PETITIONER'S EXHIBIT BEO-1

TENNESSEE-AMERICAN WATER COMPANY, INC

CASE NO. 16-_____

DIRECT TESTIMONY

OF

BRENT E O'NEILL, P.E.

ON

CHANGES TO THE QUALIFIED INFRASTRUCTURE INVESTMENT PROGRAM RIDER, THE ECONOMIC DEVELOPMENT INVESTMENT RIDERS, AND THE SAFETY AND ENVIRONMENTAL COMPLIANCE RIDER AND IN SUPPORT OF THE CALCULATION OF THE 2016 CAPITAL RIDERS RECONCILIATION

SPONSORING PETITIONER'S EXHIBIT:

PETITIONER'S EXHIBIT 2015 SCEP RESULTS - BEO

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Brent E. O'Neill and my business address is 2300 Richmond Road, Lexington, Kentucky 40502.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by the American Water Works Service Company ("Service Company") as Director of Engineering for Tennessee American Water Company ("TAWC", or "Company") and Kentucky American Water Company ("KAWC").

Q. HAVE YOU PREVIOUSLY FILED TESTIMONY BEFORE THIS OR ANY OTHER COMMISSION?

A. Yes. I have provided written testimony in the previous Applications for Approval of a Qualified Infrastructure Improvement Program, an Economic Development Investment Rider, a Safety and Environmental Compliance Rider, and Pass-Throughs for Purchased Power, Chemicals, Purchased Water, Wheeling Water Costs, Waste Disposal and TRA Inspection Fee proceeding filed before the Tennessee Regulatory Authority. I have also provided written testimony in support of Kentucky American with the Kentucky Public Service Commission.

Q. PLEASE STATE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A. I received a B.S. degree in Civil Engineering from the University of Illinois in Urbana, Illinois in 1991. I completed a Masters of Business Administration from Eastern Illinois University in Charleston, Illinois in 2002. I am a registered Professional Engineer in the State of Tennessee, Commonwealth of Kentucky, State of Illinois and State of Iowa.

I have been employed by American Water Works Company ("AWW") or one of its subsidiaries since 1996. I began as a Staff Engineer for Northern Illinois Water Company ("NIWC") until 1999 when I was promoted to Engineering Manager for Illinois American Water Company ("ILAWC"). In July 2004, I accepted the position of Network Operations Manager for the Champaign County District of ILAWC. In June 2005, I accepted the position of Senior Asset Manager with AWW and worked in Reading, England in a joint project with Thames Water. In 2006, I became the ILAWC Project Manager for the construction of a new 15 MGD ground water softening treatment plant, wells, and transmission main in Champaign, Illinois. In March 2008, I became the Engineering Manager Capital Delivery with ILAWC with responsibilities for the delivery of capital projects for the Central and Southern portions Illinois. In April 2013, I accepted my current position as Director of Engineering for Tennessee American Water Company and Kentucky American Water Company with the Service Company. I am an active member of the American Water Works Association (AWWA) and American Society of Civil Engineers (ASCE).

Q. WHAT ARE YOUR DUTIES AS DIRECTOR OF ENGINEERING?

A. I am responsible for the coordination of the Engineering Departments for both TAWC and KAWC, which includes the planning, development, and implementation of all aspects of construction projects. This includes working with all new main extensions and developers, replacement mains, water treatment plant upgrades, new construction and network facilities improvements. I coordinate technical assistance to all other company departments as needed and oversee the capital budget development and implementation.

I report to the Presidents of TAWC and KAWC. I am located in Kentucky, but work closely with the staff in Tennessee.

Q. WHAT TOPICS WILL YOUR TESTIMONY ADDRESS?

A. I will discuss the process for determining TAWC's capital investment plan, the oversight for expenditures and changes to the plan, the level of capital expenditures for 2015, and variances from the projected amounts in Docket No. 14-00121.

Q. CAN YOU DESCRIBE THE PROCESS FOR DETERMINING THE CAPITAL INVESTMENT PLAN?

A. Yes. The Company's capital investment plan can be divided into two distinct areas: 1) normal recurring construction (RPs), and 2) major projects identified as investment projects (IPs). Normal recurring construction includes water main installation for new development, smaller main projects for reinforcement and replacement, service line and meter setting installation, meter purchases and the purchase of tools, furniture, equipment and vehicles.

Recurring construction costs are trended from historical and forecasted data. Estimates are prepared for the installation of new mains, service lines, meter settings and the purchase of new meters based on preliminary plats from the appropriate governmental planning agencies and consultations with developers, homebuilders, and engineering firms.

Purchase of tools, furniture, equipment, and vehicles are based on needs. Each item is reviewed independently and an itemized list of expenditures is prepared. Estimates are made based on current year pricing.

The major project needs are developed from the Comprehensive Planning Study that identifies major improvements needed to ensure safe, dependable and reliable operations of the facilities and allows the facilities to meet the regulatory requirements for the production and distribution of drinking water. The projects identified within the study are prioritized for importance and are placed in the budgets based on the available capital remaining after the determination of the needed capital for the recurring construction needs described above.

Q. CAN YOU DESCRIBE HOW THE CONSTRUCTION BUDGET IS MONITORED DURNG THE YEAR?

A. Since 2003, the entire American Water system has used a process for the development and review of capital expenditures that has incorporated industry best practices. TAWC, like its sister companies, has benefitted from that process. The process includes a regional Capital Investment Management Committee ("CIMC") to ensure capital expenditure plans meet the strategic intent of the business, which intent includes introduction of new technologies that result in efficiencies. In turn, this ensures that capital expenditure plans are integrated with operating expense plans, and provides more effective controls on budgets and individual capital projects.

The CIMC includes the TAWC President, TAWC Operations Manager, TAWC Engineering Project Manager, TAWC Financial Analyst, and TAWC Operations Specialist. The CIMC meets monthly. The CIMC receives capital expenditure plans from project managers and approves them as required by the process. Once budgets are approved, the CIMC meets monthly to review capital expenditures compared to budgeted

levels. Discussions are held on variances to budgets that include the reason for the variance and suggestions to bring the budget lines back in line with the approved budget.

If changes in the budgets are required due to changes in priorities or unexpected expenditures, then the CIMC reviews the request for changes and approves the movement of available capital from other budget lines to offset the changes in the capital spend. All projects, including normal recurring items, have an identified project manager responsible for processing the stages of the project. The focus of the CIMC, along with the monthly meetings, has allowed TAWC to be more flexible with changes that inevitably occur during the course of implementation of projects while providing oversight on capital expenditures.

As an added level of coordination a Functional Sign-Off ("FSO") Committee meets monthly to sign-off on projects and review spending. This committee includes the TAWC Operations Manager, the TAWC Engineering Project Manager, TAWC Operations Specialist and the appropriate Distribution and Operations supervisors and project managers. The purpose of the committee is to review projects that are moving forward in the next step of approval, or that require a change. This allows the project manager and operational area supervisors to communicate about the project on a monthly basis and help coordinate projects from initial development through in-service as compared to the approved budget and spending plan.

Both of these committees allow a continuous review of capital expenditures as unexpected projects arise or the need to adjust projects to offset delays in other projects. The use of the CIMC and FSO process allows TAWC to immediately address an increase

or decrease in projected spending in each line and make appropriate adjustments to maintain the overall capital spend.

Q. HOW DOES TAWC HIRE CONTRACTORS?

A. All significant construction work done by independent contractors and significant purchases are completed pursuant to a bid solicitation process. We maintain a list of qualified bidders and we believe that our construction costs are very reasonable. American Water Works (AWW) takes competitive bids for material and supplies that are either manufactured or distributed regionally and nationally through its centralized procurement group. We have the advantage of being able to purchase these materials and supplies on an as-needed basis at favorable prices. In the past ten years, AWW also has undertaken a number of procurement initiatives for services and materials to reduce costs through either streamlined selection or utilization of large volume purchasing power. Some of these initiatives that have directly impacted capital expenditures include the use of master services agreements with pre-qualified engineering consultants, national vehicle fleet procurement, and national preferred vendor identification.

Q. ARE YOU FAMILIAR WITH THE FACILITIES AND ENGINEERING OPERATIONS OF THE COMPANY IN EACH OF ITS SERVICE AREAS?

A. Yes.

Q. WHAT CONTROLS ARE IN PLACE TO REVIEW THE PROGRESS OF A PROJECT?

A. The CIMC and FSO meetings described above are used to oversee the progress of projects from inception to completion. Along with review of the capital expenditures the committee also reviews the requirements of an investment project and ensure that the projects meet the business need for expenditure and usefulness. The process includes

five stages of project review: 1) a Preliminary Need Identification defining the project at an early stage; 2) a Project Implementation Proposal that confirms all aspects of the project are in a position to begin work; 3) Project Change Requests, if needed (if the cost changes more than 5% or $100,000); 4) a Post Project Review; and 5) Asset Management. TAWC personnel handle all of the stages, with oversight by the CIMC and FSO Committees.

Q. WHAT CONTROLS ARE IN PLACE TO MAKE SURE PROPOSED PROJECTS ARE IN THE PUBLIC INTEREST?

A. Through the budgeting and planning process a broad and comprehensive review of facility needs is conducted to establish a general guide for needed improvements over a short-term horizon. These improvements are prioritized by TAWC to allow it to: provide safe, adequate, and reliable service to its customers to meet their domestic, commercial, and industrial needs; provide flows adequate for fire protection; satisfy all regulatory requirements; and enhance economic growth. The plan provides a general scope of each project along with a preliminary design. The criteria for evaluating the various system improvements are engineering requirements; consideration of national, state, and local trends; environmental impact evaluations; and water resource management.

The engineering criteria used are accepted engineering standards and practices that provide adequate capacity and appropriate levels of reliability to satisfy residential, commercial, industrial, and public authority needs, and provide flows for fire protection. The criteria are developed from regulations, professional standards, and company engineering policies and procedures.

Q. OVERALL, HOW DID TAWC DO WITH REGARD TO ITS CONSTRUCTION BUDGET COMPARED TO ACTUAL EXPENDITURES?

A. For 2015 TAWC ended the year with a net capital expenditures of $20,663,409 compared to an approved budget of $19,277,628 resulting in an overspend of $1,335,780 or 7.0% to the budget.

Q. HOW DID TAWC PERFORM WITH REGARD TO ITS ACTUAL EXPENDITURES COMPARED TO THE BUDGETED CAPITAL EXPENDITURES FOR THE QIIP RIDER AND PROVIDE DETAIL OF ANY VARIANCES?

B. The 2015 QIIP Rider expected spend was projected at $4,500,000 with an actual spend of $5,381,606 or 19.6% over the Budget Capital Expenditures. The major variance within the QIIP Rider was additional costs associated with the Line D Mains –Relocated. More specifically, Tennessee American Water was requested to relocate water main along US 27 to support the improvement to US 27 by the Tennessee Department of Transportation ("TDOT"). This project that resulted in an overall cost of $935,442 was not included in the original 2015 budget for Line D Mains – Relocated. This project resulted in the Line D Mains – Relocated being $862,497 over the original budget and was the significant reason for the variance within the QIIP Rider. TAWC reviewed other projects within the QIIP Rider to determine if adjustments could be made to reduce the impact of the US 27 Relocation Project but costs of other projects could not be made to reduce the impact of the US 27 project.

Q. HOW DID TAWC DO WITH REGARD TO ITS ACTUAL EXPENDITURES COMPARED TO THE BUDGETED CAPITAL EXPENDITURES FOR THE EDI RIDER AND PROVIDE DETAIL OF ANY VARIANCES?

A. The EDI expected spend was projected at $143,000 with an actual spend of $370,430 or 159% over projected. Within the EDI Rider the major variance was the addition of two new water main extension projects within the Line A Main – New. The first added project added to the Line A – New budget line was the Obey Street Project in Chattanooga to allow for a new main to be installed in a different alignment to allow for a portion of the existing main to be retired that had experienced numerous breaks and was contributing to a destabilization of the roadbed slope. This project allowed TAWC to address a main that if it would have failed could have caused a large impact to local residents by closing the only access to the neighborhood. The project allowed the company to find a new alignment for the water main that was not along the only access to the neighborhood and allow for easier maintenance of the new main in the future. The Obey Street Project had an overall actual cost of $53,793.

The second project was the installation of 12-inch and 8-inch main along Highway 28 in Whitwell to reinforce fire protection to the area providing service to the Whitwell Senior Apartments. During routine fire flow testing it was observed that the available fire flow to the area surrounding the Whitwell Senior Apartments was less than 200 gpm, significantly lower than the required Tennessee Department Environmental Conservation of flow of 500 gpm for a hydrant. TAWC added to the Highway 28 Main Extension to the Line A Main – New to address the fire flow deficiency and be able to

provide over 500 gpm to the area surrounding the Whitwell Senior Apartments. The project had an actual cost of $132,554 during 2015.

Q. HOW DID TAWC PERFORM WITH REGARD TO ITS ACTUAL EXPENDITURES COMPARED TO THE BUDGETED CAPITAL EXPENDITURES FOR THE SEC RIDER AND PROVIDE DETAIL OF ANY VARIANCES?

A. The SEC expected spend was projected at $11,896,272 with an actual spend placed in service of $12,234,630 or 2.8% over projected. The major variance in the SEC Rider was caused by additional spend for the CITICO Wastewater Treatment and Handling Improvements due to delays in construction during 2014 that resulted in $2,023,166 of additional spend in 2015 that was originally budgeted in 2014. The contractor experienced construction delays in 2014 due to additional construction time to remove the abandoned clearwell structure under the construction site and uncovering unstable soil conditions that resulted in the need for additional excavation and the addition of compacted fill material. These delays caused the project to spend less than budgeted in 2014 moving the spend to 2015 as the contractor worked to completed the project.

TAWC was able to offset a majority of the additional spend by the Wastewater Treatment and Handling Improvements through a reduction of the spending for the Line Q – Process Plant Facilities and Equipment. Without the reduction of $1,256,783 in spending within Line Q through modifying or delaying projects following discussions during the CIMC process the SEC Rider could have been 13.4% over the budgeted spend.

Q. WHERE THESE VARIANCES IN ACTUAL EXPENDITURES COMPARED TO THE BUDGETED CAPITAL EXPENDITURES REVIEWED DURING THE YEAR?

A. Yes. TAWC was able to make adjustments in construction spending throughout the year by the use of the FSO and CIMC process to manage emerging project to reduce the overall impact to 107.0% of the approved level of capital expenditures. Without the management through the FSO and CIMC process the overall could have been near 14% of additional expenditure during the year for infrastructure improvement compared to the budgeted amount.

Q. CAN YOU PROVIDE SPECIFIC INFORMATION ABOUT THE ACTUAL CAPITAL EXPENDITURES COMPARED TO THE BUDGETED CAPITAL EXPENDITURES?

A. Yes. I've attached to my testimony an exhibit that provides a comparison of the 2015 Strategic Capital Expenditures Plan with Actual Capital Expenditures by recurring project lines and investment project lines.

Q. WHY ARE CERTAIN PROJECTS SOMETIMES DELAYED AND CHANGES OCCUR IN THE ACTUAL CAPITAL EXPENDITURES COMPARED TO THE BUDGETED EXPENDITURES?

A. During any given year, unexpected changes in priorities may occur due to outside influences, or recognition of unfavorable trends, that are occurring and affect the infrastructure or ability to serve the customer. The majority of such unexpected changes are caused by conflicts between the company's infrastructure and outside agencies' projects or changes that occur in the community that effect the schedule or scope of a

planned project. In both of these cases, a previously unbudgeted new project is initiated to address the need or an existing project effort is increased or decreased. Since these changes were not identified during the original budgeting process, the need to offset the new efforts expected cost is required to ensure that the overall company budget is maintained. As a result, projects that were originally identified within the budget are changed or delayed to make room for the new, unexpected projects or a change in an existing project.

Q. WHAT IS THE PROCESS FOR APPROVING THESE CHANGES?

A. Throughout the year, TAWC actively manages each budget line to ensure that the overall spending is consistent with the approved budget levels. The management of the budget lines is carried out during monthly Capital Investment Management Committee ("CIMC") meetings that compare the current capital expenditures to the budged levels. If changes in the budgets are required due to changes in priorities or unexpected changes in projects, the committee reviews the need for the changes and approves or disapproves, as the case may be, the movement of available capital from other budget lines to offset the changes in capital spend and maintain the overall projected spend for the year.

Q. CAN YOU PROVIDE THE OVERALL AMOUNT OF IN SERVICE PLANT FOR 2015?

A. With regard to the capital recover riders and the projected level of expenditures compared to those projects that were implemented and placed in service, the overall variance with projects placed in service compared with the projected spend for all three riders was 27.9% under expected average year to date spend. This is the cumulative plant additions

including 2014, and is reflected in **Petitioner's Exhibit Capital Riders Reconciliation—LCB** attached to Ms. Bridwell's testimony.

The major reason for the variance is the delay in placing the Wastewater Treatment and Handling Improvements in service. The contractor for the Wastewater Treatment and Handling Improvements faced construction delays caused by removing the abandoned clearwell structure to ensure structural stability of the new buildings and structures and uncovering unstable soil conditions that resulted in the need for additional excavation and the addition of compacted fill material. In addition, conflicts and complications caused by existing plant piping and process lines within the proposed excavation and delays of concrete placement due to wet weather and hot weather during the middle of 2015 had a significant impact on the construction schedule. These issues resulted in the Wastewater Treatment and Handling Improvements to be delayed from an in service date of June 2016 to being placed in service on November 9, 2015.

The workpapers filed in this petition give the detailed information regarding the projects that were implemented and placed in service during 2015 for each of the capital recovery riders.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

CAPITAL EXPENDITURE PLAN (Without BD)
Actual to Budget
Tennessee 2015
Units = $

Project Code	Brief Description of Proposed Expenditures	Rider	Year to Date Actual (4)	Year to Date Original Budget (3)	Year to Date Original Variance (4-3)
DV	Projects Funded by Others (Contrib. /Adv./ Refunds)	None	656,476	800,000	(143,524)
A	Mains - New	EDI	298,185	95,000	203,185
B	Mains - Replaced / Restored	QIIP	1,221,530	1,500,000	(278,470)
C	Mains - Unscheduled	QIIP	905,111	800,000	105,111
D	Mains - Relocated	QIIP	1,212,497	350,000	862,497
E	Hydrants, Valves, and Manholes - New	EDI	72,245	48,000	24,245
F	Hydrants, Valves, and Manholes - Replaced	QIIP	328,596	375,000	(46,404)
G	Services and Laterals - New	-	895,100	480,000	415,100
H	Services and Laterals - Replaced	QIIP	425,483	250,000	175,483
I	Meters - New	-	279,638	520,000	(240,362)
J	Meters - Replaced	QIIP	716,742	725,000	(8,258)
K1	ITS Equipment and Systems	-	219,607	220,797	(1,190)
K3	ITS CS Projects	-	1,048,308	807,559	240,749
L	SCADA Equipment and Systems	SEC	235,329	185,000	50,329
M	Security Equipment and Systems	SEC	131,406	190,000	(58,594)
N	Offices and Operations Centers	-	139,633	25,000	114,633
O	Vehicles	-	409,899	400,000	9,899
P	Tools and Equipment	-	139,032	40,000	99,032
Q	Process Plant Facilities and Equipment	SEC	1,374,420	2,631,203	(1,256,783)
R	Capitalized Tank Rehabilitation / Painting	QIIP	571,648	500,000	71,648
S	Engineering Studies		120,520	35,000	85,520
	TOTAL RECURRING PROJECTS DV - S		**11,401,406**	**10,977,559**	**423,846**
	TOTAL RECURRING PROJECTS A - S		**10,744,930**	**10,177,559**	**567,371**
I26-020028	Citico Plant Improvements Phase 1B	SEC	1,317,297	1,737,058	(419,761)
I26-020030	5933 lf of 20" Ringgold Rd. at I-75		894	0	894
I26-020032	Wastewater Treatm't & Handling Impr	SEC	9,176,177	7,153,011	2,023,166
	Business Transformation Costs		(141,127)	0	(141,127)
	Indirect Overhead Clearing Accounts Charges		1,223	0	1,223
	Unbudgeted		0	0	0
	TOTAL INVESTMENT PROJECTS		**10,354,463**	**8,890,069**	**1,464,394**
	TOTAL GROSS		**21,755,869**	**19,867,628**	**1,888,241**
	Contributions		**(815,731)**	**(240,000)**	**(575,731)**
	Advances		**(307,044)**	**(700,000)**	**392,956**
	Refunds		**314**	**350,000**	**(349,686)**
	Net Advances, Refunds, and Contributions		**(1,122,460)**	**(590,000)**	**(532,460)**
	Net US GAAP		**20,633,409**	**19,277,628**	**1,355,780**

STATE OF Kentucky)
)
COUNTY OF Fayette)

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for the State and County aforesaid, personally came and appeared Brent E. O'Neill, being by me first duly sworn deposed and said that:

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

Brent E. O'Neill

Sworn to and subscribed before me
this 1ST day of March, 2016.

Notary Public

My Commission Expires: 10/3/2016