have. The updated short-term debt cost projection is 0.660%. This cost rate is applicable to the 13-month average forecasted short-term debt balance for the period ending August 31, 2017.

Q. What is the updated capital structure and WACC for KAWC for the forecast period ending August 31, 2017?

A. As a result of the capital structure revisions discussed above, the Company's updated 13-month average capital structure for the forecast period ending August 31, 2017 is comprised of 3.167% short-term debt, 50.020% long-term debt (53.187% total debt), 0.561% preferred stock, and 46.252% common equity. As a result of the revisions to the costs of short-term and long-term debt, also discussed above, the Company's updated overall WACC for the 13-month average forecasted period ending August 31, 2017 is 8.06%. The Company continues to request that its return on equity ("ROE") be set at 10.75%, which is within the ROE range recommended by Company witness Dr. James Vander Weide.

Q. Are the revisions to the capital structure and WACC for the forecast period ending August 31, 2017 reflected in the base period update that the Company filed on June 7, 2016?

A. The revision to the capital structure due to the change in the scheduled issue date of the new long-term debt issuance is reflected in the base period update. However, the revisions to the forecast period WACC due to updates to the projected short-term debt interest rate and the projected interest rate on the new long-term debt issuance I noted above were not included in the base period update because this information was still being formulated at the time of the update filing. Due to these interest rate updates the forecasted interest expense would be reduced by $103,808.

RESPONSE TO AG AND LFUCG WITNESS J. RANDALL WOOLRIDGE

Q. In his computation of KAWC'S overall rate of return Dr. Woolridge has used a short-term debt cost rate of 1.0%, rather than the 1.369% the Company used in its direct case. What is your response?

A. Dr. Woolridge has used current LIBOR (London InterBank Offer Rate) rates for maturities ranging from overnight to one year to arrive at his recommended short-term debt cost rate of 1.00% (AG Exhibit JRW-1, p. 23). As noted previously, the Company has revised its projected cost of short-term debt for the forecast period to 0.660%. However, the 0.660% projection I developed relies on 1-month LIBOR rate projections for the months of August 2016 through August 2017. Because the short-term debt cost is being estimated for the forecast year ending August 31, 2017, to the extent possible it is more appropriate to base the cost on projections for that period, rather than on the current LIBOR rates used by Dr. Woolridge. In addition, it is only the 1-month LIBOR rate that

impacts the Company's short-term borrowing rate. The other maturities reviewed by Dr. Woolridge, and shown on Exhibit JRW-5, Page 2 of 2, Panel A, are not used in the calculation. Thus, the methodology used by Dr. Woolridge is not consistent with how the Company's short-term debt cost is determined, or with the Company's chosen forecast period.

Q. Dr. Woolridge recommended an overall long-term debt cost rate of 6.02%, rather than the Company's calculated of 6.04% for the forecast period. Do you agree with Dr. Woolridge's recommendation?

A. No, I do not. First, as shown on Dr. Woolridge's Exhibit JRW-5, Page 2 of 2, Panel B, he computed KAWC's cost of long-term debt as of August 31, 2017, rather than using the thirteen-month average calculation for the period ending August 31, 2017. This is inconsistent with how the other capital component balances in his Exhibit JRW-5, Page 1 of 2, Panels A and B, which do reflect thirteen-month average balances, were calculated. Second, with regard to the planned November 2016 issuance, the rate should be based on an interest rate projection rather than on a current rate as relied on by Dr. Woolridge. In this instance, Dr. Woolridge and I arrived at the same rate for the planned debt issuance (i.e., 4.05%); however, it is more appropriate to base the rate for a planned issuance on a projection for the time period in which the debt will be issued. Thus, I agree with his recommendation for the rate to use on the November issuance, but disagree with how he arrived at that recommendation.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

VERIFICATION

STATE OF MISSOURI)
) **SS:**
CITY OF ST. LOUIS)

The undersigned, **Scott W. Rungren**, being duly sworn, deposes and says he is a Rates and Regulatory Analyst III for American Water Works Service Company, that he has personal knowledge of the matters set forth in the foregoing testimony, and the answers contained therein are true and correct to the best of his information, knowledge, and belief.

Scott W. Rungren
SCOTT W. RUNGREN

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 10th day of June, 2016.

Donna S Singler (SEAL)
Notary Public

My Commission Expires:
July 17, 2016

DONNA S. SINGLER
Notary Public, Notary Seal
State of Missouri
St. Louis County
Commission # 12368409
My Commission Expires July 17, 2016

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:	**)**	
	)	
THE APPLICATION OF KENTUCKY-AMERICAN WATER COMPANY FOR AN ADJUSTMENT OF RATES	**)**	**CASE NO. 2015-00418**

REBUTTAL TESTIMONY OF EDWARD L. SPITZNAGEL, JR.

JUNE 14, 2016

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1. Q. Please state your name, business address, and employer.

A. My name is Edward L. Spitznagel, Jr., and my business address is Campus Box 1146, One Brookings Drive, St Louis, Missouri 63130. I am employed by Washington University.

2. Q. What is your present position?

A. I am Professor of Mathematics in the College of Arts and Sciences at Washington University. I also hold a joint appointment in the Division of Biostatistics of the Washington University School of Medicine.

3. Q. Please review your educational background and work experience.

A. I hold a Bachelor of Science, summa cum laude, in mathematics, awarded in 1962 by Xavier University, Cincinnati, Ohio. I hold a Master of Science (1963) and Ph.D. (1965) in mathematics awarded by the University of Chicago. I have served on the Faculty of Arts and Sciences of Washington University since 1969. I have held a joint appointment in the Division of Biostatistics since 1978. From 1965 to 1969 I was on the faculty of Northwestern University.

4. Q. What is the purpose of your testimony in this case?

A. I was employed by Kentucky-American Water Company (KAW) to make weather-normalized predictions of water utilization by residential and commercial customers for the forecasted test year period September 2016 through August 2017. The predictions were based on ten years of monthly consumption data spanning May 2005 to April 2015. I have now been asked to examine and rebut testimony of Andrea C. Crane's estimates of residential and commercial consumption.

5. Q. Are Andrea Crane's estimates of consumption made on a monthly basis?

A. No, her estimates are on an annual basis, for the years 2006 to 2015. In this current case, mine are the only weather normalized estimates made on a monthly basis.

6. Q. Can yearly consumption be linked to monthly weather?

A. It is not practical to combine weather data, which is reported monthly, with consumption measured annually. The time scales are simply too different from each other.

7. Q. Do Andrea Crane's estimates of consumption account for weather-normalization?

A. No, she would have needed to use monthly data. Annual data is too coarse to use in weather normalization.

8. Q. Does the use of annual instead of monthly data as a basis for projecting usage affect the validity of such projections?

A. Yes, please see Spitznagel-Rebuttal-Appendix A.xls for an example. (Also available as Spitznagel-Rebuttal-Appendix A.pdf.) Andrea Crane interprets the three-year increase from 2013 to 2015 as being due to a leveling off of the downward consumption trend. She writes, "This suggests that the trend of declining water sales may have stopped, or at least the pace has slowed considerably relative to the declines experienced earlier in the period." Over the three years 2013 to 2015, commercial consumption rose from 399.73 in 2013 to 413.94 in 2014 and to 434.66 in 2015. But this increase over these most recent three years runs counter to the downward trend over the full ten years 2006 to 2015 (decreasing from 497.86 in 2006 to 434.66). I have inserted a least-squares regression line into the spreadsheet to illustrate that ten-year downward trend, which is quite uniform.

9. Q. Is there a better explanation than hers for the rise in consumption from 2013 to 2015?

A. Yes, during that period, average temperature, as measured by total cooling degree days, (CDD) was virtually the same (CDD=1026 and 1023) for years 2013 and 2014, and was 11% higher (CDD=1140) for 2015. (Please see Spitznagel-Rebuttal-Appendix B.xls or Spitznagel-Rebuttal-Appendix B.pdf.) Since temperature is one of the driving forces in use of water, it is natural to expect the usage to have risen in 2015 due to 2015 being a warmer year. Weather normalization helps protect us

from seeing "patterns" in usage that do not really exist but are simply manifestations of random ups and downs of temperature and moisture.

10. Q. Did Andrea Crane perform weather normalization using NOAA or any other weather data?

A. No.

11. Q. Has weather normalization been repeatedly used by KAW and accepted by the Commission and the Attorney General in previous KAW rate cases?

A. Yes, in fact, in 1997 I was originally engaged by KAW to develop methods for weather normalization in water rate cases. With the exception of Case 2012-00520, which was done internally by KAW, I have performed weather normalizations in all subsequent rate cases since 1997. In Case 2012-00520, KAW used its own methodology. I was not involved in that case. The PSC and AG found KAW's method to be less than satisfactory and stated:

> "The AG opposes the change in methodology and takes issue with the contention that the new approach is more accurate or more reflective of Kentucky-American's customers' usage. He notes that during the course of several ratemaking proceedings that stretch back to the early 1990s, the Commission discussed, scrutinized, and adjusted Kentucky-American's weather normalization model before finally accepting it. He describes Kentucky-American's unilateral action to replace "the approved weather normalization process with a declining use factor" as "a rather large step backward." Noting that the usage normalization approach is based upon AWWC's system usage patterns, the AG argues that the Commission has previously rejected such an approach to be insufficient and has sought an approach based upon the usage characteristics of Kentucky-American's service territory."

In light of this, KAW employed me to present the model and data I have proposed in this case.

12. Q. Do you agree with Ms. Crane's estimates and projections regarding water usage?

A. No**.**

13. Q. Does this conclude your testimony?

A. Yes, it does.

VERIFICATION

STATE OF MISSOURI)
) **SS:**
COUNTY OF ST. LOUIS)

The undersigned, **Edward L. Spitznagel, Jr.**, being duly sworn, deposes and says he is a Professor of Mathematics in the College of Arts and Sciences at Washington University and holds a joint appointment in the Division of Biostatistics of the Washington University School of Medicine, that he has personal knowledge of the matters set forth in the foregoing testimony, and the answers contained therein are true and correct to the best of his information, knowledge, and belief.

Edward L. Spitznagel, Jr.
EDWARD L. SPITZNAGEL, JR.

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 13 day of June, 2016.

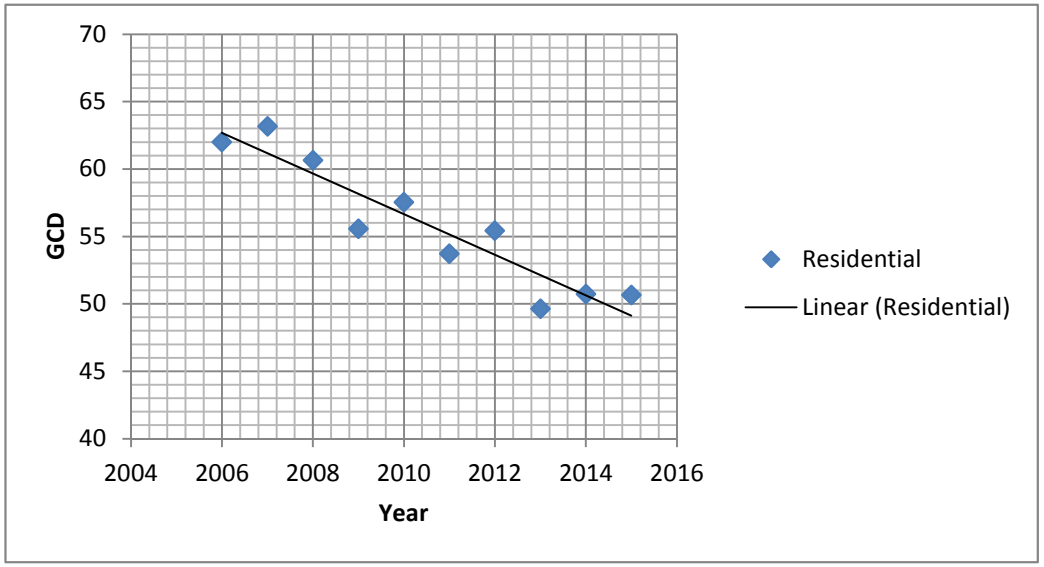
Cynthia Fields (SEAL)
Notary Public

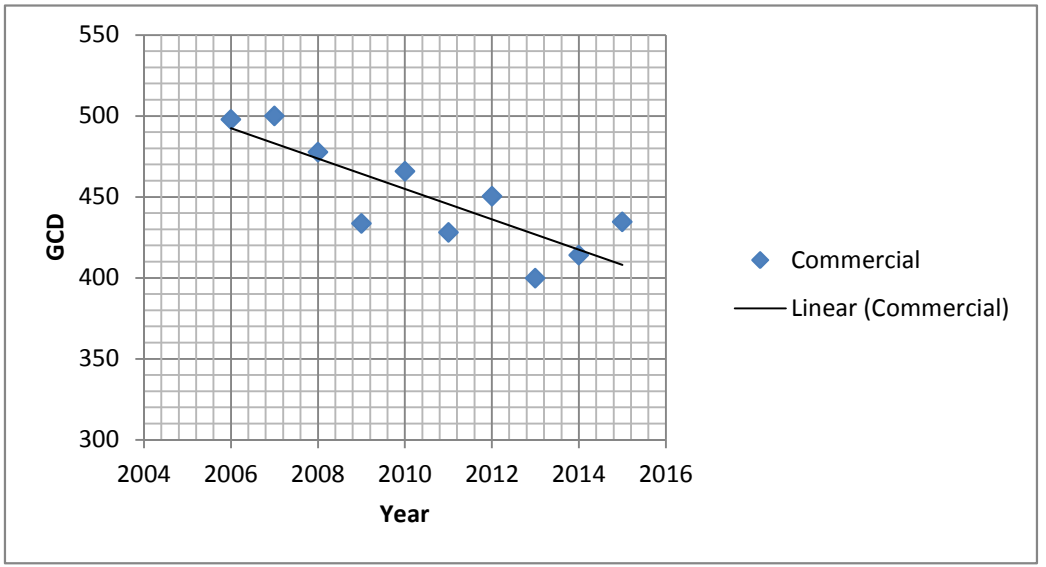
My Commission Expires:
March 5, 2018

CYNTHIA FIELDS
Notary Public, Notary Seal
State of Missouri
St. Louis County
Commission # 14589356
My Commission Expires March 05, 2018

Spitznagel-Rebuttal-Appendix A.xls

Year	Residential	Commercial
2006	62.01	497.86
2007	63.16	500.03
2008	60.64	477.58
2009	55.58	433.63
2010	57.55	465.89
2011	53.73	428.06
2012	55.43	450.36
2013	49.64	399.73
2014	50.74	413.94
2015	50.65	434.66





ELS-Rebuttal-Appendix B.xls

COOLING DEGREE DAYS (CDD)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
2006	10	0	0	18	55	167	347	363	69	6	0	0	1035
2007	0	0	18	0	136	246	276	465	214	57	0	0	1412
2008	0	0	0	6	42	252	294	268	194	13	0	0	1069
2009	0	0	9	6	88	240	191	242	135	5	0	0	916
2010	0	0	7	18	124	327	391	384	164	20	0	0	1435
2011	0	0	8	13	77	240	440	304	99	9	0	0	1190
2012	0	0	44	7	160	211	468	283	107	8	0	0	1288
2013	0	0	0	0	97	229	273	265	147	15	0	0	1026
2014	0	0	0	10	104	260	221	292	121	15	0	0	1023
2015	0	0	0	8	136	249	316	225	177	17	0	12	1140

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:	)	
	)	
THE APPLICATION OF KENTUCKY-AMERICAN WATER COMPANY FOR AN ADJUSTMENT OF RATES	)	**CASE NO. 2015-00418**
	)	
	)	

REBUTTAL TESTIMONY OF JAMES H. VANDER WEIDE

JUNE 14, 2016

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I. WITNESS IDENTIFICATION AND PURPOSE OF TESTIMONY

Q. 1 What is your name and business address?

A. 1 My name is James H. Vander Weide. I am President of Financial Strategy Associates, a firm that provides strategic and financial consulting services to business clients. My business address is 3606 Stoneybrook Drive, Durham, North Carolina 27705.

Q. 2 Are you the same James Vander Weide who previously filed direct testimony in this proceeding?

A. 2 Yes, I am.

Q. 3 What is the purpose of your rebuttal testimony?

A. 3 I have been asked by Kentucky American Water Company ("KAWC") to respond to the direct testimony of Dr. J. Randall Woolridge, which is presented on behalf of the Attorney General for the Commonwealth of Kentucky and the Lexington-Fayette Urban County Government.

Q. 4 What is Dr. Woolridge's recommended rate of return on equity for KAWC?

A. 4 Dr. Woolridge recommends a rate of return on equity for KAWC equal to 8.5 percent.

Q. 5 How does Dr. Woolridge arrive at his recommended 8.5 percent rate of return on equity for KAWC?

A. 5 Dr. Woolridge arrives at his recommended 8.5 percent rate of return on equity for KAWC primarily by applying the discounted cash flow ("DCF") model to both a comparable group of water utility companies and a comparable group of natural gas utilities. (Woolridge at 4, 32, 58)

Q. 6 Does Dr. Woolridge also present Capital Asset Pricing Model ("CAPM") results for his proxy companies?

A. 6 Yes. Dr. Woolridge presents CAPM results for both his comparable group of water utilities and his group of natural gas utilities. However, he gives less weight to his CAPM results in this proceeding because he believes the CAPM provides a less reliable indication of the cost of equity for public utilities. (Woolridge at 32)

Q. 7 What areas of Dr. Woolridge's testimony will you address in your rebuttal testimony?

A. 7 I will address Dr. Woolridge's: (1) DCF analysis; (2) CAPM analysis; (3) comments on utilities' market-to-book ratios; and (4) comments on my direct testimony.

II. DISCOUNTED CASH FLOW ANALYSIS

Q. 8 What cost of equity results does Dr. Woolridge obtain from his application of his DCF model?

A. 8 Dr. Woolridge obtains a DCF result of 8.5 percent for his proxy group of eight water utilities and 8.3 percent for his proxy group of eight natural gas utilities. (Woolridge at 47)

Q. 9 How does Dr. Woolridge's DCF estimate of KAWC's cost of equity compare to your DCF estimate of KAWC's cost of equity?

A. 9 I obtain an average DCF result of 9.5 percent for my water utility group and a DCF result of 10.1 percent for my natural gas utility group. (See Vander Weide Direct testimony, Schedule 1 and Schedule 2.)

Q. 10 What disagreements do you have with Dr. Woolridge's DCF analysis of KAWC's cost of equity?

A. 10 I disagree with Dr. Woolridge's: (1) proxy company groups; (2) DCF cost of equity equation; (3) estimate of investors' expected growth; and (4) failure to include an allowance for flotation costs.

A. Comparable Companies

Q. 11 What comparable companies does Dr. Woolridge use to estimate KAWC's cost of equity?

A. 11 Dr. Woolridge uses a group of eight water utilities and a group of eight natural gas utilities followed by Value Line and AUS Utility Reports. (Woolridge at 20 – 21)

Q. 12 Does Dr. Woolridge include all the companies from the Value Line water and natural gas utility industry groups in his proxy groups?

A. 12 No. Dr. Woolridge eliminates Consolidated Water, which is included in the Value Line water utility industry group, from his water proxy group, and UGI, which is included in the Value Line natural gas utility industry group, from his natural gas proxy group.

Q. 13 Why does Dr. Woolridge eliminate Consolidated Water from his water utility proxy group and UGI from his natural gas utility proxy group?

A. 13 Dr. Woolridge eliminates Consolidated Water from his water utility proxy group because, in his opinion, "Consolidated Water's risk profile is higher than regulated water companies." (Woolridge at 68) Dr. Woolridge eliminates UGI from his natural gas utility proxy group because, in his opinion, "UGI

Corporation's risk profile is higher than regulated gas distribution companies." (Woolridge at 69)

Q. 14 Do you agree with Dr. Woolridge's decision to eliminate Consolidated Water and UGI from his proxy groups?

A. 14 No. As a matter of simple mathematics, there will always be some companies in a group that are more risky than the group average, and some companies that are less risky than the group average. In choosing a comparable group of water and natural gas utilities for the purpose of estimating the cost of equity for a water utility such as KAWC, the important question is whether the average risk of the water and natural gas utility groups are reasonably comparable to the risk of KAWC and its parent, American Water Works. I believe that the average risk of the two utility proxy groups are reasonably similar to the risk of KAWC and its parent.

Q. 15 Does Dr. Woolridge compare the risk of his natural gas utility group to the risk of his water utility group?

A. 15 Yes. Dr. Woolridge provides a risk comparison of his natural gas utility and water utility groups in his testimony and in Exhibit JRW-4. He concludes that the water and natural gas utilities are approximately equal in risk:

> …I have assessed the riskiness of the two groups using five different risk measures published by *Value Line*. These measures include Beta, Safety, Financial Strength, Earnings Predictability, and Stock Price Stability. The Water Proxy Group is less risky on two measures (Beta and Stock Price Stability). Three of the five risk measures (Safety, Financial Strength, and Earnings Predictability) suggest that the Gas Proxy Group is a little less risky than the Water Proxy Group. Regardless, the magnitude of the differences in the risk metrics is not large. [Woolridge at 22]

Q. 16 What comparable companies do you use to estimate KAWC' cost of equity?

A. 16 I use the comparable groups of Value Line water and natural gas distribution utilities, shown in Schedule 1 and Schedule 2 of my direct testimony.

Q. 17 What criteria do you use to select your comparable groups of water and natural gas utilities?

A. 17 I select all Value Line water and natural gas utilities that: (1) pay dividends; (2) did not decrease dividends during any quarter of the past two years; (3) have an analyst's long-term growth forecast; and (4) are not the subject of a merger that is not yet complete. (Vander Weide Direct at 27, 30) In addition, all of the water and natural gas utilities included in my comparable groups have an investment grade bond rating and a Value Line Safety Rank of 1, 2, or 3, where 3 is the average Safety Rank of the Value Line universe of companies and 1 or 2 indicate that a company is less risky than average.

Q. 18 Have you examined whether your comparable groups of water and natural gas distribution utilities are a reasonable proxy for the risk of investing in KAWC and its parent, American Water Works?

A. 18 Yes. I have examined the Value Line Safety Rank, Financial Strength, and Earnings Predictability risk ratings for my comparable groups of water and natural gas utilities, and then compared the average Value Line risk ratings for my comparable groups to American Water Works.

Q. 19 How does Value Line define "Safety Rank," "Financial Strength," and "Earnings Predictability"?

A. 19 Value Line defines the risk indicators of Safety Rank, Financial Strength, and Earnings Predictability as follows:

> Safety Rank. A measurement of potential risk associated with individual common stocks. The Safety Rank is computed by averaging two other Value Line indexes the Price Stability Index and the Financial strength Rating. Safety Ranks range from 1 (Highest) to 5 (Lowest).
>
> Financial Strength. A relative measure of financial strength of the companies reviewed by Value Line. The relative ratings range from A++ (strongest) down to C (weakest), in nine steps.
>
> Earnings Predictability. A measure of the reliability of an earnings forecast. Predictability is based upon the stability of year-to-year comparisons, with recent years being weighted more heavily that earlier ones. The most reliable forecasts tend to be those with the highest rating (100); the least reliable, the lowest (5).

Q. 20 Why do you compare the risk metrics of your comparable companies to the risk metrics of American Water Works, rather than to risk metrics for KAWC?

A. 20 KAWC does not have Value Line risk metrics because it is not a publicly-traded company; thus I compare the risk metrics of American Water Works to the risk metrics of the other public-traded utilities in my proxy groups. In addition, KAWC is a subsidiary of American Water Works, and it is the publicly-traded entity, American Water Works, that raises debt and equity capital to support its subsidiaries.

Q. 21 How do the Value Line risk metrics for the groups of water utilities compare to those of American Water Works?

A. 21 The Value Line water utility group is slightly less risky than American Water Works, and my Value Line natural gas utility group is significantly less risky than American Water Works. For example, the average Value Line Safety Rank for

the Value Line water utility group is 2.6, whereas the Value Line Safety Rank for American Water Works is 3. The average Financial Strength rating for the water utility group is "B++," whereas American Water Works has a Financial Strength rating of "B+." The average Earnings Predictability for the water utility group is 79, but Earnings Predictability for American Water Works is 35 (see TABLE 1 below).

TABLE 1
COMPARISON OF VALUE LINE RISK METRICS FOR AMERICAN WATER WORKS TO AVERAGE VALUE LINE RISK METRICS OF PROXY WATER UTILITIES

LINE	COMPANY	SAFETY RANK	FINANCIAL STRENGTH	FINANCIAL STRENGTH (NUMERICAL)	EARNINGS PREDICTABILITY
1	Amer. States Water	2	A	3	90
2	Aqua America	2	A	3	95
3	California Water	3	B++	4	85
4	Conn. Water Services	3	B+	5	85
5	Consolidated Water	3	B+	5	50
6	Middlesex Water	2	B++	4	80
7	SJW Corp.	3	B+	5	50
8	York Water Co. (The)	3	B+	5	95
9	**Average**	**2.6**	**B++**	**4.3**	**79**
10	**Amer. Water Works**	**3**	**B+**	**5**	**35**

Q. 22 What do you conclude from your comparison of Value Line's average risk metrics for the water utility group to those risk metrics for American Water Works?

A. 22 I conclude that the Value Line water utility group is a conservative proxy for the risk of investing in KAWC and American Water Works because the Value Line risk ratings indicate that the risk of investing in the Value Line water utility group is slightly less than investing in KAWC and American Water Works.

Q. 23 How do the Value Line risk metrics for your group of natural gas utilities compare to the Value Line risk metrics for American Water Works?

A. 23 The natural gas utility group has an average Value Line Safety Rank of 1.4, whereas American Water Works' Safety Rank is 3; my natural gas utility group has an average Financial Strength rating of "A," and American Water Works' has a Financial Strength rating of "B+," two notches lower than that of the natural gas utility group; and the average Earnings Predictability of 80 for the natural gas utility group is much higher than American Water Works' Earnings Predictability rating of 35 (see TABLE 2 below).

TABLE 2
COMPARISON OF VALUE LINE RISK METRICS FOR AMERICAN WATER WORKS TO AVERAGE VALUE LINE RISK METRICS OF PROXY NATURAL GAS UTILITIES

LINE	COMPANY	SAFETY RANK	FINANCIAL STRENGTH	FINANCIAL STRENGTH (NUMERICAL)	EARNINGS PREDICTABILITY
1	Atmos Energy	1	A	3	95
2	New Jersey Resources	1	A+	2	60
3	Northwest Nat. Gas	1	A	3	95
4	South Jersey Inds.	2	A	3	80
5	Spire Inc.	2	B++	4	80
6	UGI Corp.	2	B++	4	75
7	WGL Holdings Inc.	1	A	3	75
8	**Average**	**1.4**	**A**	**3.1**	**80**
9	**Amer. Water Works**	**3**	**B+**	**5**	**35**

Q. 24 What do you conclude from your comparison of Value Line's average risk metrics for the natural gas utility group to those risk metrics for American Water Works?

A. 24 I conclude that my natural gas utility group is a conservative proxy for the risk of investing in KAWC and American Water Works.

Q. 25 You note that Dr. Woolridge recommends eliminating Consolidated Water from the Value Line water utility group and UGI from the Value Line natural gas utility group because, in his opinion, these two companies are more risky than the average company in their industry groups. How do the Value Line Safety Rank, Financial Strength, and Earnings Predictability ratings for Consolidated Water and UGI compare to those for American Water Works?

A. 25 The Value Line Safety Rank, Financial Strength, and Earnings Predictability ratings for Consolidated Water indicate that Consolidated Water and American Water Works have approximately equal risk, and the Value Line ratings for UGI indicate that UGI is less risky than American Water Works (see TABLE 3 below).

TABLE 3
COMPARISON OF VALUE LINE RISK METRICS FOR AMERICAN WATER WORKS TO VALUE LINE RISK METRICS FOR UTILITIES DR. WOOLRIDGE ELIMINATED FROM HIS PROXY GROUPS

LINE	COMPANY	SAFETY RANK	FINANCIAL STRENGTH	FINANCIAL STRENGTH (NUMERICAL)	EARNINGS PREDICTABILITY
1	Consolidated Water	3	B+	5	50
2	UGI Corp.	2	B++	4	75
3	Amer. Water Works	3	B+	5	35

B. DCF Model

Q. 26 What DCF Model does Dr. Woolridge use to estimate KAWC's cost of equity?

A. 26 Dr. Woolridge uses an annual DCF model of the form, $k = [D_0(1+.5g)/P_0] + g$, where k is the cost of equity, D_0 is the first period dividend, P_0 is the current stock

price, and *g* is the average expected future growth in the company's earnings per share and dividends per share. (Woolridge at 38)

Q. 27 What are the basic assumptions of Dr. Woolridge's annual DCF model?

A. 27 Dr. Woolridge's annual DCF model is based on the assumptions that: (1) a company's stock price is equal to the present value of the future dividends investors expect to receive from their investment in the company; (2) dividends are paid annually; (3) dividends, earnings, and book values are expected to grow at the same constant rate forever; and (4) the first dividend is received one year from the date of the analysis.

Q. 28 Do you agree with Dr. Woolridge's use of an annual DCF model to estimate KAWC's cost of equity?

A. 28 No. The annual DCF model is based on the assumption that companies pay dividends only at the end of each year. Because Dr. Woolridge's proxy companies pay dividends quarterly, Dr. Woolridge should have used the quarterly DCF model to estimate KAWC's cost of equity.

Q. 29 Why is it unreasonable to use an annual DCF model to estimate the cost of equity for companies that pay dividends quarterly?

A. 29 It is unreasonable to apply an annual DCF model to companies that pay dividends quarterly because: (1) the DCF model is based on the assumption that a company's stock price is equal to the present value of the expected future dividends associated with investing in the company's stock; and (2) the annual DCF model cannot be derived from this assumption when dividends are paid quarterly. (*See* Vander Weide Direct, Appendix 2)

Q. 30 Does Dr. Woolridge acknowledge that one must recognize the assumptions of the DCF model when estimating the model's inputs?

A. 30 Yes. Dr. Woolridge states, "In general, one must recognize the assumptions under which the DCF model was developed in estimating its components (the dividend yield and expected growth rate)." (Woolridge at 36)

Q. 31 Recognizing your disagreement with Dr. Woolridge's use of an annual DCF model, did Dr. Woolridge apply the annual DCF model correctly?

A. 31 No. Dr. Woolridge's annual DCF model is based on the assumption that dividends will grow at the same constant rate forever. Under the assumption that dividends will grow at the same constant rate forever, the cost of equity is given by the equation, $k = [D_0 (1 + g) / P_0] + g$, where D_0 is the current annualized dividend, P_0 is the stock price, and g is the expected constant annual growth rate. (*See* Vander Weide Direct Appendix 2.) Thus, the correct first period dividend in the annual DCF model is the current annualized dividend multiplied by the factor, (1 + growth rate). Instead, Dr. Woolridge uses the current annualized dividend multiplied by the factor (1 + 0.5 times growth rate) as the first period dividend in his DCF model. This incorrect procedure, apart from other errors in his methods, causes him to underestimate KAWC's cost of equity.

C. Investors' Growth Expectations

Q. 32 How does Dr. Woolridge estimate the expected future growth component of the DCF cost of equity?

A. 32 Dr. Woolridge considers Value Line data on historical growth rates in earnings, dividends, and book value, as well as Value Line data on projected growth rates

in earnings, dividends, and book value. He also considers analysts' forecasts of future growth provided by Yahoo, Reuters, and Zacks, and internal growth estimates based on Value Line's estimates of retention ratios and rates of return on book equity. (Woolridge at 38 – 39) Dr. Woolridge's final estimate of the growth rate that investors expect for his proxy companies is based on his judgment of what he considers to be an appropriate growth rate. (Woolridge at 46 - 47)

Q. 33 Do you agree with Dr. Woolridge's consideration of historical growth rates to estimate investors' expectation of future growth in the DCF model?

A. 33 No. Historical growth rates are inherently inferior to analysts' growth rate forecasts because analysts' forecasts already incorporate all relevant information regarding historical growth rates and also incorporate the analysts' knowledge about current conditions and expectations regarding the future. My studies indicate that investors use analysts' earnings growth forecasts in making stock buy and sell decisions rather than historical or internal growth rates such as those presented by Dr. Woolridge (Vander Weide Direct at 23 – 24).

Q. 34 What is the internal growth method of estimating the growth component for the DCF method?

A. 34 The internal growth method estimates expected future growth by multiplying a company's retention ratio, "b," times its expected rate of return on equity, "r." Thus, "g = b x r," where "b" is the percentage of earnings that are retained in the business and "r" is the expected rate of return on equity.

Q. 35 Do you agree with the internal growth method for estimating growth in the DCF model?

A. 35 No. The internal growth method is logically circular because it requires an estimate of the expected rate of return on equity, "r," in order to estimate the cost of equity using the DCF model. Yet, for regulated companies such as KAWC, the allowed rate of return on equity is set equal to the cost of equity.

Q. 36 What rate of return on equity does Dr. Woolridge assume in his calculation of expected growth using his internal growth method?

A. 36 Dr. Woolridge assumes that his proxy water utilities will earn the median Value Line water utility forecasted rate of return on equity of 10.5 percent, and that his proxy natural gas utilities will earn the median Value Line natural gas utility forecasted rate of return on equity of 11.3 percent. (Woolridge Exhibit JRW-10, p. 4)

Q. 37 If Value Line agreed that these utilities will be allowed rates of return on equity of only 8.5 percent, would it be reasonable for Value Line to forecast a median 10.5 percent earned rate of return on equity for water utilities and a median 11.3 percent earned rate of return on equity for natural gas utilities?

A. 37 No. Value Line is aware that water and natural gas utilities are regulated by rate of return regulation. If Value Line believed that the utilities' cost of equity were equal to Dr. Woolridge's recommended 8.5 percent allowed rate of return, Value Line would forecast that the utilities would earn approximately 8.5 percent on equity. On the other hand, if Value Line forecasts that these regulated

utilities will earn rates of return on equity of 10.5 percent and 11.3 percent, it is likely that Value Line believes that the cost of equity and allowed rate of return on equity is higher than Dr. Woolridge's recommended 8.5 percent rate of return on equity.

Q. 38 In applying his internal growth method, does Dr. Woolridge recognize that the companies in his proxy group can also grow by issuing new equity at prices above book value, in addition to growing from retained earnings?

A. 38 No. In applying his internal growth method, Dr. Woolridge underestimates the expected future growth of his proxy companies because he neglects the possibility that the companies can also grow by issuing new equity at prices above book value. Because all of Dr. Woolridge's proxy utilities are selling at prices in excess of book value, and Value Line forecasts that many of them will issue new equity over the next several years, Dr. Woolridge's failure to recognize the "external" component of future growth causes him to underestimate his proxy companies' expected future growth. This failure is noteworthy at a time when the water industry is expected to undertake substantial infrastructure investments and to finance part of this expansion through the capital markets.

Q. 39 Does Dr. Woolridge's internal growth method recognize that Value Line's reported rates of return on equity generally understate each company's average rate of return on equity for the year?

A. 39 No. Dr. Woolridge fails to recognize that Value Line calculates its reported rates of return on equity by dividing a company's net income by end of year equity,

whereas most financial analysts calculate a company's rate of return on equity by dividing net income by the average equity for the year. In the general case where a company's equity is increasing, Value Line's reported ROEs will understate the average ROE for the year.

Q. 40 Do you agree with Dr. Woolridge's consideration of analysts' growth forecasts to estimate the expected growth component of his DCF model?

A. 40 Yes. I agree with Dr. Woolridge's consideration of analysts' growth forecasts; however, I disagree with his consideration of analysts' growth forecasts in combination with historical and internal growth rates. As I discuss in my direct testimony, I recommend the use of analysts' growth forecasts for the purpose of estimating the expected growth component of the DCF model. I have conducted extensive studies that demonstrate that stock prices are more highly correlated with analysts' growth rates than with either historical growth rates or the internal growth rates considered by Dr. Woolridge. Dr. Woolridge reports a mean analyst growth rate of 6.6 percent (median 5.5 percent) for his water utility comparable group and a mean analyst growth rate of 5.3 percent (median 5.3 percent) for his natural gas utility group (Woolridge Exhibit JRW-10, p. 5).

Q. 41 Why do you believe that the analysts' forecasts of earnings growth are more accurate indicators of investors' growth expectations than the historical and internal growth data provided by Dr. Woolridge?

A. 41 Security analysts analyze the prospects of companies and forecast earnings. They take into account all available historical and current data plus any additional information that is available, such as changes in projected capital

expenditures, regulatory climate, industry restructuring, regulatory rulings, or changes in the competitive environment. The performance of security analysts is measured against their ability to weigh the above factors, to predict earnings growth, and to communicate their views to investors. Financial research indicates that securities analysts are influential, and, most importantly, the consensus of their forecasts is impounded in the current structure of market prices. This result is key, since a proper application of the DCF model requires the matching of stock prices and investors' growth expectations.

Q. 42 Are analysts' growth forecasts readily available?

A. 42 Yes. An important part of the analysts' job is getting their views across to investors. Major investment firms send out monthly reports with their earnings growth forecasts, and institutional investors have direct access to analysts. Individual investors can get the same forecasts through their investment advisors or online. Studies reported in the academic literature indicate that recommendations based on these forecasts are relied on by investors. Indeed, because analysts' growth forecasts are perceived by investors as being useful, there are services which offer analysts' growth forecasts on all major stocks. I/B/E/S and Zack's are some of the providers of these growth forecast data. I recommend use of the I/B/E/S forecasts because they have been: (1) shown to be highly correlated with stock prices; (2) widely studied in the finance literature; and (3) widely available to investors for many years.

Q. 43 Is it your contention that analysts make perfectly accurate predictions of future earnings growth?

A. 43 No. Forecasting earnings growth, for either the short-term or long-term, is very difficult. This statement is consistent with the fact that stocks, unlike high-quality bonds, are risky investments whose returns are highly uncertain. Though analysts' growth forecasts are inherently uncertain, they are better than either retention growth rates or historical growth rates in predicting stock prices. One would expect this result, given that analysts have all the past data plus current information. The important consideration is: what growth rates do investors use to value a stock? Financial research suggests that the analysts' growth forecasts are used by investors and therefore most related to stock prices.

Q. 44 Does the observation that analysts' growth forecasts are inherently uncertain imply that investors should ignore analysts' growth forecasts in making stock buy and sell decisions?

A. 44 No. Because growth forecasts have a significant influence on a company's stock price, investors have a great incentive to use the best available forecasts of a company's growth prospects, even if these growth forecasts are inherently uncertain. In this regard, the investor's situation is similar to the situation of a pilot who is flying across the country. Although the pilot recognizes that weather forecasts are inherently uncertain, he or she has a strong incentive to obtain the best available forecasts of cross-country weather patterns before taking off.

Q. 45 Have you done research on the appropriate use of analysts' forecasts in the DCF model?

A. 45 Yes. I prepared a study of the relationship between various estimates of investors' expectations of future long-term growth and stock prices. My study

indicates that the correlation between analysts' future growth forecasts and stock prices is significantly higher than the correlation between historically-oriented or retention growth measures and stock prices (see Vander Weide direct at 23 – 24).

Q. 46 Does Dr. Woolridge agree with your assessment that analysts' growth forecasts are the best proxy for investors' growth expectations in the DCF model?

A. 46 No. Dr. Woolridge argues that analysts' growth forecasts are not the best proxy for investors' growth expectations in the DCF model because, in his opinion, it is well known that analysts' growth forecasts are overly optimistic (Woolridge at 42 – 43).

Q. 47 Have you reviewed the research literature on the properties of analysts' growth forecasts?

A. 47 Yes, I have reviewed the articles identified in Rebuttal Schedule 1.

Q. 48 What basic questions does the research literature on analysts' forecasts address?

A. 48 The research literature on analysts' growth forecasts addresses three basic questions:

(1) Are analysts' forecasts superior to historical growth extrapolations in their ability to forecast future earnings per share?

(2) Is the correlation between changes in analysts' EPS growth forecasts and stock prices greater than the correlation between historical earnings growth rates and stock prices?

(3) Are analysts' growth forecasts overly optimistic?

Q. 49 How do researchers test whether analysts' growth forecasts are more accurate than forecasts based on historical growth extrapolations?

A. 49 I have identified at least eight published research studies dating from 1972 to 2006 that compare the accuracy of analysts' growth forecasts to the accuracy of forecasts based on historical extrapolations. Typically, these research studies follow several basic steps: (1) gather data on historical earnings per share for a large sample of firms over a reasonably long historical period of time; (2) gather data on actual earnings per share growth rates for the same firms over a subsequent future time period; (3) apply statistical forecasting techniques to determine the best model for forecasting future earnings growth based on historical growth data; (4) gather data on analysts' growth forecasts for the study period; (5) calculate the difference between the actual growth rate and the forecasted growth rate for both the best statistical forecasting model and the analysts' forecasts; (6) determine whether there is a significant difference between the forecasting errors of the statistical forecasting model and the forecasting errors of analysts' EPS growth forecasts; and (7) if the errors from the analysts' EPS growth forecasts are less than the errors from the statistical forecasting techniques and the difference is statistically significant, conclude that analysts provide superior forecasts to the forecasts obtained by statistical forecasting techniques. The main differences between the studies reported in the literature relate to the time period studied, the size of the database, and the

statistical techniques used to forecast future earnings growth based on historical earnings data.

Q. 50 What are the general conclusions of the research literature regarding the accuracy of analysts' growth forecasts compared to the accuracy of growth forecasts based on historical growth extrapolations?

A. 50 Seven of the eight articles strongly support the hypothesis that analysts' growth forecasts provide better predictions of future earnings growth than statistical models based on historical earnings, and one of the articles neither supports nor rejects this hypothesis (see TABLE 4 below). These articles strongly support the conclusion that analysts' EPS growth forecasts are better proxies for investor growth expectations than historical growth rates.

TABLE 4
ARTICLES THAT STUDY WHETHER ANALYSTS' FORECASTS
OR HISTORICAL GROWTH EXTRAPOLATIONS
ARE BETTER PREDICTORS OF EPS GROWTH

AUTHOR (DATE)	SUPPORT HISTORICAL	SUPPORT ANALYSTS
Elton and Gruber (1972)	Neutral	Neutral
Brown and Rozeff (1978)	No	Yes
Crichfield, Dyckman, and Lakonishok (1978)	No	Yes
Givoly and Lakonishok (1984)	No	Yes
Brown, Hagerman, Griffin, and Zmijewski (1987)	No	Yes
Newbold, Zumwalt, and Kannan (1987)	No	Yes
Brown, Richardson, and Schwager (1987)	No	Yes
Banker and Chen (2006)	No	Yes

Q. 51 Why is the correlation between analysts' EPS growth forecasts and stock prices a significant issue in the research literature on analysts' growth forecasts?

A. 51 If analysts' EPS growth forecasts are good proxies for investor growth expectations, one would expect that changes in analysts' growth forecasts would have a significant impact on stock prices. The impact of changes in analysts' growth expectations on stock prices can be estimated using standard statistical regression techniques.

Q. 52 What are the general conclusions of the research literature regarding the correlation between changes in analysts' EPS growth forecasts and stock prices?

A. 52 I have identified at least seven published research studies that use regression techniques to test whether the impact of changes in analysts' growth forecasts on stock prices is sufficiently strong to justify the conclusion that analysts' EPS growth forecasts are good proxies for investor growth expectations. All these studies find that changes in analysts' growth forecasts have a large and statistically significant impact on changes in stock prices. Five of these studies also test whether the impact of analysts' growth forecasts on stock prices is stronger than the impact of historical and/or retention growth rates on stock prices (see Table 5 below). These studies find that changes in analysts' growth forecasts have a significantly stronger impact on stock prices than changes in historical and/or retention earnings growth rates. In summary, financial research strongly supports the conclusion that analysts' growth forecasts are the best proxies for investor growth expectations.

TABLE 5
ARTICLES THAT STUDY THE RELATIONSHIP
BETWEEN ANALYSTS' GROWTH FORECASTS AND STOCK PRICES

AUTHOR (DATE)	SUPPORT HISTORICAL	SUPPORT ANALYSTS
Malkiel (1970)	No	Yes
Malkiel and Cragg (1970)	No	Yes
Elton, Gruber, and Gultekin (1981)		Yes
Fried and Givoly (1982)		Yes
Vander Weide and Carleton (1988)	No	Yes
Gordon, Gordon, and Gould (1989)	No	Yes
Timme and Eisemann (1989)	No	Yes

Q. 53 What are the general conclusions of the research literature regarding the claim that analysts' forecasts are overly optimistic?

A. 53 A review of available research evidence strongly supports the hypothesis that analysts' growth forecasts are not optimistic. I have reviewed nine articles that address whether analysts' growth forecasts are overly optimistic (see Table 6 below). At least seven of the nine articles reviewed find no evidence that analysts' growth forecasts are overly optimistic. Two articles find evidence of optimism, but also conclude that optimism is declining significantly over time. Of these two studies, one finds that analysts' forecasts for the Standard & Poor's 500 are pessimistic for the last four years of the study.

TABLE 6
ARTICLES THAT STUDY WHETHER ANALYSTS' FORECASTS
ARE BIASED TOWARD OPTIMISM

AUTHOR (DATE)	CONCLUSION
Crichfield, Dyckman, and Lakonishok (1978)	Unbiased
Elton, Gruber, and Gultekin (1984)	Unbiased
Givoly and Lakonishok (1984)	Unbiased
Brown (1997)	Declining optimism
Keane and Runkle (1998)	Unbiased
Abarbanell and Lehavy (2003)	Unbiased
Ciccone (2005)	Pessimistic
Clarke, Ferris, Jayaraman, and Lee (2006)	Unbiased
Yang and Mensah (2006)	Unbiased

Q. 54 What is the most important contribution of the more recent research literature on the accuracy of analysts' forecasts?

A. 54 The most important contribution of more recent research is to identify substantial statistical difficulties in earlier research studies that caused some of these studies to unwittingly accept the hypothesis of optimism when no optimism was present. For example, recent studies recognize that the results of earlier studies are heavily influenced by the presence of large unexpected accounting write-offs and special accounting charges at a small number of sample companies. Unexpected accounting write-offs and special charges have a potentially dramatic impact on conclusions concerning analysts' bias because analysts' forecasts intentionally exclude the impact of accounting write-offs and special charges, whereas actual earnings include these items. Thus, a comparison of analysts' forecasts premised on normalized earnings (that is, earnings that exclude the impact of accounting write-offs and special charges) to reported earnings that include the negative effect of accounting write-offs and special charges will bias the results in favor of concluding that analysts are

optimistic. Recent studies demonstrate that, once the distorting effect of unexpected accounting write-offs and special charges are removed from the analysis, there is no evidence that analysts' EPS growth forecasts are optimistic.

Recent research also highlights the potential impact of high correlation in analysts' forecast errors on study conclusions. Analysts' forecast errors tend to be highly correlated because unexpected industry and economy-wide shocks, such as unexpected increases in oil prices or terrorist attacks, have similar effects on all firms in the same industry. However, the relevant statistical tests of optimism are based on the assumption that analysts' forecast errors are independent, that is, the tests assume that the correlation of the analyst errors is zero. Once the statistical tests of optimism are adjusted to account for the high correlation in forecast errors that generally characterize the data, evidence supports the hypothesis that analysts' EPS growth forecasts are unbiased, and hence not optimistic.

Q. 55 Dr. Woolridge claims that studies by Lacina, Lee, and Xu support his view that analysts' growth forecasts are overly optimistic (Woolridge at 42). Does this study suffer from the substantial statistical difficulties you discuss in your previous response?

A. 55 Yes. Dr. Woolridge fails to recognize that the Lacina, Lee, and Xu results are distorted by: (1) the presence of large unexpected accounting write-offs and special accounting charges; and (2) the high correlation among the analysts' forecasts. These distortions are sufficient to invalidate the study's conclusions.

Q. 56 What is your overall conclusion regarding the use of analysts' growth forecasts as proxies for investors' growth expectations?

A. 56 Contrary to Dr. Woolridge's assessment that analysts' growth forecasts should not be used in the DCF model because they are well known to be optimistic, I find that the research literature provides strong support for the conclusion that: (1) analysts' EPS growth forecasts are not optimistic; and (2) analysts' EPS growth forecasts are reasonable proxies for investor growth expectations, while the historical growth extrapolations and retention growth rates used by Dr. Woolridge are not. In addition, Dr. Woolridge fails to recognize that the DCF model requires the growth forecasts of investors, whether accurate or not. In this regard, it is helpful to keep in mind that investors would not pay for analysts' growth forecasts if they did not find them to be helpful in making stock buy and sell decisions.

D. Flotation Costs

Q. 57 Does Dr. Woolridge include an adjustment for flotation costs in his DCF analysis?

A. 57 No.

Q. 58 Should Dr. Woolridge have included an adjustment for flotation costs in his DCF analysis?

A. 58 Yes. Dr. Woolridge should have included an adjustment for flotation costs because, without such an adjustment, KAWC and its parent, American Water Works, would not be able to recover all the costs they incur to finance KAWC's investments in plant and equipment.

Q. 59 Does KAWC issue equity in the capital markets?

A. 59 No. Although KAWC does not issue equity in the capital markets, its parent must issue equity to provide KAWC the necessary financing to make investments in its utility operations. If the parent is not able to recover its flotation costs through KAWC's rates, it will have no incentive to invest in KAWC.

Q. 60 Does Dr. Woolridge agree with your flotation cost adjustment?

A. 60 No. Dr. Woolridge claims that a flotation cost adjustment is inappropriate because: (1) the company has not presented any evidence that it actually incurs flotation costs when it issues new equity; and (2) it is frequently asserted that a flotation cost adjustment is required to prevent dilution of the company's existing shareholders, but existing shareholders cannot suffer dilution as long as the company's stock price is above book value. (Woolridge at 78 – 79)

Q. 61 Do you agree with Dr. Woolridge's assertion that the company did not provide any evidence that it incurs flotation costs when it issues new equity?

A. 61 No. Dr. Woolridge fails to acknowledge that the Company provided information that American Water Works has incurred flotation costs as a percent of the pre-issue price in offerings in 2009 equal to 4.9 percent, 6.5 percent, and 6.1 percent in response to the Attorney General's First Request for Information, No. 25, sub-part g:

> …American Water Works issued shares in June, August, and November 2009. With regard to the 2009 share offerings, the information available in SEC filings indicates that the total expenses as a percent of net proceeds in the three offerings were 3.7 percent, 3.3 percent, and 3.3 percent, respectively; and flotation costs as a percent of the pre-issue price in each offering were 4.9

percent, 6.5 percent, and 6.1 percent, respectively. … (see Table 7 below).

Table 7
American Water Works Flotation Costs for Equity Issuances
(Source of Data: Sec.gov)

AWK June 10, 2009 Public Offering	**Price per Share**	**No. of shares**	**Total**
Closing Price at Date Just Prior to Issuance (06/04/2009)	17.4900		
Public Offering Price	17.2500	14,500,000	$ 250,125,000
Underwriting discounts, commissions	0.5175	14,500,000	$ 7,503,750
Proceeds before other expenses to the Company	16.7325	14,500,000	$ 242,621,250
Other Expenses			$ 1,421,250
Total Commissions, expenses			$ 8,925,000
Net proceeds	16.63	14,500,000	$ 241,200,000
All expenses as percent of proceeds			3.7%
Flotation costs as % of pre-issue price			4.9%
AWK August 14, 2009 Public Offering	**Price per Share**	**No. of shares**	**Total**
Closing Price at Date Just Prior to Issuance (08/13/2009)	19.3400		
Public Offering Price	19.2500	35,000,000	$ 673,750,000
Underwriting discounts, commissions	0.5775	35,000,000	$ 20,212,500
Proceeds before other expenses to the Company	18.6725	35,000,000	$ 653,537,500
Other Expenses			$ 470,000
Total Commissions, expenses			$ 20,682,500
Net proceeds	18.08	35,000,000	$ 632,855,000
Expenses as percent of proceeds			3.3%
Flotation costs as % of pre-issue price			6.5%
AWK November 18, 2009 Public Offering	**Price per Share**	**No. of shares**	**Total**
Closing Price at Date Just Prior to Issuance (11/17/2009)	21.6300		
Public Offering Price	21.6300	37,351,617	$ 807,915,476
Underwriting discounts, commissions	0.6489	37,351,617	$ 24,237,464
Proceeds before other expenses to the Company	20.9811	37,351,617	$ 783,678,011
Other Expenses			$ 505,000
Total Commissions, expenses			$ 24,742,464
Net proceeds	20.32	37,351,617	$ 758,935,547
Expenses as percent of proceeds			3.3%
Flotation costs as % of pre-issue price			6.1%

Q. 62 The flotation costs you have identified are for a period prior to the test year in this case. Is a flotation cost adjustment only appropriate if a company issues stock during the test year?

A. 62 No. A flotation cost adjustment is required whether or not a company issued new stock during the test year. Previously incurred flotation costs have not been recovered in previous rate cases; rather, they are a permanent cost associated with past issues of common stock. Just as an adjustment is made to the embedded cost of debt to reflect previously incurred debt issuance costs (regardless of whether additional bond issuances were made in the test year), so should an adjustment be made to the cost of equity regardless of whether additional stock was issued during the test year. (See Vander Weide Direct at 26 – 27 and Exhibit__(JVW-1), Appendix 3.)

Q. 63 Do you justify flotation costs on the grounds that flotation costs are required to prevent dilution of existing shareholders, as Dr. Woolridge contends?

A. 63 No. I justify flotation costs on the grounds that the company will not be able to earn a fair rate of return if it does not recover the flotation costs it incurs when it issues new equity. My flotation cost adjustment is unrelated to the company's market-to-book ratio.

III. CAPITAL ASSET PRICING MODEL

Q. 64 What is the CAPM?

A. 64 The CAPM is an equilibrium model of expected returns on risky securities in which the expected or required return on a given risky security is equal to the risk-free rate of interest plus the security's "beta" times the market risk premium:

Expected return = Risk-free rate + (Security beta x Market risk premium).

The risk-free rate in this equation is the expected rate of return on a risk-free government security, the security beta is a measure of the company's risk relative to the market as a whole, and the market risk premium is the premium investors require to invest in the market basket of all securities compared to the risk-free security.

Q. 65 How does Dr. Woolridge use the CAPM to estimate KAWC's cost of equity?

A. 65 The CAPM requires estimates of the risk-free rate, the company-specific risk factor, or beta, and either the required return on an investment in the market portfolio, or the risk premium on the market portfolio compared to an investment in risk-free government securities. For the risk-free rate, Dr. Woolridge uses a 4.0 percent yield for 30-year Treasury bonds (Woolridge at 50); for the company-specific risk factor or beta, Dr. Woolridge uses the current Value Line beta for each company (Woolridge at 51); and for the required return or risk premium on the market portfolio, Dr. Woolridge employs the average 5.5 percent risk premium he obtains from his review of the risk premium literature (Woolridge at 55).

Q. 66 What CAPM result does Dr. Woolridge obtain for his proxy companies?

A. 66 Dr. Woolridge obtains a CAPM result of 8.0 percent for his water utility comparable group and a result of 8.4 percent for his natural gas distribution utility comparable group. (Woolridge at 57)

Q. 67 Does Dr. Woolridge give significant weight to the results of his CAPM studies in his analysis of KAWC's cost of equity?

A. 67 No. Dr. Woolridge states that he relies primarily on the results of his DCF analysis. (Woolridge at 4, 32, 58)

Q. 68 Do you agree with Dr. Woolridge's application of the CAPM?

A. 68 No. I disagree with Dr. Woolridge's: (1) estimate of the required risk premium on the market portfolio; (2) failure to recognize that the CAPM underestimates the required return for companies such as his water and natural gas utilities with betas less than 1.0; and (3) failure to recognize that the CAPM underestimates the required return for companies with small market capitalization.

A. Market Risk Premium

Q. 69 What estimate of the market risk premium does Dr. Woolridge use in his the CAPM analysis?

A. 69 Dr. Woolridge uses a 5.5 percent estimate of the market risk premium in his CAPM analysis.

Q. 70 Dr. Woolridge claims that his 5.5 percent market risk premium estimate in his CAPM analysis is reasonable because it is consistent with the 5.34 percent long-term forecasted return on the S&P 500 and the 3.44 percent long-term expected bond return published in the February 2016 Federal Reserve Bank of Philadelphia's Survey of Professional Forecasters (Woolridge at 56). Is the Survey of Professional Forecasters a reliable source of cost of equity estimates?

A. 70 No. The economists included in the survey are macro economists who are primarily concerned with forecasting factors such as GDP growth, inflation rates, unemployment rates, job growth, and other macroeconomic indicators. The 5.34 percent forecast of the long-term expected return on the S&P 500 is

inherently unrealistic as an estimate of the required return on the S&P 500 because this expected return as of April 2016 is 87 basis points less than the Energy Information Administration's 6.21 percent forecasted yield on AA-rated utility bonds. Since equity investments in the S&P 500 are more risky than investments in AA-rated utility bonds, the required rate of return, or cost of equity, on the S&P 500 must certainly be significantly higher than−not less than−the yield to maturity on AA-rated utility bonds.

Q. 71 Dr. Woolridge also claims that his risk premium estimate is reasonable because it is consistent with the risk premium estimate found in the CFO Magazine survey of Chief Financial Officers in March 2016 (Woolridge at 56). Do you agree that surveys of business managers provide useful information on the expected or required return on equity?

A. 71 No. Surveys of business managers provide little information on the expected or required return on equity because: (1) managers have no incentive to take the survey seriously; (2) their responses are not typically based on market transactions or actual investment decisions; (3) their responses may reflect what they think the investigator wants to hear; and (4) the response rate is frequently low.

Furthermore, Dr. Woolridge fails to note that the authors of the CFO survey report that managers responding to their survey typically use a cost of equity or "hurdle rate" in making investment decisions that exceeds the cost of equity estimate implied by their views of the expected return on the S&P 500. As Graham and Harvey state, "Often their [the CFO's] 10-year risk premium is

supplemented so that the company's hurdle rate exceeds their expected excess return on the S&P 500." [John Graham and Campbell Harvey, "The Equity Risk Premium in 2013," pp. 8 – 9]

B. Betas Less than 1.0

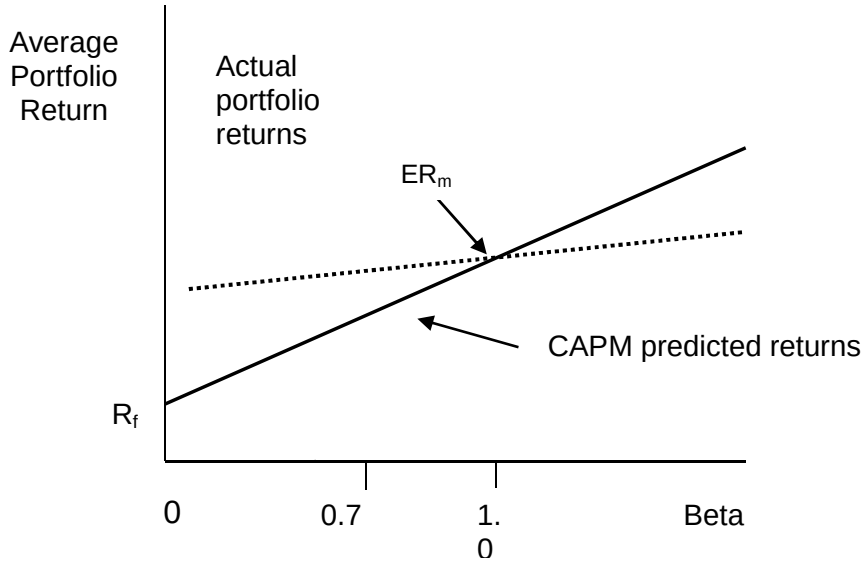
Q. 72 Can you briefly summarize the evidence that the CAPM underestimates the required returns for securities or portfolios with betas less than 1.0 and overestimates required returns for securities or portfolios with betas greater than 1.0?

A. 72 Yes. The CAPM conjectures that security returns increase with increases in security betas in line with the equation

$$ER_i = R_f + \beta_i \left[ER_m - R_f \right],$$

where ER_i is the expected return on security or portfolio *i,* R_f is the risk-free rate, $ER_m - R_f$ is the expected risk premium on the market portfolio, and β_i is a measure of the risk of investing in security or portfolio *i*. If the CAPM correctly predicts the relationship between risk and return in the marketplace, then the realized returns on portfolios of securities and the corresponding portfolio betas should lie on the solid straight line with intercept R_f and slope [$R_m - R_f$] shown below.

FIGURE 1
AVERAGE RETURNS COMPARED TO BETA
FOR PORTFOLIOS FORMED ON PRIOR BETA



Financial scholars have found that the relationship between realized returns and betas is inconsistent with the relationship posited by the CAPM. As described in Fama and French (1992) and Fama and French (2004), the actual relationship between portfolio betas and returns is shown by the dotted line in the figure above. Although financial scholars disagree on the reasons why the return/beta relationship looks more like the dotted line in the figure than the solid line, they generally agree that the dotted line lies above the solid line for portfolios with betas less than 1.0 and below the solid line for portfolios with betas greater than 1.0. Thus, in practice, scholars generally agree that the CAPM underestimates portfolio returns for companies with betas less than 1.0, and overestimates portfolio returns for portfolios with betas greater than 1.0.

Q. 73 What conclusion do you reach from your review of the literature relating to the accuracy of CAPM estimates of the relationship between risk and return in the marketplace?

A. 73 I conclude that the financial literature strongly supports the proposition that the CAPM underestimates the cost of equity for companies such as public utilities with betas less than 1.0.

Q. 74 Do you have additional evidence that the CAPM tends to underestimate the cost of equity for utilities with average betas less than 1.0?

A. 74 Yes. Over the period 1937 to 2015, investors in the S&P Utilities Stock Index have earned a risk premium over the yield on long-term Treasury bonds equal to 5.49 percent, while investors in the S&P 500 have earned a risk premium over the yield on long-term Treasury bonds equal to 6.06 percent. According to the CAPM, investors in utility stocks should expect to earn a risk premium over the yield on long-term Treasury securities equal to the average utility beta times the expected risk premium on an investment in the S&P 500. Thus, the ratio of the risk premium on the utility portfolio to the risk premium on the S&P 500 should equal the utility beta. However, the average water utility beta at the time of my studies is approximately 0.73, whereas the historical ratio of the utility risk premium to the S&P 500 risk premium is 0.90 (5.49 ÷ 6.06 = 0.90). Thus, the use of the current 0.73 measured beta may produce an underestimate of the cost of equity for utilities. (See Vander Weide Direct, Schedule 2.)

C. Small Market Capitalization Companies

Q. 75 Does Dr. Woolridge acknowledge that the CAPM underestimates the cost of equity for companies with small market capitalization?

A. 75 No.

Q. 76 Does the finance literature support an adjustment to the CAPM equation to account for a company's size as measured by market capitalization?

A. 76 Yes. For example, Duff & Phelps, (who have purchased the Ibbotson® size premia data), support such an adjustment. Their estimates of the size premium required to be added to the basic CAPM cost of equity are shown below in TABLE 8.

TABLE 8
ESTIMATES OF PREMIUMS FOR COMPANY SIZE
2015 VALUATION YEARBOOK

Decile	Smallest Mkt. Cap. ($Millions)	Largest Mkt. Cap. ($Millions)	Premium
Large-Cap (No Adjustment)	>10,105.622		0
Mid-Cap (3-5)	2,552.441	10,105.622	1.07%
Low-Cap (6-8)	549.056	2,542.913	1.80%
Micro-Cap (9-10)	3.037	548.839	3.74%

Q. 77 What are the market capitalizations and associated size premiums for your proxy water and natural gas utilities?

A. 77 With the exception of American Water Works, each of the water utilities in the Value Line water utility group is a mid-cap, low-cap, or micro-cap company, requiring size premiums in the range 1.0 percent to 3.7 percent (see TABLE 9 below).

TABLE 9
ESTIMATES OF PREMIUMS FOR VALUE LINE WATER UTILITIES
(SEE VANDER WEIDE DIRECT TESTIMONY, SCHEDULE 7)

LINE	COMPANY	MARKET CAP $ (MIL)	SIZE PREMIUM
1	Amer. States Water	1,523	1.80%
2	Amer. Water Works	10,278	—
3	Aqua America	5,122	1.07%
4	California Water	1,043	1.80%

LINE	COMPANY	MARKET CAP $ (MIL)	SIZE PREMIUM
5	Conn. Water Services	396	3.74%
6	Consolidated Water	172	3.74%
7	Middlesex Water	401	3.74%
8	SJW Corp.	610	1.80%
9	York Water Co. (The)	295	3.74%

IV. MARKET-TO-BOOK RATIOS

Q. 78 Does Dr. Woolridge discuss the relationship between earned rates of return on equity, the cost of equity, and market-to-book ratios in his testimony?

A. 78 Yes. Dr. Woolridge asserts that a market-to-book ratio above 1.0 indicates that a company is earning more than its cost of equity and a market-to-book ratio less than 1.0 indicates that a company is earning less than its cost of equity:

> As such, the relationship between a firm's return on equity, cost of equity, and market-to-book ratio is relatively straightforward. A firm that earns a return on equity above its cost of equity will see its common stock sell at a price above its book value. Conversely, a firm that earns a return on equity below its cost of equity will see its common stock sell at a price below its book value. (Woolridge at 26)

Q. 79 Does Dr. Woolridge provide any evidence that, in his opinion, supports his conclusion that a company with a market-to-book ratio above 1.0 is earning a rate of return on equity that exceeds its cost of equity?

A. 79 Yes. Dr. Woolridge's reports the results of three regression analyses that he believes support his claim that companies with market-to-book ratios greater than 1.0 are earning more than their costs of equity (Woolridge at 28 and Exhibit JRW-6).

Q. 80 Do Dr. Woolridge's regression analyses provide any support for Dr. Woolridge's claim that a company with a market-to-book ratio greater than 1.0 is earning more than its cost of equity?

A. 80 No, Dr. Woolridge's regression analyses do not support his claim that a company with market-to-book ratio greater than 1.0 is earning more than its cost of equity. Dr. Woolridge concludes that the cost of equity for water utilities like KAWC is 8.5 percent. However, the data shown in Exhibit JRW-6 indicate that many utilities have projected ROEs less than Dr. Woolridge's recommended 8.5 percent rate of return but also market-to-book ratios greater than 1.0. These data contradict Dr. Woolridge's claim that companies earning less than their cost of equity will have market-to-book ratios of less than 1.0.

Q. 81 How many of the utilities in Exhibit JRW-6 have projected ROEs less than 8.5 percent?

A. 81 Dr. Woolridge's Exhibit JRW-6, Panels A, B, and C, display graphs of the projected ROEs and market-to-book ratios for 42 electric utilities (Panel A), nine natural gas utilities (Panel B), and nine water utilities (Panel C). With regard to Panel A, the electric utilities, there appear to be approximately thirteen electric utilities with projected ROEs less than 8.5 percent, but no electric utilities have market-to-book ratios less than 1.0. With regard to Panel B, two of the natural gas utilities have projected ROEs less than 8.5 percent, but no natural gas utility has a market-to-book ratio less than 1.0. With regard to Panel C, three of the water utilities have projected ROEs less than 8.5 percent, but no water utility has a market-to-book ratio less than 1.0. (Dr. Woolridge's exhibit provides

only pictures rather than numerical data in Panel A, Panel B, and Panel C; thus, it is not possible to verify with precision the data that the pictures represent.)

V. REPLY TO DR. WOOLRIDGE'S REBUTTAL COMMENTS

Q. 82 What topics does Dr. Woolridge address in his rebuttal comments on your direct testimony?

A. 82 Dr. Woolridge addresses my comparable companies, quarterly DCF model, analysts' growth forecasts, market risk premium estimates, flotation cost adjustment, and market capitalization adjustments to CAPM results. (Woolridge at 67)

A. Proxy Companies

Q. 83 What proxy companies do you use to estimate KAWC's cost of equity?

A. 83 I use the comparable group of Value Line water utilities shown in Schedule 1 of my direct testimony and the comparable group of Value Line natural gas distribution utilities shown in Schedule 2 of my direct testimony.

Q. 84 Does Dr. Woolridge agree with your choice of proxy companies?

A. 84 No. Dr. Woolridge argues that Consolidated Water Company should be eliminated from my water utility group and that UGI should be eliminated from my natural gas utility group because, in his opinion, these companies have Value Line risk metrics that indicate greater than average risk for the water and natural gas utility groups. (Woolridge at 68 - 69)

Q. 85 Do you agree with Dr. Woolridge's opinion that an analyst should eliminate a company from a proxy group if the company's risk metrics indicate greater than average risk for the proxy group?

A. 85 No. In any group of proxy companies, it is likely that some companies will have one or more Value Line risk metrics that indicate higher risk than the average for the group, while other companies will have one or more Value Line risk metrics that indicate lower risk than the average for the group. The most important issue with regard to selection for a proxy group is whether the average risk for the group is reasonably similar to the risk of the target utility.

Q. 86 Does Dr. Woolridge provide any evidence that the average risk of the utilities in your proxy groups are significantly greater than the risk of investing in KAWC or its parent, American Water Works?

A. 86 No, he does not.

Q. 87 Did you provide evidence that your water and natural gas utility proxy groups are a reasonable, if not conservative, proxy for the risk of investing in KAWC and its parent, American Water Works?

A. 87 Yes. The Value Line Safety Rank, Financial Strength, and Earnings Predictability ratings indicate that the Value Line water utility group is slightly less risky than American Water Works, and the Value Line natural gas utility group is significantly less risky than American Water Works (see TABLE 1 and TABLE 2 above).

B. Quarterly DCF Model

Q. 88 What are Dr. Woolridge's criticisms of your DCF studies?

A. 88 Dr. Woolridge claims that my DCF results are overstated because I: (1) use the quarterly rather than the annual DCF model to estimate KAWC's cost of equity; (2) use analysts' growth rates to estimate the growth component of the DCF

model; (3) use market value weighting to calculate my average DCF results; and (4) include an allowance for flotation costs. (Woolridge at 70)

Q. 89 What is the major difference between the quarterly DCF model you use and the annual DCF model employed by Dr. Woolridge?

A. 89 The major difference is that my quarterly DCF model is based on the realistic assumption that dividends are paid quarterly, while Dr. Woolridge's annual DCF model is based on the unrealistic assumption that dividends are paid once at the end of each year.

Q. 90 Why do you use the quarterly rather than the annual DCF model to estimate KAWC's cost of equity?

A. 90 As I discuss in my direct testimony, the DCF model assumes that a company's stock price is equal to the present discounted value of all expected future dividends. Since the companies in my comparable group all pay dividends quarterly, the current market price that investors are willing to pay reflects the expected quarterly receipt of dividends. Therefore, a quarterly DCF model must be used to estimate the cost of equity for these firms. The quarterly DCF model differs from the annual DCF model in that it expresses a company's stock price as the present discounted value of a quarterly stream of dividend payments. The annual DCF model is only a correct expression for the present discounted value of future dividends if dividends are paid once at the end of each year.

Q. 91 Why does Dr. Woolridge disagree with your application of the quarterly DCF model?

A. 91 Dr. Woolridge argues first that an early proponent of the DCF model, Dr. Myron Gordon, stated that the appropriate dividend yield adjustment for growth in the DCF model "is the expected dividend for the next quarter multiplied by four." (Woolridge at 37) Second, Dr. Woolridge argues that Professor Bower has stated that the conventional DCF calculation produces a downwardly-biased estimate of the cost of equity, but the annual DCF model provides the most appropriate estimate of the utility's required return on equity for regulated utilities. (Woolridge at 72)

Q. 92 Is Dr. Gordon's statement in favor of an annual DCF model a reasonable justification for use of the annual DCF model in this proceeding?

A. 92 No. Although Dr. Gordon was certainly a major early proponent of the DCF model, this does not imply that Dr. Gordon is correct in his arguments regarding the quarterly DCF model. As shown in my Appendix 2 (filed with my direct testimony), there can be no doubt that the quarterly DCF model must be used to estimate the cost of equity when dividends are paid quarterly.

Q. 93 With reference to Dr. Woolridge's arguments concerning Dr. Bower, do you agree with Dr. Bower's statement that the annual DCF calculation is a downwardly-biased estimate of the market cost of equity when companies pay dividends quarterly?

A. 93 Yes. Thus, I use the quarterly DCF model to estimate the cost of equity in this proceeding.

Q. 94 Do you agree with Dr. Bower's argument that the annual DCF model is the appropriate measure of the required return on equity, or cost of equity, for regulated utilities?

A. 94 No. I believe that it is important to measure the cost of equity for the proxy companies correctly. As discussed above and in my direct testimony, the quarterly DCF provides the best estimate of the cost of equity for my proxy companies.

C. Analysts' Growth Forecasts

Q. 95 Dr. Woolridge also criticizes your use of analysts' growth rates in your DCF model. Why do you use analysts' growth rates to estimate the growth component of the DCF model?

A. 95 I use analysts' growth rates because my studies indicate that the analysts' growth rates are highly correlated with stock prices. This evidence provides strong support for the conclusion that investors use analysts' growth rates in making stock buy and sell decisions, and thus the analysts' growth rates should be used to estimate the growth component of the DCF model.

Q. 96 Does Dr. Woolridge agree with your statistical studies of the relationship between analysts' growth rates and stock prices?

A. 96 No. Dr. Woolridge has four criticisms of my statistical studies of the relationship between analysts' growth rates and stock prices. First, he argues that my statistical study is outdated. Second, he argues that my study is misspecified because I used a "linear approximation" to the DCF model rather than a modified version of the DCF model. Third, he argues that I did not use both

historical and analysts' forecasted growth rates in the same regression. Fourth, he argues that I did not perform any tests to determine if the difference between historic and projected growth measures is statistically significant. (Woolridge at 75 - 76)

Q. 97 Do you agree with Dr. Woolridge's assertion that your statistical analysis of the relationship between analysts' growth rates and stock prices is outdated?

A. 97 No. As discussed in my direct testimony, my study was updated in August 2004. The updated study continues to support the conclusion that the analysts' growth rates are more highly correlated with stock prices than historical measures such as those employed by Dr. Woolridge. Furthermore, Dr. Woolridge ignores other more recent studies that have corroborated my results. Finally, Dr. Woolridge disregards the common sense observation that investors would not purchase analysts' growth forecasts if these forecasts did not influence stock prices.

Q. 98 Does Dr. Woolridge provide any empirical support for his use of his own unspecified combination of historical and analysts' growth forecasts to estimate investors' growth expectations in the DCF model?

A. 98 No, he does not.

Q. 99 Do you agree with Dr. Woolridge's criticism that your DCF model is misspecified because you used a "linear approximation" to the DCF model rather than a modified version of the DCF model?

A. 99 No. Most regression analyses are based on the assumption that the relationship between the variables being studied is linear. As part of my studies, I tested whether the linear assumption was sufficiently close to provide reliable estimates of the model parameters. Applying a first order Taylor-series approximation to the DCF equation, I found that the first order, or linear, approximation was sufficiently close to the true equation to justify using linear regression analysis to study the relationship between price/earnings ratios and growth rates.

Q. 100 Why did you not use a combination of historical and analysts' growth rates in the same regression?

A. 100 I did not use a combination of historical and analysts' growth rates in the same regression because there are an infinite number of such combinations which could be tested. My studies indicate that the relationship between analysts' forecasts and stock prices is so strong compared to the relationship between historical growth rates and stock prices that there would be little advantage to combining historical growth rates with analysts' forecasts to predict stock prices.

Q. 101 Is there a statistically significant difference between historical and projected growth measures in explaining stock prices in your statistical study?

A. 101 Yes. The difference in performance of historical and projected growth rates is both statistically significant and dramatic.

Q. 102 Dr. Woolridge claims in his testimony that "it is well known that the long-term EPS growth rate forecasts of Wall Street securities analysts are overly optimistic and upwardly biased." (Woolridge at 74) Is he correct?

A. 102 No. Contrary to Dr. Woolridge's claim, the academic literature presents compelling evidence that analysts' EPS forecasts are unbiased—that is, neither optimistic nor pessimistic. I have reviewed nine articles that address whether analysts' growth forecasts are overly optimistic (see Table 6 above). At least seven of the nine articles reviewed find no evidence that analysts' growth forecasts are overly optimistic. Two find evidence of optimism in the earlier periods of the studies, but also conclude that optimism declines significantly over time. Of these two studies, one finds that analysts' forecasts for the S&P 500 are pessimistic for the last four years of the study.

Q. 103 Does some of the later research explain why some earlier studies in the literature conclude that analysts' EPS growth forecasts are optimistic?

A. 103 Yes. Articles by Abarbanell and Lehavy (2003) and Keane and Runkle (1998) recognize that the results of earlier studies are heavily influenced by the presence of large unexpected accounting write-offs and special accounting charges at a small number of sample companies. Analysts' forecasts intentionally exclude the impact of accounting write-offs and special charges because such one-time write-offs and special charges are inherently unpredictable. Unexpected accounting write-offs and special charges have a potentially dramatic impact on conclusions concerning analysts' bias because actual earnings include these items whereas analysts' normalized forecasts

exclude them. Thus, a comparison of analysts' forecasts premised on normalized earnings (that is, earnings that exclude the impact of accounting write-offs and special charges) to reported earnings that include the negative effect of accounting write-offs and special charges will bias the results in favor of concluding that analysts are optimistic. These studies demonstrate that, once the distorting effect of unexpected accounting write-offs and special charges are removed from the analysis, there is no evidence that analysts' EPS growth forecasts are optimistic.

This research also highlights the potential impact of high correlation in analysts' forecast errors on study conclusions. Analysts' forecast errors tend to be highly correlated because unexpected industry and economy-wide shocks, such as unexpected increases in oil prices or terrorist attacks, have similar effects on all firms in the same industry. However, typical statistical tests of optimism (such as R-squares and t-statistics) are based on the assumption that analysts' forecast errors are independent, that is, the tests assume that the correlation of the analyst errors is zero. Once the statistical tests of optimism are adjusted to account for the high correlation in forecast errors that generally characterize the data, evidence supports the hypothesis that analysts' EPS growth forecasts are unbiased, and hence not optimistic.

D. Risk Premium

Q. 104 What is the risk premium approach to estimating the cost of equity?

A. 104 The risk premium approach is based on the principle that investors expect to earn a return on an equity investment in KAWC that reflects a "premium" over

the return they expect to earn on an investment in a portfolio of long-term bonds. This equity risk premium compensates equity investors for the additional risk they bear in making equity investments versus bond investments. Using the risk premium approach, the cost of equity is given by the following equation: cost of equity = interest rate plus risk premium.

Q. 105 How do you estimate the interest rate component of the risk premium approach?

A. 105 I estimate the interest rate component of the risk premium approach using the forecasted yield to maturity on A-rated utility bonds.

Q. 106 Why do you use the forecasted yield to maturity rather than the current yield to maturity on A-rated utility bonds to estimate the interest rate component of the risk premium approach to estimating the cost of equity?

A. 106 I use a forecasted yield to maturity on A-rated utility bonds rather than a current yield to maturity because the fair rate of return standard requires that a company have an opportunity to earn its required return on its investment during the forward-looking period during which rates will be in effect. Because current interest rates are depressed as a result of the Federal Reserve's efforts to stimulate the economy by keeping interest rates low, current interest rates at this time are likely a poor indicator of expected future interest rates. Economists project that future interest rates will be higher than current interest rates as the Federal Reserve allows interest rates to rise in order to prevent inflation. Thus, the use of forecasted interest rates is consistent with the fair rate of return standard, whereas the use of current interest rates at this time is not.

Q. 107 Does Dr. Woolridge have any criticisms of your use of the forecasted yield to maturity on A-rated utility bonds to estimate the interest rate component of the risk premium approach?

A. 107 Yes. Dr. Woolridge argues that my use of the forecasted yield to maturity on A-rated utility bonds inflates the required return on equity because: (1) the forecasted yield is above the current yield on A-rated utility bonds; and (2) long-term utility bonds are not risk free, that is, they are subject to both interest rate risk and credit risk (Woolridge at 82).

Q. 108 Do you agree with Dr. Woolridge's criticism that the yield to maturity on A-rated utility bonds should not be used in risk premium studies because the yield on A-rated utility bonds is not risk free?

A. 108 No. Dr. Woolridge fails to recognize that the risk premium approach does not require that the interest rate be "risk free." Indeed, the only requirement of the risk premium approach is that the same interest rate be used to estimate the interest rate component as is used to estimate the risk premium component. Because the risk premium approach suggests that the cost of equity equals (the interest rate) plus (the required return on equity minus the interest rate), the cost of equity should be approximately the same in a risk premium analysis, no matter what financial instrument is used to measure the benchmark interest rate. Thus, use of the interest rate on A-rated utility bonds in a risk premium analysis will produce a higher interest rate component than use of a government bond interest rate, but this difference will be offset by the correspondingly lower risk premium. The lower risk premium arises because the

difference between the return on equity and yield on A-rated utility bonds is less than the difference between the return on equity and the yield on long-term government bonds.

Q. 109 Why do you use the yield on A-rated utility bonds rather than the yield on Treasury bonds in your risk premium studies?

A. 109 I use the yield on A-rated utility bonds rather than the yield on Treasury bonds in my risk premium studies because I believe that utility bond yields are better indicators of utilities' cost of equity than Treasury bond yields. First, because the U.S. dollar is the major currency for international trade, foreign governments tend to hold their currency reserves in U.S. Treasury bonds. Thus, Treasury bond yields are highly sensitive to changes in international economic conditions, whereas the U.S. utilities' cost of equity is not.

Second, since U.S. Treasuries are considered to be the safest investment in the world, investors across the world tend to flock to investments in U.S. Treasuries at times of widespread global economic turmoil. In such periods of turmoil, the required return on risky investments such as utility bonds and stocks increases while the yield on U.S. Treasury bonds declines.

Third, yields on U.S. Treasury bonds are highly sensitive to efforts by the Federal Reserve to stimulate the economy. Although most Federal Reserve monetary policy operations are conducted using short-term U. S. Treasury bills, yields on long-term Treasury bonds frequently move in the same direction as yields on short-term Treasury bills.

Fourth, to the extent that there are economic developments that are specific to the utility industry, such as changes in environmental regulations and energy policy, such factors will be reflected both in utility bond yields and the utility cost of equity, but not in U.S. Treasury bond yields. Thus, that utility bond yields reflect utility-specific risks is an argument for—not an argument against—the use of utility bond yields to indicate changes in the utility cost of equity.

Q. 110 How do you estimate the risk premium component of the risk premium approach?

A. 110 I estimate the risk premium component of the risk premium approach in two ways. First, I estimate the difference between the DCF cost of equity for a comparable group of companies over the previous 210 months and the concurrent yield to maturity on A-rated utility bonds in those months, and then adjust the average risk premium to account for changes in interest rates. This estimate is my "ex ante risk premium approach." Second, I estimate the risk premium from an historical study of stock and bond returns over the period 1937 to the present. This second risk premium approach is my "ex post risk premium approach."

Q. 111 What is Dr. Woolridge's primary criticism of your ex ante risk premium approach?

A. 111 Dr. Woolridge criticizes my ex ante risk premium approach because it relies on analysts' forecasts to estimate the required return on equity using the DCF model. (Woolridge at 82 - 83)

Q. 112 Have you addressed this criticism elsewhere in this rebuttal testimony?

A. 112 Yes, I rebut Dr. Woolridge's criticisms of the use of analysts' forecasts above.

Q. 113 Does Dr. Woolridge agree with your use of historical stock and bond returns to estimate the equity risk premium?

A. 113 No. Dr. Woolridge states:

> In addition, there are a myriad of empirical problems in the approach, which result in historical market returns producing inflated estimates of expected risk premiums. Among the errors are the U.S. stock market survivorship bias (the "Peso Problem"), the company survivorship bias (only successful companies survive—poor companies do not survive), the measurement of central tendency (the arithmetic versus the geometric mean), the historical time horizon used, the change in risk and required return over time, the downward bias in historical bond returns, and unattainable return bias (the Ibbotson procedure presumes monthly portfolio rebalancing). The bottom line is that there are a number of empirical problems in using historical stock and bond returns to measure an expected equity risk premium. (Woolridge at 84)

Q. 114 What does Dr. Woolridge mean when he refers to the "peso problem"?

A. 114 Dr. Woolridge uses the term "peso problem" to refer to the fact that U.S. investors have earned higher returns on stock investments than investors in other countries because the U.S. economy has not suffered many of the same economic calamities as the economies of other countries. This criticism of the use of U. S. stock returns in risk premium studies might be appropriate if one were attempting to estimate the expected rates of return on non-U. S. stocks. However, for U. S. stocks, since there is no indication that the U. S. will suffer the economic calamities of other countries, such as hyper-inflation or military invasion, there is no reason why the returns on U. S. stocks would be biased upward.

Q. 115 Do you agree with Dr. Woolridge's criticism that your ex post risk premium study is characterized by "survivorship bias"?

A. 115 No. Survivorship bias refers to problems that might arise when data for companies that have failed are excluded from the sample. However, with regard to the U.S. markets that I study, survivorship bias is not a major issue. First, over the period 1937 to the present, there have been relatively few companies in the S&P 500 and the S&P Utilities that have failed. Second, the S&P 500 includes the return on a stock until the day it is dropped from the index, and the effect of a company being dropped from the S&P 500 is generally anticipated by the market well in advance of the delisting. Thus, survivorship is not a material issue with respect to U.S. stocks.

Q. 116 What is the difference between an arithmetic and a geometric mean return?

A. 116 An arithmetic mean return is an additive return that is calculated by summing the achieved return in each time period and dividing the total by the number of periods. In contrast, the geometric mean return is a multiplicative return that is calculated in two steps. First, one calculates the product of (1 plus the return) in each period of the study. Second, one calculates the n^{th} root of this product and subtracts 1 from the result. Thus, if there are two periods, and r_1 and r_2 are the returns in periods one and two, respectively, the arithmetic mean is calculated from the equation: $a_m = (r_1 + r_2) \div 2$. The geometric mean is calculated from the equation: $g_m = [(1 + r_1) \times (1 + r_2)]^{.5} - 1$.

Q. 117 Dr. Woolridge argues that my risk premium study errs in using arithmetic mean returns rather geometric mean returns. Is Dr. Woolridge's criticism valid?

A. 117 No. For an investment with an uncertain outcome, the arithmetic mean is the best measure of the cost of equity capital. A discussion of the importance of using arithmetic mean returns in the context of CAPM or risk premium studies is contained in my direct testimony, “Using the Arithmetic Mean to Estimate the Cost of Equity Capital.” as I explain in my direct testimony (see Vander Weide Direct, Schedule 6).

Q. 118 Dr. Woolridge criticizes your ex post risk premium approach because of the historical time horizon used. In your ex post risk premium method, what historical period did you use to estimate the risk premium on the market portfolio?

A. 118 I used the historical period from 1937 through the end of 2014 (the most recent data available at the time of my direct testimony.)

Q. 119 Why did you use the historical period for the period from 1937 through the end of 2014?

A. 119 I used the historical period for the period from 1937 to the present because it is generally best to use the longest period of return data for which reliable data available, and the longest period for which reliable return data are available for utility stocks is the period beginning 1937 to the present.

Q. 120 Dr. Woolridge criticizes your historical risk premium study because it does not address the possibility that risk and return change over time. Do you address the possibility of that risk and the required return will change in your cost of equity studies?

A. 120 Yes. I address the possibility that risk and the required return will change in response to changes in interest rates in my ex ante risk premium studies. (See Appendix 4, and Vander Weide Direct at 33 – 36.) I find that the required return on equity varies inversely with interest rates. Specifically, I find that the required risk premium increases by approximately 60 basis points when interest rates decline by 100 basis points.

Q. 121 Do you agree with Dr. Woolridge's contention that historical bond returns are biased downward because of capital losses suffered by past bond investors?

A. 121 No. Because of capital gains and losses, historical bond returns may be higher or lower than what investors expected at the time they purchased the bonds. During the period since 1982, for example, historical bond returns have been biased upward as a measure of expectancy because of the large capital gains achieved by bondholders over this period. However, over the entire period considered in my ex post risk premium study (from 1937 to the present), capital gains and losses on bonds have approximately offset each other, and consequently there is no significant bias as a result from either capital gains or losses.

E. Flotation Costs

Q. 122 Have you discussed why it is important to include flotation costs in the cost of equity estimate in your rebuttal of Dr. Woolridge's application of the DCF method?

A. 122 Yes. I discuss why the cost of equity estimate should include an allowance for flotation costs above in Section II., B.

F. Size-adjustment to CAPM Cost of Equity Estimates

Q. 123 Have you discussed why it is appropriate to include a size adjustment in the CAPM cost of equity estimates in your rebuttal?

A. 123 Yes. I discuss why it is appropriate to include a size adjustment in the CAPM cost of equity estimates in Section III., C., above.

Q. 124 Does this conclude your rebuttal testimony?

A. 124 Yes, it does.

KENTUCKY AMERICAN WATER COMPANY
REBUTTAL SCHEDULE 1
RESEARCH LITERATURE THAT STUDIES
THE EFFICACY OF ANALYSTS' EARNINGS FORECASTS

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REBUTTAL SCHEDULE 1 (CONTINUED)
RESEARCH LITERATURE THAT STUDIES
THE EFFICACY OF ANALYSTS' EARNINGS FORECASTS

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VERIFICATION

STATE OF NORTH CAROLINA)
)
COUNTY OF DURHAM)

SS:

The undersigned, **James H. Vander Weide, Ph.D.**, being duly sworn, deposes and says he is President of Financial Strategy Associates, that he has personal knowledge of the matters set forth in the foregoing testimony, and the answers contained therein are true and correct to the best of his information, knowledge, and belief.

James H. Vander Weide

JAMES H. VANDER WEIDE, PH.D.

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 10th day of June, 2016.

Tochukwu Chime Ukpabi (SEAL)
Notary Public

TOCHUKWU CHIME UKPABI
NOTARY PUBLIC
DURHAM COUNTY, NC
My Commission Expires
10-04-16

My Commission Expires:
10-04-2016

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:	**)**	
	)	
THE APPLICATION OF KENTUCKY-AMERICAN WATER COMPANY FOR AN ADJUSTMENT OF RATES	**)**	**CASE NO. 2015-00418**

REBUTTAL TESTIMONY OF JOHN R. WILDE

June 14, 2016

Q. Please state your name and business address.

A. My name is John R. Wilde. My business address is 131 Woodcrest Road, Cherry Hill, NJ 08003.

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

A. I am employed by American Water Works Service Company ("AWWSC"). My title is Senior Director - Tax, and I oversee the tax function for American Water ("AW") and its subsidiaries including Kentucky-American Water Company ("KAWC"). I started with AWWSC on March 22, 2016.

Q. Please outline your educational background and business experience.

A. I graduated from Saint Norbert College, De Pere, Wisconsin in 1984 with a Bachelor of Business Administration Degree in Accounting. I have a graduate certificate in state and local taxation, as well as a Master of Science Degree in Taxation from the University of Wisconsin-Milwaukee. I have over 30 years of experience as a tax and accounting professional serving utilities with regulated operations in multiple states. I spent the last fifteen years in the head of tax role for a corporate group (WEC Energy Group, Inc, formerly Integrys Energy Group, Inc.) that included six utilities with operations in four states.

Q. Have you previously testified before this Commission or any other regulatory agencies?

A. This is my first experience testifying before this Commission, but I have previously testified before the Federal Energy Regulatory Commission (“FERC”), the Public Service Commission of Wisconsin (“PSCW”), the Michigan Public Service Commission

("MPSC"), Virginia State Corporation Commission ("VSCC"), the Illinois Commerce Commission ("ICC"), and the Minnesota Public Utilities Commission ("MPUC").

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

A. The purpose of my rebuttal testimony in this proceeding is to address a deferred tax adjustment proposed by Office of Attorney General ("AG") and Lexington-Fayette Urban County Government ("LFUCG") witness Andrea C. Crane in her direct testimony.

Q. Can you explain the purpose of the deferred tax asset ("DTA") associated with Financial Accounting Standards Board Interpretation No. 48 ("FIN 48") that is the subject of Ms. Crane's adjustment and why it is important?

A. Yes. The DTA related to uncertain tax position for tax repair deductions netted against the deferred tax liability ("DTL") reflects KAWC's estimate of the future or deferred tax obligations that will arise from claiming tax repair deductions on prior tax returns.

Q. What is the adjustment proposed by Ms. Crane that you would like to address?

A. Ms. Crane recommends that the Commission eliminate the deferred tax asset associated with FIN 48 from the Company's rate base in this proceeding.

Q. Has the AG proposed this same adjustment to the Commission previously?

A. Yes, the AG proposed the same adjustment to rate base in the prior two base rate cases filed by the Company. Ms. Crane acknowledges this fact in her testimony, and acknowledges that the Commission rejected those proposals in each of the prior cases.

Q. Can you summarize why Ms. Crane believes the Commission should reconsider its decision in this case?

A. Yes, Ms. Crane believes that now, after seven years, sufficient time has passed to relieve ratepayers from any additional burden relating to this liability, and the Commission

should eliminate the deferred tax asset from rate base. Ms. Crane also stated that the IRS in fact approved the Company's tax deductions for these costs in February 2010.

Q. Do you agree with Ms. Crane that the time that has elapsed since the positions were taken or that the action the IRS took in February 2010 is sufficient reason for the Commission to change it prior decisions on this matter?

A. No. The February 2010 action by the IRS did not approve the Company's deduction for these costs as alleged by Ms. Crane. The document referenced was a consent decree allowing the Company to execute a non-automatic change in the tax method of accounting related to repairs. A consent decree does not approve the amount of the deduction that results from a tax change in the method of accounting, nor does it approve the underlying tax positions that are aggregated and applied in the method. Moreover, this action taken in 2010 occurred over three years before the Commission last approved the treatment of these costs in the Company's last rate case. As such, nothing has changed since the last rate case that would support reconsideration of this issue.

The IRS continues to work on and release guidance on the subject, but has yet to release the guidance to regulated gas utilities which I believe will provide the most analogous guidance on the subject of tax positions related to taking repair deductions for water utilities. In addition, the guidance that has been issued most recently by the IRS supports the caution that was taken by the Company recording the liability for uncertain tax positions. The Company expects to file a revised tax accounting method change for repairs with its 2015 tax return, reflecting what guidance the IRS has issued on the subject of repairs. This change will cause the liability measured for one uncertain tax position related to meters to be realized. This would reduce the deferred tax liability

related to the repairs deductions taken and also reduce the deferred tax asset related to the FIN 48 on that deduction. For the remaining tax positions classified as uncertain, the IRS has acknowledged guidance is needed, has indicated it plans to issue guidance, but has yet to do so. Therefore, the Commission should reject Ms. Crane's adjustment to eliminate the deferred tax asset associated with FIN 48 from the Company's rate base.

Q. Does this conclude your testimony?

A. Yes.

VERIFICATION

STATE OF NEW JERSEY)
)
CAMDEN COUNTY)

SS:

The undersigned, **John Wilde**, being duly sworn, deposes and says he is Senior Director of Tax for American Water Works Service Company, that he has personal knowledge of the matters set forth in the foregoing testimony, and the answers contained therein are true and correct to the best of his information, knowledge, and belief.

John R. Wilde

JOHN WILDE

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 10th day of June, 2016.

Terri L Ryan (SEAL)

Notary Public

My Commission Expires:

February 25, 2020