

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2015-00418
COMMISSION STAFF'S THIRD REQUEST FOR INFORMATION

Witness: Scott W. Rungren

1. Refer to KAWC's Application, Exhibit 37, Schedule B-1, Rate Base Summary as of April 30, 2016, and Application, Exhibit 37, Schedule J-1, Cost of Capital Summary 13-Month Average for Forecast Period Ending August 31, 2017. Verify that KAWC's 13-month average capital structure is for the 13-month period ending April 30, 2016, and not the 13-month period ending August 31, 2017, as stated on the schedule.

Response:

KAWC's 13-month average capital structure shown on Exhibit 37, Schedule J-1 is correctly stated as the Forecast Period Ending August 31, 2017. The rate base used to calculate net operating income is the 13-month average for the Forecasted Period Ending of August 31, 2017 (page 2 of Exhibit 37, Schedule B-1), and not as of April 30, 2016. This schedule will be corrected in the Base Period update.

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2. Refer to KAWC' response to Commission Staff's Second Request for Information ("Staff's Second Request"), Item 1, Application, Exhibit 37, Schedule B-1, Rate Base Summary as of April 30, 2016, and Application, Exhibit 37, Schedule J-1, Cost of Capital Summary 13-Month Average for Forecast Period Ending August 31, 2017.
 - a. Using KAWC's requested revenue requirement of \$33,197,797 and the 13-month average capital structure calculate the following:
 - (1) The Overall Weighted Cost of Capital.
 - (2) The Return on Common Equity.
 - b. Provide all work papers, state all assumptions, and show all calculations used by KAWC to calculate its responses to Items 1.a.(1) and 1.a.(2).

Response:

Please refer to the response to Commission Staff's Third Request for Information, Item 1. The rate base used to calculate net operating income is the 13-month average for the Forecasted Period Ending August 31, 2017.

- a. Please refer to Exhibit 37, Schedule J-1, Cost of Capital Summary for the overall weighted cost of capital and the return on common equity.
- b. Please see work papers provided in the response to Commission Staff's Second Request for Information, Item 37.

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Witness: Scott W. Rungren/Linda C. Bridwell

3. Refer to KAWC's response to Staff's Second Request, Item 1. According to KAWC, it "has computed its net operating income using the traditional rate base-times rate-of-return-revenue requirement model." The Commission's historical practice has been to use a utility's capital structure to calculate the allowable revenue requirement in the instances where the capital structure exceeds the net investment rate base ("rate base").¹
- a. Provide a detailed explanation of KAWC's position regarding the Commission's historical practice.
 - b. Explain in detail why the Commission should not calculate KAWC's revenues requirement by using its 13-month average capital structure in this instant case.

Response:

- a. KAWC assumes that this request was intended to state that "the Commission's historical practice has been to use a utility's capital structure to calculate the allowable revenue requirement in the instances where the net investment rate base exceeds the capital structure." The Commission's recent historical practice in regards to KAWC has been to calculate the allowable revenue requirement based on rate base *regardless* of whether rate based exceeds capital structure. In Case No. 2010-00036, the Commission calculated the revenue requirement based on rate base when rate base *exceeded* capital structure.² And in Case No. 2012-00520, the Commission again calculated the revenue requirement based on rate base when rate base was *less* than capital structure.³ KAWC agrees with the Commission's consistent decisions in the last two cases to calculate revenue requirement based on rate base *regardless* of whether rate base is greater or less

¹ Case No. 8314, *Notice of Adjustment of Rates of Kentucky-American Water Company* (Ky. PSC Feb. 8, 1982), Final Order at 14; Case No. 8571, *Notice of Adjustment of the Rates of Kentucky-American Water Company on and after September 17, 1982* (Ky. PSC Feb. 17, 1983), Final Order at 26-27; Case No. 9061, *General Adjustment in Electric Rates of Kentucky Power Company* (Ky. PSC Dec. 4, 1984), Final Order at 52-53; Case No. 9283, *Notice of Adjustment of the Rates of Kentucky-American Water Company* (Ky. PSC Oct. 1, 1985), Final Order at 34-35; Case No. 9482, *Notice of Adjustment of the Rates of Kentucky-American Water Company Effective on and after February 7, 1986* (Ky. PSC July 8, 1986), Final Order at 27; and Case No. 2003-00434, *An Adjustment of the Electric Rates, Terms, and Conditions of Kentucky Utilities Company* (Ky. PSC June 30, 2004), Final Order at 58; Case No. 2014-00396, *Application of Kentucky Power Company for: (1) a General Adjustment of its Rates for Electric Service; (2) an Order Approving Its 2014 Environmental Compliance Plan; (3) an Order Approving Its Tariffs and Riders; and (4) an Order Granting all Other Required Approvals and Relief* (Ky. PSC June 22, 2015), Final Order at 51.

² See Case No. 2010-00036, Order of December 14, 2010 showing rate base of \$363,255,997 (p. 22), capital structure of \$360,305,062 (p. 60), and a calculation of the revenue requirement based on rate base (p. 72).

³ See Case No. 2012-00520, Order of October 25, 2013 showing rate base of \$384,729,083 (p. 20), capital structure of \$385,021,817 (p. 53), and a calculation of the revenue requirement based on rate base (p. 53).

than capital structure. That is especially true in this case when rate base exceeds capital structure mainly because of a timing issue. It would be unfair to KAWC's stockholders to utilize the capital structure to calculate the allowed revenue requirement only in instances where the rate base amount exceeds the capital structure amount, thus generating a lower revenue requirement. The fairest approach is to follow the Commission's recent adherence to consistency by calculating the revenue requirement based on rate base irrespective of whether it is more or less than capital structure. Thus, KAWC agrees with the Commission's recent historical practice in the last two rate cases because they establish an equitable approach by utilizing a consistent methodology upon which all stakeholders (including customers and shareholders) can rely.⁴

- b. See the response to part a. above. Additionally, KAWC believes that rate base, rather than capital structure, should be used to calculate the revenue requirement because rate base represents the assets the utility dedicates to providing service to its customers. Assets that are included in rate base are determined to be both prudent and used and useful. Assets that do not pass these tests, or are not being used to provide regulated service to customers, are excluded from rate base. Using capital structure would render use of these important criteria problematic.

⁴ The Commission's calculation of the revenue requirement in KAWC's 2004 rate case (Case No. 2004-00103) was also based on rate base. See Order of February 28, 2005, p. 75. KAWC's 2007 and 2008 rate cases (Case No. 2007-00143 and Case No. 2008-00427) were settled.

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4. Given that KAWC's rate base exceeds the capital structure by \$5,111,115,¹ explain why KAWC's stockholders are entitled to earn a return on its rate base that exceeds their investment.

Response:

KAWC's shareholders are entitled to earn a return on their investment equal to, but not greater than, the return on common equity authorized by the Kentucky Public Service Commission. Shareholder returns are earned on KAWC's book equity, not its rate base. If rate base exceeds capital structure it does not follow that shareholders will earn excessive returns. Many factors can cause the earned return on common equity to fall short of the authorized return, such as declining use and regulatory lag. The shareholder bears the risk that the earned return will be less than the authorized return, as well as his or her required return.

¹ \$403,866,142 (Application, Exhibit 37, Schedule B-1, Rate Base Summary as of April 30, 2016) - \$398,755,027 (Application, Exhibit 37, Schedule J-1, Cost of Capital Summary 13-Month Average for Forecast Period Ending August 31, 2017) = \$5,111,115.

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5. Comment on the prior Commission finding that “capital is preferable to net investment because it represents the investors’ actual interest.”¹

Response:

The Company respects Commission findings and does not wish to offer any criticism of past decisions. However, it is also the Company’s view that net investment (i.e., rate base) should be used to calculate the revenue requirement, as explained in its responses to questions three and four of the Commission Staff’s Third Request for Information.

¹ Case No. 10117, *Adjustment of Rates of GTE South, Incorporated* (Ky. PSC Sept. 1, 1988), Final Order at 11.

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6. Refer to KAWC's response to the Staff's Second Request, Item 2. In its reconciliation of rate base to capital, KAWC identified "Other (Net), Miscellaneous and Sundry Items" of \$4,071,230. KAWC explained that this difference "is immaterial in nature since it is less than one percent of the Company's rate base and can be attributed to timing differences between plant in service dates and the issuance of permanent financings to fund them."
- a. Explain in detail any internal policy at American Water Works Corporation ("American Water") and/or at KAWC that defines materiality.
 - b. Provide a copy of any internal policy at American Water and/or KAWC that defines materiality.
 - c. If there is no internal policy, provide the basis for the decision that the difference is immaterial.
 - d. Explain in detail what KAWC considers to be material for ratemaking purposes and provide the basis for its position.
 - e. Given that KAWC funds its construction projects with short-term debt until permanent financing is issued and that short-term debt is a component of KAWC's capital structure, explain why the difference in KAWC's rate base and capital is the result of timing differences between plant in-service dates and the issuance of permanent financings to fund them.
 - f. Provide the reconciliation as originally requested by Staff.

Response:

- a. There is no official policy with respect to materiality at either American Water or KAWC.
- b. See the response to part a.
- c. There was no such "decision." The basis for the explanation describing the amount in question as immaterial is set forth in part d below.

- d. In this matter the amount in question represents one percent of the Company's rate base of over \$400 million and is not attributable to egregious circumstances.¹ The difference is attributed to a temporary timing difference between the plant in service dates and the issuance of financings to fund them. Kentucky American Water has already obtained Commission approval for a bond issuance to be issued before the end of 2017 (Case No. 2015-00400) that will significantly reduce or eliminate the amount in question.

KAWC is not suggesting in its previous response that \$4 million is an immaterial amount with regard to rate base, but that as a variance between capital structure and rate base based on timing, the difference is not material.

- e. KAWC agrees that it funds its construction projects with short-term debt until permanent financing is issued and that short-term debt is a component of KAWC's capital structure. The timing differences referred to in the Company's response to Staff's Second Request, Item 2, are partially related to the execution of permanent financings as noted in that response. However, the underlying reason for the capital structure being less than rate base is due to an understatement of the short-term debt component. A portion of the current liability balance should have been reduced through the incurrence of short-term debt which would have reduced, or eliminated, the variance between capitalization and rate base. The increase in the short-term debt balance would then have led to the need for additional permanent financing, in the form of either long-term debt or common equity, or a combination of each. KAWC has identified the net of these items as miscellaneous. With that said, however, KAWC has realized that in projecting its capital structure in the current case it has likely understated its short-term debt.
- f. Below is KAWC's effort at a reconciliation as requested. As indicated in the response to part e, the current assets and liabilities will fluctuate based on timing.

¹ SEC Staff Accounting Bulletin No. 99 – Materiality; dated August 12, 1999:

<https://www.sec.gov/interps/account/sab99.htm>. The Financial Accounting Standards Board has not issued quantitative guidelines for determining immateriality of an item, nor has American Water Works Company Inc. or Kentucky American Water Company developed specific internal guidelines for determining immateriality for ratemaking purposes. Immateriality accounting is the application of the materiality concept. The materiality concept or principle states that an accounting standard can be ignored if the net impact of doing so does not significantly affect the decisions of different users, such as banks, investors and owners. Accountants must use professional judgment to decide whether an amount is immaterial or not. The Securities and Exchange Commission (SEC) is aware that certain registrants, over time, have developed quantitative thresholds as "rules of thumb" to assist in the preparation of their financial statements, and that auditors also have used these thresholds in their evaluation of whether items might be considered material to users of a registrant's financial statements. One rule of thumb in particular suggests that the misstatement or omission of an item that falls under a 5% threshold is not material in the absence of particularly egregious circumstances.

	Per Water Filing as of Forecasted 13-month Avg 08.31.2017
RECONCILIATION:	
CAP BALANCE	(\$398,755,027)
<i>Deduct for Assets not in RB:</i>	
Non Utility Plant	249,738
Future Use Assets	114,076
Deferred Rate Case Expense	736,667
UPAA	208,693
Other LT assets	52,204
Total CAP Amount to Deduct:	<u>1,361,377</u>
CAP reduced for Assets not in RB	(\$397,393,650)
<i>Add Liabilities not in RB:</i>	
Deferred ITC (4% and 10%)	(408,823)
Other Reg Liabilities	(265,349)
FIN 48	(1,515,395)
Total CAP Amount to Add:	<u>(2,189,566)</u>
CAP adjusted for Assets and Liabs not in RB	<u>(a)(\$399,583,216)</u>
RATE BASE:	
UPIS	\$679,624,591
Accum depr	(152,076,279)
CWIP	9,193,558
Accrued Pension Asset and Other Ratebase elements	1,120,412
Deferred Tank Painting	9,539,974
Inventory	813,037
Reg Asset Other (SOS project, etc.)	1,360,408
CAC	(14,060,794)
CIAC	(58,556,435)
Deferred Taxes	(78,268,967)
Deferred ITC, 3%	(31,363)
	<u>\$398,658,142</u>
Current Assets and Current Liabs	5,208,000
Total Rate Base	<u>(b)\$403,866,142</u>
Timing Variance - Current Liabilities / ST Debt	(b)-(a)\$4,282,926

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Witness: Linda C. Bridwell

7. Refer to KAWC's response to Staff's Second Request, Item 9.
- a. Provide the frequency of general rate adjustment proceedings for each American Water subsidiary that currently uses a tariff rider similar to KAWC's proposed QIP, for a period of ten years prior to implementing the tariff rider.
 - b. Provide the frequency of general rate adjustment proceedings for the same American Water Subsidiaries as in 7.a. since adopting the tariff rider.

Response:

- a. Illinois – Illinois American was first authorized in 2004 on a limited basis, and for all of Illinois American in 2011. In the ten years from 1995 – 2004 Illinois American filed 4 rate cases or a frequency of 2.5 years.

Indiana – Indiana American was first authorized in 2000. In the ten years from 1990 – 1999 Indiana American filed 6 rate cases or a frequency of 1.67 years.

Missouri – Missouri American was first approved in 2003 and only for a portion of its system. In the ten years from 1994 – 2003 Missouri American did not file combined rate cases for its entire system, but filed Saint Louis County separately and filed 7 rate cases or a frequency of 1.43 years.

New Jersey – New Jersey American was first approved in 2012. In the ten years from 2003 – 2012 New Jersey American filed 5 rate cases or a frequency of 2 years.

New York – is a legacy system from an acquisition of Long Island Water. Their DSIC was first approved in 2008. In the ten years from 1999 – 2008 Long Island filed 3 rate cases or a frequency of 3.33 years.

Pennsylvania – Pennsylvania American was first approved in 1996. In the ten years from 1987 - 1996 Pennsylvania American filed 7 rate cases or a frequency of 1.43 years.

Tennessee – Tennessee American was authorized in 2013. In the ten years from 2004 – 2013, Tennessee American filed 5 rate cases or a frequency of 2.0 years.

- b. Illinois – Illinois American has filed 4 rate cases in the 13 years since its program was first initiated, or a frequency of 3.25 years.

Indiana – Indiana American has filed 5 rate cases in the 16 years since its program was authorized, or a frequency of 3.2 years.

Missouri – Missouri American is required to file a rate case no later than three years after the initial filing of an ISRS upon completion of the most recent general rate case, or a frequency of 3.0 years.

New Jersey – New Jersey American has filed 1 rate case in the 4 years since its program was authorized or a frequency of 4.0 years.

New York – Long Island Water has filed 1 rate case in the 8 years since its program was authorized or a frequency of 8.0 years.

Pennsylvania – Pennsylvania American has filed 7 rate cases in the 21 years since its program was authorized or a frequency of 3.0 years.

Tennessee – Tennessee American has not filed a rate case in the 3 years since its program was authorized.

The following table summarizes the information from a-b above:

State	Frequency before rider	Frequency after rider
Illinois	2.5	3.25
Indiana	1.67	3.2
Missouri	1.43	3
New Jersey	2	4
New York	3.33	8
Pennsylvania	1.43	3
Tennessee	2	none thus far (3 years)

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Witness: Brent E. O'Neill / Linda C. Bridwell

8. Refer to KAWC's response to Staff's Second Request, Item 13, and to KAWC's response to Commission Staff First Request for Information ("Staff's First Request"), Item 10, Capital Expenditure Plan. KAWC explains that the proposed investment in the projects to be recovered through the Qualified Infrastructure Program ("QIP") are non-revenue producing, and that if investment in the QIP projects is increased it would erode KAWC's ability to achieve the authorized rate of return. Identify each project included in the capital expenditure plan by year that is non-revenue producing, for each year provide the percentage of non-revenue producing investment, and determine the impact of each project on KAWC's ability to achieve the authorized rate of return.

Response:

Please refer to the schedule below for the percentage of QIP eligible investment, and the impact of QIP eligible projects on KAWC's ability to achieve the authorized rate of return by year. This first calculation assumes the amount of QIP eligible, non-revenue producing investment that is included in the proposed Strategic Capital Expenditure Plan without the increased investment for the proposed QIP investment if authorized. KAWC has included in the calculation the total capital expenditures for Recurring Project lines B (Mains, Replaced/Restored), C (Mains- Unscheduled), D (Mains – Relocated), F (Hydrants, Valves and Manholes – Replaced), H (Services and Laterals – Replaced), and J (Meters – Replaced). The second table below assumes that KAWC accelerates investment by the amount proposed in the QIP but does not have the authorized QIP revenues to support this additional investment. Neither percentage of capital investment includes non-revenue producing investment that would not be QIP eligible in the capital plan. Please note that the basis for the authorized rate of return is the 13-month average weighted cost of capital for the forecast period ending August 31, 2017 of 8.22%.

	Forecasted Percentage of QIP Eligible Non-Revenue Additions currently in	Rate of Return
<u>Period</u>	<u>SCEP</u>	<u>@12/31</u>
2017	23.17%	8.18%
2018	20.62%	8.06%
2019	23.38%	7.93%
2020	22.32%	7.80%

	Additional Forecasted Percentage of QIP Eligible Non-Revenue Additions with	Rate of Return
<u>Period</u>	<u>Accelerated QIP Additions</u>	<u>@12/31</u>
2017	46.24%	8.13%
2018	43.54%	7.88%
2019	46.90%	7.62%
2020	44.62%	7.35%

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Witness: Brent E. O'Neill / Linda C. Bridwell

9. Refer to KAWC's response to Staff's Second Request, Item 10.a., the final Order issued by the State of Iowa Department of Commerce Utilities Board ("Iowa Utilities Board") in Docket No. RPU-2013-0002, Dated Feb. 28, 2014.
- a. Explain if the QIP tariff rider proposed by KAWC would meet any of the following three primary factors considered by the Iowa Utility Board when it contemplates whether to approve an automatic adjustment mechanism:
 - (1) The costs being recovered by KAWC through the proposed tariff rider are beyond the direct control of KAWC's management.
 - (2) The costs being recovered by KAWC through the proposed tariff rider are subject to significant variations.
 - (3) The proposed costs being recovered through the tariff rider are a significant part of KAWC's costs of providing service.
 - b. Comment on the finding of the Iowa Utilities Board that "[r]egulatory lag is not sufficient justification for the proposed QIP."
 - c. The Iowa Utilities Board expressed its concerns of the lack of commitment and plans of the Iowa-American Water Company to increase infrastructure investment. If approved, will KAWC increase its infrastructure investment plans upon approval of the QIP rider, or will there be a delay until a certain level of revenues are generated?
 - d. How and when will KAWC implement an increase to the current infrastructure replacement plan? Explain.

Response:

- a. The QIP tariff rider proposed by KAWC would meet the second and third factors identified by the Iowa Utility Board when considering an automatic adjustment mechanism. The Iowa Board also noted that:

Traditionally, an adjustment mechanism permits utility rates to be adjusted up or down automatically in relation to fluctuations in certain defined operating expenses, allowing increases or decreases in costs to be passed on to customers with no profit or loss to the utility. Adjustment clauses are common for electric utilities for fuel

costs and gas utilities for gas costs; clauses have also been approved by various states for other expenses.

The Board has recognized, however, the occasional need for adjustment mechanisms that do not necessarily meet the traditional standards. The Board adopted for natural gas utilities an automatic adjustment mechanism that allowed for a recovery of and return on investments that were required because of government action or federal and state pipeline safety regulations. Rule 199 IAC 19.18 provides for such a clause, provided that certain conditions are met.

Docket No. RPU-2013-0002 p. 30.

KAWC has not proposed an automatic adjustment mechanism, but a QIP alternative regulatory mechanism that would require periodic filings so that the Commission can scrutinize and then identify, if appropriate, qualified plant investment. KAWC's proposal is made for the specific reasons of increasing public safety and health, increasing reliability of the system, and encouraging the acceleration of replacement of infrastructure. KAWC's proposal is not any more automatic than the similar mechanisms the Commission has approved for other utilities. However, while the costs are neither beyond the direct control of the management, the costs are subject to significant variations, and the costs, in total, will represent a significant part of the costs of providing service over the next 25 years. KAWC is proposing to increase capital expenditures each year for the next 25 years by \$6.5 million, or over 25% of its current capital expenditure level currently, assuming \$25 million in annual capital expenditures.

- b. The Iowa Utilities Board did state that “[r]egulatory lag is not sufficient justification for the proposed QIP.” However, KAWC is not seeking the authorization of a QIP based strictly on the reduction of regulatory lag. As Ms. Bridwell identified in her testimony, reduction of regulatory lag can benefit both customers and shareholders, but is not the only reason to authorize a QIP alternative regulatory mechanism. KAWC has proposed a reasonable program designed specifically to encourage the acceleration of replacing aging infrastructure. Without that acceleration, the aging infrastructure could potentially provide unreliable service, create a water quality concern, jeopardize adequate fire flows, and result in increased operating expenses. Additionally, KAWC identified the potential for cost savings in regulatory expense through a reduced number of rate case filings and rate gradualism for consumers.
- c. KAWC anticipates that an increase of capital expenditures would begin at the end of the forecasted test period in this case and continue throughout the program. In any given year, KAWC is required to manage its capital expenditure plan based on the availability of capital but overall expects the increase to begin in late 2017. As demonstrated in the appendix to Mr. O’Neill’s testimony, KAWC needs an estimated \$10 million to \$16 million each year for the next 40 years additional to

replace the infrastructure. KAWC has proposed to start the program with a \$6.5 million increase in replacement expenditures that more than likely will need to increase over the life of the program.

- d. During the third quarter of each year, KAWC (and all American Water subsidiaries) submits its one year annual business plan for the next year, and its subsequent five year capital plan. In this manner, American Water develops its overall cash flow forecasts, plans capital funding including debt issuance and equity infusions, and balances its overall operations. During any given year, small adjustments in capital expenditures either up or down may be necessary for each operating subsidiary. Larger adjustments, such as would be required with this proposed increase in capital expenditures, are better planned a year or more in advance. Barring any unforeseen circumstances with regard to the overall economic outlook and cost of capital, if the Commission approves the proposed QIP, KAWC anticipates that it could increase capital expenditures beginning in late 2017 and in 2018.

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Witness: Linda C. Bridwell / Brent O'Neill

- 10.** Explain whether any mechanism, such as KAWC's proposed QIP tariff rider, that is designed to reduce regulatory lag should provide some benefit to KAWC's ratepayers.

Response:

KAWC's proposed QIP tariff rider is designed to help accelerate the replacement of aging infrastructure. The proposed QIP will provide many benefits to customers including:

More Reliable Infrastructure for our Customers' Health, Safety, Environment and Economy

The condition of KAWC's water infrastructure has a direct impact on the health, safety, energy efficiency, and economic condition of our communities. Infrastructure surcharges help water and wastewater utilities make needed investments to improve fire flows, to prevent supply contamination, to use water, air, and fossil fuel resources efficiently, and to prevent the economic damage and disruption caused by main breaks.

Safety and fire flows: Old water mains can yield inadequate flows for fire protection due to both under sizing of the original main and loss of diameter with age. Even with the efficiency of modern fixtures and appliances, water usage patterns in the late 1800's – 1950's (when much of the U.S. water system was built) simply weren't as intensive as they are today. Dishwashers, washing machines, and hot water heaters for daily showers are all modern conveniences that weren't as common in prior decades. Indeed, public supply fresh water withdrawals per capita were 44% greater in 2010 than in 1950. To put this in numbers, older distribution mains were often 2"-4" in diameter, whereas current distribution mains are usually 6"-8". The under sizing of older mains is made worse by the fact that buried water mains, particularly unlined cast iron and steel mains, lose diameter as they age due to "tuberculation." Tuberculation is a buildup of corrosion and mineral deposits on the interior of the main. Unlined cast iron and steel were the predominant materials for U.S. water pipe from 1900 to the mid 1950's, meaning that most of the mains that are approaching or beyond their useful life are the very mains most likely to have lost precious diameter due to tuberculation.

Health: When water mains break, the resulting pressure drop can draw contaminants like giardia and volatile organic compounds out of the soil and into the public's drinking water. The number of waterborne disease outbreaks in the U.S. has declined significantly

since a peak in the late 1970's and early 1980's¹, but we must ensure that we do not lose this progress due to a failure to address emerging infrastructure issues.

Smoother Rates for Our Customers

Relatively larger rate increases can take place when utility rates change infrequently and in large chunks in order to pay for significant investments. These rate spikes can be a challenge to household and business budgets, but are difficult to avoid with traditional regulation. Infrastructure surcharges can help reduce these spikes, allowing for a more gradual increase in rates, which is consistent with water customers' experience with the consumer experience they are most familiar with – small, frequent, relatively nominal changes to the price of goods and services.

Surcharges not only allow for smaller incremental changes to prices, but they also result in smaller and less frequent rate cases. See the response to Item No. 7 of this request for evidence of how this is occurring across American Water subsidiaries. Rate filings invariably draw public ire given their periodic nature and often large requests. But surcharges directly decrease the size of these requests. As shown in the response to Item No. 7 of this request, a water utility with a well-designed surcharge program can often file for rate cases less frequently.

More Job Creation in Our Local Communities

By removing barriers to infrastructure investment, the proposed QIP can not only improve service reliability, it can also spur job creation. Studies show that for every \$1 million invested in water infrastructure, between 16² and 27³ jobs are created. This includes jobs in construction, architecture, engineering, industrial machinery and truck transport. The extended impact also boosts jobs in sectors as diverse as food service, health services, retail service, and automotive repair.

¹ Centers for Disease Control, *Surveillance for Waterborne Disease Outbreaks Associated with Drinking Water and Other Nonrecreational Water- United States, 2009-2010*.

² Water Research Foundation and Water Environment Research Foundation, *National Economic & Labor Impacts of the Water Utility Sector*, 2014.

³ Clean Water Council, *Sudden Impact: An Assessment of Short Term Economic Impacts of Water and Wastewater Construction Projects in the United States*, 2008.

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Witness: Nick O. Rowe/ James H. Vander Weide

- 11.** Explain whether KAWC has considered or would consider committing to extending the time between filing rate cases or to reducing the carrying charge for its QIP investment.

Response:

KAWC would consider extending the time between filing rate cases along with approval of the requested QIP if the other significant issues in this case (e.g., revenue requirement, incentive compensation, rate of return, weather normalization, capital structure) are resolved in a way that will allow KAWC a reasonable opportunity to earn its authorized rate of return. It would be inappropriate to reduce the carrying charge for KAWC's QIP investment if that meant reducing the overall weighted cost of capital for investment for QIP projects.

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Witness: Linda C. Bridwell

- 12.** Refer to KAWC's response to Staff's Second Request, Item 22.a. KAWC states," [b]y forecasting of the proposed projects in an annual QIP filing, it is incumbent on the Company to ensure that it manages those projects effectively and justify the reason for any changes." Explain if the Commission's review of QIP projects completed in a historical test year would act as an incentive for KAWC to maintain its focus on replacing cast iron mains so that recovery of all its completed projects would be ensured through its QIP rider.

Response:

When KAWC first transitioned to a forecasted test year, the PSC applied a "slippage factor" to proposed capital expenditures that essentially set a metric for KAWC in meeting its planned obligations for capital expenditures. It led to a culture shift within KAWC regarding the manner, accuracy and focus on planning, designing and implementing capital expenditures. This extended beyond the local engineering group into operations, service company engineering, consultants and contractors. KAWC is proposing to extend this accuracy and focus on planning, designing and implementing the QIP projects.

This is not to suggest in any way that a historical test year would reduce the focus on replacing cast iron mains. However, a forecasted test period for the QIP heightens the focus not only forecasting accurately on an annual basis, but planning the timing of projects within the year to the same level of accuracy.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2015-00418
COMMISSION STAFF'S THIRD REQUEST FOR INFORMATION

Witness: Linda C. Bridwell/Brent O'Neill

- 13.** Refer to KAWC's response to Staff's Second Request, Item 22.b.
- a. KAWC states that it "would expect a more extensive review of the historic filing to ensure that the completed projects qualified and were prudent." Explain why KAWC expects the Commission's review of the completed projects in a historical test year would be more extensive or different than the review the Commission would undertake during the annual forecasted QIP filing.
 - b. KAWC states that a historical QIP test year "lessens the reduction of regulatory lag, thus reducing the financial benefits to both the customers and the Company." Provide an analysis that quantifies the benefits of reduced regulatory lag that KAWC claims its customers would receive from the use of a forecasted QIP test year.

Response:

- a. KAWC simply meant that it would expect the Commission's review of the completed projects in a historical test year to be more extensive than a review of the projects in the reconciliation process for a forecasted test period, since the Commission along with other parties would have an opportunity to review the projects *before* they are initiated in a forecasted filing. KAWC did not mean to suggest that a historical test period would result in more extensive review than a forecasted test period overall. As stated in its response to PSC 2-22(b), use of a future period for QIP would increase the upfront clarity that would result when all stakeholders have an opportunity to scrutinize a proposed project *before* it is initiated. Use of a future period would also increase one of the QIP benefits for customers and KAWC – the reduction of regulatory lag.
- b. KAWC has not specifically performed an analysis that quantifies the benefits of reduced regulatory lag. This is because the significant number of assumptions that would be required in order to perform that analysis would call into questions the validity of any result. Primary assumptions would need to be made regarding KAWC's overall capital structure and KAWC's improved financial position with regard to debt rates and issuance costs. As a part of American Water, KAWC has a limited ability to isolate and quantify the impact on KAWC's debt costs and KAWC's individual ability to attract capital for its customers alone.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2015-00418
COMMISSION STAFF'S THIRD REQUEST FOR INFORMATION

Witness: Linda C. Bridwell

14. Refer to KAWC's response to Staff's Second Request, Item 23.

- a. If KAWC is unable to quantify the costs it would incur in filing its annual QIP applications or its QIP reconciliation applications, explain how KAWC can state that the QIP rider will result in fewer base rate applications, reducing its regulatory cost.
- b. Explain if the cost savings of filing base rate cases would be offset by the cost of the required QIP review applications.

Response:

- a. While KAWC is reluctant to attempt to estimate the costs it would incur in filing its annual QIP applications or its QIP reconciliation for the reasons stated in its response to PSC 2-23, KAWC is basing its statement on the general experience that has occurred across American Water in regulated operations that have approved mechanisms similar to what is being requested. Again, this varies widely by state since each state has different requirements and frequencies for filing both rate cases and mechanisms. But as indicated in response to Item 7 of this same request for information, each American Water operating subsidiary that has implemented a mechanism has been able to extend the time between rate cases. Fewer rate cases results in decreased rate case expense. In Ms. Bridwell's recent experience with Tennessee American Water ("TAW"), which has even more comprehensive mechanisms and a production cost tracker, she has seen that TAW: (a) requires less internal labor each year than in a rate case filing; (b) has not used any external consultants on preparing or reconciling the mechanisms; and (c) has incurred less annual legal costs in preparing, filing, and reviewing the mechanisms than a rate case. All of this has occurred while TAW has been able to avoid filing a rate case for nearly four years and has no plans to file a rate case in the current year.
- b. Although some savings from filing base rate cases would be offset by the cost of the required QIP review applications, it has been the experience generally in American Water that savings are achieved to varying degrees depending on each state's regulatory requirements for filing.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2015-00418
COMMISSION STAFF'S THIRD REQUEST FOR INFORMATION

Witness: Christine Karlsson

- 15.** Refer to KAWC's response to Staff's First Request, Item 18.a., the 2015 Annual Incentive Plan Attachment A, 2015 Financial Payout Curve, and Attachment B, 2015 AIP Non-Financial Performance Measures and to KAWC's response to Staff's Second Request, Item 26.
- a. Confirm that under the 2015 Annual Incentive Plan, if American Water's diluted earnings per share reaches \$2.44 or below then a funding pool would not be created, which would result in the KAWC and the American Water Works Service Company ("Service Company") employees not being paid an incentive pay award in that year.
 - b. If the Service Quality Survey was 74 percent or below, but American Water's diluted earnings per share were greater than \$2.44, explain if a funding pool would be created, which would allow the KAWC and the Service Company employees to be paid an incentive pay award in that year.
 - c. State the date KAWC expects the 2016 annual performances plan brochure to be completed and filed in this proceeding.

Response:

- a. The overall APP is a function of meeting goals for financial performance (50% weight), operational performance (including safety and people), customer satisfaction, environmental leadership, and technology and operational efficiency (50% weight). If some, but less than all, of the performance goals are achieved, the funding is diminished accordingly. As indicated by the percent weighting shown above, factors other than financial performance account for 50% of the pool award. All of the metrics operate on a sliding scale that includes a threshold (minimum) level of performance and a maximum level. No funding pool is created, however, if the financial threshold performance measure is not achieved to ensure the financial viability of the plan.
- b. As indicated by the percent weighting shown above, factors other than financial performance account for 50% of the pool award. All of the metrics operate on a sliding scale that includes a threshold (minimum) level of performance and a maximum level. If some, but less than all, of the operational performance goals are achieved, the funding pool is created but diminished accordingly.

- c. See the 2016 APP brochure which was filed as a supplement to the response to Item 18 of the Commission Staff's first request for information on April 15, 2016.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2015-00418
COMMISSION STAFF'S THIRD REQUEST FOR INFORMATION

Witness: Christine Karlsson

- 16.** Refer to KAWC's response to Staff's Second Request, Item 27.a., and refer to KAWC's response to Staff's First Request, Item 18.a., the 2015 Annual Incentive Plan Attachment A, 2015 Financial Payout Curve, and Attachment B, 2015 AIP Non-Financial Performance Measures. Either confirm that these are the financial and operational targets that are used for KAWC's Long Term Performance Plan ("LTTP") or provide the financial and operational targets used for KAWC's LTTP.

Response:

The Long Term Performance Plan (LTTP) includes stock options, (20%), Restricted Stock Units (RSUs), (20%), and a performance based stock component, which awards Performance Stock Units (PSUs), (60%). The financial and operational targets used for the Annual Performance Plan (APP) are the same targets used for the LTTP with the exception that 50 percent of the of PSU financial targets are based on EPS thresholds and the other 50 percent of PSU is based on total shareholder return relative to an industry peer group. The overall target award pool would be available if the Company's goals are achieved for all of the overall performance metrics.

The 2016 LTTP brochure is attached.

my Value Plan



AMERICAN WATER

2016 Long Term Performance Plan

This booklet is intended to provide a summary of your American Water Equity Awards. All Equity Awards grants are subject to the terms and conditions of the American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan (the Plan) and the Equity Award Grant Agreements under which they are issued. In the event of any conflict between the terms of the Plan, your Equity Award Grant Agreements, and this booklet, then the terms of the Plan will govern.

The company's policies, procedures and benefits, including (without limitation) those covered in this booklet, as well as wages and all other terms and conditions of employment, are subject to change, revision or deletion by the Company at any time.

The discussion of certain Federal income tax effects in this booklet is for illustration only and is not intended to provide tax advice. Please refer to the Internal Revenue Code for a complete statement of all relevant Federal tax provisions. We recommend that holders of American Water Stock Options, Restricted Stock Units and/or Performance Stock Units consult their tax advisor.

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This booklet provides an overview of your 2016 Equity Award granted to you under the American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan (the “Plan”). The Equity Award — a key component of your American Water compensation package and MyValue Plan (mVP) — promotes the achievement of the company’s long-term, strategic business goals.

An Award Based on American Water’s Success

The Long Term Performance Plan (LTTP) includes stock options, Restricted Stock Units (RSUs), and a performance-based stock component, which awards Performance Stock Units (PSUs) based on American Water’s Total Shareholder Return (TSR) ranking among peer companies, and Earnings Per Share (EPS). This design aligns with the external market and helps keep American Water competitive with our peers in the utilities industry.

You make a difference. Think about the activities you perform on a day-to-day basis. Your contributions help generate results that lead to success for American Water and rewards for you. As an American Water employee and stockholder, you not only have the ability to influence our day-to-day performance, you also have the opportunity to share in the long term rewards of American Water's success.

Let’s work together to make a great company even better.

What has changed from last year?

- The name - we have changed the name of the Plan from Long Term Incentive Plan to Long Term **Performance** Plan (LTTP) to reflect our pay for performance philosophy.
- The comparator group used for the Performance Stock Unit - Total Shareholder Return has been updated to better represent our peers.
- Performance Stock Unit - Internal Measures have been simplified to focus solely on compounded Earnings Per Share (EPS).
- The maximum payout factor for Performance PSU grants has been extended from 175% to 200%, aligned with exceptional performance.

Eligibility and the Amount of Your Award Grant

Eligibility is based on your salary level and your date of hire. All management employees in salary level 50 and above on or before the date of grant, which was February 16, 2016, may be eligible to receive an Equity Award.

Your total award grant value is based on a percentage of your base salary. Awards are granted in the form of equity in the Company: 20 percent in stock options, 20 percent RSUs, 30 percent in PSUs based on TSR ranking, and 30 percent in PSUs based on compounded EPS growth. Please see Attachment A in the Appendix for more information on LTPP targets.

Managing your 2016 Equity Award

E*TRADE is the record keeper for your American Water Equity Awards. When you receive an Equity Award grant, an Equity Award account is established on your behalf through E*TRADE. You can manage your account online at www.etrade.com, or by phone at 1-800-838-0908.

Activating your E*TRADE Account

You will receive a packet of materials from E*TRADE with instructions on how to activate your account. You can also call E*TRADE with your activation code, and a representative can step you through the activation process.

If you received a prior Equity Award or participate in the Employee Stock Purchase Plan (ESPP), you will be able to access the 2016 award using your existing E*TRADE account. If you do not participate in the ESPP and this is the first year you have received an Equity Award, you will first need to activate your E*TRADE account.

Once your account is activated, simply go to www.etrade.com (or call 1-800-838-0908) to track vesting, conduct transactions, and model the long term value of your awards.

Restrictions

Before trading in the company's securities, including exercising any options, you must review the Personal Securities and Insider Trading Policy located on the company intranet under policies and practices. In addition, under the Insider Trading Policy, certain persons (Section 16 Officers and other restricted individuals) are subject to the affirmative obligation to "pre-clear" any proposed purchase or sale of Company securities with the Chief SEC Counsel. You will receive notification from Legal if you are subject to the pre-clearance process. If you have any questions about the Insider Trading Policy and pre-clearance process, please contact Jeff Taylor, Chief SEC Counsel at (856) 309-4577.

For the company's executives (salary level 70 and above), all Equity Awards are subject to the company's executive Stock Ownership Guidelines (SOGs) and Stock Retention Requirements (SRRs), in order to closely align the interest of our plan participants with those of our stockholders. Under the program, our executive officers are required to retain 50 percent of the after tax value realized on each equity grant until SOGs are met. The SOGs require executives to hold stock until they obtain a certain multiple of their base salary, depending on salary grade:

Salary Grade	Guideline
100 (CEO)	6 times Base Salary
90 - 95 (SVPs)	3 times Base Salary
70- 85 (VPs)	1 time Base Salary

SOGs are expected to be met over a five year period, beginning with the latter of the effective date of the policy (March 5, 2015) or the date the employee first became subject to the guidelines. For additional information, please refer to the Stock Ownership Guidelines and Stock Retention Requirements policy posted to mySource under Compensation.

About Stock Options, Restricted Stock Units, and Performance Stock Units

The following sections describe how the stock options, RSUs and PSUs granted to you on February 16, 2016, vest and are distributed.

Stock Options

- 20 percent of Equity Award.
- Exercise price is the closing price on the date of grant, which was \$65.15 on February 16, 2016.
- Options vest in three equal installments (33.3 percent) each on January 1 of 2017, 2018 and 2019. Options are 100 percent vested as of January 1, 2019.

Once vested, a stock option is your right to purchase a share of American Water stock at the exercise price, for a set period of time.

A stock option gives you the right to purchase a share of American Water stock at an “exercise price” for a set period of time.

The number of options you are granted is based on the monetary value of your option award and the value of an option determined by using the Black-Scholes valuation methodology on the date of the grant.

Vesting

Your options vest in three equal installments (33.3 percent each) on January 1 of 2017, 2018 and 2019. Once options vest, you may exercise (or purchase) your options, until their December 31, 2022 expiration date (seven years) and subject to employment requirements as defined in the Plan and summarized on page 9. Any options not exercised by the expiration date will be forfeited.

The Value of Your Options

The value of your options depends on American Water’s stock price in the future. This means they may or may not have value at the time they expire. The greater the increase in American Water’s stock price, the greater the value of your award.

You will benefit if the price of American Water’s stock at exercise is greater than the exercise price on the date of the grant. The value you receive is the difference between (a) the price of the stock at the time you exercise your options, and (b) the exercise price. If the stock price at exercise is lower than the exercise price, the options have no value.

Exercising Your Options

You may choose to exercise all or a portion of your vested stock options before the expiration date on December 31, 2022.

When you are ready to exercise your options, contact E*TRADE at www.etrade.com or at 1-800-838-0908.

(See "Managing Your 2016 Equity Award" on page 2 for more information.)

You may exercise your options using any of the following methods:

1. **Exercise and sell** (also called a "cashless exercise") - You can exercise your vested options by either (a) selling just enough stock to cover the exercise price, taxes and transaction fees; or (b) selling additional shares to cover the exercise price, taxes and fees and receive the net proceeds in cash.
2. **Cash** - You can exercise your options and purchase the underlying shares with money from personal funds to cover the exercise price, taxes and transaction fees.
3. **Stock swap** - You can instruct E*TRADE to use shares of American Water common stock you currently own to fund the exercise of your stock options, provided that it is approved by the Committee.

EXAMPLE

Let's assume you are awarded 1,500 stock options:

- The options vest in three installments: 33.3 percent each on January 1 of 2017, 2018 and 2019.
- You decide to exercise the first vested installment on June 1, 2018 (stock price = \$67 per share), the second vested installment on April 1, 2020 (stock price = \$69 per share) and the third vested installment on July 1, 2022 (stock price = \$72 per share).

OPTIONS AWARDED IN 2015	NUMBER OF OPTIONS VESTED	VESTING DATE	EXERCISE DATE	FUTURE VALUE WHEN YOU EXERCISE YOUR OPTIONS ⁽¹⁾	AMOUNT YOU PAY TO EXERCISE OPTIONS	FEES CHARGED ⁽²⁾	YOUR PRE-TAX GAIN AT EXERCISE
1,500	500	January 1, 2017	June 1, 2018	\$33,500 (500×\$67)	\$32,575 (500×\$65.15)	Determined by E*TRADE	\$925
	500	January 1, 2018	April 1, 2020	\$34,500 (500×\$69)	\$32,575 (500×\$65.15)	Determined by E*TRADE	\$1,925
	500	January 1, 2019	July 1, 2022	\$36,000 (500×\$72)	\$32,575 (500×\$65.15)	Determined by E*TRADE	\$3,425

(1) You can exercise your vested options until December 31, 2022, subject to employment requirements as defined by the Plan and summarized on page 9.

(2) Costs and fees associated with exercising your stock options will be determined by E*TRADE.

Please see Attachment C in the Appendix for more information on how these awards will be taxed. Consult with your tax advisor regarding your personal tax situation.

Restricted Stock Units (RSUs)

- 20 percent of Equity Award.
- RSUs vest in three equal installments on January 1 of 2017, 2018 and 2019.

An RSU gives you the right to receive one share of American Water common stock without paying an exercise price. You will receive actual shares of American Water stock — on the vesting date.

A Restricted Stock Unit is an award that represents a unit or “notional” share of American Water stock.

Unlike stock options, where compensation is based on the appreciation of the stock after the grant date, RSUs provide compensation based on the total value of the stock at the time of vesting. This means that RSUs have value even if the stock price falls after the date you receive your award.

Vesting

During the vesting period, you do not actually own the shares, which means you do not have voting rights and you cannot sell or transfer the units. If dividends are paid during the vesting period, those dividends will accrue in a dividend equivalent account held by the company until your units vest. You will then be paid in cash for any accrued dividends at the end of the vesting period.

Upon vesting, you can hold or sell your stock — the choice is yours. You may sell your first installment of RSUs shortly after the vesting date of January 1, 2017, after applicable taxes are withheld in shares. Unlike options, the shares never expire so there is no time limit associated with them. If you choose to sell the shares, you will receive the current stock price at the time of sale.

The Value of Your RSUs

RSUs offer direct, full-value ownership at no cost to you. Unlike options, the shares never expire so there is no time limit associated with them. In addition, an RSU (when vested) has value regardless of any change in share price. The eventual value of your award becomes higher or lower depending on changes in American Water’s stock price.

Example

Let’s assume you receive a total grant of 300 RSUs. On January 1 of each year, your grant will vest in three equal

- You vest in 100 shares of American Water common stock, and 35 shares are withheld to cover taxes. 65 shares are release to you, which may be held or sold at the current stock price.
- If you decide to sell your shares and the AMK stock price at the time of sale is \$67 you would receive \$4,355 (for 65 shares) from the sale of your shares — minus any taxes or applicable fees.

Please see Attachment C in the Appendix for more information on how these awards will be taxed. Consult with your tax advisor regarding your personal tax situation.

Deferring your RSU Award

You may elect to defer receiving your RSU award (under this grant) until after the scheduled vesting date, provided you make the election by December 31, 2016. You may want to defer federal income taxes at the vesting date by making this election to assist you in managing your wealth. You may defer to supplement your retirement or other personal goals. Your deferral form (Subsequent Deferral Election Form) is Attachment E at the end of this booklet. If you wish to make a deferral election, please complete the form if you elect to defer and forward to Compensation in Voorhees.

You must make your election to defer by December 31, 2016.

Performance Stock Units

A Performance Stock Unit is an award that represents a unit or “notional” share of American Water stock.

- You will receive two separate PSU grants:
 - 30 percent of Equity Award — Total Shareholder Return (TSR)
 - 30 percent of Equity Award — Compounded Earnings Per Share (EPS) growth
- You earn a right to your PSUs in three equal installments on January 1 of 2017, 2018 and 2019. Shares are awarded based on company performance and paid in 2019.
- Actual awards at the end of the Performance Period may range from 0 percent to 200 percent of target based on Company performance.

A PSU gives you the right to receive one share of American Water stock after the end of the three-year performance period.

Your two PSU grants together represent 60 percent of your Equity Award — 30 percent based on relative TSR and 30 percent based on compounded EPS. Unlike stock options, which are valued at grant based on the appreciation of the stock after the grant date, PSUs have value even if the stock price falls after the date you receive your award.

You earn a right to your PSUs in three equal installments (33.3 percent each) on January 1 of 2017, 2018 and 2019. However, your shares are not awarded to you until after the three-year performance period ends on January 1, 2019. The number of shares that are actually awarded depends on company performance against specific measures (see “PSUs Based on Total Shareholder Return (TSR)” and “PSUs Based on Earnings Per Share (EPS)” on pages 7 and 8). In early 2019, company performance will be measured and earned PSUs (if applicable) will be distributed within 70 calendar days of January 1, 2019.

During the performance period, you do not actually own the shares, which means you do not have voting rights and you cannot sell or transfer the units. If dividends are paid during the performance period, those dividends will accrue in a “notional” personal account until the end of the performance period. You will then be paid in cash for any accrued dividends at the end of the performance period based on the number of PSUs earned.

After the end of the three-year performance period, you can hold or sell your shares — the choice is yours. Unlike options, the shares never expire so there is no time limit associated with them. If you choose to sell the shares, you will receive the current stock price at the time of sale.

Please see Attachment C in the Appendix for more information on how these awards will be taxed. Consult with your tax advisor regarding your personal tax situation.

PSUs Based on Total Shareholder Return (TSR) – 30 percent of Equity Award

To determine the final award of shares underlying the PSUs based on Total Shareholder Return (TSR) at the end of the three-year performance period, the company uses American Water's rank relative to the other peer companies in the comparator group (see Attachment B in Appendix). TSR is the value delivered to the shareholder by the company. TSR is calculated as the change in share price plus dividends paid over the three-year performance period divided by American Water's share price at the beginning of the period. The initial stock price and the ending stock price are determined using the average stock price for the twenty trading days that end on December 31, 2015 and December 31, 2018.

The company's TSR performance is assessed using a percentile ranking approach. The Compensation Committee of the Board of Directors has final approval on this award at the end of the three-year performance period. The company's performance is assessed using the following award scale:

AMERICAN WATER'S RANK ON TSR RELATIVE TO THE COMPATOR GROUP	PAYOUT FACTOR
1st Quartile	175 - 200%
2nd Quartile	100 - 175%
3rd Quartile	25 - 100%
4th Quartile	0 - 25%

EXAMPLE

Let's assume you receive 255 PSUs on the grant date (February 16, 2016):

- The PSUs are earned in three installments: 33.3 percent each on January 1 of 2017, 2018 and 2019. They are 100 percent vested as of January 1, 2019.
- At the end of the three-year performance period, American Water's TSR performance is ranked at the 60th percentile (2nd Quartile) relative to the comparator group, which results in a 130 percent payout.

TOTAL PSUs granted in 2016	Number of PSUs vested	Date Earned	TSR Percentile Ranking Relative to Comparator Group at end of three year performance period	Total Shares awarded at end of three year performance period
255	85	January 1, 2017	60th percentile	332 (255 x 130%)
	85	January 1, 2018		
	85	January 1, 2019		

If you decide to sell your awarded shares and the stock price at the time of sale is \$78 per share, you would receive \$25,896 from the sale – minus taxes and applicable fees.

PSUs Based on Compounded Earnings Per Share (EPS) growth – 30 percent of Equity Award

To determine the final award of shares underlying the PSUs based on compounded EPS, the company assesses its performance against pre-determined compounded Earnings Per Share (EPS) Growth goals.

The Compensation Committee of the Board of Directors has final approval on this award at the end of the three-year performance period. The company's internal performance is assessed using the following award scale:

THREE-YEAR COMPOUNDED EPS ANNUAL GROWTH RATE	PAYOUT FACTOR
12% or more	200%
7.8%	100%
6.0%	25%

Example

, 2016):

- The PSUs are earned in three installments: 33.3 percent each on January 1 of 2017, 2018 and 2019. They are 100 percent vested as of January 1, 2019.
- At the end of the three-year performance period, American Water's Earnings Per Share compounded annual growth rate was 7.07 percent, which results in a payout of 70%.

Total PSUs granted in 2015	Number of PSUs Vested	Date Earned	TSR Percentile Ranking Relative to Peer Group at end of three year performance period	Total Shares awarded at the end of the three year performance period
300	100	January 1, 2017	EPS – 7.1%	300 x 70% = 210
	100	January 1, 2018		
	100	January 1, 2019		

If you decide to sell your awarded shares and the stock price at the time of sale is \$78 per share, you would receive \$16,380 from the sale – minus taxes and applicable fees.

Deferring Your Awarded Shares

You may elect to defer receiving all of your awarded shares until after the scheduled distribution date, provided you make the election by December 31, 2016. You may want to defer federal income taxes at the vesting date by making this election to assist you in managing your wealth. You may defer to supplement your retirement or other personal goals. Your deferral form (Subsequent Deferral Election Form) is Attachment F at the end of this booklet. If you wish to defer, please complete the form and forward to Compensation in Voorhees.

You must make your election to defer by December 31, 2016.

What happens to your LTPP when you leave American Water?

The chart below lays out the key termination and retirement provisions of the LTPP. As you can see, the reason for your termination, as well as your age and years of service at American Water, all impact the amount of equity you retain upon leaving the company.

Event	Stock Options	Restricted Stock Units	Performance Stock Units
<Age 55	90 days to exercise	Own vested shares	Earn units in proportional one-year increments based on years of service from grant if participant has one year of service in the performance period -- will settle at end of three-year performance period.
	Forfeit unvested options	Forfeit unvested units	Forfeit unvested units
Age 55 with 10 years of service	One year to exercise	Own vested shares	Earn units in proportional one-year increments based on years of service from grant if participant has one year of service in the performance period -- will settle at end of three-year performance period.
	Forfeit unvested options	Forfeit unvested units	Forfeit unvested units
Age 62 with 10 years of service (Normal Retirement)	Two years to exercise	Own vested shares	Earn units in proportional one-year increments based on years of service from grant if participant has one year of service in the performance period -- will settle at end of three-year performance period.
	All stock options (100%) are vested immediately upon retirement	Forfeit unvested units	Forfeit unvested units
Death or Total Disability	Two years to exercise	Own vested shares	Earn units in proportional one-year increments based on years of service from grant if participant has one year of service in the performance period -- will settle at end of three-year performance period.
	All stock options (100%) are vested immediately	Forfeit unvested units	Forfeit unvested units

Change of Control

If a Change of Control occurs, as defined by the plan document, while you are an active employee, your unvested options become 100 percent vested, and you earn the right to any previously unearned RSUs and PSUs.

For more Information

LTPP, contact the Compensation team:

Andrew Markwardt

856-309-4518

Kate DePhilippo

856-782-2323

E*TRADE

1-800-838-0908 | www.etrade.com

Attachment A

LTPP Target Award Percentages by Salary Level

Salary Level	LTPP %
75	75%
70	55%
60 - 65	30%
50 - 55	10%

Attachment B

2016 LTPP Comparator Group

Alliant Energy Corp.
Ameren Corp.
Atmos Energy Group
Avista Corp.
CMS Energy Corp.
Eversource Energy (Northeast Utilities)
Great Plans Energy, Inc.
NiSource Inc.
Pinnacle West Capital Corp.
PNM Resources, Inc.
SCANA Corp.
Vectren Corp.
Westar Energy, Inc.
WGL Holdings, Inc.
Wisconsin Energy Corp.

Attachment C

Taxation of Equity Awards

Please note: Examples are provided for informational purposes only. Consult with your tax advisor to learn more about your tax situation.

How Stock Options are Taxed

- **At exercise** - When you exercise your options (regardless of whether you sell the stock you receive), you will owe ordinary income tax on the difference between the stock price on the date of grant and the price of American Water's stock at the time you exercise. Your tax liability is reported to the Internal Revenue Service by American Water payroll. For example, if you choose to exercise options in 2018 and your pre-tax gain is \$1,925, you will owe taxes on that \$1,925 for the 2018 tax year. If you choose to use a cashless exercise to process this transaction, you would sell a portion of the shares exercised to cover the exercise price, fees and taxes. For example, you decide to exercise 500 options in a cashless exercise. To cover the exercise price, transaction fees, and taxes, you sell 225 shares. You would then see 275 shares credited to your E*TRADE account.
- **At sale of the shares** - If you exercise your options, hold the stock for a period of time then later sell the stock at a higher price than what you paid for it, you will owe capital gains tax. This tax will be assessed on any additional appreciation on the price of American Water's stock between the time of exercise and the time of sale. (Note that these taxes are not reported to the Internal Revenue Service by American Water and are in addition to the ordinary income taxes incurred at each option exercise.)

Consult your tax advisor to learn more about your personal tax situation.

How RSUs are Taxed

You will not be responsible for any taxes when the RSUs are granted. However, you will owe ordinary income tax, payable upon vesting, on the full value of the shares (unless the RSUs are deferred - deferrals will have to pay Social Security and Medicare taxes at the time of vesting, which may be deducted from other wages paid by the Company). American Water will withhold a portion of your vested shares to cover your Federal (including Social Security and Medicare), state, local and other tax liabilities. See your RSU Grant Agreement for details.

Once you sell the shares, you will owe capital gains tax for any additional share price appreciation between the stock price you paid for the shares and the stock price on the date of the sale.

Consult your tax advisor to learn more about your personal tax situation.

Attachment C - continued

How PSUs are Taxed

site

(www.etrade.com) for details.

TAX EXAMPLE*

American Water will withhold shares to cover the tax withholding obligation if you did not defer. For example, if you have 332 vested PSUs, we will calculate the taxes that must be withheld and deduct the amount of shares to satisfy the tax withholding requirements. Therefore, you may have 215 shares remaining from your original 332 shares.

Payroll Advice After Earned Shares Were Determined Earnings and Deductions Attachment

PSUs:	\$	25,896 (332 shares x \$78.00 share price)
Taxes:	-	9,126 (117 shares x \$78.00 share price)
Net:		16,770 / \$78.00 share price

215 shares will be posted to your E*TRADE Account

Dividends are calculated and taxed at this time. Shares calculated using \$78.00 price for illustration purposes only.

If you hold the shares received, you will owe capital gains tax for any additional share price appreciation between the stock price on the date the shares are received and the stock price on the date of the sale.

This tax example also applies to how taxes are calculated on RSUs.

Consult your tax advisor to learn more about your personal tax situation.

Attachment D

GLOSSARY OF TERMS

TERM	DEFINITION
Black-Scholes Valuation	An internationally-recognized mathematical valuation model used to value stock options, which incorporates various types of inputs (such as the stock volatility and interest rates). We use this formula to establish the value of option grants. The use of this model for this purpose is consistent with standard market practice.
Board	The Board of Directors of American Water Works Company.
Common Stock	Units of ownership of a corporation.
Compensation Committee	The Compensation Committee of the Board appointed by the Board to administer the Plan.
Early Retirement	Termination of employment or service with the company (other than “for Cause”) after the participant has attained age 55 and 10 total years of employment or service with the company.
Equity	Awards that are linked to American Water’s share price.
Exercise	The transaction in which you sell your vested options to buy shares of American Water common stock.
Exercise date	The date on which you buy actual shares of American Water common stock at the stock price on the date of grant. Following exercise, you may decide to keep or sell the shares.
Exercise period	The period during which you may exercise your vested options under the grant. The exercise period for the 2016 grant ends December 31, 2022.
Exercise price	The fixed price for which an option holder may purchase a single share of American Water common stock after the options become vested.
Grant	The awarding of a specified number of options, Restricted Stock Units or Performance Stock Units.
Normal Retirement	Termination of employment or service with the company (other than “for Cause”) after the participant has attained age 62 and 10 years of employment or service with the company.
Performance period	The three-year period from January 1, 2016 through December 31, 2018.
Performance Stock Units (PSU)	Performance Stock Units (PSUs) are “notional” shares of company stock. At the end of the three-year performance period, PSUs will convert to actual shares of American Water common stock based company performance. Their value will depend on the market value of the stock at that time.
Restricted Stock Units (RSU)	Restricted Stock Units (RSUs) are “notional” shares of company stock. At the end of the vesting period, RSUs will convert to actual shares of American Water common stock, which means their value will depend on the price of the stock at the time.
PSU grant agreement	Your American Water Works Company Inc. 2007 Omnibus Equity Compensation Plan Performance Stock Unit Grant agreement.

Attachment D - Continued

TERM	DEFINITION
RSU grant agreement	Your American Water Works Company Inc. 2007 Omnibus Equity Compensation Plan Restricted Stock Unit Grant agreements.
Stock option	Your right to purchase shares of American Water stock at the exercise price, on or after vesting, during the exercise period — provided you continue to be employed by American Water.
Stock option grant agreement	Your American Water Works Company Inc. 2007 Omnibus Equity Compensation Plan Nonqualified Stock Option Grant agreement.
Stock price	The price at which American Water shares trade on the stock market.
Total disability	You are considered to have a “total disability” as determined by the Social Security Administration.
Total Shareholder Return (TSR)	$\text{TSR} = \frac{\text{Dividend Adjusted Ending Stock Price} - \text{Dividend Adjusted Initial Stock Price}}{\text{Dividend Adjusted Initial Stock Price}}$
Vesting	Becoming entitled to all or a portion of an Equity Award.
Vesting period	<ul style="list-style-type: none"> • With respect to stock options, the period of time that must elapse before options can be used to buy shares of American Water common stock. • With respect to Restricted Stock Units (RSUs), the period of time that must elapse before RSUs will convert to shares of American Water common stock. • With respect to Performance Stock Units (PSUs), the period of time that must elapse before you have earned the right to the PSUs. The PSUs will not be converted into shares and distributed until the end of the three-year performance period (if earned based on performance).

Attachment E

2016 LONG TERM PERFORMANCE PLAN RESTRICTED STOCK UNIT GRANT SUBSEQUENT DEFERRAL ELECTION FORM

PART A. TIME OF DISTRIBUTION

I, _____, (the "Participant") hereby irrevocably elect to have all of the Restricted Stock Units, plus corresponding dividend equivalents, (the "Deferred Units") granted to me under the Company's 2016 Long Term Incentive Plan (the "2016 LTIP") and the American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan (the "Plan") that would have been redeemed by American Water Works Company, Inc. on January 1, 2018 and January 1, 2019 (each, a "Redemption Date"), to instead be redeemed on _____, 20__ (the "Deferred Date"), which is a date that is at least five (5) years later than the last Redemption Date.

NOTE: To make this deferral election, you must defer all of the Restricted Stock Units that would have vested on a Redemption Date except for those that would vest on the January 1, 2017 Redemption Date, plus corresponding dividend equivalents, and the election must be made at least 12 months prior to the first Redemption Date to which this election applies, per Section 409A of the Internal Revenue Code.

PART B. ACKNOWLEDGMENT

I understand and expressly agree that (i) the Deferred Date for the Deferred Units shall be the date I specified in Part A above (which is a date that is at least five (5) years later than the last Redemption Date), and (ii) I will not be entitled to receive distribution of the Deferred Units on an earlier date, except in the event the Change of Control Date (as defined in the Grant) occurs prior to the Deferred Date. I also understand and expressly agree that this deferral election is irrevocable, is being made at least twelve (12) months prior to the first Redemption Date subject to this election, and shall not take effect until twelve (12) months after the date on which I make this election. I further understand and agree that the terms and conditions of the Grant and the Plan are hereby incorporated into this form. Lastly, I understand and agree that this deferral election applies to 100% of the Restricted Stock Units, and corresponding dividend equivalents, that would have been redeemed on the January 1, 2018 and January 1, 2019 Redemption Dates under the Grant.

PARTICIPANT SIGNATURE:

PARTICIPANT **DATE**

RECEIPT ACKNOWLEDGED:

BY

TITLE **DATE**

Please return completed deferral election form by December 31, 2016 to Compensation at Voorhees Corporate Headquarters (1025 Laurel Oak Road, Voorhees, NJ 08043).

Attachment F

2016 LONG TERM PERFORMANCE PLAN PERFORMANCE STOCK UNIT GRANT SUBSEQUENT DEFERRAL ELECTION FORM

PART A. TIME OF DISTRIBUTION

I, _____, (the "Participant") hereby irrevocably elect to have all of the Performance Stock Units, plus corresponding dividend equivalents, (the "Deferred Units") that I earn under the Company's 2016 Long Term Performance Plan (the "2016 LTPP") under my Performance Stock Unit Grants (collectively, the "Grants") under the American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan (the "Plan") that would have been distributed by American Water Works Company, Inc. to me as early as January 1, 2019 (the "Distribution Date"), instead be distributed to me on the deferred date designated below (the "Deferred Date"), which, per Internal Revenue Code Section 409A, must be at least five (5) years later than the Distribution Date, and this election is at least twelve (12) months prior to the Distribution Date (to make this deferral election you must defer all of the Performance Stock Units you earn under the 2016 LTPP, plus corresponding dividend equivalents, meaning there is no partial deferral):

Number of Earned Performance Stock Units, and Dividend Equivalents, under the Grants to be Further Deferred (All Must Be Deferred)	Original Distribution Date (Election Must Be Made at Least 12 Months Prior to the Distribution Date)	Deferred Date (Must be a calendar year that is at least five years later than the Original Distribution Date)
100%	January 1, 2019	

PART B. ACKNOWLEDGMENT

I understand and expressly agree that (i) the Deferred Date for the Deferred Units shall be the date I specified in Part A above (which is a date that is at least five (5) years later than the original Distribution Date), and (ii) I will not be entitled to receive distribution of the Deferred Units on an earlier date, except in the event the Change of Control Date (as defined in the Grants) occurs prior to the Deferred Date. I also understand and expressly agree that this deferral election is irrevocable, is being made at least twelve (12) months prior to the original Distribution Date, and shall not take effect until twelve (12) months after the date on which I make this election. I further understand and agree that the terms and conditions of the Grants and the Plan are hereby incorporated into this form. Lastly, I understand and agree that this deferral election applies to 100% of the Performance Stock Units, and corresponding dividend equivalents, that I earn under the 2016 LTPP pursuant to the Grants.

PARTICIPANT SIGNATURE:

PARTICIPANT **DATE**

RECEIPT ACKNOWLEDGED:

BY

TITLE **DATE**

Please return completed deferral election form by **December 31, 2016** to Compensation at Voorhees Corporate Headquarters (1025 Laurel Oak Road, Voorhees, NJ 08043).



AMERICAN WATER

1025 Laurel Oak Road
Voorhees, NJ 08043

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2015-00418
COMMISSION STAFF'S THIRD REQUEST FOR INFORMATION

Witness: Robert V. Mustich/Christine Karlsson

17. Refer to KAWC's response to Staff's Second Request, Item 27.a.
- a. Provide documentation (i.e., reference materials, a study or analysis, etc.) to support the following statement: "[t]hrough phased vesting of stock and options, that benefit can be delivered efficiently and at a lower cost than simply increasing cash compensation."
 - b. Provide documentation to support the following statement "[T]he benefit to employee retention created by stock and option grants is well-known and well-accepted in both the utility industry and broader industry groups."

Response:

- a. It is axiomatic that only vested stock or options are of value to an employee, and the phased vesting of stock and options induce employee retention and allow the Company to retain valuable employees with industry-specific or other value added knowledge, experience or talents. If an employee voluntarily leaves the organization prior to stock grants vesting, they lose the compensation value. The cost of losing and then replacing an employee can include productivity loss, workplace safety issues, separation costs, replacement costs, training costs and vacancy costs. Separation costs include: the costs incurred for exit interviews; administrative functions related to termination; separation/severance pay; and any increase in unemployment compensation. Vacancy costs include the net cost/savings incurred due to increased overtime or temporary employees needed to complete the tasks of the vacant position. Replacement costs include the cost of: attracting applicants; entrance interviews; testing; travel/moving expenses; preemployment administrative expenses; medical exams; and acquisition and dissemination of information. See e.g.,

<http://www.inc.com/suzanne-lucas/why-employee-turnover-is-so-costly.html>
- b. Restricted stock and stock option grants have time-based vesting schedules (typically over 3 years) that require grants to vest before an employee receives the potential compensation value. If an employee voluntarily leaves the organization prior to stock grants vesting, they lose the compensation value. There is inherent retention value in unvested awards based on the potential compensation that would be forfeited if the employee voluntarily terminates employment. For documentation, please see the article linked above.

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2015-00418
COMMISSION STAFF'S THIRD REQUEST FOR INFORMATION**

Witness: Robert V. Mustich/Kevin Rogers

- 18.** In responding to Item 30.a. of the Staff's Second Request, KAWC cited its responses to Items 27.a. and 27.b. of that same request. KAWC's reference to those responses is not a direct response to the question that was asked. Confirm that KAWC has not performed or commissioned a study or analysis that quantifies the benefits its ratepayers derive from the Annual Incentive Plan or the LTPP.

Response:

See the response to Items 19 and 20 of this request. In short, through the Willis Towers Watson study submitted in this case, KAWC has shown that its total compensation, including performance compensation, is below market. This is a quantifiable benefit to customers. Moreover, the Willis Towers Watson study demonstrates that performance compensation is paramount to its overall total compensation being competitive in the employment marketplace. That competitiveness, in turn, is critical to being able to attract and retain qualified employees. Of course, without qualified employees, safe and reliable service is not possible. Thus, the very real benefit of KAWC's incentive compensation to its customers is the provision of safe and reliable service – a benefit which is difficult, if not impossible, to quantify at a dollar amount certain.

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2015-00418
COMMISSION STAFF'S THIRD REQUEST FOR INFORMATION**

Witness: Robert V. Mustich/Kevin Rogers

- 19.** In responding to Item 30.b. of the Staff's Second Request, KAWC cited its responses to Items 27.a. and 27.b. of that same request. KAWC's reference to those responses does not sufficiently respond to the question that was asked. Explain in detail how the two Willis Towers Watson's Compensation Program Assessments attached to the Direct Testimony of Robert Mustich explain why KAWC has not performed an analysis or study to quantify the benefits its ratepayers receive from the employee incentive pay plans.

Response:

See the response to Items 18 and 20 of this request. Willis Towers Watson's testimony shows that if KAWC did not provide incentive compensation, total compensation would not be competitive with the market, which would lead to difficulty attracting and/or retaining employees needed to run the business and provide service to ratepayers. It is extremely difficult, if not impossible, to quantify and make a direct link to the quantifiable benefits KAWC ratepayers receive from the employee incentive pay plans. This would also be the case when attempting to quantify that paying a salary or providing benefits to an employee has a direct benefit to customers.

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2015-00418
COMMISSION STAFF'S THIRD REQUEST FOR INFORMATION**

Witness: Robert V. Mustich/Kevin Rogers

- 20.** In Case No. 2004-00103 the Commission did not allow KAWC to recover the costs of the employee incentive pay plans, finding that KAWC did not address or quantify the benefits its employee incentive plans supposedly provided to the ratepayers and also placed KAWC on notice that “[t]he mere existence of such [incentive compensation] plans is insufficient to demonstrate that they benefit ratepayers and that their costs should be recovered through rates.”¹ Explain in detail how the two Willis Towers Watson’s Compensation Program Assessments attached to the Direct Testimony of Robert Mustich address the Commission’s prior findings.

Response:

See responses to Items 18 and 19 of this request. Willis Towers Watson’s study shows that if KAWC did not provide incentive compensation, its total compensation would not be competitive with the market. If KAWC’s total compensation package is not competitive, it would lead to difficulty attracting and retaining employees needed to manage and operate the business in a way that provides safe and reliable service to customers. All else being equal, employees will find and work for employers who offer the best total compensation. KAWC does not suggest that it needs to offer the best total compensation. However, it is indisputable that it needs to offer competitive total compensation to attract qualified employees, who, in turn will provide safe and reliable service. Again, the Willis Towers Watson study demonstrates that KAWC’s performance pay is necessary for KAWC’s compensation to be competitive in the relevant employment market.

¹ Case No. 2004-00103, *Adjustment of Rates of Kentucky-American Water Company* (Ky. PSC Feb. 28, 2005), Final Order at 49.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2015-00418
COMMISSION STAFF'S THIRD REQUEST FOR INFORMATION

Witness: Scott W. Rungren

- 21.** Refer to KAWC's Application, Exhibit 37, Schedule J-1 and KAWC's response to Staff's Second Request, Item 37. Following the instructions of Staff's Second Request, Item 37, provide a revised Exhibit 37, Schedule J-1 that contains a cost of capital summary based upon the 13-month average for forecast period ending August 31, 2017, which takes into account both changes required by the request.

Response:

Please see the attachment.

Kentucky American Water Company
Case No. 2015-00418
Cost of Capital Summary
13-Month Average For Forecast Period Ending August 31, 2017

Data: ___ Base Period Forecasted PeriodType of Filing: _____ Original Updated Revised

Exhibit 37, Schedule J-1

Capital\Capital Structure - Slippage\[Capital Structure 2015.xlsx]Sch J-1

Witness Responsible: Scott Rungren

Page 1 of 1

Line No.	Class of Capital	Reference	13-Month Average Net Carrying Amount	% of Total	Add (1)	Adjusted Capital	Cost Rate	13-Month Average Weighted Cost
1								
2	Short-Term Debt	W/P - 7-3	\$7,779,962	1.944%	\$7,948	\$7,787,909	1.369%	0.030%
3								
4	Long-Term Debt	W/P - 7-4	201,504,391	50.353%	205,855	201,710,246	6.050%	3.050%
5								
6	Preferred Stock	W/P - 7-5	2,242,372	0.560%	2,289	2,244,661	8.520%	0.050%
7								
8	Common Equity	W/P - 7-6	<u>188,657,198</u>	<u>47.143%</u>	<u>192,731</u>	<u>188,849,930</u>	<u>10.750%</u>	<u>5.070%</u>
9								
10	Total Capital		<u>\$400,183,922</u>	<u>100.000%</u>	<u>\$408,823</u>	<u>\$400,592,745</u>		<u>8.200%</u>
11								
12								
13								
14								
15								
16	(1) JDITC:	W/P - 7-7	<u>\$408,823</u>					

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2015-00418
COMMISSION STAFF'S THIRD REQUEST FOR INFORMATION**

Witness: Scott W. Rungren

- 22.** In its response to Item 40 of Staff's Second Request, KAWC identified seven long-term debt instruments that had been issued between 2007 and 2013.
- a. Explain why KAWC's projected interest rates exceeded the actual rates for six of seven of the long-term debt issuances listed in the response.
 - b. Describe the method KAWC used to project the interest rates for each of the seven debt issuances listed in the response. Explain if the methods used in the prior projections differ from the method KAWC has employed in this proceeding.
 - c. Given that the projected issuance costs for all seven long-term debt issuances exceed the actual costs incurred, explain why KAWC issuance cost projection is reliable.

Response:

- a. Projected interest rates are based on the forward Treasury curve at the time the projection is prepared and may be higher or lower than the actual interest rate at the time of issuance. In this case, the projected interest rate based on the forward Treasury curve happened to be higher than the actual interest rate for the six issuances referenced in the question.
- b. Long-term debt interest rates are projected using the forward Treasury curve from Bloomberg plus a corporate credit spread. KAWC employed this method in this proceeding as well as for the prior interest rate projections. Interest rates have been in a declining or flat trend during much of the period between 2007 and the present, due in no small part to efforts by the Federal Reserve Board to keep rates low on a quarter to quarter basis. This presented a challenge for projecting interest rates during that historical period. Further, two debt issuances were projected to be taxable; however, KAWC was able to secure tax-exempt financing which significantly lowered their interest rates. Tax-exempt financing is not expected to be a viable option in the foreseeable future.
- c. Projected issuance costs are estimations, and the actual issuance costs may differ from the projections. At the same time that interest rates have been at historically low levels, American Water has worked to strengthen its credit rating, while timing debt issuances in a manner to get the most attractive issuance costs and rates for its customers. KAWC's customers realize the benefit of those savings at the time of the next rate case. KAWC has projected issuance costs in a reasonable

manner and will continue to work through American Water Capital Corp. (“AWCC”) to achieve savings in debt issuance costs and interest rates for the benefit of its customers. For this case, KAWC has assumed an issuance cost rate of 1.00%, which is very close to the actual issuance cost rate of 0.96% for AWCC’s most recent issuance in August 2015.

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2015-00418
COMMISSION STAFF'S THIRD REQUEST FOR INFORMATION**

Witness: Scott W. Rungren

- 23.** Refer to KAWC's response to Staff's Second Request, Items 42.b. and 42.d. The average spread between the appropriate Treasury Bonds and the American Water Capital Corporation ("American Capital") debt issuance for the six long-term debt issuances on the schedule is 1.19%.¹ Explain why it would not be more appropriate to use the average spread to forecast the interest rate for the long-term debt issuance.

Response:

The corporate credit spread is based, in part, on the bond's term to maturity. As such, it would not be appropriate to use the average spread from bonds ranging from 10-30 years to forecast the spread for a 30-year bond.

1

Issue Date	Term (Years)	Treasury Bond Rates		AWCC Issue Rate	Calculated Spreads
		10-Year	30-Year		
12/17/12	30.0		2.94%	4.30%	1.36%
11/01/13	10.5	2.8%		3.85%	1.05%
08/14/14	10.5	2.4%		3.40%	1.00%
08/14/14	28.0		3.20%	4.30%	1.10%
08/13/15	9.5	2.2%		3.40%	1.21%
08/13/15	30.0		2.86%	4.30%	<u>1.44%</u>
Average Spread					1.19%

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2015-00418
COMMISSION STAFF'S THIRD REQUEST FOR INFORMATION

Witness: Scott W. Rungren

- 24.** Refer to KAWC's response to Staff's Second Request, Items 43.a. Provide a detailed description of the impact KAWC's equity ratio of 47.352 percent would have on American Capital's current bond ratings and KAWC's projected long-term debt interest rate.

Response:

The American Water consolidated capital structure would not be materially impacted by KAWC's equity ratio of 47.352 percent because of the overall size of American Water's consolidated capital structure relative to KAWC's capital structure. In that way, KAWC ratepayers are receiving benefits through the overall strength of American Water that they would not enjoy separately. However, as KAWC is being held to a restriction in its capital structure that would significantly deter KAWC from receiving stand-alone financing comparable to American Water financing, KAWC customers are benefitting from other American Water subsidiaries. Because of KAWC's relative size to American Water's consolidated capital structure, a small shift in KAWC's equity ratio would not have a material impact on American Water Capital Corp.'s current bond ratings or KAWC's projected long-term debt interest rate through American Water Capital Corporation on consolidated debt issuances. As I described in my testimony, however, no other large utility in the Commonwealth of Kentucky has a restriction on its maximum equity ratio and most have much higher equity ratios.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2015-00418
COMMISSION STAFF'S THIRD REQUEST FOR INFORMATION

Witness: Scott W. Rungren

- 25.** Refer to KAWC's response to Staff's Second Request, Item 43.b.
- a. Provide a definition of the term "all-in cost" as used by KAWC in its response.
 - b. Provide instances where a third-party debt would result in a lower all-in cost to KAWC than it could obtain from American Capital.
 - c. Provide a comparison of KAWC's projected bond rating with its current debt-to-equity ratio to American Capital's current rating.

Response:

- a. All-in cost includes the coupon, debt issuance costs, and debt discount or premium.
- b. Depending on market conditions, it is possible that a third-party tax-exempt debt would result in a lower all-in cost to KAWC than it could obtain from American Capital.
- c. KAWC's projected credit rating would most likely be lower than that of American Water's current rating, based on the credit metrics as shown below. In addition, American Water enjoys the benefit of size (economy of scale) and both geographical as well as regulatory diversification.

	As of 12/31/2015	
	American Water	KAWC
EBITDA/Interest Expense	4.92x	4.13x
Total Debt/EBITDA	4.29x	4.43x
Total Debt/Total Capitalization	56.3%	56.7%
Cashflow from Operations/Interest Expense	3.83x	2.96x
Cashflow from Operations/Total Debt	18.1%	16.1%

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2015-00418
COMMISSION STAFF'S THIRD REQUEST FOR INFORMATION**

Witness: Kevin N. Rogers

- 26.** Refer to KAWC's response to Staff's Second Request, Item 52.d.(2). For each Service Company reorganization that has occurred since calendar year 2000, provide the following:
- a. The reason for the Service Company reorganization.
 - b. A detailed description of the Service Company reorganization.
 - c. The total cost incurred by American Water for the Service Company reorganization.
 - d. The cost of the reorganization that allocated to KAWC.
 - e. A list of the benefits that KAWC's customers received from the Service Company reorganization. Include a detailed description of each benefit listed.

Response:

- a. Organizational realignments are considered and implemented as American Water continues to explore and implement improvements in providing customer accounting, billing, general accounting, finance, and rates functions through constant review of effectiveness and determining the best alignment to service our customers.
- b. In the year 1999, American Water examined its local customer service centers and made the decision to consolidate all of its customer service functions to one national site. At that time, American Water had 22 local call centers each with different business processes, hours of operations, technology and service offerings. The American Water National Customer Service Center (CSC) in Alton, Illinois opened in April 2001 and was completed in 2004.

In 1999 and 2000 American Water undertook a review of its accounting functions to determine how it could improve its transactional accounting functions, take advantage of economies of scale where possible, and improve the uniformity of its software applications at the various operating subsidiaries. The Company had previously installed JD Edwards accounting software, but like the customer accounting and billing software, local and regional programming had in essence created several different versions of the software. This created difficulties with consolidated accounting and multijurisdictional acquisition integrations. American Water determined there were economies of scale savings and operational efficiencies to be

derived from providing transactional accounting functions on a national level and decided to move these functions to a Shared Services Center. Prior to this transition, the accounting, budgets, and finance functions were being performed by Kentucky American Water employees and the Regional Service Company located in Charleston, WV. In September 2001, the Service Company began the operation of a national center (“Shared Services Center” or “SSC”) in Mt. Laurel, New Jersey.

As of 2000, the American Water organizational alignment was as follows:

- Region – Missouri, Iowa, Ohio, Michigan, Kentucky, Tennessee, Virginia, Maryland, New York, Connecticut, Massachusetts and New Hampshire
- Western – California, Arizona, New Mexico and Hawaii
- Illinois
- Indiana
- Pennsylvania
- West Virginia
- New Jersey

Starting in late 2001, the American Water organizational realigned as follows:

- Western – California, Arizona, New Mexico and Hawaii
- Illinois and Iowa
- Missouri
- Indiana, Ohio and Michigan
- Pennsylvania, Virginia and Maryland
- West Virginia, Kentucky and Tennessee
- Northeast – New Jersey, New York, Connecticut, Massachusetts and New Hampshire

In 2002, American Water sold its regulated operations in Connecticut, Massachusetts and New Hampshire.

Starting in 2004, American Water began transitioning from seven regions into the following four regions.

- Western – California, Arizona, New Mexico, Hawaii and Texas
- Central – Illinois, Iowa, Missouri, Indiana, Michigan and Ohio
- Southeast – Pennsylvania, Kentucky, Tennessee, West Virginia, Virginia and Maryland
- Northeast – New Jersey and New York

In 2009, as American Water continued to foster an environment to work to achieve superior and sustainable operational and financial results an assessment of the organizational structure was realigned as follows:

- New Jersey
- Pennsylvania
- Eastern Division – West Virginia, Kentucky, New York, Virginia, Maryland, Indiana, Michigan, Tennessee and Ohio

- Western Division – Missouri, Illinois, Iowa, California, Hawaii, Arizona, New Mexico and Texas

In 2011, American Water sold its regulated operations in Texas.

In 2012, American Water sold its regulated operations in Ohio, New Mexico and Arizona.

In 2012, the divisional structure was realigned to include the following:

- Central Division – Missouri, Kentucky, Illinois, Indiana, Michigan, Tennessee and Iowa
- Northeast Division – New Jersey and New York
- Mid-Atlantic Division – Pennsylvania, West Virginia, Virginia, and Maryland
- California and Hawaii

In November 2015, the Central Division realigned as follows:

- Central Division – Indiana, Kentucky, Tennessee and Michigan
- Missouri
- Illinois and Iowa

- c. The total cost incurred by American Water for the organizational realignment for the establishment of the national Customer Service Center (CSC) and Shared Services Center (SSC) was \$22,937,657 and \$13,523,033, respectively. For the other organizational realignments described above, there were no other costs incurred, only changes in allocations.
- d. The cost allocated to KAWC for the establishment of the national Customer Service Center (CSC) and Shared Services Center (SSC) was \$633,717 and \$879,514, respectively.
- e. The Service Company provides a wide spectrum of cost-effective, value added services that enable KAWC to fulfill its public utility responsibilities in a more cost effective manner. The Company has a public service obligation to provide its customers the best possible service at the lowest possible cost. One notable example is the KAWC's ability to procure services and materials and reduce costs through either streamlined selection or utilization of Service Company's large volume purchasing power.

The benefits from the national Customer Service Center are related to technology, greater resources, standardization of business processes, and measurement of service levels. Centers with a larger number of employees provide the ability to have more direct, skilled, and focused activities. A nucleus of people can be designated to focus on defining and refining best practices, while other groups can focus on performance measurement, effective management processes, and developing an environment of continued process improvement. The economies of scale of the Customer Service Center has provided for the ability of the Company to provide 24/7 service (24 hours

a day, 7 days a week). Standardization of business processes has always been the cornerstone for reducing costs and/or improving service. The measurement of service is another key to the success of the Customer Service Center and its resulting benefits to our customers. We must be able to monitor and measure the performance of the Customer Service Center and its interaction with our customers and the progress of achieving service level targets.

The organizational realignments of different divisions within American Water has allowed for efficiencies and economies of scale within divisional management. American Water maintains a continuing effort to determine an optimal alignment based on regional growth, changing regulations and technology improvements.

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2015-00418
COMMISSION STAFF'S THIRD REQUEST FOR INFORMATION**

Witness: Nikole L. Bowen

- 27.** Refer to KAWC's response to Staff's Second Request, Item 52.e. In Case No. 2010-00036, the Commission eliminated the business development costs from forecasted management fees, finding that KAWC failed to identify or describe the business development services that were provided to it by the Service Company.¹ Provide a list of the Business Development services that will be provided to KAWC by the Service Company in the forecasted period. For each item in the list, provide a detailed description and the cost included in the forecasted Service Company charges for each service.

Response:

The business development function is responsible for supporting state business development issues. The employees in this area perform research and analysis to identify and examine viable merger or acquisition candidates to grow and develop the business into service areas that will benefit from the management expertise and economies-of-scale KAWC offers. The staff provides policy guidance and oversight as well as analytical tools and consultation with divisional and state personnel. These are the detailed activities that support the allocated costs for KAWC. All \$195,842 of the costs identified in response to Staff's Second Request, Item 52 are required to provide those services.

For the itemization of overall costs associated with these services, refer to the Company's attachment in response to Staff's Second Request, Item 52.

¹ Case No. 2010-00036, *Application of Kentucky-American Water Company for an Adjustment of Rates Supported by a Fully Forecasted Test Year* (Ky. PSC Dec. 14, 2010), Final Order at 41.

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CASE NO. 2015-00418
COMMISSION STAFF'S THIRD REQUEST FOR INFORMATION**

Witness: Nikole L. Bowen

- 28.** Refer to KAWC's response to Staff's Second Request, Item 52.f.
- a. Provide a list of the Government Affairs services that will be provided to KAWC by the Service Company in the forecasted period. For each item in the list provide a detailed description and the cost included in the forecasted Service Company charges for each service.
 - b. Provide a list of the Regulatory Policy services that will be provided to KAWC by the Service Company in the forecasted period. For each item in the list, provide a detailed description and the cost included in the forecasted Service Company charges for each service.

Response:

- a. The Government Affairs services provided to Kentucky 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. For the overall costs associated with these services, refer to the Company's attachment in response to Staff's Second Request, Item 52.
- b. The Regulatory Policy services provided to Kentucky 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. For the overall costs associated with these services, refer to the Company's attachment in response to Staff's Second Request, Item 52.

KENTUCKY-AMERICAN WATER COMPANY
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COMMISSION STAFF'S THIRD REQUEST FOR INFORMATION

Witness: Dr. James H. Vander Weide

- 29.** Refer to KAWC's response to Staff's Second Request, Item 75.d.
- a. Provide updates to earned returns on equity ("ROE") for the proxy water utilities when they become available from Value Line.
 - b. Refer to Table 3 for both natural gas utilities and American Water subsidiaries. Provide the dates of the ROE awards shown.

Response:

- a. The earned returns on equity for the proxy water utilities reported by Value Line in its water utility reports dated April 15, 2016, are shown below in **Table 1**

Table 1
Water Utility Earned Returns on Equity 2015
(see Value Line Investment Survey, April 15, 2016)

	Company	Earned Return 2015
1	Amer. States Water	13.0%
2	Amer. Water Works	9.4%
3	Aqua America	11.7%
4	California Water	7.0%
5	Conn. Water Services	10.1%
6	Consolidated Water	5.1%
7	Middlesex Water	9.6%
8	SJW Corp.	9.9%
9	York Water Co. (The)	11.5%

- b. The dates of the allowed returns authorized for the natural gas utilities are shown below in **Table 2** and **Table 3**, and are shown below in **Table 4** for the water utilities.

Table 2
Proxy Natural Gas Utility Authorized Returns on Equity

Company	Approved ROE	Date of Decision
Laclede Gas Co.	NA	
New Jersey Natural Gas Co	10.30%	03-Oct-08
Northwest Natural Gas Co.	9.50%	26-Oct-12
Piedmont Natural Gas Co. North Carolina	10.0%	17-Dec-13
Piedmont Natural Gas Co. Tennessee	10.2%	23-Jan-12
South Jersey Gas Co.	9.75%	30-Sep-14
UGI Central Penn Gas	NA	
Washington Gas & Light District of Columbia	9.25%	10-May-13
Washington Gas & Light Maryland	9.5%	22-Nov-13
Washington Gas & Light Virginia	10.0%	2-Jul-12
Atmos Energy Company	See detail in Table 3 below	

Table 3
Proxy Natural Gas Utility Authorized Returns on Equity
For Atmos Energy Companies

Atmos Division	Jurisdiction	Approved ROE	Date of Decision
Atmos Pipeline-Texas	Texas	11.80%	05/01/2011
Atmos Pipeline-Texas-GRIP	Texas	11.80%	04/08/2015
Colorado-Kansas	Colorado	9.72%	08/26/2014
	Kansas	9.10%	09/04/2014
	Kansas-GSRS	9.10%	02/01/2015
Kentucky/Mid-States	Kentucky	9.80%	04/22/2014
	Kentucky-PRP	9.80%	10/10/2014
	Tennessee	9.80%	06/01/2015
	Virginia	9.00% - 10.00%	09/09/2014
	Virginia-SAVE	9.00% - 10.00%	10/01/2014
Louisiana Trans La	Trans La	9.80%	04/01/2015
	LGS	9.80%	07/01/2015
Mid-Tex Cities	Texas	10.50%	06/01/2015
Mid-Tex - Dallas	Texas	10.10%	06/01/2015
Mississippi	Mississippi	9.98%	02/03/2015
	Mississippi - SGR	12.00%	11/01/2014
West Texas	Texas	10.50%	03/15/2015
	Texas-GRIP	10.50%	04/28/2015

Table 4
American Water Subsidiaries' Current Allowed Returns on Equity

American Water Subsidiary	Approved ROE	Date of Decision
Indiana-American Water Co.	9.75%	28-Jan-15
Iowa-American Water Company	9.41%	28-Feb-14
Kentucky-American Water Co.	9.70%	25-Oct-13
Maryland-American Water Co.	10.00%	26-May-15
California-American Water Co.	9.99%	1-Jan-15
Missouri-American Water Co. *	10.00%	16-Mar-12
New Jersey-American Water Co.	9.75%	11-Sept-15
Pennsylvania-American Water Co. *	10.25%	19-Dec-13
Illinois-American Water Co.	9.34%	20-Sept-12
Tennessee-American Water Co.	10.00%	15-Oct-12
Virginia-American Water Co.	9.75%	12-Dec-12
West Virginia-American Water	9.75%	25-Feb-16
Hawaii-American Water Co.	10.20%	21-Nov-11
New York American Water	9.65%	20-Mar-12

*The ROE listed is the Company's view of the ROE allowed in the case; the ROE was not disclosed in the Order or the applicable settlement agreement.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2015-00418
COMMISSION STAFF'S THIRD REQUEST FOR INFORMATION

Witness: Linda C. Bridwell

- 30.** Refer to KAWC's response to Staff's Second Request, Item 80.
- a. Provide a revised chart showing the comparison of actual average daily consumption to projected average daily consumption in previous cases by Dr. Spitznagel with a column showing the difference between the projected amount and the actual amount, in gallons. In addition, please add the projected average daily consumption for this case, as well.
 - b. What level of accuracy between the projected average daily consumption in gallons and actual consumption is considered reasonable? Explain in detail and provide all supporting documentation.
 - c. In Case No. 2000-00120 Dr. Spitznagel included a projection for average daily consumption for other public authority, but this projection is not included by Dr. Spitznagel in subsequent cases. Explain why.
 - d. Compare the projections for average daily consumption OPA in case No. 2000-00120 and to the actual average daily consumption OPA. Explain why the large variance between the usage projections for those years and the actual usage.

Response:

- a. Please see the attached.
- b. For short-term business planning purposes, KAWC would expect a reasonable forecast to be within 5% on average. A fundamental of forecasting is that the further out from the time the forecast is made, the greater variance from actual usage is likely to occur. Since there are a number of factors that impact actual customer usage in any given year, a single year may exceed 5% based on those numerous factors. That is especially true when, as here, the forecast is dependent on something as uncontrollable as weather. For instance, Dr. Spitznagel's forecast in 2005 was lower than actual usage for both residential and commercial factors. However, moderate drought conditions occurred in 2005. Over the years, Dr. Spitznagel's forecast of usage in each rate case has been within 5% on average of the actual usage KAWC has experienced in all but three occurrences for residential and commercial per customer usage: (1) projected commercial usage in Case No. 2000-0120; (2) projected commercial usage in Case No. 2007-00143; and (3) projected commercial usage in Case No. 2008-00427. In all of three of these instances, Dr. Spitznagel's forecast was higher on average than

what was actually experienced. In fact, in the six rate cases in which he has testified for KAWC, his combined projections for residential usage have averaged a mere 0.59% difference than combined actual usage ($-1.4 + 4.65 - 3.99 - .11 + 1.41 + 3 = 3.56$; $3.56/6 = 0.59$).

- c. The Other Public Authority category includes a wide variety of facilities owned by public entities. These include schools, prisons, universities, public housing and government facilities. Because the classification is so diverse, it is challenging to determine a factor that significantly predicts this customer classification. There are three large usage customers in this classification that skew the per customer usage data making it difficult to determine weather-normalized forecasts. The effort required to remove those customers, forecast the usage, then add those customers back in did not justify the theoretical de minimus increased accuracy that may be achieved by doing so. Additionally, as indicated in the question, the omission of OPA usage has been consistent since Case No. 2000-00120, and, in those subsequent cases, the Commission has accepted Dr. Spitznagel's studies.
- d. It appears that the information provided to Dr. Spitznagel in case No. 2000-00120 removed accounts for the University of Kentucky, the Federal Medical Center, and the Bluegrass Station. Because of the large usage of these customers, the forecast was significantly less than what actually occurred with those accounts included.

Response to Commission's Third Request for Information
Item 30

**Comparison of Actual Average daily Consumption
to
Average Daily Consumption in Previous Cases with Dr. Spitznagel In Gallons**

Year	Dr. Spitznagel's Testimony 1997-00034				Dr. Spitznagel's Testimony 2000-00120				Actual									
	Avg Daily Consumption Residential	Variance	Avg Daily Consumption Commercial	Variance	Avg Daily Consumption Residential	Variance	Avg Daily Consumption Commercial	Variance	Avg Daily Consumption OPA	Average Daily Consumption Residential	Average Daily Consumption Commercial	Average Daily Consumption Other Public Authority						
1997	185.98	1.28	0.69%	1,594.34	84.74	5.32%				184.70	1,509.60	9,372.70						
1998	184.48	(4.62)	-2.50%	1,594.34	52.34	3.28%				189.10	1,542.00	9,292.40						
1999	182.97	(8.03)	-4.39%	1,594.34	46.14	2.89%				191.00	1,548.20	8,932.00						
2000	181.47	1.07	0.59%	1,594.34	100.94	6.33%	184.73	4.33	2.34%	1,553.43	60.03	3,86%	3,817.00	180.40	1,493.40	10,928.90		
2001							183.97	6.17	3.35%	1,553.43	87.13	5.61%	3,790.00	177.80	1,466.30	10,716.10		
2002							183.20	1.80	0.98%	1,553.43	93.73	6.03%	3,762.00	181.40	1,459.70	8,724.80		
2003							182.44	21.73	11.91%	1,553.43	190.57	12.27%	3,734.00	160.71	1,362.86	8,443.56		
Average			-1.40%						4.46%								4.65%	6.94%

Year	Dr. Spitznagel's Testimony 2004-00103				Dr. Spitznagel's Testimony 2007-00143									
	Avg Daily Consumption Residential	Variance	Avg Daily Consumption Commercial	Variance	Avg Daily Consumption Residential	Variance	Avg Daily Consumption Commercial	Variance						
2004	168.36	9.56	5.68%	1,404.33	64.16	4.57%								
2005	165.14	(12.59)	-7.62%	1,381.62	(57.91)	-4.19%								
2006	161.85	(7.94)	-4.91%	1,360.22	(28.68)	-2.11%								
2007	158.56	(14.42)	-9.09%	1,338.17	(17.63)	-1.32%	164.76	(8.22)	-4.99%	1,416.96	61.16	4.32%		
2008							162.64	(2.47)	-1.52%	1,407.25	111.50	7.92%		
2009							160.63	8.55	5.32%	1,398.30	211.39	15.12%		
2010							158.56	1.21	0.76%	1,388.97	117.59	8.47%		
Average			-3.99%						-0.76%				-0.11%	8.96%

Actual		
Average Daily Consumption Residential	Average Daily Consumption Commercial	Average Daily Consumption Other Public Authority
158.80	1,340.17	7,730.19
177.73	1,439.53	8,726.39
169.79	1,388.90	8,011.29
172.98	1,355.80	8,975.17
165.11	1,295.75	9,112.82
152.08	1,186.91	7,615.19
157.35	1,271.38	8,312.48

Year	Dr. Spitznagel's Testimony 2008-00427				Dr. Spitznagel's Testimony 2010-00036								
	Avg Daily Consumption Residential	Variance	Avg Daily Consumption Commercial	Variance	Avg Daily Consumption Residential	Variance	Avg Daily Consumption Commercial	Variance					
2008	160.93	(4.18)	-2.60%	1,374.30	78.55	5.72%							
2009	158.59	6.51	4.10%	1,356.21	169.30	12.48%	159.55	7.47	4.68%	1,233.97	47.06	3.81%	
2010	156.34	(1.01)	-0.65%	1,339.40	68.02	5.08%	157.36	0.01	0.01%	1,204.85	66.53	-5.52%	
2011	154.05	7.35	4.77%	1,321.96	149.43	11.30%	155.17	8.47	5.46%	1,175.74	3.21	0.27%	
2012							152.94	2.83	1.85%	1,146.41	73.25	-6.39%	
Average			1.41%			8.65%			3.00%				-1.96%

Actual		
Average Daily Consumption Residential	Average Daily Consumption Commercial	Average Daily Consumption Other Public Authority
165.11	1,295.75	9,112.82
152.08	1,186.91	7,615.19
157.35	1,271.38	8,312.48
146.70	1,172.53	7,141.10
150.11	1,219.66	7,527.10

Year	Dr. Spitznagel's Testimony 2015-00418			
	Average Daily Consumption Residential	Variance	Average Daily Consumption Commercial	Variance
2013				
2014				
2015	135.75		1,096.05	
2016	132.41		1,073.57	
2017	129.11		1,051.75	
2018	125.79		1,029.60	

Actual		
Average Daily Consumption Residential	Average Daily Consumption Commercial	Average Daily Consumption Other Public Authority
135.99	1,095.15	6,608.39
139.02	1,134.07	6,397.95
138.77	1,190.84	6,293.30

KENTUCKY-AMERICAN WATER COMPANY
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Witness: Dr. Edward L. Spitznagel

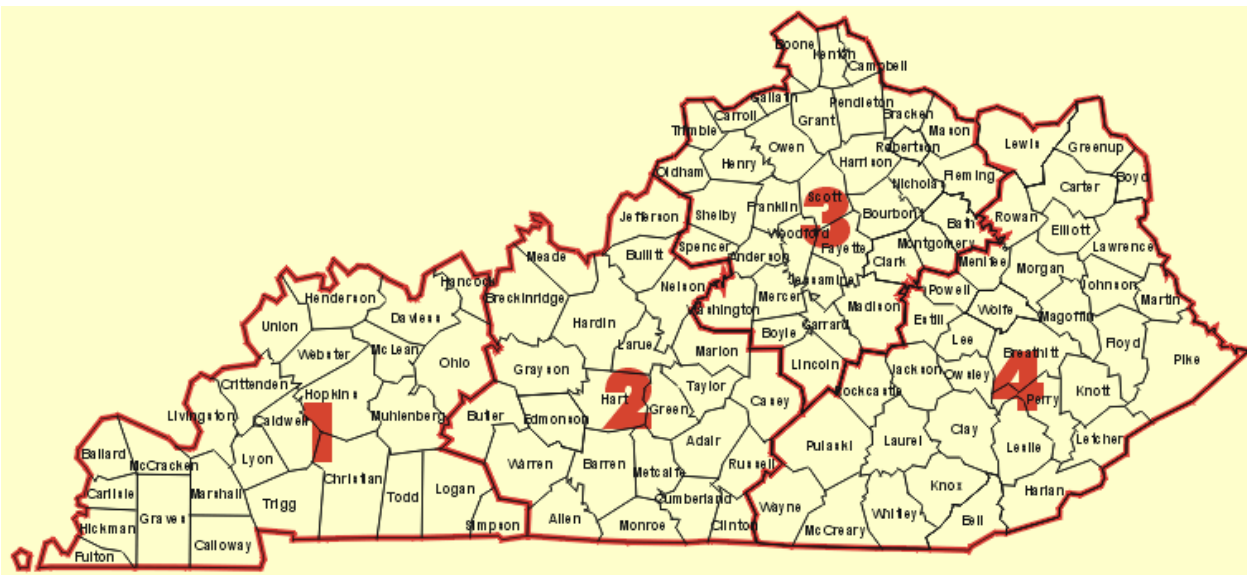
- 31.** Refer to KAWC's response to the Attorney General's Initial Request for Information ("AG's First Request"), Item 38.
- a. Confirm that temperature data from the National Oceanic and Atmospheric Administration is used to establish "normal" Cooling Degree Days ("CDD").
 - b. State whether the temperature data used is exclusively from KAW's service area. If not, state from what area(s) the CDD is collected.
 - c. Describe any consideration KAWC or Dr. Spitznagel have given to using a period shorter than 30 years to normalize volumes for temperature. The response should include any studies or research performed or consulted regarding the predictive value of using 30 years of CDD data as opposed to some shorter time period.
 - d. State whether KAWC is aware that in Case No. 2013-00148,¹ the Commission required Atmos Energy Corporation to submit in its next request for an increase in its base rates a comparison of temperature normalization methodologies using time periods including, but not limited to, 20, 25, and 30 years in length, along with support for the time period it proposes to use to normalize revenues and the superiority of the chosen method in terms of its predictive value for future temperatures.

Response:

- a. That is correct, temperature data from the National Oceanic and Atmospheric Administration was used to establish "normal" Cooling Degree Days ("CDD"). The address of the NOAA CDD data is:
<ftp://ftp.ncdc.noaa.gov/pub/data/cirs/climdiv/climdiv-cddcdv-v1.0.0-20160404>
The State Code for Kentucky is 15, and the Climate Division code for the area containing the KAW customers is 03.
- b. The CDD temperature data used is from NOAA Climate Division 03 ("Blue Grass"), which, of the four Kentucky climate divisions, approximates the region serviced by KAW. The map below shows the four climate divisions of Kentucky. Lexington, which comprises most of KAW's customers, is located in Fayette County, near the middle of Climate Division 03.

¹ Case No. 2013-00148, *Application of Atmos Energy Corporation for an Adjustment of Rates and Tariff Modifications* (Ky. PSC Apr. 22, 2014), Final Order.

- c. In 1997, at the request of Kentucky PSC, KAW hired Dr. Spitznagel to develop weather normalization methodology for water consumption. In that study, he found that using 30 years of weather gave optimal results and the Commission has approved use of that time period in the multiple cases since then in which Dr. Spitznagel has testified. Therefore, Dr. Spitznagel and KAWC utilized the same time period for his study in this case. If the utility under study is energy (natural gas or electricity) where the consumption is tightly controlled by thermostat resulting in a much larger R-square, then a shorter period (on the order of ten years) is satisfactory.
- d. Dr. Spitznagel has seen other studies involving energy consumption in which using a shorter period of weather is satisfactory. These are characterized by involving some form of control through thermostat, rather than judgment exercised by the home owner. They do not apply to water consumption.



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Witness: Linda C. Bridwell

- 32.** Refer to KAWC's response to the AG's First Request, Item 39. State whether a time period shorter than 30 years is used in any other American Water jurisdiction for the purpose of establishing "normal" temperature and CDD. If so, provide the jurisdictions and the time periods used.

Response:

American Water Works generally employs a historic 10 year average technique when analyzing affiliate usage trends that attempts to reduce the impact of weather as a factor. However, the PSC rejected that methodology in Case No. 2012-00520.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2015-00418
COMMISSION STAFF'S THIRD REQUEST FOR INFORMATION

Witness: Dr. Edward L. Spitznagel

- 33.** Refer to KAWC's response to the AG's First Request, Item 40, and to the Direct Testimony of Edward L. Spitznagel ("Spitznagel Testimony"), Appendix D.
- a. Provide pages 1 and 2, Projections of Residential and Commercial Water Utilization, using 5-year, 10-year, 15-year, 20-year, and 25-year Average CDD.
 - b. With regard to the 30-year Avg CDD column shown in Appendix D to the Spitznagel Testimony, state whether the 0.867 average CDD shown for January is correct. If so, explain why January includes CDD.

Response:

- a. These are provided in the form of Excel spreadsheets (attached). The five residential estimates range from 130.33 to 130.92. The five commercial estimates range from 1058.69 to 1065.11. The estimates are nearly insensitive to the choice of reference period.
- b. Based on NOAA records, the 0.867 average CDD shown for January is correct. It is the thirty-year average of CDD=8 from 1990, CDD=8 from 1998, CDD=10 from 2006 and CDD=0 from all other years: $(8+8+10)/30 = 0.867$. However, it does not enter the consumption computations for January, because Cell C6 (titled "Slope of CDD") is set equal to 0.

Projections of Residential Water Utilization, Gallons per Day, Kentucky-American, Using 20-Year Average CDD													
	Slope of	Slope of	Slope of		30-yr Avg	20-yr Avg	Days	2014	2015	2016	2017	2018	
Month	PMDI	CDD	SINCE_2000	Intercept	PMDI	CDD		Gal/Day	Gal/Day	Gal/Day	Gal/Day	Gal/Day	
Jan	0	0	-2.25840	159.55351	0.35133	0.900	31	127.94	125.68	123.42	121.16	118.90	
Feb	0	0	-1.84465	154.69381	0.28333	0.000	31	128.87	127.02	125.18	123.33	121.49	
Mar	0	0	-1.85571	153.20203	-0.03833	6.550	28	127.22	125.37	123.51	121.65	119.80	
Apr	0	0	-2.06649	153.62780	0.04667	7.650	31	124.70	122.63	120.56	118.50	116.43	
May	-0.67183	0.04533	-3.46397	172.62295	0.27167	92.550	30	128.14	124.68	121.21	117.75	114.28	
Jun	-4.58189	0.12670	-3.81246	175.48005	0.31267	224.850	31	149.16	145.35	141.54	137.72	133.91	
Jul	-7.76461	0.07022	-2.76360	190.62519	0.22600	324.200	30	172.95	170.18	167.42	164.65	161.89	
Aug	-4.99788	-0.02884	-6.90949	255.19918	-0.02433	313.300	31	149.55	142.64	135.73	128.82	121.91	
Sep	-5.17977	-0.00750	-5.26340	230.77125	0.09167	135.800	31	155.59	150.33	145.06	139.80	134.54	
Oct	-4.98099	0.10226	-4.07558	205.33296	0.48100	15.900	30	147.50	143.43	139.35	135.28	131.20	
Nov	-2.49357	0	-2.84354	173.25686	0.48100	0.000	31	132.25	129.40	126.56	123.72	120.87	
Dec	-0.82780	0	-2.51586	159.99412	0.58567	0.000	30	124.29	121.77	119.26	116.74	114.22	
				Annual projections:					139.06	135.74	132.40	129.11	125.79
				Projection: Sep 2016 to Aug 2017						130.34			

