# Exhibit 9

**COMMONWEALTH OF KENTUCKY**

**BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

In the Matter of:

| | | |
|---|---|---|
| Application of Water Service Corporation | ) | |
| of Kentucky for a General Adjustment | ) | Case No. 2022-00147 |
| in Existing Rates and a Certificate Of Public | ) | |
| Convenience and Necessity to Deploy | ) | |
| Advanced Metering Infrastructure, and Approval | ) | |
| Of Certain Regulatory Accounting Treatment | ) | |

# DIRECT TESTIMONY OF SETH WHITNEY

**WATER SERVICE CORPORATION OF KENTUCKY**

**CASE NO. 2022-00147**

**Direct Testimony of Seth Whitney**

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# WATER SERVICE CORPORATION OF KENTUCKY

## CASE NO. 2022-00147

## Direct Testimony of Seth Whitney

## INTRODUCTION AND QUALIFICATIONS

**Q. PLEASE STATE YOUR NAME, PRESENT POSITION AND BUSINESS ADDRESS.**

A. My name is Seth Whitney. I am the President of Water Service Corporation of Kentucky ("WSCK" or "Company"). I am also President of Cleveland Thermal, which combined constitute the Ohio/Kentucky Business Unit within the North Region. My WSCK business address is 102 Water Plant Road, Middlesboro, KY 40965.

**Q. WHAT ARE THE DUTIES OF YOUR CURRENT POSITION?**

A. As President of WSCK, I am responsible for all aspects of the Company's business, culminating in the ongoing provision of safe drinking water service to all our customers.

**Q. PLEASE DESCRIBE YOUR PROFESSIONAL BACKGROUND.**

A. I am a 2007 graduate of the University of Akron, with a Bachelor's Degree in Accounting. I joined the Cleveland Thermal Accounting Department after graduation. My background with Cleveland Thermal includes accounting, construction, underground utilities, project management, plant management, and a plant conversion project. In addition to Cleveland Thermal, I've also managed the campus utilities at the University of Oklahoma and Gillem Enclave. In 2021, I was named President of WSCK, in addition to President of Cleveland Thermal.

**Q. HAVE YOU TESTIFIED PREVIOUSLY BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY OR ANY OTHER REGULATORY COMMISSIONS?**

A. No, I have not previously testified before the Public Service Commission of Kentucky or any other state regulatory commission.

**Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

A. The purpose of my testimony is to provide an overview of WSCK's requested rate increase in support of the Company's Application in this case, prepared on a rate base/rate of return methodology. In my testimony, I summarize the requested relief and describe how the rate request will allow the Company a reasonable opportunity to cover its costs of providing utility services plus earn a fair return for our investors. My testimony also outlines the primary drivers of the requested rate increase and the general impact of the rate increase on customers. My testimony also discusses the Corix corporate structure. In addition, my testimony addresses the Company's request for a certificate of public convenience and necessity for its proposed AMI program. Finally, I introduce the other witnesses who present testimony for the Company in this case.

## OVERVIEW OF REQUEST FOR RATE RELIEF

**Q. PLEASE DESCRIBE THE WSCK SERVICE TERRITORY IN KENTUCKY.**

A. WSCK is a public utility subject to the jurisdiction of the Kentucky Public Service Commission ("KPSC" or "Commission), providing water utility service to approximately 6,160 water customers, or 7,047 Equivalent Residential Connections ("ERC"), located in 2 counties across Kentucky.

**Q. PLEASE EXPLAIN WHY THE COMPANY IS FILING FOR A RATE INCREASE AT THIS TIME.**

A. Our need for rate relief stems primarily from the significant capital investments since the Company's last rate case, made to provide reliable and compliant water services to our customers. Including activity in the Forecast Period of this application, since the last rate case, the Company will have made approximately $2.2 million in capital investment in Kentucky that is not yet reflected in rates. These investments are needed to replace and rehabilitate aging infrastructure and to modernize and increase efficiencies in the Company's systems. They are discussed in more detail in Witness Wilson's testimony.

Without adequate rate relief, WSCK's ability to continue to provide safe, reliable, and efficient water utility services to its customers and to meet its financial obligations will be impaired, which would ultimately adversely affect our service and our customers. In addition, the Company's access to needed capital on reasonable terms could be constrained, which would also be detrimental to our customers.

More specifically, under present rates and with good management, WSCK is not able to cover its operating costs and earn a reasonable return on its investments in the Company's systems. During the Base Period in the current application, WSCK expects to experience an overall rate of return for its water operation of 0.09%. Without rate relief, the Company's Forecast Period overall rate of return is projected to be negative (2.12%) for the water operation.

**Q. WHAT IS THE REVENUE REQUIREMENT REQUESTED BY WSCK IN THIS PROCEEDING?**

A. The Company proposes an increase in revenue requirements of $1,047,688, an increase of 32.12% over pro-forma present rate revenues of $3,262,188 for a total revenue requirement request of $4,309,876.

**Q. IF APPROVED, WHAT WOULD BE THE IMPACT OF THE COMPANY'S REQUESTED INCREASE ON THE TYPICAL WATER CUSTOMER AT AN AVERAGE CONSUMPTION LEVEL?**

A. Under the Company's proposal, a typical residential water customer using 3,438 gallons/month would see an increase of approximately $10.63 per month, beginning with the rate effective date in this case. More details on the proposed rates can be found in the testimony of Witness Kilbane.

## BACKGROUND INFORMATION ABOUT WSCK AND CORIX CORPORATE FAMILY; CORPORATE ALLOCATIONS

**Q. PLEASE DESCRIBE THE RELATIONSHIP OF WSCK TO CORIX REGULATED UTILITIES (US) ("CRU").**

A. WSCK is a wholly-owned subsidiary of CRU; CRU was formerly known as Utilities, Inc. CRU is an Illinois corporation that owns more than 60 water and sewer utilities, including WSCK, operating in 17 states. CRU has been involved in the water and sewer industry for over 40 years and has approximately 300,000 customers. CRU continues to provide WSCK necessary funding, as well as the expertise and services of seasoned management through Water Service Corporation ("WSC"), described below.

**Q. WHAT IS THE REPORTING STRUCTURE FROM WSCK UP TO CRU?**

A. As President of WSCK and Cleveland Thermal, I report to Steve Lubertozzi, who is Senior Vice President of CRU's North Region. Mr. Lubertozzi in turn reports to the Chief Operating Officer of Corix Infrastructure, Inc. ("CII"), Catherine Heigel.

**Q. PLEASE DESCRIBE WSC.**

A. WSC, like WSCK, is a wholly-owned subsidiary of CRU. WSC is a service company organization that is familiar with the business and property of WSCK (and the other regulated operating companies within the Corix group of companies) and experienced in the conduct, management, financing, construction, accounting, and operation of WSCK's water service business. WSC provides necessary services pursuant to a contract (the "Affiliated Interest Agreement").

**Q. WHAT IS THE RELATIONSHIP BETWEEN WSCK AND CRU, AND HOW DOES THIS RELATIONSHIP BENEFIT THE COMPANY'S CUSTOMERS?**

A. As indicated, WSCK is wholly owned subsidiary of CRU. CRU is unique in that for over 40 years its business has been owning, and operating through WSC, small and medium-sized water and sewer companies. It is an advantage to WSCK to be part of an organization whose sole focus is on its type and size of operations. CRU has the expertise needed in areas of importance to small water and sewer companies, such as in construction and engineering, accounting, data processing, billing and customer services, and regulation. Having its main focus on its water and sewer businesses, CRU has the knowledge and ability to meet the challenges facing the water and wastewater industry today.

**Q. WHAT IS THE RELATIONSHIP BETWEEN WSC AND WSCK?**

A. Like any large public utility, WSCK requires business and corporate services to operate and serve customers. WSCK receives those services from and through WSC. Specifically, WSC employs or provides personnel and the necessary resources to perform the services for WSCK per an Affiliated Interest Agreement.

**Q. WHAT TYPES OF SERVICES DOES WSC FURNISH TO WSCK?**

A. The services that WSC furnishes to WSCK generally fall into the same categories of services that all public utilities require to operate and serve customers. Witness Elicegui describes these services and explains how WSC and the Corix executive leadership team furnish them. If WSC did not furnish those services to WSCK, WSCK would have to perform the services itself or procure the services from other service providers.

**Q. DOES THE COMPANY'S RATE ADJUSTMENT PROPOSAL REFLECT CORPORATE SHARED SERVICE AND GOVERNANCE COSTS ALLOCATED FROM THE WSC SHARED SERVICES COMPANY?**

A. Yes. Witness Elicegui's testimony discusses shared services in further detail.

**Q. DO WSCK'S CUSTOMERS BENEFIT FROM THE COMPANY'S ARRANGEMENT WITH WSC?**

A. Yes, in multiple ways, which Witness Elicegui further expounds. Specifically, in addition to the centralized expertise that the arrangement provides WSCK, WSCK's customers benefit from economies of scale and scope by WSCK's affiliation with a larger organization. Further, the centralized delivery of common support services – the costs of which are shared among WSCK and the other operating companies within the Corix family that benefit from the services – enables the services to be provided to WSCK and each

operating company at a lower cost than if the services were provided to WSCK on a stand-alone basis (assuming replication of the services on such a smaller scale was possible).

**Q. ARE THERE MEASURES EMPLOYED TO CONTROL THE COSTS OF THE SUPPORT SERVICES THAT WSCK RECEIVES AS A CORIX FAMILY COMPANY?**

A. Yes. WSCK and its affiliates rely on continuous, rigorous budgeting and review processes to ensure that support services costs are controlled.

**Q. ARE THE WSC CHARGES TO WSCK PRUDENT AND REASONABLE?**

A. Yes. Again, in my experience, the support services furnished to WSCK and its regulated utility affiliates are the same types of support services that public utilities commonly rely on to operate and serve customers. Further, extensive budgeting and financial analysis processes are employed to ensure cost control. As Witness. Elicegui states, the support services provided to WSCK are necessary for the continued operation of the Company. Further, ss I explained, WSCK and its customers benefit from the economies of scale and larger company affiliation that the support services arrangement provides WSCK. The testimony of Mr. Barynbruch supports the reasonableness of these costs allocated to WSCK, through comparisons to other utility companies. Importantly, the Company engaged Witness Baryenbruch to analyze the reasonableness of the shared services costs allocated to WSCK, and as his testimony demonstrates, both historically and on a projected basis, the costs allocated to WSCK are reasonable when compared to other utilities both in Kentucky and across the country. Accordingly, the Forecast Period's level of WSC charges to WSCK are prudent and reasonable.

## SALARY STUDY; ATTRACTING AND MAINTAINING EMPLOYEES

**Q. IN WSCK'S LAST RATE CASE ORDER, THE COMMISSION DIRECTED THE COMPANY TO PERFORM A SALARY STUDY IN ITS NEXT (I.E., THIS) RATE CASE. HAS THE COMPANY PERFORMED SUCH A STUDY?**

A. Yes, we engaged ScottMadden to perform such a study, and Witness Watkins sponsors and explains that study. As Witness Watkins' testimony demonstrates, our salaries are reasonable when compared to other Kentucky companies. I would emphasize, however, that like many other employers, WSCK and its sister companies have had to respond to market pressures, inflation, and supply chain issues in order to retain and attract employees, particularly in operational areas.

**Q. PLEASE ELABORATE ON WHAT STEPS WSCK HAS TAKEN TO RETAIN AND ATTRACT OPERATIONAL EMPLOYEES.**

A. In 2021, as part of a CRU initiative focused on staff stability and employee retention, a salary study was completed across the entire CRU organization which also included WSCK. This study, along with the ScottMadden study done this year, has informed the need for base salary adjustments. These adjustments take effect in 2023, and therefore are reflected in Forecast Period Salary & Wage Expense amounts. In addition to salary, other wages and benefits were also reviewed and have resulted in an increase in on-call/call-out pay, expanded employee recognition and award platforms, and an allowance for paid time-off to volunteer in the community.

## WSCK'S PURPOSE AND VISION; OPERATIONAL PERFORMANCE

**Q. CAN YOU PLEASE SUMMARIZE WSCK'S CORPORATE PURPOSE AND VISION?**

A. WSCK's purpose is to help people enjoy a better life and to help communities thrive. Our vision is to be the preferred utility delivering solutions our customers want.

**Q. HOW DOES WSCK PLAN TO ACHIEVE THIS PURPOSE AND VISION?**

A. We plan to achieve our purpose and vision by accomplishing the following strategic goals:

- Operational and Service Excellence – develop our people, strengthen our processes, and invest in our technology to support a high-performance organization and a culture of continuous improvement.
- Connected Customers and Stakeholders – communicate and engage with our team members, customers, and communities with relevant and timely billing, service, and operational information to improve stakeholder awareness and collaboration.
- Strong Financial Performance – manage and plan business costs, pursue growth, and mitigate enterprise risks in a prudent manner to engender trust and confidence in our financial responsibility and ensure access to needed capital.
- Engaged People and Culture – attract and retain top talent to deliver dependable, timely, courteous, and quality services to meet the needs of our customers and communities.

**Q. HOW WOULD YOU CHARACTERIZE WSCK'S CURRENT OPERATIONAL PERFORMANCE?**

A. I would characterize our current performance as excellent in the following areas:

Providing safe drinking water through water system compliance;

- Maintaining high quality water;
- Reducing water quality issues;
- Maintaining high customer satisfaction
- Completing field activities on time; and
- Community participation.

I would characterize our current performance as "good, showing improvement" in the following areas:

- Driver safety;
- Improving on our on-time and accurate meter reads;
- Increased customer participation in new online platforms and options.

**Q. HOW IS THIS RATE CASE RELATED TO WSCK'S CORPORATE PURPOSE AND VISION?**

A. Capital investments, such as those we have made and seek to include in our rate base in this case, are essential to our operational integrity. They are required in order to maintain and improve our ability to provide high quality and compliant water services to our customers and our communities. Paying competitive wages to our employees is critical to our ability to attract and retain talented employees who, in turn, provide excellent operational performance and customer service for our customers and communities. In addition, our proposed AMI program will improve our ability to provide high quality water utility services at a reasonable cost. For example, the AMI meter rollout will improve meter-reading accuracy, facilitate the prompt identification of leaks, eliminate the need for manual meter reads and reduce truck rolls, and allow for redeployment of staff to more

important tasks. In addition, given the two-way communications capabilities of AMI meters, the Company will be able to gather consumption data in real-time, and customers will have improved access to their water usage.

## CUSTOMER ENGAGEMENT

**Q. HOW DOES THE COMPANY ENGAGE WITH AND EDUCATE ITS CUSTOMERS?**

A. To enhance our customers' engagement and connection with the Company, we have updated our company logo and are utilizing our local company name to reinforce the fact that our company is an essential part of the communities where we operate with local staff, local decision-making and local operational accountability[1]. Other ways the Company engages with its customers is through communication. Some of the ways this is accomplished is through communication channels such as a newly-designed webpage, bill inserts, phone calls, face-to-face meetings, and maintaining a relationship with local city leadership to keep them informed, who in turn can further communicate through their channels. In addition, the Company also utilizes a customer portal application called MyUtilityConnect for our customers. Using this online tool, customers can (1) pay their bills on the go; (2) elect to receive service notifications; and (3) monitor their water usage. The Company also encourages their employees to engage with the community since it is also the same community that many of them live in. Some examples include a community connection day and leading by example through the investment of a splash pad at a local

[1] WSCK is not requesting recovery of any costs related to updating of company logos in this application.

park. These actions have led to the Company generating a positive response from customers as exhibited in the results of the most recent Net Promoter Score (NPS) survey.

WSCK remains fully committed to excellent customer relationships and providing adequate, efficient, and reliable service. We will continue to evaluate new ways of interacting with our customers.

**Q. CAN YOU ELABORATE ON THE NPS SURVEY?**

A. The Net Promoter Score, or NPS Survey, is administered by a third party and asks customers "How likely are you to recommend your utility to friend, colleague or relative?" WSCK's NPS results from this survey, administered in the summer of 2021, indicate that WSCK scores a 17.9, which is 9.9 points better than an industry average score of 8.0. Some of the highlights from the NPS results were related to the customer's experience with WSCK's customer service resources, which has led us to increase our focus on customer service training and improving our website.

## PANDEMIC RESPONSE

**Q. PLEASE PROVIDE A BRIEF OVERVIEW OF WHAT STEPS THE COMPANY HAS TAKEN TO RESPOND AND REMAIN OPERATIONAL DURING THE COVID-19 PANDEMIC.**

A. WSCK's actions to respond to the pandemic have included the establishment of an Incident Command Team, steps to keep our employees safe (such as PPE, training, and schedule modifications), and steps to assist our customers (such as a moratorium on shut offs and automatic deferred payment arrangements). Company Witness Colby Wilson's testimony also describes our response to the pandemic.

## CONCLUSION

**Q. ARE THERE ANY MAJOR OPERATIONAL CHANGES THAT HAVE TAKEN PLACE SINCE WSCK'S LAST RATE CASE?**

A. Yes, as of December 31st, 2021, WSCK is no longer contractually providing wastewater services for Clinton. As a result, WSCK is even more focused on our core business of providing water utility services to its customers.

**Q. WHAT IS THE KEY OBJECTIVE OF THE COMPANY'S REQUESTED GENERAL RATE ADJUSTMENT?**

A. The Company's most important objective is to continue providing safe, reliable, affordable, and high-quality water utility service to our customers in Kentucky -- both today and into the future. Our request for a rate increase is made to support investments that benefit our customers while maintaining the Company's financial position. In order to attract the capital necessary to continue to serve, it is imperative that WSCK have the opportunity to earn a reasonable return on its invested capital. We strive to ensure that the investments WSCK makes in Kentucky are prudent, cost-effective, and appropriately balance reliable service and affordable rates for our customers.

**Q. PLEASE IDENTIFY THE OTHER WITNESSES PRESENTING TESTIMONY IN SUPPORT OF THE COMPANY'S APPLICATION IN THIS PROCEEDING.**

A. The Company's other witnesses filing direct testimony in support of this case are:

- Colby Wilson, Operations Manager for WSCK, whose testimony addresses the Company's water system operations, capital investments made in Kentucky since the last rate case, and certain technology initiatives supporting Kentucky

operations. He also testifies about the Company's proposed AMI program and our continued efforts to address non-revenue water.

- James Kilbane, Manager of Financial Planning and Analysis, testifies in support of the Company's position regarding present rate revenues, operating expenses including pro forma adjustments for salaries and wages, support service costs, and rate base components. Mr. Kilbane also addresses the Company's capital structure and the proposed tariff rate design.
- Shawn Elicegui, Executive Vice President of Risk Management of the Corix Group of Companies, discusses Corix services provided to WSCK, cost allocations to WSCK, and the Corix Cost Allocation Manual.
- Patrick Baryenbruch, President of the consulting firm Baryenbruch & Company, LLC also discusses services WSCK receives from the service company of its parent organization and the reasonableness of the associated cost allocations.
- Dylan D'Ascendis, Partner at ScottMadden, Inc., provides testimony in support of the Company's proposed return on equity.
- Quentin Watkins, Manager at ScottMadden, sponsors and supports a compensation study focusing on state and local wage and benefit information, as required by the Commission in the previous rate order.

**Q. IS THIS TESTIMONY TRUE AND ACCURATE TO THE BEST OF YOUR KNOWLEDGE, INFORMATION, AND BELIEF?**

A. Yes.

**Q. DOES THIS CONCLUDE YOUR PREPARED DIRECT TESTIMONY?**

A. Yes, it does.

# AFFIDAVIT

The undersigned, SETH WHITNEY, being duly sworn, deposes and says that he is the President of the Water Service Corporation of Kentucky, that he is authorized to submit this testimony on behalf of Water Service Corporation of Kentucky, and that the information contained in the testimony is true and accurate to the best of his knowledge, information and belief, after reasonable inquiry, and as to those matters that are based on information provided to him, he believes to be true and correct.

Seth Whitney, Affiant

## NOTARY CERTIFICATE

**STATE OF** OHIO

**COUNTY OF** CUYAHOGA

Subscribed, acknowledged and sworn to before me by SETH WHITNEY on this 26 day of MAY, 2022.

My commission expires: 10-26-22.

Janet E. Paciorek
NOTARY PUBLIC

NOTARIAL SEAL
STATE OF OHIO

JANET E. PACIOREK
NOTARY PUBLIC
STATE OF OHIO
Comm. Expires
10-26-2022
Recorded in
Cuyahoga County

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

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| Of Certain Regulatory Accounting Treatment | ) | |

# DIRECT TESTIMONY OF JAMES KILBANE

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# I. INTRODUCTION AND QUALIFICATIONS

**Q1. Please state your name and business address.**

A1. My name is James Kilbane. I am the Financial Planning & Analysis Manager of Water Service Corporation of Kentucky ("WSCK" or "Company" or "Petitioner") as well as WSCK's affiliate, Cleveland Thermal, which combined constitute the Ohio/Kentucky Business Unit within the North Region. My WSCK business address is 102 Water Plant Road, Middlesboro, KY 40965.

**Q2. What is your educational and professional background?**

A2. I graduated from the University of Idaho with a Bachelor Degree in Accounting and Finance in 2006. I earned my Masters of Business Administration from University of California Davis in 2013. I have worked in the steel industry and grocery industry in various financial and accounting management roles. I joined the Corix Group of Companies as a Financial Planning and Analysis Manager in 2018.

**Q3. Please describe your job responsibilities.**

A3. As the Financial Planning & Analysis ("FP&A") Manager, I am responsible for all aspects of the daily management of the business unit's accounting and finance operations, as well as reporting monthly and quarterly consolidated results. I develop and prepare WSCK's annual budget, monthly forecasts, and regulatory model. My duties include the management of the regulatory accounting process, which involves planning, directing, managing and organizing rate filings for WSCK.

**Q4. Have you previously testified before the Kentucky Public Service Commission or any other State Commission?**

A4. I have provided testimony to the Indiana Utility Regulatory Commission on behalf of Community Utilities of Indiana, Inc., in a rate case docketed as Cause No. 45651.

**Q5. What is the purpose of your testimony?**

A5. The purpose of my testimony is to present WSCK's requested revenue requirement to the Public Service Commission (the "Commission" or "PSC") and support various elements of the application. I will explain and support exhibits and schedules supporting the basis and reasonableness for forecasts and adjustments of the cost of service components of the filing.

**Q6. Please describe the format and structure of the Company's filing.**

A6. The Company's application is presented utilizing a fully forecasted test year, with a revenue requirement utilizing the rate base/rate of return method of ratemaking. Although the Company has filed its last several rate cases on the operating margin method, the Commission in the Company's last case ordered that the Company file a rate base/rate of return case in its next proceeding[1]. The Company is requesting its revenue requirement be set using a fully forecasted test year, or "Forecast Period", as permitted by 807 KAR 5:001, Section 16 ("KAR 5:001"). The Company also includes a "Base Period" in its exhibits and schedules as required by KAR 5:001.

**Q7. Please define the Base Period and Forecast Period utilized by the Company in this filing.**

A7. The Company is utilizing a Base Period that reflects the 12 months ended September 30, 2022, with actual results through March 31, 2022 included in the as-filed Base Period. This results in 6 months of actual information and 6 months of forecasts, or a "6+6". The

[1] See page 46 of KYPSC Order in Case No. 2020-00160 (12/8/2020).

Company will provided updated actual results as needed throughout this proceeding. The Company is also utilizing a Forecast Period that reflects the 12 months ended December 31, 2023, which is the period extending 12 months past the end of the statutory suspension period. As required by KAR 5:001, rate base and capitalization amounts in the Application reflect a 13-month average for the Forecast Period.

**Q8. Please identify the exhibits and schedules you are sponsoring in support of WSCK's Application.**

A8. Please see the below table for a list of exhibits and schedules I am providing in support of the Application.

| Description | Reference |
|---|---|
| Tariff - Current version | Exhibit 1 |
| Tariff - Clean version | Exhibit 2 |
| Tariff - Redline version | Exhibit 3 |
| Certified Copy of Articles of Incorporation | Exhibit 4 |
| Certificate of Good Standing | Exhibit 5 |
| Certificate of Assumed Name | Exhibit 6 |
| PSC Notice of Filing | Exhibit 7 |
| Rate Base to Capitalization Reconciliation | Exhibit 8 |
| Capital Construction Budget (major and minor breakdown) | Exhibit 10 |
| Forecast Factors | Exhibit 11 |
| Annual and Monthly Budgets | Exhibit 12 |
| Attestation Statement | Exhibit 13 |
| Next 3 years - Income Statement and Revenue Requirements | Exhibit 14 |
| Next 3 years - Balance Sheet | Exhibit 15 |
| Next 3 years - Cash Flow | Exhibit 16 |
| Next 3 years - Employee Levels | Exhibit 17 |
| Next 3 years - Labor Cost Changes | Exhibit 18 |
| Next 3 years - Capital Structure Requirements | Exhibit 19 |
| Next 3 years - Rate base | Exhibit 20 |
| Chart of Accounts | Exhibit 21 |
| Managerial and Budget Variance Reports | Exhibit 22 |
| Auditor's Annual Opinion Report | Exhibit 23 |
| Current Depreciation Rates | Exhibit 24 |
| All Computer Software, Programs, and Models Used | Exhibit 25 |

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| Cost Allocation History and for Base/Forecast Periods | Exhibit 26 |
| Revenue Requirement Summary | Exhibit 27 |
| Rate Base Summary | Exhibit 28 |
| Plant in Service | Exhibit 28.1 |
| Accumulated Depreciation | Exhibit 28.2 |
| Cash Working Capital | Exhibit 28.3 |
| Contribution-In-Aid- Construction ("CIAC") | Exhibit 28.4 |
| Accumulated Deferred Income Tax | Exhibit 28.5 |
| Plant Acquisition Adjustment ("PAA") | Exhibit 28.6 |
| Fusion Asset | Exhibit 28.7 |
| Deferred Charges | Exhibit 28.8 |
| Rate Base Components | Exhibit 28 Schedule A |
| Income Statement Summary | Exhibit 29 |
| Revenue Summary | Exhibit 29.1 |
| Uncollectibles | Exhibit 29.2 |
| Salaries & Wages | Exhibit 29.3 |
| Salary Captime | Exhibit 29.4 |
| Purchase Power | Exhibit 29.5 |
| Purchased Water | Exhibit 29.6 |
| Maintenance & Repair | Exhibit 29.7 |
| Maintenance Testing | Exhibit 29.8 |
| Chemicals | Exhibit 29.9 |
| Transportation Expense | Exhibit 29.10 |
| Outside Service | Exhibit 29.11 |
| Office Supplies & Other Expenses | Exhibit 29.12 |
| Regulatory Commission Expense | Exhibit 29.13 |
| Pension & Other Benefits | Exhibit 29.14 |
| Rent | Exhibit 29.15 |
| Insurance | Exhibit 29.16 |
| Office Utilities | Exhibit 29.17 |
| Miscellaneous Expense | Exhibit 29.18 |
| Depreciation Expense | Exhibit 29.19 |
| Plant Acquisition Amortization Expense | Exhibit 29.20 |
| Contribution-In-Aid-Construction Amortization | Exhibit 29.21 |
| Taxes Other Than Income ("TOTI") | Exhibit 29.22 |
| Income Taxes | Exhibit 29.23 |
| Revenues - Present and Proposed Rate Analysis | Exhibit 29 Schedule A |
| Salary & Wages, Benefits, Payroll Taxes Summary | Exhibit 29 Schedule B |
| Corporate & Regional Allocations and Oracle Fusion Asset Analysis | Exhibit 29 Schedule C |
| Summary of Jurisdictional Adjustments and Factors | Exhibit 30 |
| Summary of Dues, Advertising, Civic Activities, etc. | Exhibit 31 |

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| Payroll Costs | Exhibit 32 |
| Comparative Income Statements | Exhibit 33 |
| Retention Factors | Exhibit 34 |
| Required Return & Capital Structure | Exhibit 35 |
| Capital Structure Components | Exhibit 35 Schedule A |
| Gross Revenue Requirement | Exhibit 36 |
| Service Revenue Requirement | Exhibit 37 |
| Historical Financials | Exhibit 38 |
| AMI Project - Cost Impacts | Exhibit 41 |

**Q9. Were the exhibits and schedules itemized above prepared either by you or under your supervision?**

A9. Yes. I am incorporating these exhibits and schedules into my testimony by reference, and they were prepared either by me or under my direct supervision.

## II. RELIEF REQUESTED

**Q10. Please explain why the increase sought by WSCK in this proceeding is in the public interest.**

A10. WSCK's last rate request was submitted on May 31, 2020, based on a historic test year ending March 31, 2020. The use of a historic test year in the prior case, as well as use of the operating margin method, results in rates that fall short of reflecting the Company's ongoing costs of providing service to its customers. The Company demonstrates in its Application that current rates do not produce financial resources necessary to recover prudently incurred expenses and investments in infrastructure, as the forecasted Base Period and Forecast Period returns on equity at present rates are 0.09% and (2.12%), respectively. The inability of WSCK to attain a reasonable return on equity puts the Company's ability to continue as a viable going concern at risk.

As the result of the above, the required incremental revenues represent an overall increase of $1,047,688 over pro-forma present rate revenues of $3,262,188, representing an approximate 32.12% increase. The requested revenue level includes a proposed return on equity of 10.60%, as supported by the testimony of Witness D'Ascendis. WSCK believes the requested increase is necessary and reasonable to attract capital to continue investing in the infrastructure serving our customers.

**Q11. Please explain the impact to the average residential customer bill resulting from the proposed revenue requirement.**

A11. Under the Company's proposal, a typical residential water customer using 3,438 gallons/month would see their bill increase from $33.09 to $43.72, an increase of

approximately $10.63 or 32.12% per month, beginning with the rate effective date in this case.

## III. REVENUES: PRO FORMAS

**Q12. Please explain how Base Period and Forecast Period water service revenues were calculated.**

A12. The Company analyzed and compiled the customer billing data – customers billed and billed usage for the tariff's Tier 1 and Tier 2 blocks - for the first 6 months of the Base Period. The Company then forecasted customer connections for the remainder of the Base Period based on the March 31, 2022 active premises for water customers. The combination of actual connections and forecasted connections constitute the Base Period Number of Bills. The Company also similarly forecasted customer usage for the remainder of the Base Period by dividing the last 15 months of actual billed usage (January 2021 to March 2022) by the billed customers for the same period to obtain an average usage per customer. This average usage was multiplied by the customer connections forecasted for the remainder of the Base Period described above to obtain the remaining Base Period forecasted usage. The combination of actual customer usage and forecasted usage constitute the Base Period Gallons Consumed for each Tier.

In addition, the Company compiled the total historical usage per Equivalent Residential Connections ("ERCs") and total ERCs from 2013 through 2022 (as of March 31st) on a 12-month rolling basis. The calculated CAGR for the 10-year period identified a (0.46%) decline trend for ERCs and a (0.30%) decline trend for usage per ERC. The decline trend for ERCs was applied to the Base Period Number of Bills described above to determine the Forecast Period's Number of Bills. The decline trend for per ERC usage was applied

to the Base Period Gallons Consumed described above to determine the Forecast Period's Gallons Consumed by Tier.

The Company has made no forecast adjustment for Miscellaneous Revenues for the Base Period or Forecast Period, and presents such revenues as equal to the Base Period activity through March 2022. Please see Exhibits No. 29.1 and 29 Schedule A for details and results of the calculations described herein.

## IV. OPERATION & MAINTENANCE EXPENSES: PRO FORMAS

**Q13. Please explain the Company's process for preparing the Base Period and Forecast Period pro-forma Operation & Maintenance ("O&M") expense amounts.**

A13. The Company's pro-forma Base Period and Forecast Period O&M use various methods, as described further below, to reflect known and measurable changes to actual experienced expense levels.

**Q14. Please explain the calculations of Base Period and Forecast Period Uncollectible Accounts.**

A14. Uncollectible accounts were adjusted based on the average percentage of uncollectible accounts to revenues for 2019 through 2021, which results in an uncollectible percentage of 3.93%. This percentage is applied to the Base Period revenues, Forecast Period present rate revenues, and Forecast Period proposed revenues to determine the Uncollectible Accounts expense for each context, as shown in Exhibit No. 29.2. This percentage is also used to compute the Service Revenue Requirement in Exhibit No. 37 to determine the total Service Revenues to be recovered through tariff base rates.

**Q15. Please explain the calculations of Base Period and Forecast Period Salaries & Wages Expense, Payroll Taxes, and Health and Other Benefits.**

A15. Salaries &Wages Expense, Payroll Taxes, and Health and Other Benefits have been adjusted for the Base Period to reflect estimated salaries, taxes, and benefits for employees, based on actual book amounts for the 6 months ended March 31, 2022 and estimated expenses for the remaining 6 months of the Base Period. The Forecast Period expands on the Base Period drivers due to anticipated incremental cost changes for wage rates and benefits. The drivers of the expenses are 1) the level of employment supporting WSCK, including regional personnel, 2) the level of salary, including applicable overtime and other pay as of the April 2022 merit increase cycle, 3) each employees' tax rates due to their home state location, and 4) benefit elections as of the 2022 benefits cycle. The most current state and federal payroll tax assumptions were used to calculate payroll taxes on a per-employee basis. The Company used its 3% employee-match corporate-contribution rate as well as the non-elective annual contribution of 4% for employee 401K expenses on a per-employee basis. The Company annualized levels of overtime, holiday, and on-call pay by employee based on actual hours during the first 6 months of the Base Period. The Company then increased base wage rates for the Forecast Period using a 3% merit increase baseline, and accounted for competitive wage adjustments, as described in the testimony of Witness Whitney. Forecast Period benefits costs were increased per the average annual increases experienced for 2020-22 benefits cycles. All regional employees were allocated using Tier 1 and Tier 2 allocation factors – as described later in my testimony – as applicable based on each employee's business unit responsibilities. Please see Exhibits No. 29.3, 29.14, 29.22, and 29 Schedule B for more of the results of these calculations.

**Q16. Did WSCK perform an analysis of salary and wage reasonableness as required per its prior rate case's final order?**

A16. Yes, WSCK recognizes that it is imperative to validate the reasonableness of salary expense before the Commission, so it performed a comparative salary analysis on two fronts. First, the Company engaged ScottMadden to prepare a Salary Survey that analyzed the current and projected salary levels for WSCK's employees. Please see the testimony of Witness Watkins for details of the analysis, and testimony of Witness Whitney for a general overview of the basis for the salary adjustments proposed in this filing. Second, the Company further demonstrated the reasonableness of its salary expense by providing a comparison of WSCK's salary levels to market cost of services available by outside service providers. That analysis is included in Witness Baryenbruch's direct testimony and exhibits.

**Q17. Please explain the calculations of Base Period and Forecast Period Operating Expenses Charged to Plant ("Captime").**

A17. The Company's Base Period Captime amount reflects an average of 2021 and 2021 levels. The Forecast Period reflects the same baseline captime as the Base Period, and includes estimated captime for both the Clinton Water Main project and the AMI meter project. Please see Exhibit No. 29.4 for the resulting amounts.

**Q18. Please explain the calculations of Base Period and Forecast Period Purchased Power Expense.**

A18. The Company's Base Period reflects the last twelve months of actual expense activity ending March 31, 2022. The Forecast Period reflects Purchased Power Expense as equal to the Base Period. Please see Exhibit No. 29.5 for the resulting amounts.

**Q19. Please explain the calculations of Base Period and Forecast Period Purchased Water Expense.**

A19. The Company maintains an interconnection with Fern Lake Company, and as such has a minimum monthly fee of $10,267 to account for a volume allowance per the provider's tariff. The Company annualized the minimum fee for both the Base and Forecast Periods. Please see Exhibit No. 29.6 for the resulting amounts.

**Q20. Please explain the calculations of Base Period and Forecast Period Maintenance and Repair Expense.**

A20. The Company used a variety of methods to forecast Maintenance and Repair Expenses, based on recent experience and expected future activity. Deferred Maintenance is projected for the Base and Forecast Periods using the existing deferred items as of the start of the Base Period and accounting for additions and terminations of amortizations through the end of the Forecast Period. The additions include four tank inspections occurring in 2022. Support for the Deferred Maintenance line is found in Exhibit 28 Schedule A and results are reflected in Exhibit No. 29.7.

Please see the below descriptions of forecast adjustments to determine the Base Period and Forecast Period expenses, as shown in Exhibit No. 29.7.

- Certain expense lines that had activity in the Base Period actuals but are not expected to recur have been removed from the Base Period estimates and Forecast Period. This method was used on Lines 15 and 29.
- Uniforms is forecasted for the Base Period and Forecast Period to equal the current annual uniform cost per employee times the number of employees.

- Excavation Restoration annualized the Base Period actuals as the result is most representative of going-forward expense levels.
- Certain expense lines utilize the 2021 actual amounts as they are most representative of going-forward expense levels. This method was used on Lines 1, 2, 18, and 21.
- Certain expense lines utilize an average of actual activity for 2020 and 2021 as they are most representative of going-forward expense levels. This method was used for Lines 3, 8, 14, 17, 22, and 40.

**Q21. Please explain the calculations of Base Period and Forecast Period Maintenance Testing.**

A21. The Company's Base Period reflects the last twelve months of actual expense activity ending March 31, 2022. The Forecast Period reflects Maintenance Testing Expense as equal to the Base Period. Please see Exhibit No. 29.8 for the resulting amounts.

**Q22. Please explain the calculations of Base Period and Forecast Period Chemicals Expense.**

A22. The Company's Base Period reflects the estimated volumes of monthly chemical usage multiplied by the current cost per unit per chemical type. The Forecast Period reflects the Base Period amounts, plus a 3% inflationary adjustment. Please see Exhibit No. 29.9 for the resulting amounts.

**Q23. Please explain the calculations of Base Period and Forecast Period Transportation Expense.**

A23. The Company's Base Period for Vehicle Fuel reflects actual activity through March 31, 2022 and a three-year average of 2019 to 2021 vehicle fuel volumes, times the Kentucky average fuel price as of May 5, 2022. The Forecast Period reflects the Base Period 6 month

estimated amount annualized. For Registration and Licensing Fees and Other Costs, 2021 actuals were used for the Base and Forecast Periods. For Vehicle Repairs and Maintenance, as these costs may vary from year to year, the Company used an average of 2020 and 2021 activity for the Bae and Forecast Periods. Please see Exhibit No. 29.10 for the resulting amounts.

**Q24. Please explain the calculations of Base Period and Forecast Period Outside Services Expense.**

A24. The Company's Base Period Legal Expense reflects actual expense activity through March 31, 2022 and an estimate for the remaining 6 months based on an average of 2021 and 2021 activity. The Forecast Period reflects the annualization of the 6 months estimated amount from the Base Period for Legal Expense, and for Other Outside Service Expense reflects the Base Period amount. The two-year average was used as these expense line items' activity can vary from year to year due to activity that may arise from time to time. Temporary Labor Expense is not expected to recur in the Forecast Period. Please see Exhibit No. 29.11 for the resulting amounts.

**Q25. Please explain the calculations of Base Period and Forecast Period Office Supplies and Other Office Expense.**

A25. The Company's Base and Forecast Periods reflect 2021 actuals for Customer Service Printing and Office Printing, and Internet Services reflects the Base Period actuals annualized. The remaining balances shown in Exhibit No. 29.12 reflect two-year averages of 2020 and 2021 activity to account for potential fluctuations on a year-to-year basis.

**Q26. Please explain the calculations of Base Period and Forecast Period Regulatory Commission Expense.**

A26. The Company, as part of the calculation of Deferred Charges discussed later in my testimony, identified the Regulatory Commission Expense deferrals on the books as of the start of the Base Period, which consisted solely of the Docket 2020-00160 rate case expense deferral and the Fusion Regulatory Asset, the latter also discussed later in my testimony. The Base Period Regulatory Commission Expense reflects 12 months of amortization of the 2020 rate case expense deferral. While the Forecast Period activity includes the remaining amortization of the 2020 rate case expense deferral, the Company's Forecast Period amount for recovery includes only 12 months of amortization for both the Fusion Regulatory Asset and the forecasted costs of the current proceeding. The costs associated with the current case, proposed to be recovered over 36 months, are summarized below. Please see Exhibits No. 28 Schedule A and 29.13 for resulting Base Period and Forecast Period amounts.

| Category | Cost |
|---|---|
| Legal | $ 358,875 |
| Consultants | 87,850 |
| Administation | 12,591 |
| Total | 459,316 |

**Q27. Please explain the calculations of Base Period and Forecast Period Rent Expense.**

A27. The Company's Base Period reflects the Middlesboro workshop and Railroad Easement fees currently experienced and per the easement's agreement. For the Forecast Period, the workshop fee was increased by a 3% inflation assumption and the easement fees was increased by a CPI inflator of 8.5% noted as of March 31, 2022, as the easement agreement allows for increases based on CPI that is above 3%. Please see Exhibit No. 29.15 for the results of these calculations.

**Q28. Please explain the calculations of Base Period and Forecast Period Insurance Expense.**

A28. The Base Period reflects the Company's actual and estimated premiums effective for the Period, and recent activity for uninsured losses. Estimated amounts are increased by premium driver rates after consultation with the Company's insurance broker. I would note that Insurance Expenses are directly allocated to each Corix Infrastructure, Inc. ("CII") affiliate depending on the 1) affiliates covered by the policy, and 2) allocation factor used for each policy. Allocation factors are determined based on the relevant insured item (e.g., Vehicle Insurance is allocated by vehicle counts), and the factor value is based on the values available at the time of the policy's renewal. If no relevant allocation factor is determined, revenues are used as the allocation factor for the policy.

**Q29. Please explain the calculations of Base Period and Forecast Period Office Utilities Expense.**

A29. The Company used a variety of methods to forecast Office Utilities Expenses, based on recent experience and expected future activity. Please see the below descriptions of forecast adjustments to determine the Base Period and Forecast Period expenses, as shown in Exhibit No. 29.17.

- Certain expense lines that had activity in the Base Period actuals but are not expected to recur have been removed from the Base Period estimates and Forecast Period. This method was used on Lines 4, 11, and 17.
- Cellular and Mobile Phones is forecasted for the Base Period and Forecast Period to equal the annualization of Base Period actual expenses, as recent expense levels are expected to represent future costs.

- Certain expense lines were removed as they have historically not been deemed recoverable costs. This method was used on Lines 13 and 14.
- Certain expense lines utilize the 2021 actual amounts as they are most representative of going-forward expense levels. This method was used on Lines 1 and 2.
- Certain expense lines utilize an average of actual activity for 2020 and 2021 as they are most representative of going-forward expense levels for activities that may fluctuate year to year. This method was used for Lines 3, 5, 6, 8, 10, and 18.

**Q30. Please explain the calculations of Base Period and Forecast Period Miscellaneous Expense.**

A30. The Company used a variety of methods to forecast Miscellaneous Expenses, based on recent experience and expected future activity. Please see the below descriptions of forecast adjustments to determine the Base Period and Forecast Period expenses, as shown in Exhibit No. 29.18.

- Certain expense lines that had activity in the Base Period actuals but are not expected to recur have been removed from the Base Period estimates and Forecast Period. This method was used on Lines 4, 11, and 17.
- Education and Training is forecasted for the Base Period and Forecast Period to equal the 2019 actual cost level, as recent expense levels are COVID-impacted and not expected to represent future costs.
- Certain expense lines were removed as they have historically not been deemed recoverable costs. This method was used on Lines 1, 21, 29, 31, 32, and 34.
- Certain expense lines annualize the Base Period actuals to reflect the most recent realized activity. This method was utilized for Lines 26, 28, and 30. Other

Miscellaneous Expense, Line 26, also includes annual training and subscription costs associated with the AMI project to support data management and effective use of the system by the Company's staff, which are also accounted for in Exhibit No. 41.

- License Fees utilize an average of actual activity for 2020 and 2021 as they are most representative of going-forward expense levels for activities that may fluctuate year to year.
- Memberships and Dues Base Period and Forecast Period amounts are summarized in Exhibit No. 31.

**Q31. Has the Company included cost allocations for corporate and support service functions in its proposed revenue requirement?**

A31. Yes. The Company has included expense allocations per its Cost Allocation Manual ("CAM") for the Base Period and Forecast Period, reflected in the Corporate Allocations and Regional Allocations line items in Exhibit No. 29.18 as detailed in Exhibit 29 Schedule C. In addition, the Company includes Utility Plant In-Service and related A/D allocations for Water Service Corporation ("WSC") assets in Exhibits No. 28, 28.1, 28.2, and 28 Schedule A. The costs are reflected per the Tier 1 and 2 allocation process as detailed in the CAM, and described in the testimony of Witness Elicegui.

**Q32. How do WSCK's corporate and shared service expense allocations for the Base and Forecast Periods compare to prior years?**

A32. Exhibit No. 26 summarizes the total costs allocated historically and as relevant for the Base and Forecast Periods in the current rate case. As shown in this Exhibit, the Company's corporate and shared services allocations have remained relatively flat from 2019 through the Forecast Period of 2023. I would note that the amounts shown are not adjusted for any

changes in Depreciation Rates, as described more fully later in my testimony, and include certain costs that are allocated to WSCK but are not requested for recovery in this filing.

**Q33. What factors were used to allocate corporate and shared service activity for the Base Period and Forecast Period?**

A33. As the CAM describes, the Tier 1 allocation is accomplished by allocating to CII's affiliates based on gross plant, headcount, and gross revenues, all with equal weighting. The Tier 2 allocations are accomplished for CRU based on ERCs. Both the Tier 1 and Tier 2 allocations used the entities' June 30, 2021 balances for the allocation factors, consistent with the method used for the 2022 budget of CAM allocations by CII. For example, WSCK's proportion of CRU's total ERCs as of June 30, 2021 is 2.30%, therefore the Tier 2 allocation for WSCK accounts for 2.3% of what is allocated to CRU in the Tier 1 stage.

**Q34. How has the Company determined the costs allocated per the CAM are reasonable?**

A34. WSCK has engaged Pat Baryenbruch to provide an expert analysis of the reasonableness of the services provided and resulting costs allocated through the CAM. Please see the testimony of Witness Baryenbruch for details of his analysis methodology and conclusion that the costs are indeed reasonable and the services are necessary. In addition, Witness Elicegui discusses in his testimony the nature of the corporate and support services provided and the reasonable nature of the allocation process.

**Q35. Please explain how the Base Period and Forecast Period Utility Commission Tax, Property Tax, and Federal and State Income Taxes were calculated.**

A35. WSCK's Utility Commission Tax assumption is calculated as percentage of annualized revenues at present rates then applied to proposed revenue, using the most current 0.2%

rate. The resulting factor is then incorporated into the Retention Factor which is applied to the proposed increase to arrive at the Company's revenue requirement.

To calculate Property (Real Estate) Tax is calculated for the Base Period, the Company first identified the most recent tax bill amounts, which were paid in 2021, and divided the total by the Net Plant balance as reported in WSCK's 2020 Annual Report. The resulting ratio was applied to the 2021 Annual Report's net plant to determine the Base Period Property Tax, and the Company's 2022 forecasted Net Plant was multiplied by the ratio to determine the Forecast Period Property Tax.

Base Period and Forecast Period Federal and State income taxes were both calculated on present rate taxable income at the current rates of 21% and 5% respectively, and on proposed rate taxable income for the Forecast Period. Please see Exhibit No. 29.24 for the details of the calculations.

**Q36. Please explain the calculation of Base Period and Forecast Period CIAC Amortization Expense and Purchase Acquisition Adjustment ("PAA") Amortization Expense.**

A36. CIAC and PAA amortization expenses were calculated based on the Base Period and ending Forecast Period balances of CIAC and PAA, respectively. Please see Exhibits No. 29.20 and 29.21 for the results of these calculations, as well as Exhibit 28 Schedule A for the components for the calculations. The amortization rates WSCK utilized for CIAC are the same as the equivalent depreciation rates for the respective assets, as discussed later in my testimony.

**Q37. Please explain the calculation of Base Period and Forecast Period Depreciation Expense.**

A37. Depreciation expense was calculated based on gross depreciable plant at the end of each of the Base Period and Forecast Period. Please see Exhibit No. 29.19 for the results of this calculation as well as Exhibit 28 Schedule A for the components for the calculation. The depreciation rates WSCK utilized are equal to those recommended in the Commission's Final Order on Reconsideration in Case No. 2018-00208. With regard to pro-forma depreciation expense on computer assets in this proceeding: Petitioner is seeking approval to reestablish computer asset net book values using the Commission's recommended depreciation rates for this class of asset.

**Q38. Please summarize the PSC's decision regarding WSCK's proposed depreciation rates in Case No. 2018-00208.**

A38. In its order issued February 11, 2019, the PSC did not approve WSCK's proposed depreciation study. The PSC ruled that in lieu of a traditional depreciation study that examines WSCK's actual property schedules of plant additions and retirements to calculate either an actuarial of simulated plant balance method for determining useful lives, it desired to maintain consistent application of depreciation practices where such traditional studies are not performed.

**Q39. In WSCK's view, are the depreciation rates that the Commission recommended reasonable given the nature of the assets on WSCK's books?**

A39. First, let me begin by emphasizing that it is not the Company's prerogative or intent to relitigate WSCK's depreciation rates in the current proceeding. The Company did not appeal the PSC's recommended rates; nevertheless, WSCK's perspective is that the rates the Commission deemed appropriate for short-lived computer assets are not reasonable and

it is impractical to rely on the NARUC Study dated August 15, 1979 to establish useful lives for an entire class of assets that did not exist when the study was produced.

**Q40. What is the impact of using the Commission's recommended rates to recover a return on and of WSCK's investment in certain technology infrastructure?**

A40. The recommended midpoint for WSCK's computer assets in the PSC's 2019 order stemming from the 40-year-old NARUC study is 22.5-years. The vast majority of the Company's investment in computer plant depreciates over 8 years on the Company's books, while most of the remainder depreciates over 3 years. If a ratemaking adjustment is not made to either reestablish computer net book values using the PSC's recommended depreciation rates or to compute the Company's depreciation expense included in its revenue requirement using more reasonable book lives, shareholders are not afforded the opportunity to earn a reasonable return on the applicable assets due to the mismatch in useful lives between Kentucky rate making and the Company's books. It is impossible for WSCK to change the book life of allocated computer assets because nearly all of the organization's investment in computer infrastructure is held at the WSC or CII entities and used by all of the affiliated operating companies to administer safe, reliable utility service. Furthermore, applying the mid-point useful life suggested by the 1979 NARUC study to present day computer assets and technology in practice is illogical. Any person familiar with the modern state of very rapid change in the technology sector would think it ridiculous to expect any existing level of technology to be used and useful in 22.5 years. Depreciation, although a non-cash item, represents a very real cost to WSCK's shareholder and no reasonable investor would continue to invest in technology assets if they were forced to recover those investments over 22.5 years. The Commission has recognized this

principle in several prior cases, in which service lives of computers and software were set at a level significantly less than 22.5 years.[2]

## V. RATE BASE

**Q41. Please explain the calculations supporting Base Period and Forecast Period Utility Plant In-Service ("UPIS") and Accumulated Depreciation ("A/D").**

A41. WSCK first identified the UPIS balances as of the start of the Base Period. Then, additions and retirements to the balances were compiled from actuals and forecasts through the Base Period. This process was continued on a monthly basis through the end of the Forecast Period, and the Forecast Period monthly balances were averaged to compute the 13-month average balances. WSCK then computed the monthly depreciation on UPIS balances based on the depreciation rates shown in Exhibit No. 24 to adjust A/D each month, starting with the first month of the Base Period through the end of the Forecast Period, which allowed the computation of a 13-month average balance for the Forecast Period for A/D. Retirements are estimated based on the actual activity for the six months ended March 31, 2022. Please see Exhibit No. 28 Schedule A and Exhibits No. 28.1 and 28.2 for the results of these calculations.

**Q42. Please explain the Cash Working Capital calculations for the Base Period and Forecast Period.**

A42. Cash Working Capital has been calculated based on O&M and Taxes Other than Income ("TOTI") expense levels for each Period. Cash Working Capital is calculated as $1/8^{th}$ of

[2] *See, e.g., E. Daviess Water Dist.,* Case No. 2013-00366; *Rattlesnake Ridge Water Dist.,* Case No. 2013-00338; *Lake Village Water Ass'n,* Case No. 2003-00401.

these expenses as presented on Exhibit No. 29, which is consistent with the method used in prior WSCK cases. Please see Exhibit No. 28.3 for the resulting calculation.

**Q43. Please explain the calculations for Base and Forecast Period balances of Contributions in Aid of Construction ("CIAC") and PAA, and their respective Accumulated Amortization accounts.**

A43. Similar to the process for UPIS and A/D, the Company started with the actual balances in CIAC and PAA at the start of the Base Period, accounted for any monthly additions through the Base Period and then continued through the end of the Forecast Period. The associated Accumulated Amortization Accounts for CIAC and PAA were adjusted monthly for additional amortization at the rates shown in Exhibit No. 29 Schedule A. This process allowed the computation of a 13-month average balance for the Forecast Period for each account. Please see Exhibits No. 28 Schedule A, 28.4 and 28.6 for the results of these calculations.

**Q44. Please explain the calculations for Base and Forecast Period balances of Accumulated Deferred Income Taxes ("ADIT").**

A44. The Company started with the book balance as of December 31, 2021, and adjusted the State and Federal ADIT balances based on the monthly book depreciation as described above compared to the tax depreciation on existing and added assets, multiplying the difference by the respective Federal and State income tax rates. This process was carried through the end of the Base Period to the end of the Forecast Period, which allowed the computation of a 13-month average balance for the Forecast Period for ADIT. Please see Exhibits No. 28 Schedule A and 28.5 for the results of these calculations.

**Q45. Please explain the calculations for Base and Forecast Period balances of Deferred Charges.**

A45. The Company started with the deferred debit items on its books as of the start of the Base Period, and carried the amortization of the existing items and any new items added during the Base Period and Forecast Period (including Rate Case Expenses for the current proceeding, as described above) through to the end of the Forecast Period. This process allowed the computation of a 13-month average balance for the Forecast Period for each balance. Items that were or became fully amortized were not removed from the starting book balance to maintain continuity with the books. Please see Exhibits No. 28 Schedule A and 28.8 for the results of these calculations.

**Q46. Is WSCK requesting additional regulatory treatment of the Fusion implementation project?**

A46. Yes. In addition to rate base treatment for the capitalized costs of Fusion, WSCK is requesting that certain implementation and support costs that have not been capitalized for the project be given regulatory asset treatment. FASB ASC 350-40 requires that certain preliminary and post-implementation costs be accounted for separately from the capitalized costs of the project. A regulated utility may seek regulatory asset treatment of these incremental, one-time expenses. WSCK seeks such regulatory asset treatment and has included an amount of $22,803 in the Deferred Charges Base Period balance, within ledger account 170009, and proposes a 3-year amortization of this balance beginning at the start of the Forecast Period. The amortization expense is reflected in the Regulatory Commission Expense Exhibit No. 29.13.

**Q47. Is there precedent the Company can cite as to similar recovery of such a Regulatory Asset?**

A47. Yes. The Company's sister entity, Carolina Water Service, Inc. of North Carolina, was approved for recovery of a Regulatory Asset for the same item requested in the current case, in Docket W-354 Sub 384, in an order dated April 8, 2022. Also, in Docket E-7 Sub 1146, Duke Energy Carolinas was authorized to establish a Regulatory Asset to defer and amortize expenses associated with Duke's Customer Connect project.

**Q48. Please explain the accounting treatment and proposed recovery of the Oracle Fusion Enterprise Resource Planning ("ERP") system.**

A48. In its direct testimony in its last rate case, WSCK noted for the PSC that it was in the process of implementing a new ERP system, a cloud-based system known as Oracle Fusion. This system is being used to maintain the Company's accounting, human resource management, accounts payables/receivables, and fixed asset ledgers, replacing the legacy JDE system and other applications previously used by CRU. WSCK is seeking to include its allocated share of the Fusion capitalized costs in rate base, as the project has been placed into service and is fully operational. The allocation of the Fusion capitalized costs is reflected in Exhibit 29 Schedule C, which shows the allocation following the same Tier 1 and Tier 2 process utilized for corporate and regional allocations of support services costs. The allocated unamortized Fusion capitalized costs are reflected as a Non-Current Asset, and included in rate base as shown in Exhibit No. 28.7.

## VI. CAPITAL STRUCTURE

**Q49. Please explain the basis for the capital structure that supports WSCK's operations.**

A49. WSCK does not maintain its own capital structure that supports its operations. The Company is funded by debt and equity from its parent, CRU, and therefore proposes to utilize the CRU capital structure in this proceeding. As demonstrated in Exhibit No. 35 Schedule A, the Company anticipates equity and debt ratios of 50.00% and 50.00%, respectively, as of the end of the Base Period, and equity and debt ratios of 49.71% and 50.29%, respectively, for the Forecast Period's 13-month average. These ratios are in-line with CRU's focus on maintaining an approximately 50/50 equity/debt ratio to support its affiliate's operations. The blended cost of debt is produced by a combination of long-term notes and a revolving credit line for CRU, resulting in forecasted cost of debt of 4.43% at the end of the Base Period and 4.71% for the Forecast Period's 13-month average. When combined with the proposed return on equity of 10.60% from Witness D'Ascendis's analysis, the resulting rate of return proposed is 7.64%.

## VII. CPCN – AMI PROJECT

**Q50. Has WSCK analyzed the cost implications of the proposed Certificate of Public Convenience and Necessity ("CPCN") project, AMI meter replacement?**

A50. Yes. As shown in Exhibit No. 41, the Company has reviewed the cost impacts estimated to be produced by the AMI project. In summary, the Company has calculated annualized revenue requirements of $68,199 for 2023, $66,199 for 2024, and $134,159 for 2025, $129,820 for 2026, and $196,985 for 2027, encompassing the planned three phases of the project's rollout.

The Company plans to finance the AMI project with funds provided by CRU's capital structure, as described above and consistent with how all capital investments are funded for WSCK.

## VIII. RATE DESIGN

**Q51. How does WSCK propose to apply the requested rate increase to its tariff rates?**

A51. WSCK has not performed a Class Cost of Service Study for the current proceeding. As such, the Company proposes to apply the overall revenue increase percentage consistently to all tariff service revenue rates for water and fire service. Please see Exhibit 29 Schedule A for the pro-forma proposed rates.

**Q52. Is WSCK proposing any other changes to its tariff besides the above noted rate increase?**

A52. No, the Company is not proposing any other tariff changes.

**Q53. Has the Petitioner caused notice to its customers regarding proposed rates and charges as included in the Application?**

A53. Yes, the Company has mailed notices to all customers detailing the proposed rate increase included in the Company's Application. A copy of the notice mailed to the Company's customers is included in Exhibit No. 7. An affidavit certifying the mailing will be provided to the PSC within 45 days of the Application filing date, as required.

**Q54. Does this conclude your prepared direct testimony?**

A54. Yes. I reserve the right to amend or supplement this testimony as needed during the pendency of this proceeding.

# AFFIDAVIT

The undersigned, JAMES KILBANE, being duly sworn, deposes and says that he is the Financial Planning & Analysis Manager for the Water Service Corporation of Kentucky, that he is authorized to submit this testimony on behalf of Water Service Corporation of Kentucky, and that the information contained in the testimony is true and accurate to the best of his knowledge, information and belief, after reasonable inquiry, and as to those matters that are based on information provided to him, he believes to be true and correct.

James Kilbane, Affiant

## NOTARY CERTIFICATE

STATE OF OHIO

COUNTY OF CUYAHOGA

Subscribed, acknowledged and sworn to before me by JAMES KILBANE on this 26 day of MAY, 2022.

My commission expires: 10-26-2022.

Janet E. Paciorek

NOTARY PUBLIC

NOTARIAL SEAL STATE OF OHIO

JANET E. PACIOREK
NOTARY PUBLIC
STATE OF OHIO
Comm. Expires
10-26-2022
Recorded in
Cuyahoga County

**COMMONWEALTH OF KENTUCKY**

**BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

In the Matter of:

| | | |
|---|---|---|
| Application of Water Service Corporation of Kentucky for a General Adjustment in Existing Rates and a Certificate Of Public Convenience and Necessity to Deploy Advanced Metering Infrastructure, and Approval Of Certain Regulatory Accounting Treatment | ) ) ) ) ) ) | Case No. 2022-00147 |

# PREPARED DIRECT TESTIMONY OF

# SHAWN M. ELICEGUI

# ON BEHALF OF WATER SERVICE CORPORATION OF KENTUCKY

May 31, 2022

**PREPARED DIRECT TESTIMONY OF**

**SHAWN M. ELICEGUI**

**ON BEHALF OF WATER SERVICE CORPORATION OF KENTUCKY**

## Section 1. Introduction

**Q.1 PLEASE STATE YOUR NAME, PRESENT POSITION AND BUSINESS ADDRESS AND IDENTIFY THE PARTY FOR WHOM YOU ARE PROVIDING TESTIMONY.**

A.1 My name is Shawn M. Elicegui. I am the Executive Vice President, Risk Management, Chief Legal Officer and Corporate Secretary for CORIX Infrastructure Inc. ("CORIX").[1] I also am the Corporate Secretary for Corix Regulated Utilities (US) Inc. (f/k/a Utilities, Inc.) ("CORIX Regulated Utilities Inc.").[2] I am based in Reno, Nevada, and my current business address is 7800 Rancharrah Parkway, Reno, Nevada 89511.

My testimony supports the Application of Water Service Corporation of Kentucky ("WSCK") for authority to consolidate and adjust its annual revenue requirement for water service (the "Application"). WSCK filed the Application with the Kentucky Public Service Commission (the "Commission") to change the rates that it charges to customers for the delivery of water service.

My testimony is organized in the following sections:

1. Introduction
2. Summary and Recommendations
3. CORIX's Reorganization and Realignment

[1] I am employed by Water Service Corporation ("WSC"). WSC is a subsidiary of CORIX Regulated Utilities Inc. It employs individuals who provide management, support service and operational functions to the affiliates and subsidiaries of CORIX Regulated Utilities Inc.

[2] Regarding entity names, the Baryenbruch Report uses "CRU US" to refer to CORIX Regulated Utilities Inc. and the terms "Corix" or "CII" to refer to CORIX.

A. The One CORIX Transformation

i. Decentralized Operations and Initial Integration

ii. One CORIX Phase 1: Establishing the Foundation

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4. Allocation of Corporate Support Services Costs

5. Necessity of Corporate Support Services

6. Reasonableness of Corporate Support Service Costs

**Q.2 WHAT ARE YOUR DUTIES IN YOUR CURRENT POSITION?**

A.2 I am responsible for developing, implementing, and reporting on CORIX-wide risk management strategy, actions, and results. I also provide executive oversight to several administrative and general corporate functions including health, safety and environmental, legal and internal audit. Finally, I provide testimony in regulatory proceedings as needed to support company objectives.

**Q.3 WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?**

A.3 I have a Bachelor of Arts degree in International Affairs and Political Science from the University of Nevada, Reno and a Juris Doctor degree from the University of California, Davis. I worked for a Nevada law firm for approximately twelve (12) years, representing businesses and individuals before state and federal agencies. In 2009, I joined the legal department of NV Energy, Inc., a utility providing electric and natural gas distribution services. I worked in the legal department for approximately five (5) years and then held several management positions involving regulation, strategic planning, resource planning, legislative relations, and customer operations. I joined CORIX in September 2019.

**Q.4 HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION (THE "COMMISSION")?**

A.4 Yes.

**Q.5 PLEASE DESCRIBE THE EXHIBITS TO YOUR PREPARED DIRECT TESTIMONY.**

A.5 The following table identifies the exhibits to my testimony and specifies which exhibits contain confidential information.

| ATTACHMENT | DESCRIPTION | CONFIDENTIAL |
|---|---|---|
| **SME-1** | Affiliate Interest Agreement | No |
| **SME-2** | Corporate Allocation Manual | No |

## Section 2. Summary and Recommendations

**Q.6 WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS DOCKET?**

A.6 My testimony explains:

1. How corporate administrative and general support services (the "Corporate Support Services") are provided to WSCK so that it can fulfill its statutory obligation to provide water service to its customers
2. How the costs associated with providing Corporate Support Services are allocated among CORIX's operating subsidiaries.
3. Why the Corporate Support Services costs meet the standard for inclusion in WSCK's revenue requirement.

**Q.7 PLEASE SUMMARIZE YOUR CONCLUSIONS AND RECOMMENDATIONS FOR THE COMMISSION.**

A.7 Between 2019 and 2021, CORIX completed a realignment and reorganization of its Corporate Support Services organization. When WSCK first requested a share of CORIX costs, CORIX costs were layered on top of WSCK's share of WSC costs. There were two

(2) support service organizations. One at CORIX providing services that "generally" were more "strategic" and supervisory in nature, and another at WSC involved in "execution" providing "day-to-day" services. Now, one organization provides the Corporate Support Services. Accordingly, CORIX and WSC costs are pooled, and allocated among all CORIX's subsidiaries.

Read together, my testimony and the testimony and report of Pat Baryenbruch demonstrate that the Corporate Support Services are necessary for the continued operation of WSCK and that WSCK needs the services to deliver water service to its customers. We also show that the charges for these services are reasonable. Our testimony and the Baryenbruch Report identify and quantify the benefits associated with the centralized delivery of support services to CORIX's geographically diverse operating subsidiaries. We also explain how Corporate Support Services charges meet the test established by the Commission for inclusion in WSCK's revenue requirement. Accordingly, my testimony recommends that the Commission include allocated Corporate Support Services charges in WSCK's revenue requirement.

**Q.8 HOW DOES WSCK FULFILL ITS OBLIGATION TO PROVIDE SAFE AND RELIABLE WATER SERVICE TO ITS CUSTOMERS?**

A.8 WSCK does not have any employees. WSCK depends on Water Service Corporation ("WSC") to provide the services that WSCK needs to serve its customers. The thirteen (13) employees dedicated exclusively to providing service to WSCK's customers are employed by WSC, as are the six (6) regional employees who support utility services provided to customers in Kentucky. The two (2) companies have a 2007 Affiliate Interest Agreement ("AIA") that obligates WSC to furnish all the services that WSCK needs to provide water service to WSCK's customers. *See* Exhibit SME-1.

**Q.9 WHAT SERVICES DOES THE AIA OBLIGATE WSC TO PROVIDE?**

A.9 The AIA, which notes that WSC "has or proposes to enter into agreements similar to this AIA with certain affiliated water and or sewer companies," obligates WSC to provide a complete suite of Corporate Support Services, including:

- Executive services to advise on financial, operating, engineering, organization, regulatory and other issues.
- Engineering services in all areas of design, construction, operation, and management.
- Operating services such as pumping, treatment, storage, and distribution in compliance with all regulatory requirements, as well as the operation and maintenance of equipment and facilities.
- Construction services required by the utility including customer connections, meter installations, main extensions, plant expansions, or capital additions of any nature as required by the utility.
- Accounting services including bookkeeping, payroll, tax determination, financial statement preparation, budgets, credit, annual reports for regulatory purposes, and other planning and efficiency analyses.
- Legal services necessary to facilitate the provision of Corporate Support Services and to support the operating utility where needed.
- Billing and customer relation services such as opening new accounts, managing deposits, fielding complaints and other inquiries, and handling collections and billing issues.

**Q.10 HOW DOES WSC FULFILL ITS OBLIGATIONS UNDER THE AIA?**

A.10 WSC fulfills its obligations under the AIA using a combination of its employees, employees of its ultimate parent corporation, CORIX, and, when appropriate, by hiring contractors.

**Q.11 IS WSC OBLIGATED TO FURNISH THE OPERATIONAL SERVICES THAT WSCK NEEDS TO PROVIDE WATER SERVICE TO CUSTOMERS?**

A.11 Yes, WSC employs all the operational personnel that WSCK needs to operate and maintain the water production, storage, and distribution systems it owns. The charges for these operational services are directly assigned to WSCK.

Similarly, WSC also employs regional managers and personnel, such as Company Witnesses Whitney and Kilbane. The costs associated with these employees are allocated consistent with the scope of their responsibilities. For instance, the cost associated with employing Witness Whitney is allocated between WSCK and Cleveland Thermal, LLC and its operating subsidiaries. The costs associated with the services provided by these employees are not included in the costs of Corporate Support Services.

**Q.12 IS WSC ALSO OBLIGATED PROVIDE TO WSCK THE TYPICAL BACK-OFFICE SERVICES THAT ALL BUSINESSES NEED TO OPERATE?**

A.12 Yes. The AIA obligates WSC to furnish the Corporate Support Services that WSCK needs to provide water service to WSCK's customers. These services are administrative and general in nature (*e.g.*, corporate finance, legal, accounting, billing, customer experience, health, safety and environment, internal audit). Today, WSC fulfills this obligation by providing Corporate Support Services through a centralized organization. The employees and systems of this centralized Corporate Support Service organization help the operations of CORIX's subsidiaries across Alaska, Canada, and the contiguous United States.[3] The costs associated with these employees and systems are pooled and allocated using a

[3] CORIX subsidiaries operate in three Canadian provinces (British Columbia, Alberta and Ontario) and 20 states. The subsidiaries provide a broad range of utility and related services to customers including water, sewer, district energy, electric distribution, propane, and natural gas distribution.

commonly accepted methodology – the Modified Massachusetts Formula – as described in the Corporate Allocation Manual. *See* Exhibit SME-2.

## Section 3. CORIX's Reorganization and Realignment

**Q.13 IS THIS THE FIRST PROCEEDING IN WHICH WSCK HAS ASKED THE COMMISSION TO INCLUDE ALLOCATED CORIX COSTS IN ITS REVENUE REQUIREMENT?**

A.13 No. In its 2020 rate case, WSCK asked that the Commission include allocated CORIX Corporate Support Services costs in WSCK's revenue requirement. At that time, an initiative was underway to reorganize and align the separate CORIX and WSC support service organizations. In 2018 and 2019 there were, for instance, two (2) separate human resources departments and two (2) separate infrastructure and technology departments.

**Q.14 HOW DID THE COMMISSION APPROACH WSCK'S REQUEST TO INCLUDE ALLOCATED CORIX COSTS IN ITS REVENUE REQUIREMENT IN THAT PRIOR PROCEEDING?**

A.14 Because there were two distinct layers of management, CORIX and WSC, the Commission concluded that WSCK had not met its burden of proof for full recovery of the allocated Corix Corporate Support Services costs in base rates.[4]

**Q.15 WHAT CHANGES HAVE OCCURRED SINCE WSCK'S LAST RATE CASE IN HOW WSCK RECEIVES CORPORATE SUPPORT SERVICES?**

A.15 Since the last rate case, CORIX completed the reorganization and alignment of its Corporate Support Services organization. Today, Corporate Support Services are provided by a single team with employees in Canada and the United States. This should alleviate the Commission's concerns about duplicative management layers and duplicative corporate

[4] *See* Order, Case No. 2020-00160 at 18, Public Service Comm'n of Kentucky (iss. Dec. 8, 2020).

services. In the following section, my testimony describes the realignment and reorganization – the One CORIX transformation – and strategy shift that occurred over the last decade.

## A. The One CORIX Transformation

**Q.16 PLEASE PROVIDE AN OVERVIEW OF THE "ONE CORIX" TRANSFORMATION THAT TOOK PLACE BETWEEN 2012 AND 2021.**

A.16 CORIX acquired indirect control of CORIX Regulated Utilities Inc. on December 18, 2012. In 2012, CORIX was engaged in four distinct lines of business – design and design-build services, products, services, and utility operations. It owned a diverse group of companies that offered design and design-build services (*e.g.*, design-build wastewater treatment facilities) to utility companies and municipalities, products (*e.g.*, pipes and valves) to utility companies and municipalities, services (*e.g.*, meter reading and installation) to utility companies and municipalities, and utility services – thermal energy from central plants (known as district energy systems), electric distribution, natural gas, propane, sewer and water services – directly to consumers.

Between 2012 and 2021, management narrowed the scope of CORIX's operations and aligned support service operations within one structure. Now, CORIX's subsidiaries are focused on providing utility services – district energy, natural gas, propane, water, and wastewater services – to customers. Corporate Support Services are provided by aligned teams operating within a single organizational structure, even though two different corporations – CORIX and WSC – employ the personnel who provide Corporate Support Services.

The transformation took place in three (3) phases. The first phase – decentralized operations and limited integration – began in 2012 and ended in 2017. The second phase –

the One CORIX foundation – began in 2018 and ended in 2020. The third and final phase – organizational integration – was completed in December 2020. I discuss each of these phases below.[5]

**i. Decentralized Operations and Initial Integration**

**Q.17 HOW DID CORIX REGULATED UTILITIES INC. OPERATE DURING THE DECENTRALIZED OPERATIONS AND INITIAL INTEGRATION PERIOD?**

A.17 After the acquisition by CORIX in 2012, CORIX Regulated Utilities Inc. operated with loose integration into the "CORIX Group of Companies." Initially, CORIX Regulated Utilities. Inc. operated with its own executive team, including its own CEO and its own CFO and its own finance organization. The first step towards integration began in 2014.

In 2014, the Chief Financial Officer of CORIX Regulated Utilities Inc. left the organization and was not replaced. CORIX's finance team began providing support services to CORIX Regulated Utilities Inc. These services included consolidation for financial reporting purposes to CORIX's shareholders and lenders and arranging for access to debt and equity capital. In October 2015, CORIX Regulated Utilities Inc. entered a five (5) year credit agreement with Toronto Dominion (Texas) LLC, as the administrative agent, and The Toronto-Dominion Bank, New York Branch, Bank of America, N.A., and MUFG Union Bank, as lenders. CORIX's finance team lead this initiative, negotiating the terms and conditions of the credit agreement and interfacing between CORIX Regulated Utilities Inc.'s president, now CORIX-CEO Lisa Sparrow, and the lenders.

[5] While I discuss the three periods separately, each one did not take place sequentially. The foundation and organizational alignment phases overlapped temporally. Organizational alignment began in July 2019 after Lisa Sparrow, formerly the President of CORIX Regulated Utilities Inc., became the President and CEO of CORIX. In due course, CORIX's separate human resources department (which previously provided services such as benefit plan design) was consolidated with WSC's human resources department, now known as the People & Culture team, which is part of the Chief Support Services Officer's organization.

In 2018 and 2020, CORIX Regulated Utilities Inc. amended its revolving credit facility and issued promissory notes through private placements. The Corporate Support Services team again led these initiatives.

**Q.18 HOW DID CORIX'S OTHER SUBSIDIARIES OPERATE DURING THE DECENTRALIZED OPERATIONS AND INITIAL INTEGRATION STAGE?**

A.18 During this phase, many of the subsidiaries of CORIX, including CORIX Regulated Utilities Inc., operated with limited integration with CORIX and one another. CORIX Regulated Utilities Inc. and its affiliates maintained separate enterprise resource planning ("ERP") systems, separate customer care systems, separate billing systems, separate support service organizations and separate policies, practices, and procedures. CORIX Regulated Utilities Inc., its subsidiaries, and its affiliates did not fully realize the benefits associated with being a member of a larger group of companies.

**ii. One CORIX Phase 1: Establishing the Foundation**

**Q.19 HOW DID CORIX ESTABLISH THE FOUNDATION FOR ORGANIZATIONAL INTEGRATION?**

A.19 Between 2017 and November 2020, the foundation for organizational consolidation was established. Non-core business operations were sold, the size of CORIX's Corporate Support Services organization was reduced, and common systems, policies and procedures were put in place.

On January 1, 2018, CORIX sold CORIX Water Products Inc. ("Water Products") to Deschênes Group Inc. Water Products sold products such as pipes and valves to utilities. At the same time, CORIX restructured the water services division. It established a separate governance and management structure for the utility services division, positioning that unit

for sale as well.[6] The utility services decision provided meter reading, project deployment (*e.g.*, AMI installation), project management and consulting services to utilities.

After CORIX sold Water Products and restructured the utility services division, CORIX reduced administrative and general expenses significantly. In 2018, the year-over-year reduction in administrative and general expense (or overhead) totaled approximately $6.6 million, or 26.4 percent. The year-over-year reduction in overhead in 2019 totaled approximately $2.8 million, or 15.4 percent. The primary reason for the reduction of expense in 2018 was the sale of the Water Products division and the separation of the utility services division management and overhead expense into a separate business unit. Continuous improvement initiatives primarily drove the reduction of overhead expense in 2019.

**Q.20 WHAT OTHER STEPS DID CORIX TAKE TO BUILD THE FOUNDATION FOR ORGANIZATIONAL ALIGNMENT?**

A.20 At the same time, CORIX separately worked to align systems, policies and procedures across its regulated and quasi-regulated businesses. CORIX launched the "Shared Services Transformation Initiative" or "SSTI." There were two (2) ultimate goals of the SSTI; namely, creating: (i) a single, common corporate culture focused on safety and business excellence shared by all the subsidiaries owned by CORIX and (ii) a single, scalable Corporate Support Services organization designed and dedicated to serving the regulated and quasi-regulated district energy, natural gas, sewer, and water utility systems owned by CORIX. To do so, the first step in the shared services transformation initiative was to replace duplicative and redundant systems, policies and procedures with a common systems, policies, and procedures.

[6] CORIX sold the water services division, then known as Tribus Services in June 2020.

**Q.21 WHAT DID SSTI ENTAIL?**

A.21 Many of CORIX's subsidiaries, including CORIX Regulated Utilities Inc. and its operating subsidiaries, maintained separate corporate networks. These separate systems inhibited the exchange of information between and among operating subsidiaries. SSTI also required the design and implementation of a single corporate performance management tool for the consolidation of actual financial results and the development of a consolidated budget.[7] SSTI also required the replacement of multiple aging ERP systems with a single, cloud-based system accessible to and usable by a geographically diverse and disparate group of operating companies spanning four time zones. SSTI also involved the development and implementation of a single network architecture and productivity tools (in this case, Office 365).

**Q.22 WHAT OTHER EFFORTS DID CORIX UNDERTAKE TO ACHIEVE ORGANIZATIONAL ALIGNMENT?**

A.22 In the foundation phase, CORIX also worked diligently to align policies and procedures to build a more uniform corporate culture and harmonize different practices and policies. CORIX deployed a single, enterprise-wide safety program drawing the best elements from separate and distinct programs maintained by CORIX's Canadian district energy utilities, CORIX'S Canadian water, sewer, electric distribution, natural gas and propane utilities, Cleveland Thermal's district energy utility, Alaska's sewer and water and CORIX Regulated Utilities Inc.'s natural gas, sewer and water utilities. CORIX developed common human resource policies and programs, including a uniform Code of Business Conduct and Whistleblower Policy and Respectful Workplace and Anti-harassment Policy.

[7] Adaptive Insights is a cloud-based comprehensive financial planning, reporting and analysis tool. CORIX utilizes the tool as the single source for monthly and quarterly financial reporting, rolling forecasts, and annual budget process.

Together, these initiatives established a common foundation for the final phase of the One CORIX project. Specifically, the foundational elements of common systems, policies and procedures positioned CORIX for organizational alignment and integration.

**iii. One CORIX Phase 2: Organizational Alignment and Integration**

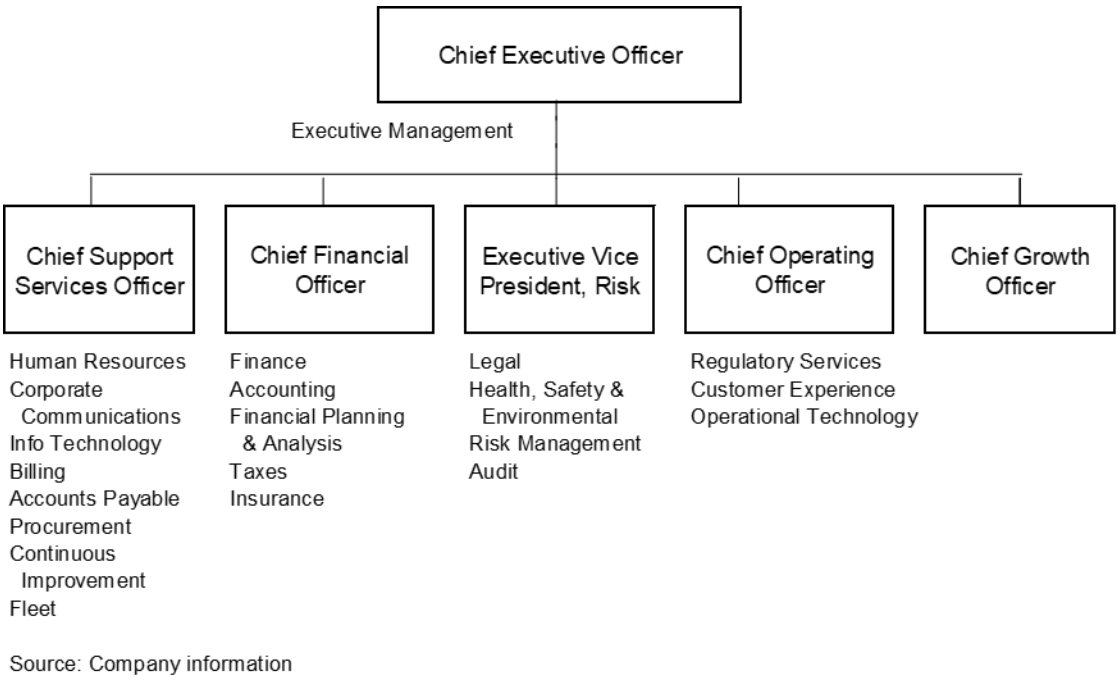
**Q.23 WHAT DID THIS ORGANIZATIONAL ALIGNMENT AND INTEGRATION PHASE ENTAIL?**

A.23 The organizational alignment and integration phase of the One CORIX project entailed breaking down back-office systems and organizational silos to build a single organization to provide all Corporate Support Services. This phase of the One CORIX project involved the alignment of Corporate Support Services functions into a single organization with a single manager (a member of the executive leadership team) overseeing those functions with a single point of accountability. The goal of this phase was to ensure the efficient delivery of corporate services.

**Q.24 PLEASE EXPLAIN HOW THE CORIX EXECUTIVE LEADERSHIP TEAM AND THE CORIX CORPORATE SUPPORT SERVICES ORGANIZATION ARE ORGANIZED.**

A.24 The Executive Leadership Team ("ELT") has six (6) members: Lisa Sparrow, the Chief Executive Officer ("CEO"), Mario Alonso, the Chief Financial Officer ("CFO") and Executive Vice President, Corporate Development, Jim Devine, the Chief Support Services Officer ("CSSO"), Catherine Heigel, the Chief Operating Officer ("COO"), Don Sudduth, the Chief Growth Officer ("CGO"),[8] and me. Each one of the above-mentioned members is responsible and accountable for delivering specific functions and services.

[8] As discussed in Q&A 34 below, WSCK is not seeking recovery of the business development and growth-related costs allocated to the business unit.




Source: Company information

Ms. Sparrow, as the CEO, ultimately is responsible for ensuring that each operating subsidiary delivers utility services to customers, including water and sewer service, efficiently and safely. Each member of the ELT reports directly to Ms. Sparrow. Mr. Alonso, as the CFO, is responsible for the following functions: accounting, finance, financial planning and analysis, insurance, tax, and treasury. The CSSO, Mr. Devine, is responsible for billing, continuous improvement, corporate communications, fleet, human resources, and information technology. In addition to operations, Ms. Heigel, the COO, is responsible for the following Corporate Support Services: customer experience, operational technology, and regulatory services. The CGO, Mr. Sudduth is responsible for growing our business. I am responsible for CORIX'S risk management, health, safety and environment, internal audit, and legal functions.

Together, the members of the ELT ensure that Corporate Support Services are available to support WSCK in its mission to deliver essential services to customers. Individually, each member of the ELT is responsible for ensuring that the member's organization operates efficiently. In summary, accountability, and responsibility for efficiently delivering discrete aspects of the Corporate Support Services falls under individual members of the

ELT. There is a single organization, aligned around six individuals who are responsible (and accountable) for both planning, execution, and delivery of their respective areas of Corporate Support Services.

**Q.25 DID THE ORGANIZATIONAL ALIGNMENT PHASE OF THE ONE CORIX PROJECT YIELD TANGIBLE, QUANTIFIABLE BENEFITS FOR CUSTOMERS?**

A.25 Yes. The following anecdotal examples identify the types of benefits provided by organizational integration, which eliminated separate, but related Corporate Support Services organizations providing complementary functions.

- ***Informational Technology and CSSO Organization***

  During the foundational phase, several common systems were deployed, replacing disparate and duplicate systems maintained by CORIX's subsidiaries. A common enterprise resource planning and financial system – FUSION – was developed, replacing six (6) separate systems. A single operations management system was deployed, allowing integration with the single customer care and billing system. The entire CORIX organization now operates on a single tenant of Office 365, enabling better communication, virtual capabilities, and collaboration. This system enabled a flexible response to COVID-19, helping WSCK ensure business continuity.

  The Corporate Support Services organization provides cybersecurity, application management and a common infrastructure to all CORIX subsidiaries. A common set of cybersecurity protocols and training enhances security measures, including better protection of business operations, data, and transactions. Application management allows for a single portfolio of business and enterprise applications supports more efficient operations by standardizing business processes across the enterprise. Due to

economies of scale, the centralized support service model allows for IT services at costs that very well could be too much for a smaller, stand-alone company the size of WSCK to self-furnish.

The SSTI resulted in a net reduction in eighteen (18) positions. Overall, the project resulted in a gross cost reduction of approximately $3.5 million.[9] More importantly, the deployment of a single ERP system and a single Office 365 suite and the alignment of separate IT organizations under a single structure improves enterprise-wide resilience.

- ***Human Resources (or, People & Culture) and ELT Reorganization***

  Before CORIX completed the organizational integration phase of the One CORIX project, two (2) human resource teams existed within the enterprise. One of these organizations – the CORIX human resources group – provided "enterprise-wide direction" including the creation and updating of personnel policies, the design of compensation and benefit programs, the development of employee engagement and satisfaction plans and surveying, and executive recruiting services. The WSC human resources group, on the other hand, provided "'day-to-day' administration and execution" services such as background checks, employee onboarding, payroll administration, complaint investigation and benefit plan administration.

  During the organizational integration phase, these separate teams were consolidated into a single team. Now, Nate Meyers, a Vice President working in Chicago and who reports to the CSSO, is responsible for a single human resources team that supports the

[9] Internally, CORIX calculates $700k of net cost savings associated with the SSTI initiative. A substantial portion of the "new costs," however, relate to costs associated with the new, cloud-based Oracle ERP system. Because the several ERP systems would have been replaced, it is difficult to determine whether these "new costs" would have been occurred in any event – *i.e.*, would have been incurred simply due to the need to replace an aging ERP system.

entire organization. The consolidation of the separate human resources groups into a single team improved services and reduced costs. As an eventual result of the organizational consolidation, the membership of the ELT was reduced by two (2), resulting in considerable annual savings.

- ***Legal***

  In September 2019, I joined the team and became responsible for the company's risk management function, which included separate legal teams operating in Canada and the United States. At that time, the legal team consisted of five (5) attorneys, three (3) in Canada and two (2) in the United States (not including me). Before I joined CORIX, the Canadian General Counsel reported directly to CORIX's CEO, and the United States General Counsel reported to CORIX Regulated Utilities Inc.'s President. After I joined CORIX, the legal team had six (6) lawyers. In addition, until the first quarter of 2019, one of CORIX Regulated Utilities Inc.'s affiliates, Fairbanks Sewer & Water, had an in-house attorney. In October 2019, the Canadian General Counsel resigned. In February 2020, the United States Vice President and General Counsel also resigned. We backfilled with one Vice President and General Counsel and two "line-level" lawyers, creating a unified legal team ultimately reporting to me. We now have dedicated line-level lawyers supporting business units, such as WSCK. This approach allows us to mitigate risk by providing day-to-day legal services that business units need to serve customers.

**Q.26 WHAT DID THE ONE CORIX INITIATIVE ACHIEVE?**

A.26 The One CORIX Initiative eliminated multiple levels of management and consolidated separate CORIX and WSC support service organizations. Instead, there is a single executive leadership team and a single Corporate Support Services organization. The team has Canadian team members (employed by CORIX) and U.S. team members (employed

by WSC) without overlapping responsibility. Together, the team efficiently provides Corporate Support Services that are allocated to CORIX Regulated Utilities Inc. The One CORIX initiative achieved tangible benefits for WSCK's customers. Customers have more services commensurate with a larger, more sophisticated support services organization (*e.g.*, two-factor authentication). As Mr. Baryenbruch's testimony and report demonstrates, these services are provided efficiently, and the Corporate Service Costs are reasonable. The centralization of Corporate Support Services produces a more flexible organization that better meets the needs of the CORIX Regulated Utilities Inc., WSCK and, most importantly WSCK's customers.

**Q.27 DOES THIS CONSOLIDATED, CENTRALIZED ORGANIZATION PROVIDE NEW OR ADDITIONAL CORPORATE SUPPORT SERVICES BEYOND THOSE CONTEMPLATED IN THE 2007 AIA?**

A.27 No. Because WSCK itself does not have any employees, the services provided under the AIA are intended to encompass the full suite of operational and "back office" Corporate Support Services necessary to operate the utility. The consolidated organization provides these Corporate Support Services using both CORIX and WSC employees. The One CORIX transformation has not generated new or additional layers of services beyond those contemplated in the AIA, quite the opposite. As explained in my Q&As 13-26, since 2019, the One CORIX Initiative streamlined and consolidated the process through which Corporate Support Services are provided, including the elimination of positions and duplicative systems, which resulted in several million dollars of savings.

That said, since the AIA was executed in 2007, utility needs have evolved, and the Corporate Support Services required by those utilities have also had to advance to keep pace with those needs. Certainly, the use of a consolidated Corporate Support Services organization that incorporates and reflects best practices and economies of scale from

across all the CORIX enterprises allows the consolidated organization to provide more sophisticated services than would otherwise be economic for utilities (or even WSC) on a standalone basis. As discussed in my Q&A 25 above, one example of this increased sophistication is in IT and cyber security. The improvements to Corporate Support Services that have occurred during the 2012-2021 timeframe have been necessary to maintain the safe and reliable service for utility customers. That CORIX previously provided elements of the Corporate Support Services required under the AIA without allocating the associated costs to WSCK is not a basis for denying recovery of necessary and reasonable Corporate Support Service costs.

**Q.28 CAN WSC EMPLOYEES ALONE PROVIDE ALL THE CORPORATE SUPPORT SERVICES REQUIRED UNDER THE 2007 AIA?**

A.28 No. As a result of the One CORIX Initiative, the Corporate Support Services operations have been streamlined and consolidated into a single organization under the leadership of the ELT. Neither WSC nor CORIX employees alone can provide the complete suite of Corporate Support Services necessary to operate WSCK. WSC fulfills its obligations under the AIA through this consolidated Corporate Support Services organization, which includes Canadian team members employed by CORIX, and U.S. team members employed by WSC.

**Q.29 GIVEN THE REORGANIZATION ACHIEVED THROUGH THE ONE CORIX INITIATIVE, IS THE CONCERN ABOUT DUPLICATION AND REDUNDANCY STILL RELEVANT?**

A.29 No. As mentioned previously, in the last WSCK rate case, the Commission concluded that WSCK had not provided sufficient evidence that the two layers of shared services did not result in some duplication and redundancy.[10]

[10] *See* Order, Case No. 2020-00160 at 18, Public Service Comm'n of Kentucky (iss. Dec. 8, 2020).

The duplication and redundancy concerns have been eliminated by the reorganization and consolidation of the Corporate Support Services organization. There are not separate CORIX and WSC service organizations providing discrete or incremental layers of management. The consolidated organization provides the necessary Corporate Support Services required under AIA at a reasonable and efficient cost.

## Section 4. Allocation of Corporate Support Services Costs

**Q.30 HOW ARE CORPORATE SUPPORT SERVICES COSTS ALLOCATED TO THE COMPANIES IN THE CORIX PORTFOLIO?**

A.30 Exhibit SME-2 is a copy of the Corporate Allocation Manual, which provides a detailed explanation of the methodology used to allocate Corporate Support Services costs among CORIX's operating subsidiaries. Below, I provide a brief explanation of the Modified Massachusetts Formula used by CORIX.

Under the corporate allocation methodology, direct costs are identified up front and directly assigned to the business units receiving the exclusive benefit of the service. Costs for the services provided by the CORIX support services organization are then combined into one (1) common cost pool for allocation. This cost pool is allocated to the CORIX business units and subsidiaries using a composite factor that consists of three (3) components – gross revenue, headcount and gross property, plant, and equipment.[11] This allocation is based on commonly used, routinely accepted regulatory practices for shared cost allocation. The approach was developed to maintain allocation consistency across the companies within the CORIX portfolio and avoid subsidization of one group or unit by another.

[11] Before costs are allocated using the composite factor, costs associated with certain organizations that support investments (*i.e.*, business that are not wholly owned and operated by CORIX) are allocated to those non wholly owned businesses.

Corporate costs are subject to a Tier 1 allocation between the business units receiving services. The Tier 1 allocation for corporate costs is based on the composite allocator factoring thirty-three and a third percent (33.3%) for each of the factors of gross revenue, headcount, and gross property, plant, and equipment to best represent the size, scope, and complexity of operating business units. For the Tier 1 allocation, the gross revenue, headcount and gross property, plant, and equipment of all the CORIX Regulated Utilities Inc. operating subsidiaries are consolidated. The shared service costs attributable to the CORIX Regulated Utilities Inc. operating subsidiaries are then subject to a Tier 2 allocation. This Tier 2 allocation among the CORIX Regulated Utilities Inc. operating subsidiaries, including WSCK, is based on ERCs, or equivalent residential connections.

**Q.31 DID THE ONE CORIX TRANSFORMATION STREAMLINE THE CORPORATE SUPPORT SERVICES ORGANIZATION?**

A.31 Yes. Previously, CORIX support service costs were allocated via the Tier 1 process using the Modified Massachusetts Model to its operating subsidiaries, including WSC. And, almost one hundred percent (100%) of WSC's costs were allocated among the CORIX Regulated Utilities Inc. subsidiaries via the Tier 2 and with CORIX's costs as a separate allocation. Put simply, previously, WSCK received an allocation of WSC support service costs and an additional allocation of CORIX support service costs.

Today, consistent with the consolidation of Corporate Support Services into a unified organization, WSC costs and CORIX costs are pooled and allocated through the Tier 1 process, to all the subsidiaries owned by CORIX, including CORIX Regulated Utilities Inc. The costs associated with CORIX Regulated Utilities Inc.'s operating subsidiaries, including WSCK, are then allocated using the Tier 2 methodology (equivalent residential connections). This results in a significant portion of WSCK's overhead cost being allocated to other CORIX subsidiaries.

**Q.31 ARE THERE ANY ALLOCATED CORPORATE SUPPORT SERVICES COSTS FOR WHICH WSCK IS NOT SEEKING RECOVERY?**

A.31 Yes. Costs associated with the Chief Growth Officer are excluded from WSCK's revenue requirement, as are certain other costs consistent with Commission decisions. Thus, $14,187 of costs that are allocable to WSCK have been removed from WSCK's Forecast Period revenue requirement request.

## Section 5. Necessity of Corporate Support Services

**Q.32 ARE THE CORPORATE SUPPORT SERVICES NECESSARY FOR THE SAFE AND EFFICIENT DELIVERY OF WATER SERVICE TO WSCK'S CUSTOMERS?**

A.32 Yes. Mr. Baryenbruch's testimony demonstrates that the Corporate Support Services delivered to WSCK are prevalent among utility support service companies. He also shows that the services would need to be provided if WSCK were a stand-alone entity.

**Q.33 IN YOUR EXPERIENCE, ARE THE CORPORATE SUPPORT SERVICES THE TYPE OF ADMINISTRATIVE AND GENERAL SERVICES THAT BUSINESSES NEED TO CONTINUE TO OPERATE AND SERVE THEIR CUSTOMERS?**

A.33 Yes. While I was in private practice, I worked for several large corporations across many different industries. I also worked for a vertically integrated utility for almost ten (10) years. There is nothing unusual about the services provided by the consolidated Corporate Support Services organization. Corporations need finance, accounting, billing, customer service, internal audit, health, safety and environment, legal, information technology, and similar services to operate, regardless of the industry. These administrative and general

services, put simply, are necessary to allow a business to produce products and deliver services.

## Section 6. Reasonableness of Corporate Support Services Costs

**Q.34 DO THE CORPORATE SUPPORT SERVICES COSTS INCLUDED IN THE COMPANY'S REVENUE REQUIREMENT HAVE ANY MARK-UP OR PROFIT OF ANY KIND?**

A.34 No. The Corporate Support Services charges reflect the costs of the services incurred by WSC and CORIX.[12]

**Q.35 ARE THERE APPROPRIATE POLICIES, PROCEDURES, AND CONTROLS IN PLACE TO ENSURE THAT SHARED SERVICE COSTS ARE REASONABLE?**

A.35 Yes. Budgets are reviewed with the expectation that all costs incurred must be necessary, prudent, and reasonable which leads to benefits to the customer. Members of the ELT are accountable for expenses incurred within their budget and a portion of employee compensation is linked to responsible cost management. Headcount mapping is conducted in the annual budgeting process; headcount addition must be supported with a demonstration of need. The process takes several months with budgets undergoing rigorous analysis by the budget owners with multiple levels of review at the business unit level and the corporate level. Budgets are presented and subject to questions and answer sessions to test proposed costs including headcount addition requests. Following thorough review by the business units and corporate teams, the budgets are then carefully reviewed by the CFO, the ELT, the CEO, the CORIX Business Planning and Growth Committee and, ultimately, the CORIX Board of Directors. At each level, costs are heavily scrutinized to evaluate efficiency of operations at all levels.

[12] Capital expenditures made to support WSCK operations are included in the WSCK's rate base.

**Q.36 DOES MR. BARYENBRUCH COMPARE THE COST OF THE CORPORATE SUPPORT SERVICES CHARGED TO WSCK TO RELEVANT BENCHMARKS?**

A.36 Yes. Mr. Baryenbruch compares the cost of the Corporate Support Services charged to WSCK to several relevant benchmarks: to utility support service companies, to water companies operating in Kentucky, and to the costs that would be incurred if the Corporate Support Services were delivered by outside service providers. All these comparisons demonstrate that the charges allocated to WSCK for the Corporate Support Services are reasonable.

**Q.37 PLEASE SUMMARIZE YOUR TESTIMONY.**

A.37 Unlike in WSCK's last rate case, there are not two (2) separate and distinct support service organizations provided services. Unlike the last rate case, there are not multiple layers of management. Instead, the Corporate Support Services provided to WSCK are provided by a single organization. WSCK needs the Corporate Support Services to provide water service. The costs associated with the services are reasonable. The services are efficiently delivered and provide benefits to customers.

In Case No. 2020-00160, the Commission determined it "is unreasonable" to provide "recovery of" cost "allocations absent evidence to show a need of the services provided, a benefit to customers of Water Service Kentucky, or a reasonable basis for cost allocations."[13] Mr. Baryenbruch's testimony and report demonstrate that WSCK needs Corporate Support Services to fulfill its obligation to provide water service to its customers.[14] My testimony corroborates this conclusion. Mr. Baryenbruch's testimony and report also demonstrates that the Corporate Support Services provide qualitative and quantitative benefits to customers – *i.e.*, quality support services, such as cyber security

[13] *See* Order, Case No. 2020-00160 at 18, Public Service Comm'n of Kentucky (iss. Dec. 8, 2020).
[14] *See* Direct Testimony of Patrick L. Baryenbruch at 7-8.

protection, at costs lower than such costs could be provided by third parties.[15] My testimony corroborates this conclusion. Finally, my testimony demonstrates that the methodology used to allocate costs – the Modified Massachusetts Formula – provides a sound and reasonable basis for allocating the cost of Corporate Support Services among WSCK and its affiliates. Accordingly, the Commission should include the allocated costs of Corporate Support Services in WSCK's revenue requirement.

**Q.38 DOES THIS CONCLUDE YOUR PREPARED DIRECT TESTIMONY?**

A.38 Yes, it does, however I reserve the right to supplement or make corrections to this testimony. Thank you.

[15] *See* Direct Testimony of Patrick L. Baryenbruch, Section IV.

# AFFIDAVIT

The undersigned, SHAWN M. ELICEGUI, being duly sworn, deposes and says that he is the Executive Vice President, Risk Management, Chief Legal Officer and Corporate Secretary for CORIX Infrastructure Inc., and the Corporate Secretary for Corix Regulated Utilities (US) Inc. (f/k/a Utilities, Inc.) ("CORIX Regulated Utilities Inc."), that he is authorized to submit this testimony on behalf of Water Service Corporation of Kentucky, and that the information contained in the testimony is true and accurate to the best of his knowledge, information and belief, after reasonable inquiry, and as to those matters that are based on information provided to him, he believes to be true and correct.

Shawn M. Elicegui, Affiant

## NOTARY CERTIFICATE

**STATE OF** Nevada

**COUNTY OF** Washoe

Subscribed, acknowledged and sworn to before me by Shawn M. Elicegui on this 26th day of May, 2022.

My commission expires: May 7, 2025.

Diana L. Wheelen
NOTARY PUBLIC

DIANA L. WHEELEN
Notary Public - State of Nevada
Appointment Recorded in Washoe County
No: 09-10074-2 - Expires May 7, 2025

# AGREEMENT

Agreement dated December 19, 2007 between Water Service Corp., a Delaware corporation (hereinafter called the **"Service Company"**) and Water Service Corporation of Kentucky (hereinafter called the **"Operating Company"**):

WHEREAS, both the Service Company and the Operating Company are subsidiaries of or affiliated with Utilities, Inc., an Illinois corporation (hereinafter called the **"Parent"**); and

WHEREAS, the Service Company maintains an organization which includes among its officers and employees, persons who are familiar with the development, business and property of the Operating Company and are experienced in the conduct, management, financing, construction, accounting and operation of water and sewer properties and are qualified to be of great aid and assistance to the Operating Company through the services to be performed under this Agreement; and

WHEREAS, the Service Company has or proposes to enter into agreements similar to this Agreement with certain affiliated water and/or sewer companies (hereinafter referred to collectively as the **"Operating Companies"**); and

WHEREAS, the services to be rendered under this Agreement are to be rendered at cost and without profit to the Service Company;

NOW, THEREFORE, in consideration of the premises and the mutual agreements herein contained, the parties hereto agree as follows:

The Service Company will furnish to the Operating Company, upon the terms and conditions hereinafter set forth, the following services:

A. EXECUTIVE: The principal executive officers of the Service Company, such as the Chairman of the Board, President and Vice Presidents, and Treasurer will assist and advise the Operating Company in respect to corporate, financial, operating, engineering, organization, regulatory, and other

problems. They will keep themselves informed in regard to the operation, maintenance and financial condition of, and other matters relating to, the Operating Company through contacts with the officers, directors and other representatives of the Operating Company. Such officers of the Service Company will visit the property of the Operating Company when necessary to the proper furnishing of the services provided for in this Agreement. They will also supervise the personnel of the Service Company to the end that services under this Agreement shall be performed efficiently, economically and satisfactorily to the Operating Company.

B. ENGINEERING: The Service Company will supply engineering services as required in all areas of design, construction, operation and management of the Operating Company.

C. OPERATING: The Service Company will furnish competent personnel to perform and/or control all normal operating functions, including pumping, treatment, and distribution as well as maintenance of all equipment and facilities. These responsibilities will include testing and record keeping to insure compliance with all state and local regulatory agency requirements.

D. ACCOUNTING: The Service Company will provide total accounting service, including bookkeeping, payroll, tax determination, financial statement preparation, budgets, credit, P.S.C. annual reports, etc. Periodic analyses will be made for purposes of planning and measurement of efficiency.

E. LEGAL: The Service Company will employ general counsel as necessary to advise and assist it in the performance of the services herein provided for and to aid the operating company in all matters where such assistance may be desired.

F. BILLING AND CUSTOMER RELATIONS: The Service Company will handle all billing and collections. It will serve as the link between the customer and

the Operating Company in all areas such as new accounts, deposits, meter reading, inquiries, and complaints.

G. CONSTRUCTION: The Service Company will perform directly or supervise all construction, including customer connections, meter installations, main extensions, plant expansions, or capital additions of any nature as required by the Operating Company.

H. ALL OTHER SERVICES AS PROVIDED FOR IN APPENDIX A: In addition to items (A) through (G), the Service Company will employ or provide personnel to perform the attached services, or in the instance of assets. Liabilities, and associated non-cash items, has incurred costs associated with providing service to the corporate headquarters, regional areas, or to all operating companies as a whole. The allocated costs from these services will be for costs attributable to all operating companies, costs attributable to the Service Company, or for costs that cannot, without excessive effort and expense, be directly identified and related to services rendered to a particular operating company.

In consideration for the services to be rendered by the Service Company as hereinabove provided, the Operating Company agrees to pay to the Service Company the cost of said services. Said cost shall not include a markup for profit. In addition, the Operating Company agrees to pay to the Service Company its share of the cost of the investment in the Service Company rate base, including depreciation, amortization, interest on debt and a return on the equity invested.

All costs of the Service Company, including salaries and other expenses, incurred in connection with services rendered by the Service Company for the Operating Companies which can, without excessive effort or expense, be identified and related to services rendered to a particular Operating Company, shall be charged directly to such company. Examples of such costs to be directly allocated include salary and other expenses incurred for specific projects such as rate cases, construction projects, legal proceedings, etc. Similarly, all such costs which may be identified and related to

services rendered to a particular group of the Operating Companies shall be charged directly to such group of the Operating Companies.

All such costs which, because of their nature, cannot, without excessive effort or expense, be identified and related to services rendered to a particular Operating Company, shall be allocated among all the Operating Companies, in the manner hereinafter set forth.

First, the allocable costs shall be distributed on a monthly basis, unless the Parent should elect to make a supplementary analysis for a special purpose.

Secondly, these costs will be prorated on the basis of the proportion of active Equivalent Residential Customers ("ERCs") served by the Operating Company to the total number of active ERCs served by the Parent and its affiliates (including, without limitation, the Operating Company), determined as of the end of each month. For purposes of this Agreement, the number of ERCs attributable to each water and sewer connection maintained by the Parent and its affiliates (including, without limitation, the Operating Company) will be determined by applying the formulae set forth in Appendix B.

The Service Company will also at any time, upon request of the Operating Company, furnish to it any and all information required by the Operating Company or by any governmental authorities having jurisdiction over the Operating Company with respect to the services rendered by the Service Company hereunder, the cost thereof and the allocation of such cost among the Operating Companies. In the case of services in connection with construction, the Service Company will, to the extent practicable, furnish to the Operating Company such information as shall be necessary to permit the allocation of charges for such services to particular work orders.

This Agreement shall be in full force and effect from the date as hereinabove mentioned and shall continue in full force and effect until termination by either of the parties hereto upon ninety days notice in writing.

IN WITNESS WHEREOF, the Service Company and the Operating Company have caused these presence to be signed in their respective corporate names by their respective Presidents or Vice Presidents, and attest by their respective Secretaries or Assistant Secretaries, all as of the day and year first above written.

Water Service Corporation

BY _____
Steven Lubertozzi
Vice President and Chief Financial Officer

Attest

_____

Water Service Corporation of Kentucky

BY _____
Steven Lubertozzi
Vice President and Chief Financial Officer

Attest

_____

AFFILIATE AGREEMENT
APPENDIX A

The following list includes expense accounts at the Water Service Corporation level which have dollars booked to them and allocated to all Utilities, Inc operating companies at a business unit level.

| JDE Object Number | Account Description |
|---|---|
| 5505 | Agency Expense |
| 5525 | Bill Stock |
| 5530 | Billing Computer Supplies |
| 5535 | Billing Envelopes |
| 5540 | Billing Postage |
| 5545 | Customer Service Printing |
| 5625 | 401K/ESOP Contributions |
| 5630 | Dental Premiums |
| 5635 | Dental Ins Reimbursements |
| 5640 | Emp Pensions & Benefits |
| 5645 | Employee Ins Deductions |
| 5650 | Health Costs & Other |
| 5655 | Health Ins Reimbursements |
| 5660 | Other Emp Pensions/Benefits |
| 5665 | Pension Contributions |
| 5670 | Term Life Ins |
| 5675 | Term Life Ins - Opt |
| 5680 | Depend Life Ins - Opt |
| 5685 | Supplemental Life Ins |
| 5690 | Tuition |
| 5700 | Insurance - Vehicle |
| 5705 | Insurance - Gen Liab |
| 5710 | Insurance - Workers Comp |
| 5715 | Insurance - Other |
| 5735 | Computer Maintenance |
| 5740 | Computer Supplies |
| 5745 | Computer Amort & Prog Cost |
| 5750 | Internet Supplier |
| 5755 | Microfilming |
| 5760 | Website Development |
| 5785 | Advertising/Marketing |
| 5790 | Bank Service Charges |
| 5795 | Contributions |
| 5800 | Letter of Credit Fee |
| 5805 | License Fees |
| 5810 | Memberships |
| 5815 | Penalties/Fines |
| 5820 | Training Expense |
| 5825 | Other Misc Expense |
| 5855 | Answering Service |
| 5855 | Answering Service |
| 5860 | Cleaning Supplies |
| 5865 | Copy Machine |
| 5870 | Holiday Events/Picnics |
| 5875 | Kitchen Supplies |
| 5880 | Office Supply Stores |
| 5885 | Printing/Blueprints |
| 5890 | Publ Subscriptions/Tapes |
| 5895 | Shipping Charges |
| 5900 | Other Office Expenses |
| 5930 | Office Electric |
| 5935 | Office Gas |
| 5940 | Office Water |
| 5945 | Office Telecom |
| 5950 | Office Garbage Removal |
| 5955 | Office Landscape / Mow / Plow |
| 5960 | Office Alarm Sys Phone Exp |
| 5965 | Office Maintenance |
| 5970 | Office Cleaning Service |
| 5975 | Office Machine/Heat&Cool |
| 5980 | Other Office Utilities. |
| 5985 | Telemetering Phone Expense |
| 6005 | Accounting Studies |
| 6010 | Audit Fees |
| 6015 | Employ Finder Fees |
| 6020 | Engineering Fees |
| 6025 | Legal Fees |
| 6030 | Management Fees |
| 6035 | Payroll Services |
| 6040 | Tax Return Review |
| 6045 | Temp Employ - Cleri |
| 6050 | Other Outside Serv |
| 6075 | Water Resource Conserve Exp |
| 6090 | Rent |
| 6105 | Salaries - System Project |
| 6110 | Salaries - Acctg/Finance |
| 6115 | Salaries - Admin |
| 6120 | Salaries - Officers/Stkhldr |
| 6125 | Salaries - HR |
| 6130 | Salaries - MIS |

The following list includes asset and liability accounts at the Water Service Corporation level which have dollars booked to them and allocated to all Utilities, Inc operating companies

| JDE Object Number | Subsidiary Number | Account Description |
|---|---|---|
| 1030 | | Land & Land Rights Pump |
| 1035 | | Land & Land Rights Wtr Trt |
| 1040 | | Land & Land Rights Trans Dist |
| 1045 | | Land & Land Rights Gen Plt |
| 1175 | | Office Struct & Imprv |
| 1180 | | Office Furn & Eqpt |
| 1190 | | Tool Shop & Misc Eqpt |
| 1205 | | Communication Eqpt |
| 1260 | | Land & Land Rights Intang Plt |
| 1265 | | Land & Land Rights Coll Plt |
| 1270 | | Land & Land Rights Trtmnt Plt |
| 1275 | | Land & Land Rights Reclaim Wtp |
| 1280 | | Land & Land Rights Rcl Dst Plt |
| 1285 | | Land & Land Rights Gen Plt |
| 1455 | | Office Struct & Imprv |
| 1460 | | Office Furn & Eqpt |
| 1470 | | Tool Shop & Misc Eqpt |
| 1485 | | Communication Eqpt |
| 1575 | | Desktop Computer Wtr |
| 1580 | | Mainframe Computer Wtr |
| 1585 | | Mini Computers Wtr |
| 1590 | | Comp Sys Cost Wtr |
| 1595 | | Micro Sys Cost Wtr |
| 1605 | | Desktop Computer Swr |
| 1610 | | Mainframe Computer Swr |
| 1615 | | Mini Computers Swr |
| 1620 | | Comp Sys Cost Swr |
| 1625 | | Micro Sys Cost Swr |
| 1741 | | Other Plant In Process History |
| 1745 | 00301 | Wip-Cap Time Office Renovation |
| 1745 | 00302 | Wip-Cap Time Electrical |
| 1745 | 00303 | Wip-Cap Time Lab Expansion |
| 1745 | 00304 | Wip-Cap Time Computer Equipmnt |
| 1745 | 00305 | Wip-Cap Time Computer Software |
| 1745 | 00306 | Wip-Cap Time Radio Equipment |
| 1746 | 00301 | Wip - Interest During Constr |
| 1746 | 00302 | Wip - Interest During Constr |
| 1746 | 00303 | Wip - Interest During Constr |
| 1746 | 00304 | Wip - Interest During Constr |
| 1746 | 00305 | Wip - Interest During Constr |
| 1746 | 00306 | Wip - Interest During Constr |
| 1747 | 00303 | Wip - Labor/Installation |
| 1747 | 00304 | Wip - Labor/Installation |
| 1747 | 00305 | Wip - Labor/Installation |
| 1748 | 00302 | Wip - Equipment |
| 1748 | 00303 | Wip - Equipment |
| 1748 | 00304 | Wip - Equipment |
| 1748 | 00306 | Wip - Equipment |
| 1749 | 00301 | Wip - Material |
| 1749 | 00302 | Wip - Material |
| 1749 | 00303 | Wip - Material |
| 1749 | 00304 | Wip - Material |
| 1749 | 00305 | Wip - Material |
| 1749 | 00306 | Wip - Material |
| 1750 | 00301 | Wip - Electrical |
| 1751 | 00301 | Wip - Site Work |
| 1752 | 00301 | Wip - Contractor/Labor |
| 1752 | 00302 | Wip - Contractor/Labor |
| 1753 | 00301 | Wip - Architect/Designer |
| 1753 | 00302 | Wip - Architect/Designer |
| 1753 | 00303 | Wip - Architect/Designer |
| 1754 | 00303 | Wip - Building Addition |
| 1755 | 00301 | Wip - Furniture |
| 1755 | 00302 | Wip - Furniture |
| 1756 | 00301 | Wip - Heating/Air Condition |
| 1756 | 00302 | Wip - Heating/Air Condition |
| 1757 | 00301 | Wip - Interior Finish |
| 1757 | 00302 | Wip - Interior Finish |
| 1758 | 00305 | Wip - Modification/Convert |
| 1759 | 00304 | Wip - Remodeling |
| 1769 | 00301 | Wip - Transfer To Fixed Assets |
| 1769 | 00302 | Wip - Transfer To Fixed Assets |
| 1769 | 00303 | Wip - Transfer To Fixed Assets |
| 1769 | 00304 | Wip - Transfer To Fixed Assets |
| 1769 | 00305 | Wip - Transfer To Fixed Assets |
| 1769 | 00306 | Wip - Transfer To Fixed Assets |
| 1771 | | Deferred Plant In Process History |
| 1775 | 00401 | Wip-Cap Time Water Tower Paint |
| 1775 | 00402 | Wip-Cap Time W/S Plt Paint |
| 1775 | 00403 | Wip-Cap Time Water Tank Paint |
| 1775 | 00404 | Wip-Cap Time Clean Sewer Line |

AFFILIATE AGREEMENT
APPENDIX A

The following list includes expense accounts at the Water Service Corporation level which have dollars booked to them and allocated to all Utilities, Inc operating companies at a business unit level

| JDE Object Number | Account Description |
|---|---|
| 6135 | Salaries - Leadership Ops |
| 6140 | Salaries - Regulatory |
| 6145 | Salaries - Customer Service |
| 6185 | Travel Lodging |
| 6190 | Travel Airfare |
| 6195 | Travel Transportation |
| 6200 | Travel Meals |
| 6205 | Travel Entertainment |
| 6207 | Travel Other |
| 6355 | Deferred Maint Expense |
| 6360 | Communication Expense |
| 6365 | Equipment Rentals |
| 6385 | Uniforms |
| 6390 | Weather/Hurricane Costs |
| 6580 | Deprec-Office Structure |
| 6585 | Deprec-Office Furn/Eqpt |
| 6610 | Deprec-Communciation Eqpt |
| 6615 | Deprec-Misc Equipment |
| 6820 | Deprec-Office Structure |
| 6825 | Deprec-Office Furn/Eqpt |
| 6850 | Deprec-Communciation Eqpt |
| 6855 | Deprec-Misc Equipment |
| 6920 | Deprec-Computer |
| 7510 | FICA Expense |
| 7515 | Federal Unemployment Tax |
| 7520 | State Unemployment Tax |
| 7535 | Franchise Tax |
| 7540 | Gross Receipts Tax |
| 7545 | Personal Property/ICT Tax |
| 7550 | Property/Other General Tax |
| 7555 | Real Estate Tax |
| 7560 | Sales/Use Tax Expense |
| 7565 | Special Assessments |
| 7665 | Extraordinary Gain/Loss |
| 7670 | Extraordinary Deductions |
| 7680 | Rental Income |
| 7685 | Interest Income |
| 7690 | Sale of Equipment |

The following list includes asset and liability accounts at the Water Service Corporation level which have dollars booked to them and allocated to all Utilities, Inc operating companies

| JDE Object Number | Subsidiary Number | Account Description |
|---|---|---|
| 1030 | | Land & Land Rights Pump |
| 1775 | 00405 | Wip-Cap Time Chng Filter Media |
| 1775 | 00406 | Wip-Cap Time Tv Sewer Main |
| 1775 | 00407 | Wip-Cap Time Sludge & Hauling |
| 1775 | 00408 | Wip-Cap Time W/S Plt Landscape |
| 1776 | 00401 | Wip - Interest During Constr |
| 1776 | 00402 | Wip - Interest During Constr |
| 1776 | 00403 | Wip - Interest During Constr |
| 1776 | 00404 | Wip - Interest During Constr |
| 1776 | 00405 | Wip - Interest During Constr |
| 1776 | 00406 | Wip - Interest During Constr |
| 1776 | 00407 | Wip - Interest During Constr |
| 1776 | 00408 | Wip - Interest During Constr |
| 1777 | 00408 | Wip - Engineering |
| 1778 | 00401 | Wip - Labor/Installation |
| 1779 | 00401 | Wip - Equipment |
| 1779 | 00404 | Wip - Equipment |
| 1779 | 00406 | Wip - Equipment |
| 1780 | 00401 | Wip - Material |
| 1780 | 00402 | Wip - Material |
| 1780 | 00403 | Wip - Material |
| 1780 | 00404 | Wip - Material |
| 1780 | 00405 | Wip - Material |
| 1780 | 00406 | Wip - Material |
| 1780 | 00407 | Wip - Material |
| 1780 | 00408 | Wip - Material |
| 1781 | 00408 | Wip - Site Work |
| 1782 | 00401 | Wip - Contractor/Labor |
| 1782 | 00402 | Wip - Contractor/Labor |
| 1782 | 00403 | Wip - Contractor/Labor |
| 1782 | 00405 | Wip - Contractor/Labor |
| 1782 | 00406 | Wip - Contractor/Labor |
| 1783 | 00404 | Wip - Grouting/Sealing |
| 1784 | 00404 | Wip - Jet Cleaning |
| 1785 | 00407 | Wip - Pump & Haul Sludge |
| 1786 | 00404 | Wip - Rental/Machine |
| 1786 | 00405 | Wip - Rental/Machine |
| 1787 | 00402 | Wip - Repair |
| 1787 | 00403 | Wip - Repair |
| 1799 | 00401 | Wip - Transfer To Fixed Assets |
| 1799 | 00402 | Wip - Transfer To Fixed Assets |
| 1799 | 00403 | Wip - Transfer To Fixed Assets |
| 1799 | 00404 | Wip - Transfer To Fixed Assets |
| 1799 | 00405 | Wip - Transfer To Fixed Assets |
| 1799 | 00406 | Wip - Transfer To Fixed Assets |
| 1799 | 00407 | Wip - Transfer To Fixed Assets |
| 1799 | 00408 | Wip - Transfer To Fixed Assets |
| 1970 | | Acc Depr-Office Structure |
| 1975 | | Acc Depr-Office Furn/Eqpt |
| 1985 | | Acc Depr-Tool Shop & Misc Eqpt |
| 2000 | | Acc Depr-Communication Eqpt |
| 2215 | | Acc Depr-Office Structure |
| 2220 | | Acc Depr-Office Furn/Eqpt |
| 2230 | | Acc Depr-Tool Shop & Misc Eqpt |
| 2245 | | Acc Depr-Communication Eqpt |
| 2315 | | Acc Depr-Desktop Computer Wtr |
| 2320 | | Acc Depr-Mainframe Comp Wtr |
| 2325 | | Acc Depr-Mini Comp Wtr |
| 2330 | | Comp Sys Amortization Wtr |
| 2335 | | Micro Sys Amortization Wtr |
| 2345 | | Acc Depr-Desktop Computer Swr |
| 2350 | | Acc Depr-Mainframe Comp Swr |
| 2355 | | Acc Depr-Mini Comp Swr |
| 2360 | | Comp Sys Amortization Swr |
| 2365 | | Micro Sys Amortization Swr |
| 2950 | | Def Chgs-Landscaping |
| 2955 | | Def Chgs-Customer Complaints |
| 2960 | | Def Chgs-Tank Maint&Rep Wtr |
| 2965 | | Def Chgs-Relocation Expenses |
| 2970 | | Def Chgs-Attorney Fee |
| 2975 | | Def Chgs-Hurricane/Storms Cost |
| 2980 | | Def Chgs-Emp Fees |
| 2985 | | Def Chgs-Other |
| 3000 | | Def Chgs-Other Wtr & Swr |
| 3005 | | Def Chgs-Voc Testing |
| 3020 | | Def Chgs-Sludge Hauling |
| 3025 | | Def Chgs-Pr Wash/Jet Swr Mains |
| 3030 | | Def Chgs-Tv Sewer Mains |
| 3040 | | Def Chgs-Tank Maint&Rep Swr |
| 3080 | | Amort - Landscaping |
| 3090 | | Amort - Customer Complaints |

AFFILIATE AGREEMENT
APPENDIX A

The following list includes expense accounts at the Water Service Corporation level which have dollars booked to them and allocated to all Utilities, Inc. operating companies at a business unit level

| JDE Object Number | Account Description |
|---|---|

The following list includes asset and liability accounts at the Water Service Corporation level which have dollars booked to them and allocated to all Utilities, Inc operating companies

| JDE Object Number | Subsidiary Number | Account Description |
|---|---|---|
| 1030 | | Land & Land Rights Pump |
| 3110 | | Amort - Tank Maint&Rep Wtr |
| 3120 | | Amort - Relocation Exp |
| 3125 | | Amort - Attorney Fee |
| 3130 | | Amort - Hurricane/Storms |
| 3135 | | Amort - Employee Fees |
| 3140 | | Amort - Other |
| 3155 | | Amort - Other Wtr & Swr |
| 3160 | | Amort - Voc Testing |
| 3175 | | Amort - Sludge Hauling |
| 3180 | | Amort - Pr Wash/Jet Swr Mains |
| 3185 | | Amort - Tv Sewer Mains |
| 3195 | | Amort - Tank Maint&Rep Swr |
| 4367 | | Accum Def Income Tax-Fed |
| 4369 | | Def Fed Tax - Ciac Pre 1987 |
| 4371 | | Def Fed Tax - Tap Fee Post 2000 |
| 4373 | | Def Fed Tax - Idc |
| 4375 | | Def Fed Tax - Rate Case |
| 4377 | | Def Fed Tax - Def Maint |
| 4379 | | Def Fed Tax - Other Operation |
| 4381 | | Def Fed Tax - Sold Co |
| 4383 | | Def Fed Tax - Orgn Exp |
| 4385 | | Def Fed Tax - Bad Debt |
| 4387 | | Def Fed Tax - Depreciation |
| 4389 | | Def Fed Tax - Nol |
| 4391 | | Def Fed Tax - Cont Prop |
| 4393 | | Def Fed Tax - Amt |
| 4395 | | Def Fed Tax - Pre Acrs |
| 4397 | | Def Fed Tax - Res Cap Fee |
| 4417 | | Accum Def Income Tax - St |
| 4419 | | Def St Tax - Ciac Pre 1987 |
| 4421 | | Def St Tax - Tap Fee Post 2000 |
| 4423 | | Def St Tax - Idc |
| 4425 | | Def St Tax - Rate Case |
| 4427 | | Def St Tax - Def Maint |
| 4429 | | Def St Tax - Other Operation |
| 4431 | | Def St Tax - Sold Co |
| 4433 | | Def St Tax - Orgn Exp |
| 4435 | | Def St Tax - Bad Debt |
| 4437 | | Def St Tax - Depreciation |
| 4439 | | Def St Tax - Nol |
| 4441 | | Def St Tax - Cont Prop |
| 4443 | | Def St Tax - Amt |
| 4445 | | Def St Tax - Res Cap Fee |

**AFFILIATE AGREEMENT**
**APPENDIX B**

The formula used to calculate all allocations is as follows:

Expenses:

Active ERC count for business unit/Active ERC count for all UI operating business units

Assets/Liabilities:

Active ERC count for company/Active ERC count for all UI operating companies

Corix Group of Companies

# Cost Allocation Manual

For Fiscal Year: 2021

*Approved by:*
*Corix Executive Leadership Team*
*on June 9, 2021*

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## Introduction

Corix Infrastructure Inc. (CII) is a leader in the implementation of sustainable water, wastewater, and district energy utility infrastructure solutions for small to medium-sized communities across North America. CII is a privately held company wholly owned by affiliates of the British Columbia Investment Management Corporation. CII owns business that operate in Canada and the United States.

CII – through its Board of Directors and the Executive Leadership Team (ELT) – generally is responsible for providing strategic direction, business oversight, and corporate governance for the business activities of the operating subsidiaries directly and indirectly owned by CII.

The ELT consists of six positions: Chief Executive Officer (CEO), Chief Financial Officer (CFO), Chief Operating Officer (COO), Chief Growth Officer (CGO), Chief Support Services Officer (CSSO), and Chief Legal Officer (CLO). Each ELT member is accountable for an organization with employees in Canada and the United States who are aligned to deliver operational services and support necessary to provide water, sewer and district energy services to the communities served by CII's operating subsidiaries.

CII's Board of Directors has nine members, five of whom are independent directors. Three directors are employees of CII's owner, the British Columbia Investment Management Corporation. One director is the Company's CEO. The Board of Directors ultimately is responsible for governing the business and affairs of CII and its operating subsidiaries. The Board of Director's oversight responsibilities include:

- Reviewing and approving corporate strategy
- Measuring progress towards achieving corporate strategic goals
- Reviewing, approving, and monitoring all major capital projects
- Monitoring actual spending in comparison to budgeted expenditures
- Monitoring and ensuring that CII and its operating subsidiaries deliver high quality service in compliance with all applicable laws, rules, and regulations

Corporate support services are necessary for the operation of any business, including the safe and efficient operation of water, sewer, and district energy utilities. CII uses a centralized corporate support service organization to provide these services to operating units. Some corporate support services focus on corporate governance, legal mandates, regulatory compliance, and risk mitigation. Other corporate support services focus on management control, strategic planning, and execution. In addition, the services include legal, human resources, payroll, billing, accounts payable and other services that are necessary for the operation of any business.

This manual explains the corporate support services provided by CII's centralized corporate support service organization using employees of Water Service Corporation in the US and CII in Canada, and the methods used to allocate costs to the operating businesses. This Cost Allocation Manual (CAM) has been prepared consistent with the NARUC Guidelines for Cost Allocations and Affiliate Transactions (NARUC Guidelines). The manual is updated annually with any organizational changes and approved by the ELT.

Direct costs are identified up-front in the following ways and are discussed in this CAM as they are directly assigned to a business unit:[1]

- If an individual spends greater than 85% of their time on an activity/service for a business unit, that individual is directly assigned to that business unit receiving the activity/service.
- "Shared Operating Costs" are costs that are managed centrally for administrative efficiency, cost savings and have vendor management by dedicated resources. These costs are directly assigned to the business units before the cost allocation process. Some examples of the largest of these costs are employee benefits and business insurance.

After assignment of direct costs, the indirect costs are the subject of discussion of this CAM.[2]

## Definitions

- **Corix Infrastructure Inc. or CII** is the ultimate corporate parent and as a pure play utility business enjoys a wide spectrum of technical and industry expertise in all facets of sustainable water, wastewater, and energy systems, including innovative technologies, operating tools, and regulatory resources required to develop sustainable multi—utility services.

- **Corporate Support Services**[3] refer to the administrative and general support services and functions provided in Canada and the US to the whole organization. The corporate support services focus on corporate governance, legal mandates, regulatory compliance, and risk mitigation. Other corporate support services focus on management control, strategic planning, and execution. In addition, the services include legal, human resources, payroll, billing, accounts payable and other services that are necessary for the operation of any business.

- **Investments** refers to business in which CII has a non-controlling interest, which includes Doyon Utilities LLC, Oakridge Energy Limited Partnership and Entegrus Inc. Because CII does not control these businesses, the Investment business do not receive the complete suite of corporate support services. These businesses receive a notional allocation of costs based on the support service functions necessary to support their operation.

[1] Direct charges are costs incurred by one company for the exclusive benefit of, or specifically identified with, one or more companies, and which are directly charged to the company or companies that specifically benefited. Under the NARUC Guidelines, "Direct Costs" are defined as "costs which can be specifically identified with a specific service or product."

[2] Indirect charges (or allocated costs) are costs incurred by one company that are for the benefit of either (i) all of the Corix companies; or (ii) all of the regulated companies, and which are charged to the benefited companies using a methodology and allocation factors that link cost causation and cost recovery. Under the NARUC Guidelines, "Indirect Costs" are defined as "costs that cannot be identified with a particular service or product. This includes but is not limited to overhead costs, administrative, general, and taxes."

[3] Note that these corporate support services are allocated using the legal entity named Water Service Corporation in the Affiliate Interest Agreement (AIA).

- **Lower 48 Business Units** refers to the businesses that provide water and sewer services in the contiguous United States, all of which are direct or indirect operating subsidiaries of Corix Regulated Utilities (US) Inc. (formerly known as Utilities, Inc.). There are certain resources which are dedicated to the Lower 48 business units and described in the Appendix B titled "Cost Distribution at the Senior Vice-President, Regional, State and Operating Company Cost Centers".

- **Other Business Units** refers to the other Canadian and US utility operations and businesses within the Corix Group of Companies.

Costs for the services provided by the corporate support services organization are combined into one common cost pool for allocation. This cost pool is then allocated to the CII business units. Members of the ELT are accountable for expenses incurred within their budget. The importance is controlling is key, with the CFO setting targets for business units and a portion of employee compensation is linked to responsible cost management. Headcount planning is conducted in the annual budgeting process; any headcount addition must be supported with a demonstration of need. The process takes several months with budgets undergoing rigorous analysis by the budget owners and multiple levels of review. Budgets are presented and subject to questions and answer sessions to test proposed costs including headcount addition requests. After thorough review by the business units and corporate support service teams, the budgets are then carefully reviewed by the ELT, the CII Audit Committee and, ultimately, the CII Board of Directors. At each level, costs are heavily scrutinized to evaluate efficiency of operations, including, when appropriate, benchmarking exercises to compare costs, including labor costs, to members of relevant peer groups.

# Allocation of Costs

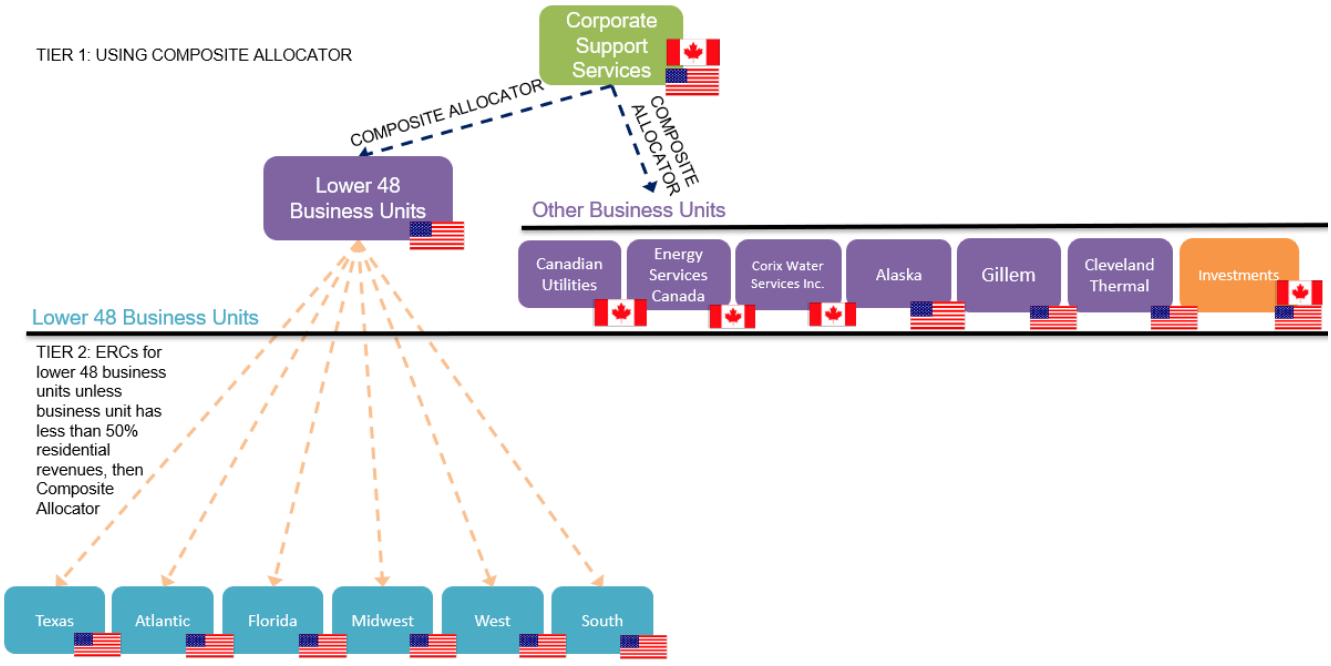
## Allocation of Costs from Corporate Support Services

Corporate support service costs are allocated business units using a two-tiered approach for the Lower 48 Business Units.

- First, the Tier 1 allocation distributes total support service costs among the Lower 48 Business Units and Other Business Units (after costs are allocated to Investments)
- Second, the Tier 2 allocation distributes the allocation of the Lower 48 Business Units' portion of corporate support service costs to individual operating companies

Figure 1 below outlines the cost flows from corporate support services to the various affiliate groups and entities. The narrative that follows Figure 1 explains the diagram of the various cost flows.

**Figure 1 – Corporate Support Services Cost Flows[4]**




The Tier 1 allocation for corporate support services costs is based on the composite allocator shown in Table 1 since it best represents the size, scope, and complexity of operating business units. The goal is to put businesses on a level standing for comparison purposes.

[4] This structure reflects the grouping of the affiliates for cost distribution and does not indicate the corporate structure. Corporate holding intermediaries have been removed. In addition, while Investments are included, corporate support services are not provided to non-controlled businesses which are managed as investments and therefore received a notional allocation of costs from corporate support services to represent the organizational complexity arising from asset management.

**Table 1 – Composite Allocator**

| Factor | Weight |
|---|---|
| Gross Revenue | 33.33% |
| Headcount | 33.33% |
| Gross Property, Plant & Equipment | 33.33% |
| **Total** | **100%** |

Corporate support service costs allocated to the Lower 48 Business Units are then allocated operating subsidiaries using the Tier 2 Equivalent Residential Connections (ERCs) allocator. This allocation factor is appropriate because these businesses largely service residential customers. The Tier 2 ERC allocation methodology conforms to existing affiliate interest agreements (AIAs) and is consistent with historical practices. The Tier 2 allocation among the Lower 48 Business Units operating subsidiaries is performed after the Tier 1 allocation and is performed separately from the Tier 1 allocation.

## Updating Allocation Inputs

CII uses a point-in-time approach to calculate the forecast allocation percentages for the following year. This provides stability for budgeting and actual allocations as well as a reference point for year-over-year comparisons. Tier 1 Allocation percentages are updated annually as outlined in Table 2 below.

**Table 2 – Tier 1 Allocation Time Periods**

| Inputs | Reference |
|---|---|
| Gross Revenue[5] | **Trailing Twelve Months as of June 30th of prior year**<br>(i.e., 2021 allocation is based on gross revenue from July 1, 2019 – June 30, 2020) |
| Headcount | **As of June 30th of prior year**<br>(i.e., 2021 allocation is based on June 30, 2020 value) |
| Gross Property, Plant & Equipment[6] | **As of June 30th of prior year**<br>(i.e., 2021 allocation is based on June 30, 2020 value) |

June 30th was chosen as the most appropriate point-in-time to allow for the allocation percentages to be determined, and the forecast corporate support service costs to be allocated to each operating utility/business prior to the completion of the annual budgets.

The Tier 2 allocation percentages are updated as per the current allocation methodology approved by the regulator and/or defined in the AIA.

[5] Gross Revenue is defined as recorded gross revenue.
[6] Gross Property, Plant & Equipment is defined as gross property, plant, and equipment independent of the way it has been financed.

## Scope of Corporate Support Services

CII, through its Board of Directors and the ELT generally is responsible for providing strategic direction, business oversight, and corporate governance for the business activities of the operating subsidiaries directly and indirectly owned by CII. Corporate support services maintain enterprise-wide standards and support for many functions such as IT, cybersecurity, safety, human resources, financial and strategic management, legal and regulatory compliance oversight, corporate governance, and administrative oversight, asset management and maintenance. These services are necessary for all the affiliates to have access to capital for projects and operations providing efficiencies and expertise across the business units. The use of shared expertise provides each of the affiliates with benefits it could not economically achieve on a stand-alone basis, including strategic management advice and access to capital at competitive rates.

The following are some of the benefits of consolidating executive, professional and operational support services into a centralized support service organization:

- Governance – centralized support service departments provide oversight and management control that improves operations and processes; for instance, monthly financial reporting and analysis comparing actual expenditures to budgeted expenditures ensures accountability and can improve operational efficiency

- Compliance – support services departments help improve compliance with regulatory, legal, financial, and other obligations of each individual operating company and holding companies

- Economies – one of the primary benefits of the centralized support service model is that it helps the customers of smaller companies realize the benefits of scale enjoyed by much larger companies; among other things, the centralized service model allows Corix to leverage the buying power of the combined group of companies and more efficiently utilize staff through workload balancing and specialization

- Continuity of service – centralized support organizations mitigate the risk of disruptions in service caused by absences and departures

- Standards – centralized support service models play an important role in improving the quality of service by ensuring that standard policies, procedures, and practices are established and followed; in addition, centralized support service models also facilitate the sharing and adoption of best practices

Table 3 below designates the benefits each corporate support service team provides, which demonstrates that the support services are necessary for the safe and efficient delivery of utility operations and businesses:

**Table 3 – Oversight Area by Executive Leadership Team Member**

| Executive Leadership Team (ELT) | | Governance | Compliance | Economies | Continuity of Service | Enterprise Standards |
|---|---|---|---|---|---|---|
| CEO | Executive Management | X | X | X | X | X |
| COO | Customer Experience | | | X | X | X |
| | Regulatory Services | X | X | X | | X |
| | Operational Technology | | X | X | X | |
| CFO | Finance | X | X | X | X | |
| | Accounting | X | X | X | | |
| | Financial Planning & Analysis | X | | X | | X |
| | Taxes | | X | X | | X |
| | Insurance | | | X | X | |
| CSSO | Human Resources | X | X | X | | X |
| | Corporate Communications | X | | X | | X |
| | Information Technology | X | X | X | X | X |
| | Billing | | | X | X | X |
| | Continuous Improvement | X | | X | | X |
| | Fleet | | | X | X | X |
| CLO/Risk | Health, Safety & Environment | X | X | X | X | X |
| | Legal | X | X | X | X | X |
| | Risk Management | X | X | X | X | X |
| | Internal Audit | X | X | X | X | X |

The following table shows the scope of corporate support services and the Tier 1 allocation method applied to each category of corporate support service costs. The services and categories are as of approval date and are subject to change based on potential changes in the needs of the operating businesses. Notwithstanding these allocation methodologies, if an expense is related solely to a specific business segment, those costs are directly charged to the business for which they are incurred. If organizational restructuring or realignments are implemented, any allocations would be completed based on the composite allocator identified in Table 1 until they are expressly incorporated in an update of the CAM.

**Table 4 – Summary of Corporate Support Services and Tier 1 Allocation Method[7]**

| ELT Member | Type of Cost | Functions | Tier 1 Allocation Methodology |
|---|---|---|---|
| CEO | Executive Management | Set overall direction and enterprise strategy; provide guidance to operational leadership; ensure the organization is acting with honesty, integrity, transparency, and accountability to customers. | Composite Allocator (See Table 1) |
| CFO | Finance<br>Accounting<br>Financial Planning & Analysis<br>Corporate Development<br>Tax | Ensure financial integrity and secure debt and equity financing; perform all accounting activities, prepare external and internal financial reports; oversee the preparation of the budget and analysis of plan/actual spending; perform tax accounting and compliance. | Composite Allocator (See Table 1) |
| COO | Regulatory Support<br>Customer Experience<br>Capital Project Review/Oversight<br>Operational Technology | Oversee state and provincial regulatory policies and compliance; manage all aspects of the customer care; capital project review, approval and implementation oversight. | Composite Allocator (See Table 1) |
| CSSO | Human Resources<br>Information Technology<br>Accounts Payable/Purchasing<br>Customer Billing<br>Fleet<br>Corporate Communication<br>Continuous Improvement<br>Support Services Management | Deliver human resources services including payroll, wage and salary administration, benefit plan administration and performance management; operate the enterprise business applications and IT network and computing infrastructure; manage payment of outside contractors and service providers; manage customer billing and collection; provide fleet management services; provide enterprise-wide internal and external communications; manage the enterprise-wide continuous improvement program to enhance service quality and realize cost efficiencies. | Composite Allocator (See Table 1) |
| CLO | Risk Management<br>Internal Audit<br>Legal<br>Health, Safety & Environment | Identify, report on and develop plans for managing/mitigating significant risks to the enterprise; conduct audits to identify compliance with corporate policies and procedures; provide legal advice and services to the enterprise; ensure compliance with HSE requirements. | Composite Allocator (See Table 1) |
| CGO | Business Development | Pursue opportunities to grow the enterprise through acquisitions and internal growth and safety programs; Third party services for safety assessments, surveys, training, and audits | Composite Allocator (See Table 1) |

[7] A more detailed description of the corporate support services is included in Appendix A.

# Appendices

# Appendix A – Description of Corporate Support Services

This Appendix A describes the corporate support services that provided by CII's centralized corporate support service team. This description examines each of the service areas, provides a narrative of the services provided and explains the nature of the associated costs.

## CEO Office

The CEO Office includes direct employee labor and non-labor costs for CEO, support staff, as well as Board of Directors fees and third-party services.

This area represents the CEO function. The CEO sets overall direction and corporate strategy, provides guidance to operational leadership to optimize CII's lines of business and identify complementary aspects of CII's businesses to achieve synergies where possible for the benefit of multiple stakeholders including the customers of the operating companies, interacts with shareholders to source capital, and at a high-level works with other members of the ELT and the debt holders to secure appropriate financing and rates. The CEO reviews CII's and its subsidiaries' activities to foster an enterprise-wide culture of honesty, integrity, transparency and accountability to customers, regulators, and CII's shareholder. The CEO is the main conduit to shareholders on all matters of governance and ensures an appropriate governance structure exists in each operating unit.

## COO Office

In addition to ultimately being responsible for day-to-day operations, the COO office is responsible for delivering corporate support services to each operating unit. These services include coordination of the overall operations of the utility businesses, including operational safety and efficiency, capital projects, operational technology, the customer experience, and regulatory support. In addition, the COO's organization is responsible for ensuring that each operating unit strives to engage with, satisfy, and build trust with customers through identification and execution on utility capital opportunities to drive safety and reliability for customers and other stakeholders. In furtherance of this objective, for instance, the COO's organization conducts customer feedback surveys that operating units use to assess and improve customer satisfaction.

Regulatory Support is responsible for supporting CII regulatory operations activities within its business units by providing leadership and oversight of the regulatory performance of the company by developing and implementing strategies, procedures and controls related to regulatory processes. The Regulatory Support staff is responsible for the Regulatory Review Committee, which provides guidance to business units on filings and policy matters, as well as coordinates a consolidated corporate strategy on key industry topics. Support may be provided by assisting in research, testimony, workpaper preparation, resource management, modeling, and other business unit assistance. Regulatory Support also leads and provides guidance on operational initiatives and process improvement strategies to enhance resource optimization and leverage best practices across the organization.

The Customer Experience team works to enhance relationships with internal and external customers while delivering on CII's overall strategy of increased customer Intimacy through ongoing and continuously improving customer care.[8] Customer Experience is also responsible for informal and formal issue resolution for customer inquiries to include research and creating work orders and activities for field operations. The team resolves customer inquiries through multiple contact channels (phone, email and web support):

- Phone Support: respond to 80% of customer calls within 60 seconds or less
- Email Response: respond to email/webmail notifications within 24 hours
- Proactive Collections: perform outbound calls to past due customers
- Workforce Management/Reporting: manage staff schedules, plan and forecast resource requirements, monitor service levels and Key Performance Indicators

In addition, The Customer Experience Operations Department is responsible for providing website and technical support for customers to include assistance with passwords, billing inquiries and general inquiries.

The Operational Technology Team works on a set of technologies to optimize the operation of assets safely, securely, and efficiently. Examples include SCADA (Secure Control and Data Acquisition), EAMS (Enterprise Asset Management Software) and AMI (Automated Meter Infrastructure) among others. Across the enterprise, the Operational Technology team supports front line operations and the business in the following areas:

- Provide governance and solution standards
- Drive consistency in technology selection and vendor management
- Designing fit-for-purpose and scalable OT solutions from the site to the enterprise level
- Deliver and operationalize best-practices
- Support business units and shared services capital deployments
- Support business development on acquisitions and divestments

Under the COO's supervision, the capital project review team provides a common framework for identifying and treating risk inherent in infrastructure construction projects.

Finally, the COO's organization is responsible for ensuring that each operating unit strives to engage with and satisfy customers. In furtherance of this objective, for instance, the COO's organization conducts customer feedback surveys that operating units use to assess and improve customer satisfaction.

[8] While the COO provides oversight for this team, its actual operational costs are not in scope of the CAM and distributed using regional allocations. This is due to the nature of the team providing services only for the benefit of the U.S. and not crossing borders.

**CFO Office**

The finance services provided by the CFO's organization include accounting, capital market engagement, financial planning and analysis, insurance, taxation, and treasury services. Specifically, these services include:

- Securing debt and equity financing for CII and all of its operating subsidiaries
- Management of capital structure
- Ensuring compliance with both affirmative, negative and financial covenants contained in short- and long-term debt securities issued by CII and its operating subsidiaries
- Managing liquidity
- Monitoring the financial markets that impact CII and its operating subsidiaries
- Supervising the preparation and consolidation of financial statements
- Supervising the preparation and consolidation of CII's annual business plan, which includes annual operation and maintenance and capital budgets for a three-year period
- Consolidating and reporting periodic financial statements, analyzing and reporting on actual to budget variances

CFO Office costs include direct employee labor and non-labor costs including third party services such as audit and tax along with computer licenses for the corporate performance management tool, among others.

The financial planning an analysis team provides oversight of the financial affairs of all CII subsidiaries including long-term strategic planning and financial analysis. This also includes full scope management reporting to the Board of Directors, CII's shareholder and lenders to CII and certain of its subsidiaries.[9]

Accounting support includes compliance with ASPE, US GAAP, reconciliations, ERP support and transactional support. Corporate consolidation and controllership provide review and preparation of reports to achieve the "full picture" lens required to access debt and equity financing. In addition, this group oversees all corporate holding companies, accounting for reorganizations and tax planning initiatives, and presents results and budgets to the Audit Committee and the Board of Directors. Financial reporting policy and technical research originates from this function.

The tax group coordinates the tax planning activities for all CII business units and either undertakes tax compliance activities, directs tax compliance activities taking place in business units or oversees outside tax professionals who may be providing services to individual business units. This group also works with external auditors for annual audit tax provision and audits of CII's consolidated financial statements and tax returns.

[9] Two of CII's subsidiaries – Corix Regulated Utilities (US) Inc. and Fairbanks Sewer & Water – maintain separate debt facilities. The corporate support services team provides the financial reporting required by the debt agreements between these entities and their respective lenders.

Treasury services include long- and short-term capital needs planning for both debt and equity. CII staff interact with the shareholder and the capital markets to arrange, extend, or change terms of financing. This group analyzes the use of private placement versus floating rate versus the use of swaps to find the appropriate stable financing for the entity given its capital and operating needs over the short and long-term. CII treasury services also often arranges financing at the local level but leverages its financing syndicate to optimize the financing rates for the CII operations. This gives CII more negotiation leverage to get optimal spreads from prime or LIBOR which are for the benefit of customers. The team also monitors the use of revolvers and monitors covenant coverage and help to ensure interest spreads relative to coverage ratios are optimized to minimize interest costs to the benefit of customers.

The corporate development team works on transformational growth opportunities for the company to scale its business and spread any support service costs over a larger asset base. This also includes oversight and costs for third-party services such as engineering, legal, and accounting to support the evaluation and execution of potential acquisitions.

In summary, the CFO's organization plays a key role in ensuring that CII's subsidiaries have access to debt and equity capital, meet financial obligations and operate efficiently for the benefit of our stakeholders.

**CLO Office**

The CLO Office costs include direct employee labor and non-labor costs for a comprehensive suite of risk management services, which includes enterprise risk management, health, safety and environment, internal audit, and legal services. Where specialized expertise is required, external third-party legal consulting services may also be commissioned to support internal staff.

More specifically, the office is responsible for consolidating risk reports and providing the CII Board of Directors, Audit Committee, and executive leadership team with a comprehensive view of inherent and residual risks faced by CII and its operating subsidiaries.

The health, safety and environment team is responsible for, among other things, cultivating an enterprise-wide culture that supports the safe delivery of essential services to the communities served by CII's operating subsidiaries. This includes the review for compliance with all national and federal government mandates, development and deployment of companywide HSE policies, procedures and training manuals, forms and tools for standardized programs to be used across the business units, compliance programs, assessment programs, industry research, and incident investigation and audits. This group is also involved in developing preventative programs across the group of companies owned by CII to provide an environment of safety, safe operation, and environmental stewardship. Also included are costs for the safety incentive program, software licenses costs for health and safety programs, and third-party services for safety assessments, surveys, training, reviews, and audits.

The legal team provides a variety of legal services and advice to CII and its operating subsidiaries. These matters span a broad spectrum of legal issues, including labor relations and employment matters, internal

investigations, litigation, administrative proceedings, and contract review. Where necessary, this may also include communicating with and managing outside legal counsel to ensure the effective and efficient management of these legal matters as well. The legal team also provides advice on corporate matters, including governance and compliance. In addition, the legal team supports the finance organization by providing legal and advice and counsel related to debt and equity financing.

Finally, the CLO Office provides internal audit services to CII and its operating subsidiaries. Internal audit evaluates a company's internal controls, including its governance and accounting processes to ensure compliance with laws and regulations, accurate and timely financial reporting, and data collection. This group provides internal audit services based on annual risk analysis of key areas and based on requests from business units who may require assessments of processes, fraud investigations or IT control assessments. Their assessment findings are generally available to all business units unless there is some issue of confidentiality or litigation.

**CSSO Office**

The support service organization provides a broad range of services necessary to support the delivery of water, sewer and district energy services, including accounts payable, billing, continuous improvement, corporate communication, fleet, human resources and information technology services. Some notable elements of these services are:

- Human resources
  - Payroll administration
  - Wage and salary design and administration
  - Benefit plan design and administration
  - Medical plan and 401k administrative services
  - Performance management
- Information technology
  - Common network and computing infrastructure
  - Standard applications
  - Uniform IT security platform, policies, procedures, testing and investigation
  - An enterprise-wide help center
- Corporate communication
  - A centralized corporate communication team that ensures that Corix speaks with a single voice internally
  - With respect to external communications, the centralized corporate communication team ensures the effective and efficient communication of the corporate perspective while meeting the unique needs of local stakeholders across the company's geographically diverse footprint
- Accounts Payable
  - Invoice data processing and matching to contracts and Purchase Orders
  - Customer Refund Processing

  - Supplier Account Reconciliations
  - Payment Processing
  - Employee Expense Report and Corporate Card Administration and Processing
- Procurement
  - Solicitations for companywide suppliers
  - Management of centralized contracts and supplier relationships
  - Subject matter expert to local buyers – offering support, training, knowledge sharing, backup
- Billing
  - Management of the Billing Systems used by local operating business units
  - Management of all rate schedules for various customer types and companies
  - Processing of all meter read data, bill generation, customer payment processing
  - Management of Customer Facing mobile apps and websites related to billing
- Fleet Administration
  - Administration of fleet maintenance tracking, approvals and spend costings
  - Administration of fuel cards
  - Administration of vehicle telematics program and safe driving monitoring
  - Central management of titles of ownership and divestment of vehicle assets

Recently, a main focus of the support services organization has been the development and deployment of crucial enterprise-wide systems, resulting in the consolidation and eliminate of disparate systems. These new, enterprise-wide systems include: (1) a single enterprise resource planning system that facilitates, among other things, common procurement, and accounting practices; and (2) a single human capital management system.

The costs in Human Resources group include direct employee labor and non-labor costs associated with the administration of the day-to-day human resource programs and services, recruitment expenses, payroll functions and third-party services such as compensation studies, etc. Human Resources is responsible for company-wide policies, programs and practices for all aspects of the HR function, the day-to-day human resource programs and services administration and general overall guidance and direction. HR sources company-wide vendors to get economies of scale for all aspects of the HR function such as Total Rewards, Talent Management/Succession Planning, Learning Management and HCM systems. The HR group also arranges benefit programs for employees across the entire CII organization which provides significant economies of scale and risk sharing benefits. The Human Resources team also undertakes other activities, such as comprehensive compensation reviews, recruitment, and human resources administration of executive positions, reporting to the Board of Directors, and company-wide talent management and leadership training program development.

The IT group costs include direct employee labor and non-labor costs for the provision and maintenance of IT infrastructure and applications, IT strategy, planning and support services for the organization such as enterprise cyber security program development, maintenance and monitoring, and third-party services such as consulting. The IT group provides company-wide security breach protocol and response support

and expertise on network, security strategy and data center management. For example, IT constantly monitors for changes in legislation in data privacy, various security requirements for contracts, and provides security awareness training. As part of its enterprise function, the IT group works with representatives of the business units served to share best practices, trends in security management and reviews organizational KPIs. All of these functions support cybersecurity and data protection that benefit the customer.

The costs in the communications group include direct employee labor and non-labor costs for overall policies guidance on public relations and communications, monitoring of media, and third-party services for company's websites, video, customer education, and media monitoring. This function provides overall policies guidance on both internal and external communications, monitoring of media, maintains the company-wide internet and intranet as well as the associated license and maintenance costs, and provides overall employee communication support as required and as back up support to the business units.

The costs in the continuous improvement group include direct employee labor and non-labor costs for transformation and business betterment. Also included are costs for third-party services such as consultants to support evaluation and implementation of operational and administrative initiatives. In the interest of continually improving our processes and thereby always providing the best value for customers, we use best practice continuous improvement approaches to gain efficiencies within the organization and identify ways to serve our customers more effectively.

**CGO Office**

The CGO Office costs include direct employee labor and non-labor costs for overall business development oversight and third-party services such as engineering, legal, and accounting to support the evaluation and execution of potential acquisitions.

Growing the overall business creates additional economies of scale for the entire organization, with the benefit being that fixed costs are shared over a broader base of assets resulting in lower costs for each business unit compared to what they would otherwise have to incur if they were stand-alone businesses. The business development group's mandate is to generate corporate growth consistent with the goals and objectives of the company. Seeking and executing large and/or complex acquisitions and winning project bids that require substantial investments, the business development group facilitates the economies of scale required to share costs across the organization in a meaningful way. Business development will help on strategy, evaluating complex issues that arise, will lend resources and expertise to execute a transaction and provide general oversight. Because of the number of opportunities to grow the business with small or large opportunities, the business development team is a group of mobile resources with the ability to engage prospective sellers. These opportunities will ultimately create a bigger customer base over which to spread the costs more efficiently (thus mitigating the impact of rising costs).

## Appendix B – Cost Distribution for Presidents and Senior Vice Presidents

Each business unit, which has a business unit President, is grouped into five operating regions (North, South, East, West, Canada). Each business unit President oversees one or more states or provinces and the operating utilities/businesses that are part of their business unit. Each of the five regions is then led by a Senior Vice President (SVP) who also serves as one of the Presidents of one or more business unit in the region.

The distribution of costs associated with Presidents and SVPs is completed separately using the same methodologies used in the CAM. That is, the same Tier 1 and Tier 2 allocation methodologies are used, when, as explained below, applicable. The Tier 1 allocation uses the three-part, composite allocator.

**Table 1 – Composite Allocator**

| Factor | Weight |
|---|---|
| Gross Revenue for Business Unit | 33.33% |
| Headcount for Business Unit | 33.33% |
| Gross Property, Plant & Equipment for Business Unit | 33.33% |
| **Total** | **100%** |

The Tier 1 allocator is used when it best represents the size, scope and complexity of the underlying business operations. The Tier 2 allocator relies on ERCs and is used when the underlying businesses provide water and sewer service primarily to residential customers.

When an SVP's or President's responsibility only encompasses business units within the Lower 48 Business Units, then the Tier 2 allocator is used to distribute the relevant costs. The Tier 1 allocator is used to distribute SVP and President costs when the individual SVP or President responsibility only encompasses business units within the Other Business Units. When the responsibility of an SVP or President includes business units within the Other Business Units and the Lower 48 Business Units, then the Tier 1 and Tier 2 allocators are used, as explained below.

### President Cost Centers

Each president's cost center require allocation to each operating utilities/business that are part of their business unit. As explained above, each President's cost center is allocated using either the Tier 1 allocator, the Tier 2 allocator or the Tier 1 and Tier 2 allocators.

June 30th was chosen as the most appropriate point-in-time to allow for the allocation percentages to be determined, and the forecast president's cost center expenses to be allocated to each operating utilities/business prior to the completion of the annual budgets.

**Senior Vice President Cost Centers**

The regional SVPs serve as both the president of a business unit or business units and the SVP that oversees a region. Each SVP's incremental responsibility for overseeing the region make up the costs associated with each SVP's cost center. Based on a review and discussion with each SVP, the incremental responsibility associated with the SVP role has been deemed to be 10 percent of the SVP's total salary and employee benefit costs. Each SVP's cost center requires allocation to each business unit that is part of the region. As explained above, each SVP's cost center is allocated using either the Tier 1 allocator, the Tier 2 allocator or the Tier 1 and Tier 2 allocators.

June 30th was chosen as the most appropriate point-in-time to allow for the allocation percentages to be determined, and to forecast president's cost center expenses to be allocated to each operating utilities/business prior to the completion of the annual budgets.

## Appendix C – Affiliate Interest Agreement (AIA)

The attached example of an Affiliate Interest Agreement (AIA) below provides a detailed description of the required Corporate Support Services.

# EXAMPLE AFFILIATE INTEREST AGREEMENT

## AGREEMENT

This Agreement dated November 20, 2019, is between Water Service Corporation, a Delaware corporation (hereinafter called the "Service Company") and Community Utilities of Pennsylvania Inc., a Pennsylvania corporation (hereinafter called the "Operating Company").

WHEREAS, both the Service Company and the Operating Company are subsidiaries of or affiliated with Corix Regulated Utilities (US) Inc. (formerly known as Utilities, Inc.), an Illinois corporation (hereinafter called the "Parent"); and,

WHEREAS, the Service Company maintains an organization which includes among its officers and employees, persons who are familiar with the development, business and property of the Operating Company and are experienced in the conduct, management, financing, construction, accounting and operation of water and sewer systems and are qualified to be of great aid and assistance to the Operating Company through the services to be performed under this Agreement; and

WHEREAS, the Service Company has or proposes to enter into agreements similar to this Agreement with certain affiliate water and/or sewer companies (hereinafter referred to collectively as the "Operating Companies"); and

WHEREAS, the services to be rendered under this Agreement are to be rendered by the Service Company (directly or through use of support services as needed) at cost and without markup to the Operating Company;

NOW, THEREFORE, in consideration of the promises and mutual agreements herein contained, the parties hereto agree as follows:

The Service Company will furnish to the Operating Company, upon the terms and conditions hereinafter set forth, the following services:

A. EXECUTIVE: The Service Company shall provide executive officer and director assistance, including but not limited to that of Presidents, Vice Presidents, Treasurers and Chief Financial and other Chief Officers who will assist and advise the Operating Company in respect to corporate, financial, risk management, strategy, operating, engineering, organization, tax, audit, governance, regulatory and other issues. They will keep themselves informed with respect to the operations, maintenance and financial condition of, and other matters relating to, the Operating Company through contacts with the officers, directors and other representatives of the Operating Company. Such executive assistance will include visiting the property of the Operating Company when necessary to the proper furnishing of the services provided for in this Agreement. They will also supervise the personnel of the Service Company to the end that services under this Agreement shall be performed efficiently, economically and satisfactorily to the Operating Company.
B. ENGINEERING: The Service Company may supply engineering services as requested by the Operating Company in areas including design, construction and management of the Operating Company.
C. OPERATING: The Service Company will furnish competent personnel to perform and/or control all usual operating functions, including pumping, treatment, and distribution as well

as maintenance of equipment and facilities. These responsibilities will include testing and record keeping for compliance with all state and local regulatory agency requirements.

D. ACCOUNTING: The Service Company will provide total accounting service, including bookkeeping, payroll, tax determination, financial statement preparation, budgets, credit, agency annual reports and similar agency support and filings. Periodic analysis will be made for purposes of planning and measurement of efficiency.

E. CENTRALIZED CASH MANAGEMENT SERVICES: The Service Company may provide a centralized cash management system whereby cash receipts and payments are managed by one single central body, WSC, on behalf of all of the Operating Companies. Under this Centralized Cash Management Service bank accounts could be in the name of, and maintained by, the Service Company. Cash transactions would be recorded on the Service Company's books with a corresponding offset on the Operating Company's books. Balancing entries would be recorded in the intercompany accounts of each entity. The Service Company's provision of centralized cash management would offer more efficiently handled cash, increased visibility and control, simplified bank account structure, and reduced overall bank transaction costs and may provide access to financing or funds for capital projects as well as acquisitions.

F. LEGAL: The Service Company will employ general counsel and supporting in house counsel as necessary to advise and assist in the performance of the services herein provided for and to aid the Operating Company in all matters where such assistance may be necessary and/or desired.

G. BILLING AND CUSTOMER RELATIONS: The Service Company will handle all billing and collections. It will serve as the link between the customer and the Operating Company in all areas such as new accounts, deposits, meter reading, inquiries, and complaints.

H. CONSTRUCTION: The Service Company may perform directly or may provide supervising services in construction including customer connections, meter installations, main extensions, plant expansions, or capital additions of any nature as required by the Operating Company.

I. CONTINUING IMPROVEMENT: The Service Company shall provide for continuing improvement of services to the Operating Company which shall include but not be limited to business transformation services including but not limited to software maintenance and upgrades, and other activities related to and that may improve upon efficiency, reliability, or general provision of service to the Operating Company and ultimately improvement of service to the customers of the Operating Company.

J. IT: The Service Company shall provide day-to-day IT services such as general system operations and maintenance, software maintenance, workstation acquisition support and certain network administration, as well as design, implementation, and replacement of enterprise resource planning, oversight of cybersecurity programs, data storage and management, communication networks and development of IT equipment strategies. The Service Company shall provide services to Operating Company to prepare and properly implement enterprise policies relevant to IT. The Service Company shall provide services to the Operating Company to conduct security analyses, monitor and investigate security alerts, conduct security awareness training, and continuously work to improve security in the environment including identifying and implementing best practices to prevent incidents.

K. HUMAN RESOURCES: The Service Company shall provide the Operating Company human resource services for day-to-day personnel matters (such as recruiting, background checks, onboarding training, payroll, human resource complaints, investigations, reviews, assisting employees with various benefit questions and elections, etc.), the creation, update, and compliance framework for personnel policies, support for executives' and employees' compensation plan design, retirement savings, and benefits management. The Service Company shall provide the Operating Company with services for employee and labor relations issues.

L. HEALTH SAFETY AND ENVIRONMENTAL: The Service Company shall provide services to the Operating Company to ensure compliance and familiarity with local requirements, permits, and regulators. The Service Company shall provide services of Health Safety and Environment planning including the review for compliance with all federal government mandates; development and deployment of company-wide HSE policies, procedures, training manuals, forms, and tools for standardized programs to be used across the operating companies; compliance programs; assessment programs; industry research; and incident investigation and audits.

M. BUSINESS DEVELOPMENT: The Service Company shall provide business development services to Operating Company in order to identify, evaluate and execute on opportunities for acquisition of water and sewer systems.

N. ALL OTHER SERVICES AS PROVIDED FOR IN APPENDIX A: In addition to items (A) through (M), the Service Company will employ or provide personnel to perform the attached services, or in the instance of assets, liabilities and associated non-cash items, has incurred costs associated with providing service to the corporate headquarters, regional areas, or to all Operating Companies as a whole. The allocated costs from these services will be for costs attributable to all Operating Companies, costs attributable to the Service Company, or for costs that cannot, without excessive effort and expense, be directly identified and related to services rendered to a particular operating company.

In consideration for the services to be rendered by the Service Company hereunder, the Operating Company agrees to pay to the Service Company the cost of said services. That cost shall not include any markup. In addition, the Operating Company agrees to pay the Service Company its share of the cost of the investment in the Service Company rate base, including depreciation, amortization, interest on debt and a reasonable return on the equity invested.

All costs of the Service Company, including salaries and other expenses, incurred in connection with services rendered by the Service Company for the Operating Companies which can, without excessive effort or expense, be identified and related to services rendered to a particular operating company, shall be charged directly to such company. Examples of such costs to be directly charged include salary and other expenses incurred for specific projects such as construction projects, legal proceedings, etc. Similarly, all such costs which may be identified and related to services rendered to a particular group of the Operating Companies shall be charged directly to such group of the Operating Companies.

All such costs which, because of their nature, cannot, without excessive effort or expense, be identified and related to services rendered to a particular operating company, shall be allocated among all of the Operating Companies, in the manner hereinafter set forth.

First, the allocatable costs shall be distributed on a monthly basis, unless the Parent should elect to make a supplementary analysis for a special purpose.

Second, these costs will be prorated on the basis of the proportion of active Equivalent Residential Customers ("ERCs") served by the Operating Company to the total number of active ERCs served by the Parent and its affiliates (including, without limitation, the Operating Company), determined as of the end of each month. For purposes of this Agreement, the number of ERCs attributable to each water and sewer connection maintained by the Parent and its subsidiaries (including, without limitation, the Operating Company) will be determined by applying the formulae set forth in Appendix B.

The Service Company will also at any time, upon request of the Operating Company, furnish to it any and all information required by the Operating Company or by any governmental authorities having jurisdiction over the Operating Company with respect to the services rendered by the Service Company hereunder, the cost thereof and the allocation of such cost among the Operating Companies. In the case of services in connection with construction, the Service Company will, to the extent practicable, furnish to Operating Company such information as shall be necessary to permit the allocation of charges for such services to particular work orders.

This Agreement (a) is conditioned upon approval by the Pennsylvania Public Utility Commission (PA PUC) of the acquisition of PA Utility Company by Community Utilities of Pennsylvania, Inc. that was subject to a Joint Application filed by Community Utilities of Pennsylvania, Inc. and PA Utility Company filed October 1, 2018 at PA PUC Docket Nos. A-2018-3005430 and A-2018-3005432 and (b) shall be effective as of the date of such approval by the PA PUC.

This Agreement shall remain in effect until termination by either of the parties hereto upon 90 days' written notice.

IN WITNESS WHEREOF, the Service Company and the Operating Company have signed in their respective corporate names by their respective Presidents or Vice Presidents, and attest by their respective Secretaries or Assistant Secretaries, all as of the day and year first above written.

**WATER SERVICE CORPORATION**

BY _____

Attest _____

**COMMUNITY UTILITIES OF PENNSYLVANIA INC.**

BY _____

Attest _____

**AFFILIATE AGREEMENT**
**APPENDIX A**

The following list includes expense accounts at the Water Service Corporation level which have dollars booked to them and allocated to all Utilities, Inc operating companies at a business unit level

| JDE Object Number | Account Description |
|---|---|
| 5505 | Agency Expense |
| 5525 | Bill Stock |
| 5530 | Billing Computer Supplies |
| 5535 | Billing Envelopes |
| 5540 | Billing Postage |
| 5545 | Customer Service Printing |
| 5625 | 401K/ESOP Contributions |
| 5630 | Dental Premiums |
| 5635 | Dental Ins Reimbursements |
| 5640 | Emp Pensions & Benefits |
| 5645 | Employee Ins Deductions |
| 5650 | Health Costs & Other |
| 5655 | Health Ins Reimbursements |
| 5660 | Other Emp Pensions/Benefits |
| 5665 | Pension Contributions |
| 5670 | Term Life Ins |
| 5675 | Term Life Ins - Opt |
| 5680 | Depend Life Ins - Opt |
| 5685 | Supplemental Life Ins |
| 5690 | Tuition |
| 5700 | Insurance - Vehicle |
| 5705 | Insurance - Gen Liab |
| 5710 | Insurance - Workers Comp |
| 5715 | Insurance - Other |
| 5735 | Computer Maintenance |
| 5740 | Computer Supplies |
| 5745 | Computer Amort & Prog Cost |
| 5750 | Internet Supplies |
| 5755 | Microfilming |
| 5760 | Website Development |
| 5785 | Advertising/Marketing |
| 5790 | Bank Service Charges |
| 5795 | Contributions |
| 5800 | Letter of Credit Fee |
| 5805 | License Fees |
| 5810 | Memberships |
| 5815 | Penalties/Fines |
| 5820 | Training Expense |
| 5825 | Other Misc Expense |
| 5835 | Answering Service |
| 5855 | Answering Service |
| 5860 | Cleaning Supplies |
| 5865 | Copy Machine |
| 5870 | Holiday Events/Picnics |
| 5875 | Kitchen Supplies |
| 5880 | Office Supply Stores |
| 5885 | Printing/Blueprints |
| 5890 | Publ Subscriptions/Tapes |
| 5895 | Shipping Charges |
| 5900 | Other Office Expenses |
| 5930 | Office Electric |
| 5935 | Office Gas |
| 5940 | Office Water |
| 5945 | Office Telecom |
| 5950 | Office Garbage Removal |
| 5955 | Office Landscape / Mow / Plow |
| 5960 | Office Alarm Sys Phone Exp |
| 5965 | Office Maintenance |
| 5970 | Office Cleaning Service |
| 5975 | Office Machine/Heat&Cool |
| 5980 | Other Office Utilities |
| 5985 | Telemetering Phone Expense |
| 6005 | Accounting Studies |
| 6010 | Audit Fees |
| 6015 | Employ Finder Fees |
| 6020 | Engineering Fees |
| 6025 | Legal Fees |
| 6030 | Management Fees |
| 6035 | Payroll Services |
| 6040 | Tax Return Review |
| 6045 | Temp Employ - Cleri |
| 6050 | Other Outside Serv |
| 6075 | Water Resource Conserve Exp |
| 6090 | Rent |
| 6105 | Salaries - System Project |
| 6110 | Salaries - Accig/Finance |
| 6115 | Salaries - Admin |
| 6120 | Salaries - Officers/Stkhldr |
| 6125 | Salaries - HR |
| 6130 | Salaries - MIS |

The following list includes asset and liability accounts at the Water Service Corporation level which have dollars booked to them and allocated to all Utilities, Inc. operating companies

| JDE Object Number | Subsidiary Number | Account Description |
|---|---|---|
| 1030 | | Land & Land Rights Pump |
| 1035 | | Land & Land Rights Wtr Trt |
| 1040 | | Land & Land Rights Trans Dist |
| 1045 | | Land & Land Rights Gen Plt |
| 1175 | | Office Struct & Imprv |
| 1180 | | Office Furn & Eqpt |
| 1190 | | Tool Shop & Misc Eqpt |
| 1205 | | Communication Eqpt |
| 1260 | | Land & Land Rights Intang Plt |
| 1265 | | Land & Land Rights Coll Plt |
| 1270 | | Land & Land Rights Transm Plt |
| 1275 | | Land & Land Rights Reclaim Wtr |
| 1280 | | Land & Land Rights Rel Dst Plt |
| 1285 | | Land & Land Rights Gen Plt |
| 1455 | | Office Struct & Imprv |
| 1460 | | Office Furn & Eqpt |
| 1470 | | Tool Shop & Misc Eqpt |
| 1485 | | Communication Eqpt |
| 1575 | | Desktop Computer Wtr |
| 1580 | | Mainframe Computer Wtr |
| 1585 | | Mini Computers Wtr |
| 1590 | | Comp Sys Cost Wtr |
| 1595 | | Micro Sys Cost Wtr |
| 1605 | | Desktop Computer Swr |
| 1610 | | Mainframe Computer Swr |
| 1615 | | Mini Computers Swr |
| 1620 | | Comp Sys Cost Swr |
| 1625 | | Micro Sys Cost Swr |
| 1741 | | Other Plant In Process History |
| 1745 | 00301 | Wip-Cap Time Office Renovation |
| 1745 | 00302 | Wip-Cap Time Electrical |
| 1745 | 00303 | Wip-Cap Time Lab Expansion |
| 1745 | 00304 | Wip-Cap Time Computer Equipmnt |
| 1745 | 00305 | Wip-Cap Time Computer Software |
| 1745 | 00306 | Wip-Cap Time Radio Equipment |
| 1746 | 00301 | Wip - Interest During Constr |
| 1746 | 00302 | Wip - Interest During Constr |
| 1746 | 00303 | Wip - Interest During Constr |
| 1746 | 00304 | Wip - Interest During Constr |
| 1746 | 00305 | Wip - Interest During Constr |
| 1746 | 00306 | Wip - Interest During Constr |
| 1747 | 00303 | Wip - Labor/Installation |
| 1747 | 00304 | Wip - Labor/Installation |
| 1747 | 00305 | Wip - Labor/Installation |
| 1748 | 00302 | Wip - Equipment |
| 1748 | 00303 | Wip - Equipment |
| 1748 | 00304 | Wip - Equipment |
| 1748 | 00306 | Wip - Equipment |
| 1749 | 00301 | Wip - Material |
| 1749 | 00302 | Wip - Material |
| 1749 | 00303 | Wip - Material |
| 1749 | 00304 | Wip - Material |
| 1749 | 00305 | Wip - Material |
| 1749 | 00306 | Wip - Material |
| 1750 | 00301 | Wip - Electrical |
| 1751 | 00301 | Wip - Site Work |
| 1752 | 00301 | Wip - Contractor/Labor |
| 1752 | 00302 | Wip - Contractor/Labor |
| 1753 | 00301 | Wip - Architect/Designer |
| 1753 | 00302 | Wip - Architect/Designer |
| 1753 | 00303 | Wip - Architect/Designer |
| 1754 | 00303 | Wip - Building Addition |
| 1755 | 00301 | Wip - Furniture |
| 1755 | 00302 | Wip - Furniture |
| 1756 | 00301 | Wip - Heating/Air Condition |
| 1756 | 00302 | Wip - Heating/Air Condition |
| 1757 | 00301 | Wip - Interior Finish |
| 1757 | 00302 | Wip - Interior Finish |
| 1758 | 00305 | Wip - Modification/Convert |
| 1759 | 00304 | Wip - Remodeling |
| 1769 | 00301 | Wip - Transfer To Fixed Assets |
| 1769 | 00302 | Wip - Transfer To Fixed Assets |
| 1769 | 00303 | Wip - Transfer To Fixed Assets |
| 1769 | 00304 | Wip - Transfer To Fixed Assets |
| 1769 | 00305 | Wip - Transfer To Fixed Assets |
| 1769 | 00306 | Wip - Transfer To Fixed Assets |
| 1771 | | Deferred Plant In Process History |
| 1775 | 00401 | Wip-Cap Time Water Tower Paint |
| 1775 | 00402 | Wip-Cap Time W/S Plt Paint |
| 1775 | 00403 | Wip-Cap Time Water Tank Paint |
| 1775 | 00404 | Wip-Cap Time Clean Sewer Line |

**AFFILIATE AGREEMENT**
**APPENDIX A**

The following list includes expense accounts at the Water Service Corporation level which have dollars booked to them and allocated to all Utilities, Inc. operating companies at a business unit level.

| JDE Object Number | Account Description |
|---|---|
| 6135 | Salaries - Leadership Ops |
| 6140 | Salaries - Regulatory |
| 6145 | Salaries - Customer Service |
| 6185 | Travel Lodging |
| 6190 | Travel Airfare |
| 6195 | Travel Transportation |
| 6200 | Travel Meals |
| 6205 | Travel Entertainment |
| 6207 | Travel Other |
| 6355 | Deferred Maint Expense |
| 6360 | Communication Expense |
| 6365 | Equipment Rentals |
| 6385 | Uniforms |
| 6390 | Weather/Hurricane Costs |
| 6580 | Deprec-Office Structure |
| 6585 | Deprec-Office Furn/Eqpt |
| 6610 | Deprec-Communication Eqpt |
| 6615 | Deprec-Misc Equipment |
| 6820 | Deprec-Office Structure |
| 6825 | Deprec-Office Furn/Eqpt |
| 6830 | Deprec-Communication Eqpt |
| 6835 | Deprec-Misc Equipment |
| 6920 | Deprec-Computer |
| 7510 | FICA Expense |
| 7515 | Federal Unemployment Tax |
| 7520 | State Unemployment Tax |
| 7535 | Franchise Tax |
| 7540 | Gross Receipts Tax |
| 7545 | Personal Property/ICT Tax |
| 7550 | Property/Other General Tax |
| 7555 | Real Estate Tax |
| 7560 | Sales/Use Tax Expense |
| 7565 | Special Assessments |
| 7665 | Extraordinary Gain/Loss |
| 7670 | Extraordinary Deductions |
| 7680 | Rental Income |
| 7685 | Interest Income |
| 7690 | Sale of Equipment |

The following list includes asset and liability accounts at the Water Service Corporation level which have dollars booked to them and allocated to all Utilities, Inc. operating companies.

| JDE Object Number | Subsidiary Number | Account Description |
|---|---|---|
| 1030 | | Land & Land Rights Pump |
| 1775 | 00405 | Wip-Cap Time Chng Filter Media |
| 1775 | 00406 | Wip-Cap Time Tv Sewer Main |
| 1775 | 00407 | Wip-Cap Time Sludge & Hauling |
| 1775 | 00408 | Wip-Cap Time W/S Plt Landscape |
| 1776 | 00401 | Wip - Interest During Constr |
| 1776 | 00402 | Wip - Interest During Constr |
| 1776 | 00403 | Wip - Interest During Constr |
| 1776 | 00404 | Wip - Interest During Constr |
| 1776 | 00405 | Wip - Interest During Constr |
| 1776 | 00406 | Wip - Interest During Constr |
| 1776 | 00407 | Wip - Interest During Constr |
| 1776 | 00408 | Wip - Interest During Constr |
| 1777 | 00408 | Wip - Engineering |
| 1778 | 00401 | Wip - Labor/Installation |
| 1779 | 00401 | Wip - Equipment |
| 1779 | 00404 | Wip - Equipment |
| 1779 | 00406 | Wip - Equipment |
| 1780 | 00401 | Wip - Material |
| 1780 | 00402 | Wip - Material |
| 1780 | 00403 | Wip - Material |
| 1780 | 00404 | Wip - Material |
| 1780 | 00405 | Wip - Material |
| 1780 | 00406 | Wip - Material |
| 1780 | 00407 | Wip - Material |
| 1780 | 00408 | Wip - Material |
| 1781 | 00408 | Wip - Site Work |
| 1782 | 00401 | Wip - Contractor/Labor |
| 1782 | 00402 | Wip - Contractor/Labor |
| 1782 | 00403 | Wip - Contractor/Labor |
| 1782 | 00405 | Wip - Contractor/Labor |
| 1782 | 00406 | Wip - Contractor/Labor |
| 1783 | 00404 | Wip - Grouting/Sealing |
| 1784 | 00404 | Wip - Jet Cleaning |
| 1785 | 00407 | Wip - Pump & Haul Sludge |
| 1786 | 00404 | Wip - Rental/Machine |
| 1786 | 00405 | Wip - Rental/Machine |
| 1787 | 00402 | Wip - Repair |
| 1787 | 00403 | Wip - Repair |
| 1799 | 00401 | Wip - Transfer To Fixed Assets |
| 1799 | 00402 | Wip - Transfer To Fixed Assets |
| 1799 | 00403 | Wip - Transfer To Fixed Assets |
| 1799 | 00404 | Wip - Transfer To Fixed Assets |
| 1799 | 00405 | Wip - Transfer To Fixed Assets |
| 1799 | 00406 | Wip - Transfer To Fixed Assets |
| 1799 | 00407 | Wip - Transfer To Fixed Assets |
| 1799 | 00408 | Wip - Transfer To Fixed Assets |
| 1970 | | Acc Depr-Office Structure |
| 1975 | | Acc Depr-Office Furn/Eqpt |
| 1985 | | Acc Depr-Tool Shop & Misc Eqpt |
| 2000 | | Acc Depr-Communication Eqpt |
| 2215 | | Acc Depr-Office Structure |
| 2220 | | Acc Depr-Office Furn/Eqpt |
| 2230 | | Acc Depr-Tool Shop & Misc Eqpt |
| 2245 | | Acc Depr-Communication Eqpt |
| 2315 | | Acc Depr-Desktop Computer Wtr |
| 2320 | | Acc Depr-Mainframe Comp Wtr |
| 2325 | | Acc Depr-Mini Comp Wtr |
| 2330 | | Comp Sys Amortization Wtr |
| 2335 | | Micro Sys Amortization Wtr |
| 2345 | | Acc Depr-Desktop Computer Swr |
| 2350 | | Acc Depr-Mainframe Comp Swr |
| 2355 | | Acc Depr-Mini Comp Swr |
| 2360 | | Comp Sys Amortization Swr |
| 2365 | | Micro Sys Amortization Swr |
| 2950 | | Def Chgs-Landscaping |
| 2955 | | Def Chgs-Customer Complaints |
| 2960 | | Def Chgs-Tank Maint&Rep Wtr |
| 2965 | | Def Chgs-Relocation Expenses |
| 2970 | | Def Chgs-Attorney Fee |
| 2975 | | Def Chgs-Hurricane/Storms Cost |
| 2980 | | Def Chgs-Emp Fees |
| 2985 | | Def Chgs-Other |
| 3000 | | Def Chgs-Other Wtr & Swr |
| 3005 | | Def Chgs-Voc Testing |
| 3020 | | Def Chgs-Sludge Hauling |
| 3025 | | Def Chgs-Pr Wash/Jet Swr Mains |
| 3030 | | Def Chgs-Tv Sewer Mains |
| 3040 | | Def Chgs-Tank Maint&Rep Swr |
| 3080 | | Amort - Landscaping |
| 3090 | | Amort - Customer Complaints |

**AFFILIATE AGREEMENT**
**APPENDIX A**

The following list includes expense accounts at the Water Service Corporation level which have dollars booked to them and allocated to all Utilities, Inc. operating companies at a business unit level.

| JDE Object Number | Account Description |
|---|---|

The following list includes asset and liability accounts at the Water Service Corporation level which have dollars booked to them and allocated to all Utilities, Inc. operating companies:

| JDE Object Number | Subsidiary Number | Account Description |
|---|---|---|
| 1030 | | Land & Land Rights Pump |
| 3110 | | Amort - Tank Maint&Rep Wtr |
| 3120 | | Amort - Relocation Exp |
| 3125 | | Amort - Attorney Fee |
| 3130 | | Amort - Hurricane/Storms |
| 3135 | | Amort - Employee Fees |
| 3140 | | Amort - Other |
| 3155 | | Amort - Other Wtr & Swr |
| 3160 | | Amort - Voc Testing |
| 3175 | | Amort - Sludge Hauling |
| 3180 | | Amort - Pr Wash/Jet Swr Mains |
| 3185 | | Amort - Tr Sewer Mains |
| 3195 | | Amort - Tank Maint&Rep Swr |
| 4367 | | Accum Def Income Tax-Fed |
| 4369 | | Def Fed Tax - Clac Pre 1987 |
| 4371 | | Def Fed Tax - Tap Fee Post 2000 |
| 4373 | | Def Fed Tax - Idc |
| 4375 | | Def Fed Tax - Rate Case |
| 4377 | | Def Fed Tax - Def Maint |
| 4379 | | Def Fed Tax - Other Operation |
| 4381 | | Def Fed Tax - Sold Co |
| 4383 | | Def Fed Tax - Orgn Exp |
| 4385 | | Def Fed Tax - Bad Debt |
| 4387 | | Def Fed Tax - Depreciation |
| 4389 | | Def Fed Tax - Nol |
| 4391 | | Def Fed Tax - Cont Prop |
| 4393 | | Def Fed Tax - Amt |
| 4395 | | Def Fed Tax - Pre Acrt |
| 4397 | | Def Fed Tax - Res Cap Fee |
| 4417 | | Accum Def Income Tax - St |
| 4419 | | Def St Tax - Clac Pre 1987 |
| 4421 | | Def St Tax - Tap Fee Post 2000 |
| 4423 | | Def St Tax - Idc |
| 4425 | | Def St Tax - Rate Case |
| 4427 | | Def St Tax - Def Maint |
| 4429 | | Def St Tax - Other Operation |
| 4431 | | Def St Tax - Sold Co |
| 4433 | | Def St Tax - Orgn Exp |
| 4435 | | Def St Tax - Bad Debt |
| 4437 | | Def St Tax - Depreciation |
| 4439 | | Def St Tax - Nol |
| 4441 | | Def St Tax - Cont Prop |
| 4443 | | Def St Tax - Amt |
| 4445 | | Def St Tax - Res Cap Fee |

**AFFILIATE AGREEMENT**
**APPENDIX B**

The formula used to calculate all allocations is as follows:

Expenses:

Active ERC count for business unit/Active ERC count for all UI operating business units

Assets/Liabilities:

Active ERC count for company/Active ERC count for all UI operating companies

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

| | | |
|---|---|---|
| Application of Water Service Corporation of Kentucky for a General Adjustment in Existing Rates and a Certificate Of Public Convenience and Necessity to Deploy Advanced Metering Infrastructure, and Approval Of Certain Regulatory Accounting Treatment | ) ) ) ) ) ) | Case No. 2022-00147 |

# DIRECT TESTIMONY OF PATRICK L. BARYENBRUCH

# PREPARED DIRECT TESTIMONY OF PATRICK L. BARYENBRUCH ON BEHALF OF WATER SERVICE CORPORATION OF KENTUCKY

TABLE OF CONTENTS



EXHIBITS

## I. PATRICK BARYENBRUCH BACKGROUND

**Q. Please state your name, position of employment and business address.**

A. My name is Patrick L. Baryenbruch, and I am the President of my own consulting practice, Baryenbruch & Company, LLC, which was established in 1985. In that capacity, I provide consulting services to utilities and their regulators. My business address is 2832 Claremont Road, Raleigh, North Carolina 27608.

**Q. Summarize your academic and professional background.**

A. I received a Bachelor's degree in Accounting from the University of Wisconsin-Oshkosh and a Master's in Business Administration degree from the University of Michigan.

I am a member of the American Institute of Certified Public Accountants and the North Carolina Association of Certified Public Accountants.

I began my career with Arthur Andersen & Company, where I performed financial audits of utilities, banks and finance companies. I left to pursue an M.B.A. degree. Upon graduation from business school, I worked with the management consulting firms of Theodore Barry & Associates and Scott Consulting Group (now ScottMadden) before establishing my own firm.

**Q. Do you hold any professional certifications?**

A. Yes. I am a Certified Public Accountant (CPA) with an active license from the states of Wisconsin and North Carolina. I am a Certified Information Technology Professional (CITP), an accreditation awarded by the American Institute of Certified Public Accountants to CPA professionals who can demonstrate expertise in

information technology (IT) management. I also hold a Global Information Assurance Certification (GIAC) in cybersecurity from the SANS Institute.

**Q. Have you provided testimony in other regulatory proceedings on the issue of utility/affiliate transactions?**

A. Yes. In the course of my career, I have performed more than 110 evaluations of affiliate charges to 39 utility companies. I have acted as an expert witness on utility/affiliate charges in over 70 rate case proceedings before regulators in 17 states. I previously acted as a witness in the matter of Water Service Corporation (WSC) charges to Water Service Corporation of Kentucky (WSCK) in its 2010 and 2018 rate cases before the Kentucky Public Service Commission (KPSC). **Exhibit PLB-1** presents my previous affiliate transaction-related assignments.

**Q. What other work experience do you have with the utility industry?**

A. Besides my rate case support work, much of my career has been spent as a management consultant for projects related to the utility industry. I have performed consulting assignments for more than 60 utilities and 10 public service commissions. I have participated as project manager, lead consultant or staff consultant for 24 commission-ordered management and prudence audits of public utilities. Of these, I have been responsible for evaluating the area of affiliate charges and allocation of corporate expenses in the Commission-ordered audits of Connecticut Light and Power, Connecticut Natural Gas, General Water Corporation (now United Water Company), Philadelphia Suburban Water Company (now Aqua America) and Pacific Gas & Electric Company.

My firm performed the commission-ordered audit of Southern California Edison's 2002, 2003, 2004 and 2005 transactions with its non-regulated affiliate companies.

For 20 years, I was also heavily involved providing consulting services related to IT infrastructure within the utility industry. These projects involved improvements in business management practices of utility IT organizations, covering processes such as business planning, risk management, performance measurement and reporting, cost recovery, budgeting, cost management and personnel development. I also acted as the project manager or member of the project management team for many large-scale IT implementation projects involving the work of hundreds of utility client employees and contractor personnel.

## II. INTRODUCTION

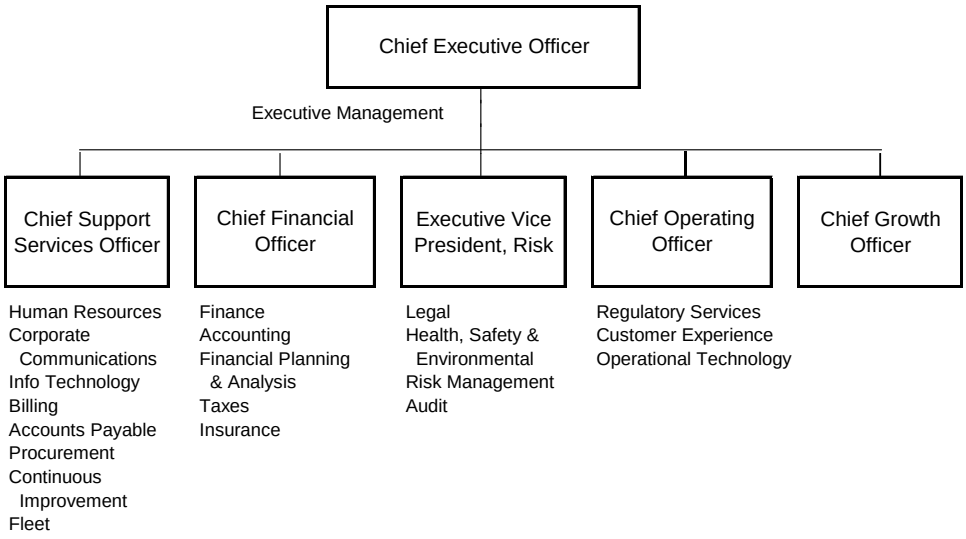
**Q. What is the purpose of your direct testimony?**

A. I am presenting the results of my evaluation of the necessity and reasonableness of services provided by Corix Corporate Support Services (Corporate Support Services) during 2021 to the operating companies of Corix Regulated Utilities (US) Inc. (CRU US), including Water Service Corporation of Kentucky (WSCK). I also present the results of my comparison of WSCK's costs to those of other utilities.

**Q. Please define Corporate Support Services as you use the term throughout your testimony.**

A. Corporate Support Services are administrative and general (A&G) services provided to the Corix enterprise by employees of the legal entities Water Services Corporation (WSC) and Corix Infrastructure Inc. (CII), the parent company. These employees are

part of the Corporate Support Services organization, which was formally established in early 2021. This created a unified organization and single management structure that is the sole provider of Corporate Support Services to the entire Corix enterprise. The chart below shows the Corporate Support Services organization and identifies the services each unit provides.




The staff of Corporate Support Services are employees of two legal entities for administrative purposes. Canadian staff are employees of CII and US staff are employees of WSC. These employees are directed by one set of managers so their home legal entity has no impact on the delivery of services.

The cost of Corporate Support Services is allocated to CRU US utilities, including WSCK, by WSC based upon the metric of equivalent residential customers.

**Q. Besides Corporate Support Services, are other services provided by affiliates to WSCK?**

A. Yes, WSC provides WSCK with operational services associated with operating and maintaining WSCK's water system. In general, the cost of operational services can be

closely associated with individual operating companies. A large majority of these expenses are charged directly to operating companies.

**Q. How is your testimony organized?**

A. In section III, I present the results of my evaluation of the necessity and reasonableness of Corporate Support Services provided to CRU US during 2021. In section IV, I present a comparison of WSCK's costs per customer to other water companies in Kentucky.

## III. RESULTS OF 2021 EVALUATION OF CORPORATE SUPPORT SERVICES

Q. How much has WSCK been charged for Corporate Support Services?

A. The table below shows charges for 2021 through 2023.

| WSCK | Actual 2021 | Budget 2022 | Projected 2023 | Increase (2021-2023) Amount | Percent |
|---|---|---|---|---|---|
| Corp Support Services Charges | $ 662,413 | $ 657,056 | $ 673,367 | $ 10,954 | 1.7% |

**Q. What were the objectives of your 2021 evaluation?**

A. I performed an independent evaluation to determine the necessity of Corporate Support Services and reasonableness of the associated 2021 charges to CRU US, including WSCK. My report is marked as **Exhibit PLB-2**.

**Q. How did you accomplish your 2021 evaluation?**

A. I performed work to answer the following questions:

Necessity of Corporate Support Services

1. Are Corporate Support Services provided to CRU US, including WSCK, comparable to services provided by other utility service companies?

2. Are Corporate Support Services beneficial to CRU US utilities, including WSCK, and their customers?
3. Are Corporate Support Services duplicative or overlapping with work performed by CRU US regulated utilities, including WSCK, themselves?
4. Do governance structure and processes exist to ensure Corporate Support Services are necessary to CRU US regulated utilities, including WSCK?

Reasonableness of Corporate Support Services

5. Are charges for Corporate Support Services provided to CRU US in line with charges of other utility service companies to their regulated utility affiliates?
6. Are Corporate Support Services provided to CRU US priced at the lower of cost or market?
7. Are CRU US utilities' total customer accounts expenses, including charges directly from the Corporate Support Services organization, comparable to the costs of other utilities?
8. Are Corporate Support Services comparably priced to all CRU US regulated utilities?

**Q. What are the results of your 2021 evaluation of Corporate Support Services?**

A. I was able to reach the following conclusions regarding these questions:

Necessity of Corporate Support Services

- Question 1: Corporate Support Services provided to CRU US are comparable to those offered by comparison group utility service companies.
- Question 2: Corporate Support Services provided to CRU US would be required even if CRU US utilities were stand-alone utilities. These Corporate Support

Services provided during 2021 can be associated with one or more benefit categories.

- Question 3: There is no redundancy or overlap in Corporate Support Services provided to CRU US utilities based on an analysis of the responsibilities for utility functions. Also, during the past year, Corix's support services functions have been fully integrated into the single Corporate Support Services organization. Company witness Shawn Elicegui thoroughly describes this restructuring in his direct testimony.
- Question 4: The governance structure and processes contribute to ensuring that Corporate Support Services provided to CRU US utilities are necessary and the associated charges are reasonable.

Reasonableness of Corporate Support Services

- Question 5: Budgeted 2021 charges for Corporate Support Services provided to CRU US utilities are below the comparison group average. CRU US utilities were charged $94 per customer for these services. This is lower than the service company comparison group's average of $114 per-customer cost for A&G-related charges to affiliates.
- Question 6: Corporate Support Services are provided at a cost lower than outside providers.
  - On average, the hourly rates for outside service providers are approximately 141% higher than comparable hourly rates charged by the Corporate Support Services organization.

  - If all of the managerial and professional services now provided by the Corporate Support Services organization had been outsourced during 2021, CRU US utilities and their customers would have incurred more than $21.3 million in additional expenses.
  - Corporate Support Services charges do not include any profit markup. Only their actual cost of the service is allocated to CRU US utilities.
- Question 7: CRU US utilities' total Budgeted 2021 customer accounts expenses, including charges directly from the Corporate Support Services organization, are comparable to the costs of other utilities.
- Question 8: Corporate Support Services provided to all CRU US utilities are priced comparably, as evidenced by the following:
  - Separate books of accounts and records are maintained to facilitate accounting for the cost of Corporate Support Services provided to CRU US.
  - Costs of Corporate Support Services are allocated and assigned on a fully distributed cost basis.
  - Allocation factors employed are commonly used by other utility service companies.
  - Services are priced the same to all affiliates, that is, at the cost of providing service.
  - Cross-subsidization is avoided.

**Q. How did you conduct your 2021 evaluation?**

A. My evaluation involved data gathering and analysis, as well as interviews with management teams. The table below shows the positions of the twenty-one persons I

interviewed. This group includes both providers and recipients of Corporate Support Services.

| Position |
|---|
| Executive Leadership Team |
| Chief Executive Officer |
| Chief Operating Officer |
| Chief Financial Officer |
| Chief Shared Services Officer |
| Executive Vice President, Risk |
| Chief Growth Officer |
| Utility Operations |
| East Region Business Unit |
| SVP East Region Business Unit/President, Atlantic |
| President, Florida |
| North Region Business Unit |
| SVP North Region Business Unit/President, Midwest and Mid Atlantic |
| President, Mid Atlantic |
| Vice President, Contract Utilities and Energy Systems |
| South Region Business Unit |
| SVP South Region Business Unit/ President, Louisiana |
| President, South |
| President, Texas |
| West Region Business Unit |
| SVP West Region Bus Unit/President, Alaska |
| President, West Region Bus Unit |
| Corporate Support Services |
| Vice President and Principal Accounting Officer |
| Vice President, Financial Reporting and Analytics |
| Vice President and Chief Information Officer |
| Vice President, Human Resources |
| Vice President, Support Operations |
| Director, Regulatory Affairs |

I received responses to nearly thirty data requests from Corporate Support Services, which I used to perform my evaluation and develop my report. I also compared the cost of Corporate Support Services to those of other utilities and outside service providers.

**Q. Please describe the work you performed to answer each of the eight questions.**

A. Each of the 8 questions related to the necessity and reasonableness of Corporate Support Services provided to CRU US utilities, including WSCK, were evaluated as described below:

Necessity of Corporate Support Services

1. Prevalence of Services – Question 1 is answered by determining if the Corporate Support Services provided to CRU US are consistent with services provided by other utility service companies. Information on the comparison group comes from each company's 2020 Form 60, which is a report designed to collect financial information from service companies that are subject to the Federal Energy Regulatory Commission's (FERC) regulation. Service company filers are those that belong to electric and combination electric/gas utility holding companies. The activities of energy-related services companies are relevant to Corporate Support Services provided to CRU US because they are the same type of A&G services, such as information technology, finance, accounting and human resources.
2. Benefits from Services – Question 2 is answered by associating the services provided by each functional area of Corporate Support Services with benefits to CRU US utilities. The following is a set of benefits that are used to associate with the departments that charge CRU US utilities during 2021:

| |
|---|
| **Governance** – The department provides oversight and management control over functional or operating areas and processes. Among other things, governance activities involve planning and reporting of actual performance. |
| **Compliance** – The department helps ensure compliance with regulatory, legal, financial and other obligations of individual operating companies and the combined company. |
| **Economies** – The department facilitates cost savings from purchasing and operating economies of scale. The service company is able to employ greater bargaining power to realize better prices for common goods and services and pass those savings on to enterprise operating companies. It can also more efficiently utilize staff through workload balancing and specialization, which allows operating companies to avoid the need to staff for less than a full-time workload. |
| **Continuity of Service** – The department helps assure on-going provision of service through the centralization of staff performing similar activities. Larger concentrations of these resources mean there is coverage of work during potential disruptions such as absences and departures. |
| **Standards** – The department plays a role in ensuring that standard policies, procedures and practices are established and followed across the enterprise. |
| **Other** – The department facilitates service company management, operations, business and accounting processes. |

Many specific benefits were also identified during interviews conducted to validate the benefits of Corporate Support Services provided to CRU US utilities.

3. Redundancy of Services – Question 3 is answered through an analysis of the responsibilities of the Corporate Support Services organization in the delivery of services to CRU US regulated utilities. The end product is a responsibility matrix with a designation of the role played by CRU US regulated utilities and the Corporate Support Services organization performing all the operational and A&G functions necessary to deliver service to customers.
4. Governance Structures and Processes – Question 4 involves identifying and documenting the principal management practices and controls that help ensure charges from the Corporate Support Services organization to CRU US regulated utilities are necessary and reasonable.

<u>Reasonableness of Corporate Support Services</u>

5. A&G Cost Comparison - Question 5 determines if the cost of Corporate Support Services is in line with the cost of similar services provided by other service companies to their utility affiliates. The metric used for this comparison is A&G-related charges per customer. Substantially all the services provided by Corporate Support Services are A&G in nature. Every other utility service company provides A&G services to affiliates and these services are similar across utility types. This common pool of costs provides a valuable cost-comparison opportunity.
6. Provision of Services at the Lower of Cost or Market - Question 6 determines if support services provided to CRU US utilities could be secured at a lower cost from

outside providers. This is accomplished by comparing the cost per hour for managerial and professional services provided by Corporate Support Services personnel to hourly billing rates that would be charged by outside providers of similar services. While this analysis was performed at the CRU US level, the results are pertinent to WSCK because it is allocated a pro rata share of Corporate Support Services expenses.

7. Customer Accounts Cost Comparison – Question 7 determines if the cost of customer accounts services provided to CRU US utilities by the Corporate Support Services organization are comparable to other regulated utilities that do business in the states in which CRU US utilities operate. The comparison metric is customer accounts services cost per customer.

8. Provision of Services at the Same Cost to All CRU US regulated utilities – Question 8 involves an evaluation of Corix-wide financial systems, processes and data structure to determine if they are designed and configured to properly charge affiliates with fully distributed costs of services. Also, the factors used to allocate Corporate Support Services costs were evaluated to determine if they are reasonable, relate to cost causation and result in the same price for services to all affiliates.

**Q. Why did your evaluation cover 2021 budgeted costs of Corporate Support Services?**

A. My report and associated direct testimony had to be filed in another rate case early in 2022. That did not leave sufficient time to complete an evaluation of 2021 actual costs. The 2021 actual costs of Corporate Support Services turned out to be approximately

9.5% higher than budget. That difference does not change my conclusions for the cost comparisons associated with questions 5, 6 and 7 above. Both the budgeted and actual cost of Corporate Support Services during 2021 are reasonable.

## IV. COST COMPARISONS

**Q. Did you compare WSCK's expenses to those of other utilities?**

A. Yes. In order to determine the reasonableness of WSCK's expenses, I made the following costs-per-customer comparisons:

- WSCK's Corporate Support Services Expenses Versus A&G-Related Charges from Service Company Affiliates of Other Regulated Utilities – This comparison is meant to show how the cost of Corporate Support Services compares to the cost of similar services provided by service company affiliates of other regulated utilities.
- WSCK's Total Customer Service and A&G Expenses Versus the Same Expenses for Kentucky Water Companies – WSCK's Corporate Support Services expenses are a component of its total customer service and A&G expenses. This comparison tests a broader set of expenses, those that are allocated to WSCK and those that are incurred directly by WSCK.
- WSCK's Total Water Utility Expenses Versus the Same Expenses for Kentucky Water Companies – This comparison tests the total of all WSCK water utility expenses, including operations, maintenance, customer service and A&G. The comprehensive metric is of particular relevance to customers since it covers the vast majority of expenses recovered by a water company's total revenues. For 2020, total water utility expenses represented 81% of WSCK's operating revenues.

WSCK expenses for the periods of 2020 (actual), 2021 (actual), 2022 (budget) and 2023 (projected) are subjected to the cost comparisons. Expenses of utility comparison groups are for the periods of 2020 (actual), 2021 (estimated), 2022 (projected) and 2023 (projected). Comparison group 2021 actual costs were not available at the time this testimony was prepared.

The results of my comparisons are presented below.

**Corporate Support Services Cost Comparison**

**Q. What are WSCK's costs per customer for Corporate Support Services?**

A. The table below shows the cost per WSCK customer for Corporate Support Services from 2020 through 2023.

| WSCK | 2020 Actual | 2021 Actual | 2022 Budget | 2023 Projected |
|---|---|---|---|---|
| Corporate Support Services | $ 628,798 | $ 662,413 | $ 657,056 | $ 673,367 |
| Customer Count | 7,074 | 7,095 | 7,062 | 7,029 |
| Cost per Customer | $ 89 | $ 93 | $ 93 | $ 96 |

**Q. What utility companies are included in the comparison group?**

A. The comparison group includes service companies owned by 22 utility holding companies. These service companies provide utility affiliates with A&G-related services that are equivalent to Corporate Support Services provided to WSCK. Cost information used to develop this comparison comes from the FERC Form 60.

**Q. What are the comparison group's costs per customer for service company A&G-related charges ?**

A. The table below shows the average cost per customer for A&G-related services provided by service companies to utility affiliates. The latest cost data available from

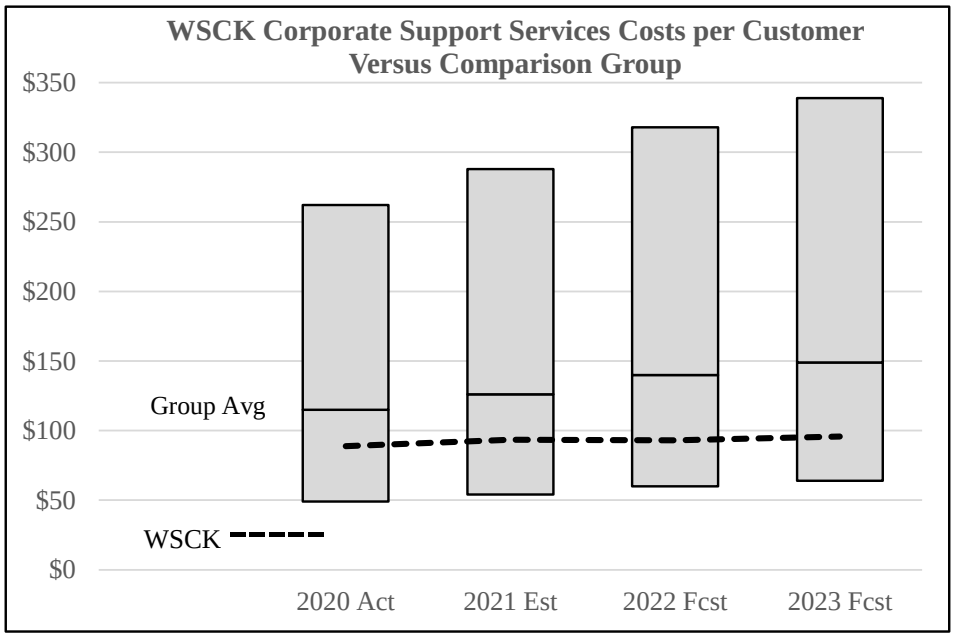
the Form 60 is for 2020. The cost for subsequent years is developed by escalating 2020 actual by forecast producer price index increases.

| Utility Company | Escalation Rate > 2020 Actual | 9.7% Estimated 2021 | 10.6% Forecast 2022 | 6.6% Forecast 2023 |
|---|---|---|---|---|
| AEP | $ 106 | $ 116 | $ 128 | $ 137 |
| AES | $ 107 | $ 117 | $ 130 | $ 139 |
| Algonquin | $ 138 | $ 152 | $ 168 | $ 179 |
| Alliant | $ 141 | $ 154 | $ 171 | $ 182 |
| Ameren | $ 68 | $ 74 | $ 82 | $ 88 |
| Avangrid | $ 66 | $ 73 | $ 80 | $ 86 |
| Black Hills | $ 139 | $ 153 | $ 169 | $ 180 |
| CenterPoint | $ 70 | $ 77 | $ 85 | $ 91 |
| Dominion | $ 58 | $ 64 | $ 70 | $ 75 |
| Duke | $ 136 | $ 149 | $ 165 | $ 176 |
| Entergy | $ 168 | $ 184 | $ 204 | $ 217 |
| Eversource | $ 143 | $ 157 | $ 174 | $ 186 |
| Exelon | $ 187 | $ 205 | $ 227 | $ 242 |
| FirstEnergy | $ 49 | $ 54 | $ 60 | $ 64 |
| Nat Grid | $ 189 | $ 207 | $ 229 | $ 244 |
| NiSource | $ 104 | $ 114 | $ 126 | $ 135 |
| PNM | $ 135 | $ 148 | $ 164 | $ 175 |
| PPL | $ 122 | $ 134 | $ 148 | $ 158 |
| Southern Co | $ 77 | $ 85 | $ 94 | $ 100 |
| Unitil | $ 262 | $ 288 | $ 318 | $ 339 |
| WEC | $ 146 | $ 161 | $ 178 | $ 189 |
| Xcel | $ 105 | $ 115 | $ 127 | $ 136 |
| Group Average | $ 115 | $ 126 | $ 140 | $ 149 |

Source: FERC Form 60 (2020); Bureau of Labor Statistics (2021 and 2022 PPI change); Wall Street Journal (2023 PPI change); Baryenbruch & Company, LLC, analysis

**Q. How do the costs of WSCK's Corporate Support Services compare to the comparison group?**

A. The table below shows WSCK's cost per customer to be well below the average of the comparison group. This is evidence that Corporate Support Services are delivered to WSCK at a cost that is favorable compared to A&G-related services provided by service companies to their utility affiliates.




| | 2020 Act | 2021 Est | 2022 Est | 2023 Fcst |
|---|---|---|---|---|
| Comparison Group Highest | $ 262 | $ 288 | $ 318 | $ 339 |
| Comparison Group Average | $ 115 | $ 126 | $ 140 | $ 149 |
| Comparison Group Lowest | $ 49 | $ 54 | $ 60 | $ 64 |
| WSCK (A) | $ 89 | $ 93 | $ 93 | $ 96 |

Note A: WSCK's costs per customer are actual for 2021 and budget for 2022

Source: Annual reports to KPSC; Baryenbruch & Company, LLC, analysis

**Total Customer Service and A&G Cost Comparison**

**Q. What are WSCK's costs per customer for total customer service and A&G expenses?**

A. The table below shows the cost per WSCK customer for total customer service and A&G expenses from 2020 through 2023. Bad debt expenses, which are a component of customer service expenses, are removed from the calculation because they are not a cost of Corporate Support Services and they vary greatly among the Kentucky water company comparison group.

| WSCK | 2020 Actual | 2021 Actual | 2022 Budget | 2023 Projected |
|---|---|---|---|---|
| Cust Service and A&G Expenses | $ 1,004,960 | $ 1,408,145 | $ 1,165,860 | $ 1,354,759 |
| Bad Debt Expenses | $ (97,094) | $ (202,899) | $ (53,803) | $ (128,126) |
| Total without Bad Debt Expenses | $ 907,866 | $ 1,205,246 | $ 1,112,057 | $ 1,226,634 |
| Customer Count | 7,074 | 7,095 | 7,062 | 7,029 |
| Cost per Customer | $ 128.34 | $ 169.87 | $ 157.47 | $ 174.51 |

**Q. What utilities are included in the comparison group?**

A. The comparison group includes water companies of similar size to WSCK whose annual reports to the KPSC contained sufficient information to develop a cost per customer. Annual reports were filed by 135 water companies, of which 22 did not contain the information necessary to calculate customer accounts and A&G expenses per customer. Of the remaining 112 water companies, 53 were selected for the comparison group because they were of a similar size to WSCK (between 2.5 times smaller to 2.5 times larger). The latest cost data available is from the 2020 annual reports to the KPSC.

**Q. How do WSCK's 2020 total customer service and A&G expenses compare to the Kentucky water utility comparison group?**

A. The table below shows WSCK's 2020 actual cost per customer of $128.34 is just below the comparison group's average cost per customer of $128.67.

Analysis of Total 2020 Customer Service and A&G Expenses per Customer
for Kentucky Water Utilities

| Kentucky Water Company | Cust Svc & A&G per Customer | Kentucky Water Company | Cust Svc & A&G per Customer |
|---|---|---|---|
| Hardin County Water District 1 | $ 419.33 | Bullock Pen Water District | $ 107.67 |
| Muhlenberg County Water District | $ 264.53 | Big Sandy Water District | $ 104.63 |
| Cannonsburg Water District | $ 227.72 | Marion County Water District | $ 104.15 |
| North Marshall Water District | $ 197.99 | Ohio County Water District | $ 103.35 |
| Barkley Lake Water District | $ 192.79 | Crittenden-Livingston County Water District | $ 100.47 |
| Rattlesnake Ridge Water District | $ 191.84 | Estill County Water District 1 | $ 99.92 |
| Southern Water and Sewer District | $ 188.69 | Cumberland Falls Highway Water District | $ 99.89 |
| North Shelby Water Company | $ 183.69 | Meade County Water District | $ 88.09 |
| Bath County Water District | $ 176.87 | Western Pulaski County Water District | $ 87.46 |
| Oldham County Water District | $ 162.75 | West Laurel Water Association Inc. | $ 87.35 |
| Wood Creek Water District | $ 162.45 | East Daviess County Water Association Inc. | $ 85.09 |
| Green River Valley Water District | $ 159.31 | Southern Madison Water District | $ 84.09 |
| Laurel County Water District 2 | $ 156.89 | Simpson County Water District | $ 79.75 |
| Green-Taylor Water District | $ 153.27 | Western Rockcastle Water Association Inc. | $ 77.98 |
| Adair County Water District | $ 153.02 | Henry County Water District 2 | $ 74.78 |
| McCreary County Water District | $ 151.88 | Butler County Water System Inc. | $ 74.43 |
| Christian County Water District | $ 149.34 | West Daviess County Water District | $ 73.51 |
| Monroe County Water District | $ 148.93 | Rowan Water Inc. | $ 71.37 |
| Todd County Water District | $ 146.72 | Garrard County Water Association Inc. | $ 64.67 |
| Mountain Water District | $ 135.80 | East Casey County Water District | $ 64.08 |
| Grayson County Water District | $ 134.25 | Henderson County Water District | $ 63.93 |
| **Comparison Group Average** | **$ 128.67** | North Nelson Water District | $ 63.18 |
| Jackson County Water Association Inc. | $ 128.58 | Larue County Water District 1 | $ 62.80 |
| **Water Service Corporation of Kentucky** | **$ 128.34** | Daviess County Water District | $ 62.57 |
| North Mercer Water District | $ 115.75 | Edmonson County Water District | $ 59.84 |
| Allen County Water District | $ 113.55 | East Logan Water District Inc. | $ 58.88 |
| Harrison County Water Association Inc. | $ 113.39 | East Laurel Water District | $ 41.94 |
| Hyden-Leslie County Water District | $ 109.70 | | |

Source: 2020 Annual Reports to the KPSC; Baryenbruch & Company, LLC, analysis

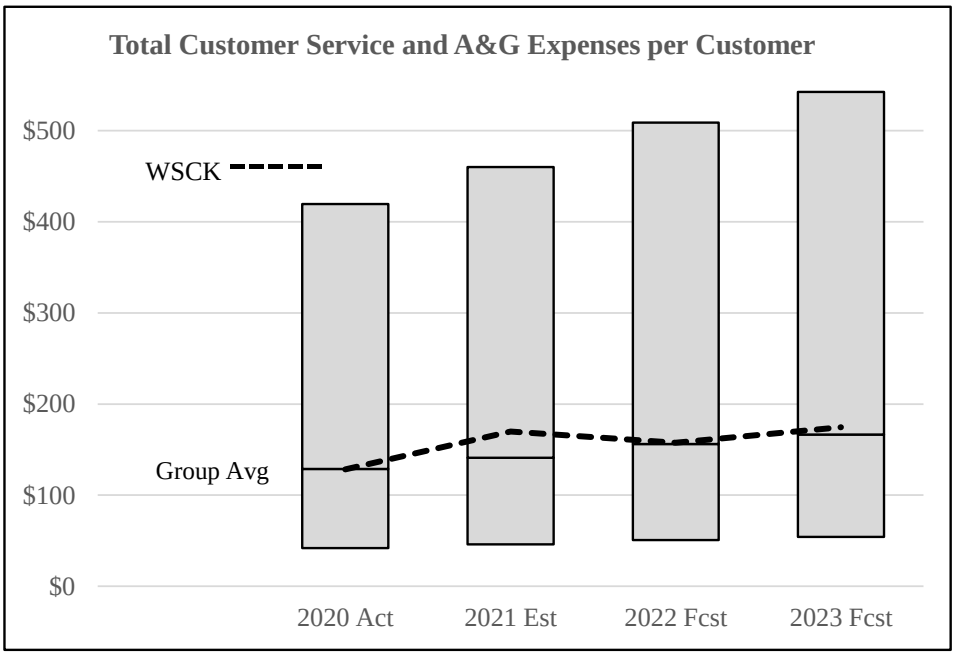
**Q. How do WSCK's future customer service and A&G expenses per customer compare to projected costs for the Kentucky water company comparison group?**

A. To answer this question, I first escalated the comparison group's 2020 actual cost per customer for total customer service and A&G expenses based on predicted changes in the producer price index for 2021, 2022 and 2023. As calculated below, the average cost per customer for Kentucky water companies is projected to increase to $166.42 by 2023.

| Water Company | Actual 2020 | 9.7% Estimate 2021 | 10.6% Forecast 2022 | 6.6% Forecast 2023 |
|---|---|---|---|---|
| Escalation Rate > | | 9.7% | 10.6% | 6.6% |
| Hardin County Water District 1 | $ 419.33 | $ 460.01 | $ 508.77 | $ 542.35 |
| Muhlenberg County Water District | $ 264.53 | $ 290.18 | $ 320.94 | $ 342.13 |
| Cannonsburg Water District | $ 227.72 | $ 249.81 | $ 276.29 | $ 294.53 |
| North Marshall Water District | $ 197.99 | $ 217.19 | $ 240.21 | $ 256.07 |
| Barkley Lake Water District | $ 192.79 | $ 211.49 | $ 233.90 | $ 249.34 |
| Rattlesnake Ridge Water District | $ 191.84 | $ 210.44 | $ 232.75 | $ 248.11 |
| Southern Water and Sewer District | $ 188.69 | $ 206.99 | $ 228.93 | $ 244.04 |
| North Shelby Water Company | $ 183.69 | $ 201.50 | $ 222.86 | $ 237.57 |
| Bath County Water District | $ 176.87 | $ 194.02 | $ 214.59 | $ 228.75 |
| Oldham County Water District | $ 162.75 | $ 178.54 | $ 197.46 | $ 210.50 |
| Wood Creek Water District | $ 162.45 | $ 178.21 | $ 197.10 | $ 210.11 |
| Green River Valley Water District | $ 159.31 | $ 174.77 | $ 193.29 | $ 206.05 |
| Laurel County Water District 2 | $ 156.89 | $ 172.11 | $ 190.35 | $ 202.91 |
| Green-Taylor Water District | $ 153.27 | $ 168.14 | $ 185.96 | $ 198.23 |
| Adair County Water District | $ 153.02 | $ 167.86 | $ 185.65 | $ 197.90 |
| McCreary County Water District | $ 151.88 | $ 166.61 | $ 184.27 | $ 196.44 |
| Christian County Water District | $ 149.34 | $ 163.83 | $ 181.19 | $ 193.15 |
| Monroe County Water District | $ 148.93 | $ 163.37 | $ 180.69 | $ 192.62 |
| Todd County Water District | $ 146.72 | $ 160.95 | $ 178.01 | $ 189.76 |
| Mountain Water District | $ 135.80 | $ 148.97 | $ 164.76 | $ 175.63 |
| Grayson County Water District | $ 134.25 | $ 147.27 | $ 162.88 | $ 173.63 |
| **Comparison Group Average** | **$ 128.67** | **$ 141.15** | **$ 156.11** | **$ 166.42** |
| Jackson County Water Association Inc. | $ 128.58 | $ 141.05 | $ 156.00 | $ 166.29 |
| North Mercer Water District | $ 115.75 | $ 126.98 | $ 140.44 | $ 149.71 |
| Allen County Water District | $ 113.55 | $ 124.56 | $ 137.76 | $ 146.86 |
| Harrison County Water Association Inc. | $ 113.39 | $ 124.39 | $ 137.57 | $ 146.65 |
| Hyden-Leslie County Water District | $ 109.70 | $ 120.34 | $ 133.09 | $ 141.88 |
| Bullock Pen Water District | $ 107.67 | $ 118.11 | $ 130.63 | $ 139.25 |
| Big Sandy Water District | $ 104.63 | $ 114.78 | $ 126.95 | $ 135.32 |
| Marion County Water District | $ 104.15 | $ 114.25 | $ 126.36 | $ 134.70 |
| Ohio County Water District | $ 103.35 | $ 113.37 | $ 125.39 | $ 133.66 |
| Crittenden-Livingston County Water District | $ 100.47 | $ 110.22 | $ 121.90 | $ 129.95 |
| Estill County Water District 1 | $ 99.92 | $ 109.61 | $ 121.23 | $ 129.23 |
| Cumberland Falls Highway Water District | $ 99.89 | $ 109.58 | $ 121.19 | $ 129.19 |
| Meade County Water District | $ 88.09 | $ 96.63 | $ 106.88 | $ 113.93 |
| Western Pulaski County Water District | $ 87.46 | $ 95.95 | $ 106.12 | $ 113.12 |
| West Laurel Water Association Inc. | $ 87.35 | $ 95.82 | $ 105.98 | $ 112.97 |
| East Daviess County Water Association Inc. | $ 85.09 | $ 93.34 | $ 103.24 | $ 110.05 |
| Southern Madison Water District | $ 84.09 | $ 92.24 | $ 102.02 | $ 108.75 |
| Simpson County Water District | $ 79.75 | $ 87.48 | $ 96.76 | $ 103.14 |
| Western Rockcastle Water Association Inc. | $ 77.98 | $ 85.54 | $ 94.61 | $ 100.85 |
| Henry County Water District 2 | $ 74.78 | $ 82.03 | $ 90.73 | $ 96.71 |
| Butler County Water System Inc. | $ 74.43 | $ 81.65 | $ 90.31 | $ 96.27 |
| West Daviess County Water District | $ 73.51 | $ 80.65 | $ 89.19 | $ 95.08 |
| Rowan Water Inc. | $ 71.37 | $ 78.29 | $ 86.59 | $ 92.31 |
| Garrard County Water Association Inc. | $ 64.67 | $ 70.94 | $ 78.46 | $ 83.64 |
| East Casey County Water District | $ 64.08 | $ 70.29 | $ 77.74 | $ 82.87 |
| Henderson County Water District | $ 63.93 | $ 70.13 | $ 77.56 | $ 82.68 |
| North Nelson Water District | $ 63.18 | $ 69.31 | $ 76.66 | $ 81.72 |
| Larue County Water District 1 | $ 62.80 | $ 68.90 | $ 76.20 | $ 81.23 |
| Daviess County Water District | $ 62.57 | $ 68.64 | $ 75.92 | $ 80.93 |
| Edmonson County Water District | $ 59.84 | $ 65.64 | $ 72.60 | $ 77.39 |
| East Logan Water District Inc. | $ 58.88 | $ 64.59 | $ 71.44 | $ 76.15 |
| East Laurel Water District | $ 41.94 | $ 46.01 | $ 50.89 | $ 54.25 |

Source: Annual Reports to the KPSC (2020); Bureau of Labor Statistics (2021 and 2022 PPI change); Wall Street Journal (2023 PPI change); Baryenbruch & Company, LLC, analysis

The chart below plots WSCK's 2020 through 2023 costs per customer against the average and range for comparison group water companies. WSCK's total customer service and A&G expenses per customer remain near the comparison group average through 2023.




| | Cost per Customer | | | |
|---|---|---|---|---|
| (B) | 2020 Act | 2021 Est | 2022 Fcst | 2023 Fcst |
| Comparison Group Highest | $ 419.33 | $ 460.01 | $ 508.77 | $ 542.35 |
| Comparison Group Average | $ 128.67 | $ 141.15 | $ 156.11 | $ 166.42 |
| Comparison Group Lowest | $ 41.94 | $ 46.01 | $ 50.89 | $ 54.25 |
| WSCK (A) | $ 128.34 | $ 169.87 | $ 157.47 | $ 174.51 |

Note A: WSCK's costs per customer are actual for 2021 and budget for 2022
Note B: Bad Debt Expenses are excluded from this calculation

Source: Annual reports to KPSC (2020); Baryenbruch & Company, LLC, analysis

**Total Water Utility Expenses Cost Comparison**

**Q. What are WSCK's costs per customer for total water utility expenses?**

A. The table below shows the cost per WSCK customer for total water utility expenses from 2020 through 2023.

| WSCK | 2020 Actual | 2021 Actual | 2022 Budget | 2023 Projected |
|---|---|---|---|---|
| Total Water Utility Expenses | $ 2,381,740 | $ 3,270,555 | $ 3,128,863 | $ 3,297,715 |
| Customer Count | 7,074 | 7,095 | 7,062 | 7,029 |
| Cost per Customer | $ 336.69 | $ 460.97 | $ 443.06 | $ 469.16 |

**Q. How do WSCK's 2020 total water utility expenses compare to the Kentucky water utility comparison group?**

A. The table below shows WSCK's 2020 cost per customer of $336.69 is well below the comparison group's average cost per customer of $423.20.

Analysis of 2020 Total Water Utility Expenses per Customer
for Kentucky Water Utilities

| Kentucky Water Company | Water Utility Expense per Customer | Kentucky Water Company | Water Utility Expense per Customer |
|---|---|---|---|
| Wood Creek Water District | $ 805.02 | Hyden-Leslie County Water District | $ 406.57 |
| Hardin County Water District 1 | $ 804.94 | Meade County Water District | $ 397.97 |
| Cannonsburg Water District | $ 669.75 | Cumberland Falls Highway Water District | $ 392.71 |
| Muhlenberg County Water District | $ 582.22 | Henderson County Water District | $ 389.23 |
| Southern Water and Sewer District | $ 578.00 | Monroe County Water District | $ 387.31 |
| Ohio County Water District | $ 546.65 | Henry County Water District 2 | $ 380.38 |
| Bath County Water District | $ 523.04 | Grayson County Water District | $ 374.43 |
| Big Sandy Water District | $ 520.76 | Southern Madison Water District | $ 372.06 |
| East Laurel Water District | $ 512.40 | Jackson County Water Association Inc. | $ 371.80 |
| North Shelby Water Company | $ 505.23 | Oldham County Water District | $ 371.76 |
| Christian County Water District | $ 498.32 | Rowan Water Inc. | $ 360.30 |
| Harrison County Water Association Inc. | $ 493.78 | East Casey County Water District | $ 358.31 |
| Rattlesnake Ridge Water District | $ 489.79 | Laurel County Water District 2 | $ 351.43 |
| Marion County Water District | $ 484.02 | Barkley Lake Water District | $ 342.22 |
| North Mercer Water District | $ 481.40 | Daviess County Water District | $ 337.00 |
| Todd County Water District | $ 481.05 | **Water Service Corporation of Kentucky** | **$ 336.69** |
| Green-Taylor Water District | $ 472.85 | Allen County Water District | $ 335.23 |
| Bullock Pen Water District | $ 471.57 | West Daviess County Water District | $ 331.10 |
| McCreary County Water District | $ 469.56 | East Daviess County Water Association Inc. | $ 328.74 |
| West Laurel Water Association Inc. | $ 465.72 | Adair County Water District | $ 304.15 |
| Simpson County Water District | $ 458.66 | Larue County Water District 1 | $ 302.77 |
| Estill County Water District 1 | $ 458.38 | North Marshall Water District | $ 298.24 |
| Green River Valley Water District | $ 440.92 | Western Pulaski County Water District | $ 293.29 |
| Western Rockcastle Water Association Inc. | $ 433.75 | Garrard County Water Association Inc. | $ 291.22 |
| East Logan Water District Inc. | $ 428.50 | North Nelson Water District | $ 249.66 |
| Crittenden-Livingston County Water District | $ 425.75 | Butler County Water System Inc. | $ 226.03 |
| **Comparison Group Average** | **$ 423.20** | Edmonson County Water District | $ 172.41 |
| Mountain Water District | $ 410.16 | | |

Source: 2020 Annual Reports to the KPSC; Baryenbruch & Company, LLC, analysis

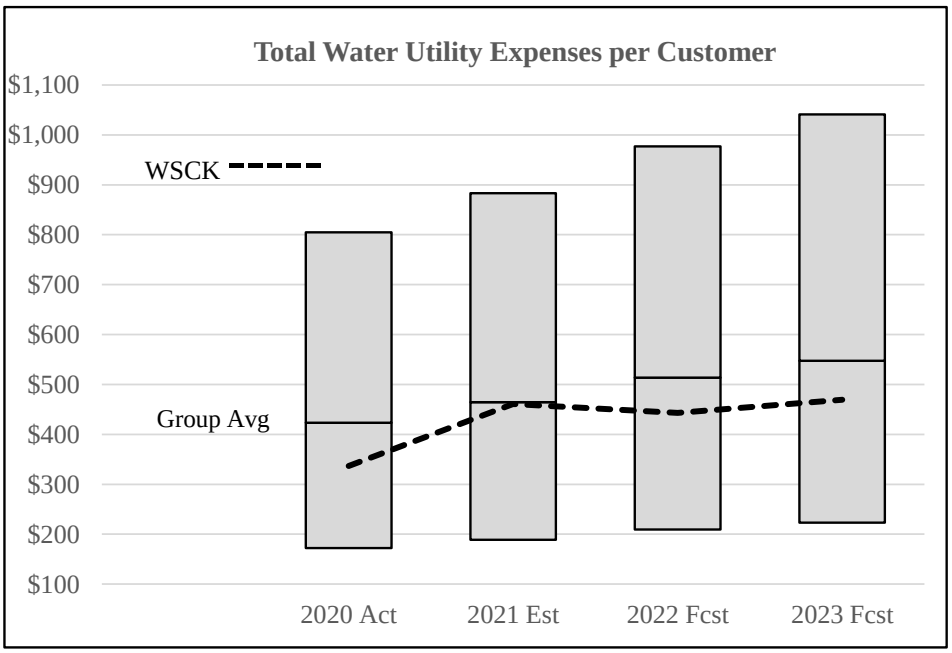
**Q. How do WSCK's future customer service and A&G expenses per customer compare to projected costs for the Kentucky water company comparison group?**

A. To answer this question, I first escalated the comparison group's 2020 actual cost per customer for total customer service and A&G expenses based on predicted changes in the producer price index for 2021, 2022 and 2023. As calculated below, the average cost per customer for Kentucky water companies is projected to increase to $547.34 by 2023.

| Escalation Rate > | | 9.7% | 10.6% | 6.6% |
|---|---|---|---|---|
| Water Company | Actual 2020 | Estimate 2021 | Forecast 2022 | Forecast 2023 |
| Wood Creek Water District | $ 805.02 | $ 883.11 | $ 976.72 | $ 1,041.18 |
| Hardin County Water District 1 | $ 804.94 | $ 883.02 | $ 976.62 | $ 1,041.07 |
| Cannonsburg Water District | $ 669.75 | $ 734.72 | $ 812.60 | $ 866.23 |
| Muhlenberg County Water District | $ 582.22 | $ 638.69 | $ 706.39 | $ 753.02 |
| Southern Water and Sewer District | $ 578.00 | $ 634.07 | $ 701.28 | $ 747.56 |
| Ohio County Water District | $ 546.65 | $ 599.67 | $ 663.24 | $ 707.01 |
| Bath County Water District | $ 523.04 | $ 573.77 | $ 634.59 | $ 676.48 |
| Big Sandy Water District | $ 520.76 | $ 571.28 | $ 631.83 | $ 673.53 |
| East Laurel Water District | $ 512.40 | $ 562.10 | $ 621.69 | $ 662.72 |
| North Shelby Water Company | $ 505.23 | $ 554.24 | $ 612.98 | $ 653.44 |
| Christian County Water District | $ 498.32 | $ 546.65 | $ 604.60 | $ 644.50 |
| Harrison County Water Association Inc. | $ 493.78 | $ 541.68 | $ 599.10 | $ 638.64 |
| Rattlesnake Ridge Water District | $ 489.79 | $ 537.30 | $ 594.25 | $ 633.47 |
| Marion County Water District | $ 484.02 | $ 530.97 | $ 587.25 | $ 626.01 |
| North Mercer Water District | $ 481.40 | $ 528.09 | $ 584.07 | $ 622.62 |
| Todd County Water District | $ 481.05 | $ 527.71 | $ 583.65 | $ 622.17 |
| Green-Taylor Water District | $ 472.85 | $ 518.71 | $ 573.70 | $ 611.56 |
| Bullock Pen Water District | $ 471.57 | $ 517.31 | $ 572.15 | $ 609.91 |
| McCreary County Water District | $ 469.56 | $ 515.11 | $ 569.71 | $ 607.31 |
| West Laurel Water Association Inc. | $ 465.72 | $ 510.90 | $ 565.05 | $ 602.35 |
| Simpson County Water District | $ 458.66 | $ 503.15 | $ 556.48 | $ 593.21 |
| Estill County Water District 1 | $ 458.38 | $ 502.84 | $ 556.14 | $ 592.85 |
| Green River Valley Water District | $ 440.92 | $ 483.69 | $ 534.96 | $ 570.26 |
| Western Rockcastle Water Association Inc. | $ 433.75 | $ 475.82 | $ 526.26 | $ 560.99 |
| East Logan Water District Inc. | $ 428.50 | $ 470.06 | $ 519.89 | $ 554.20 |
| Crittenden-Livingston County Water District | $ 425.75 | $ 467.04 | $ 516.55 | $ 550.64 |
| **Comparison Group Average** | $ 423.20 | $ 464.25 | $ 513.46 | $ 547.34 |
| Mountain Water District | $ 410.16 | $ 449.94 | $ 497.64 | $ 530.48 |
| Hyden-Leslie County Water District | $ 406.57 | $ 446.01 | $ 493.29 | $ 525.84 |
| Meade County Water District | $ 397.97 | $ 436.58 | $ 482.85 | $ 514.72 |
| Cumberland Falls Highway Water District | $ 392.71 | $ 430.80 | $ 476.47 | $ 507.92 |
| Henderson County Water District | $ 389.23 | $ 426.99 | $ 472.25 | $ 503.42 |
| Monroe County Water District | $ 387.31 | $ 424.88 | $ 469.92 | $ 500.93 |
| Henry County Water District 2 | $ 380.38 | $ 417.28 | $ 461.51 | $ 491.97 |
| Grayson County Water District | $ 374.43 | $ 410.75 | $ 454.29 | $ 484.28 |
| Southern Madison Water District | $ 372.06 | $ 408.15 | $ 451.42 | $ 481.21 |
| Jackson County Water Association Inc. | $ 371.80 | $ 407.87 | $ 451.10 | $ 480.88 |
| Oldham County Water District | $ 371.76 | $ 407.82 | $ 451.05 | $ 480.82 |
| Rowan Water Inc. | $ 360.30 | $ 395.24 | $ 437.14 | $ 465.99 |
| East Casey County Water District | $ 358.31 | $ 393.07 | $ 434.73 | $ 463.43 |
| Laurel County Water District 2 | $ 351.43 | $ 385.52 | $ 426.38 | $ 454.52 |
| Barkley Lake Water District | $ 342.22 | $ 375.41 | $ 415.21 | $ 442.61 |
| Daviess County Water District | $ 337.00 | $ 369.69 | $ 408.88 | $ 435.86 |
| Allen County Water District | $ 335.23 | $ 367.74 | $ 406.72 | $ 433.57 |
| West Daviess County Water District | $ 331.10 | $ 363.22 | $ 401.72 | $ 428.23 |
| East Daviess County Water Association Inc. | $ 328.74 | $ 360.63 | $ 398.85 | $ 425.18 |
| Adair County Water District | $ 304.15 | $ 333.66 | $ 369.02 | $ 393.38 |
| Larue County Water District 1 | $ 302.77 | $ 332.13 | $ 367.34 | $ 391.58 |
| North Marshall Water District | $ 298.24 | $ 327.17 | $ 361.85 | $ 385.73 |
| Western Pulaski County Water District | $ 293.29 | $ 321.74 | $ 355.85 | $ 379.33 |
| Garrard County Water Association Inc. | $ 291.22 | $ 319.46 | $ 353.33 | $ 376.65 |
| North Nelson Water District | $ 249.66 | $ 273.87 | $ 302.90 | $ 322.90 |
| Butler County Water System Inc. | $ 226.03 | $ 247.95 | $ 274.24 | $ 292.33 |
| Edmonson County Water District | $ 172.41 | $ 189.13 | $ 209.18 | $ 222.98 |

Source: Annual Reports to the KPSC (2020); Bureau of Labor Statistics (2021 and 2022 PPI change); Wall Street Journal (2023 PPI change); Baryenbruch & Company, LLC, analysis

The chart below plots WSCK's costs per customer against the average and range for comparison group water companies. WSCK's total water utility expenses per customer remain below the comparison group's average through 2023.




| | Cost per Customer | | | |
|---|---|---|---|---|
| | 2020 Act | 2021 Est | 2022 Fcst | 2023 Fcst |
| Comparison Group Highest | $ 805.02 | $ 883.11 | $ 976.72 | $1,041.18 |
| Comparison Group Average | $ 423.20 | $ 464.25 | $ 513.46 | $ 547.34 |
| Comparison Group Lowest | $ 172.41 | $ 189.13 | $ 209.18 | $ 222.98 |
| WSCK (Note A) | $ 336.69 | $ 460.97 | $ 443.06 | $ 469.16 |

Note A: WSCK's costs per customer are actual for 2021 and budget for 2022

Source: Annual reports to KPSC (2020); Baryenbruch & Company, LLC, analysis

**Q. What conclusion are you able to draw from your cost comparisons?**

A. I conclude that WSCK's expenses, including Corporate Support Services charges from WSC, for the years of 2020 through 2023 are reasonable compared to other utilities

**Q. Do you believe you have presented sufficient evidence that Corporate Support Services provided to WSCK are necessary and reasonable?**

A. Yes. By every criterion and measure I have presented in this direct testimony, Corporate Support Services are shown to be necessary and their cost is reasonable. Corporate Support Services are a good value to WSCK and its customers.

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

A. Yes, it does.

# AFFIDAVIT

The undersigned, PATRICK L. BARYENBRUCH, being duly sworn, deposes and says that he is the President of Baryenbruch & Company, LLC, a consulting firm providing services to the Water Service Corporation of Kentucky, that he is authorized to submit this testimony on behalf of Water Service Corporation of Kentucky, and that the information contained in the testimony is true and accurate to the best of his knowledge, information and belief, after reasonable inquiry, and as to those matters that are based on information provided to him, he believes to be true and correct.

Patrick Baryenbruch

Patrick L. Baryenbruch, Affiant

## NOTARY CERTIFICATE

**STATE OF** NC

**COUNTY OF** WAKE

Subscribed, acknowledged and sworn to before me by PATRICK L. BARYENBRUCH on this 26 day of MAY, 2022.

My commission expires: MAY 23, 2026.

NOTARY PUBLIC

SEKHAR PINAPAKA
Notary Public
Wake Co., North Carolina
My Commission Expires May 23, 2026

# Patrick Baryenbruch's Previous Affiliate Transactions and Rate Case Engagements

| | Client | State | Year | Purpose | Rate Case Witness? |
|---|---|---|---|---|---|
| 1 | Connecticut American Water | Connecticut | 1999 | Rate Case | Yes |
| 2 | Illinois American Water | Illinois | 2007 | Rate Case | Yes |
| 3 | Indiana American Water | Indiana | 2017 | Rate Case | Yes |
| 4 | Kentucky American Water | Kentucky | 2003 | Rate Case | Yes |
| | | Kentucky | 2006 | Rate Case | Yes |
| | | Kentucky | 2008 | Rate Case | Yes |
| | | Kentucky | 2009 | Rate Case | Yes |
| | | Kentucky | 2018 | Rate Case | Yes |
| 5 | Massachusetts American Water | Massachusetts | 2000 | Rate Case | Yes |
| 6 | Missouri American Water | Missouri | 2002 | Rate Case | Yes |
| | | Missouri | 2008 | Rate Case | Yes |
| | | Missouri | 2014 | Rate Case | Yes |
| | | Missouri | 2016 | Rate Case | Yes |
| 7 | New Jersey American Water | New Jersey | 2005 | Rate Case | Yes |
| | | New Jersey | 2007 | Rate Case | Yes |
| | | New Jersey | 2009 | Rate Case | Yes |
| | | New Jersey | 2010 | Rate Case | Yes |
| | | New Jersey | 2014 | Rate Case | Yes |
| | | New Jersey | 2017 | Rate Case | Yes |
| | | New Jersey | 2019 | Rate Case | Yes |
| 8 | New Mexico American Water | New Mexico | 2007 | Rate Case | Yes |
| 9 | New York American Water | New York | 2006 | Rate Case | Yes |
| | | New York | 2010 | Rate Case | Yes |
| | | New York | 2013 | Rate Case | Yes |
| | | New York | 2015 | Rate Case | Yes |
| 10 | Ohio American Water | Ohio | 2006 | Rate Case | Yes |
| | | Ohio | 2010 | Rate Case | Yes |
| 11 | Pennsylvania American Water | Pennsylvania | 2008 | Compliance | No |
| | | Pennsylvania | 2011 | Compliance | No |
| | | Pennsylvania | 2014 | Compliance | No |
| | | Pennsylvania | 2017 | Compliance | No |
| 12 | Tennessee American Water | Tennessee | 2006 | Rate Case | Yes |
| | | Tennessee | 2010 | Rate Case | Yes |
| 13 | Virginia American Water | Virginia | 1996 | Rate Case | Yes |
| | | Virginia | 1999 | Rate Case | Yes |
| | | Virginia | 2000 | Rate Case | Yes |
| | | Virginia | 2001 | Rate Case | Yes |
| | | Virginia | 2003 | Rate Case | Yes |
| | | Virginia | 2007 | Rate Case | Yes |
| | | Virginia | 2009 | Rate Case | Yes |
| | | Virginia | 2011 | Rate Case | Yes |
| | | Virginia | 2014 | Rate Case | Yes |
| | | Virginia | 2018 | Rate Case | Yes |
| 14 | West Virginia American Water | West Virginia | 2002 | Rate Case | Yes |
| | | West Virginia | 2006 | Rate Case | Yes |
| | | West Virginia | 2007 | Rate Case | Yes |
| | | West Virginia | 2009 | Rate Case | Yes |
| | | West Virginia | 2012 | Rate Case | Yes |
| | | West Virginia | 2014 | Rate Case | Yes |
| | | West Virginia | 2017 | Rate Case | Yes |
| 15 | Atlanta Gas Light (AGL Resources) | Georgia | 2009 | Rate Case | Yes |
| 16 | Atmos Energy Corporation (VA) | Virginia | 2004 | Compliance | No |
| 17 | Columbia Gas of Kentucky | Kentucky | 2015 | Rate Case | Yes |
| 18 | Columbia Gas of Maryland | Maryland | 2015 | Rate Case | Yes |
| 19 | Columbia Gas of Massachusetts | Massachusetts | 2004 | Rate Case | Yes |
| | | Massachusetts | 2006 | Internal Info | No |
| | | Massachusetts | 2011 | Internal Info | No |
| | | Massachusetts | 2012 | Internal Info | No |
| | | Massachusetts | 2014 | Internal Info | No |
| | | Massachusetts | 2017 | Internal Info | No |

# Patrick Baryenbruch's Previous Affiliate Transactions and Rate Case Engagements

| | Client | State | Year | Purpose | Rate Case Witness? |
|---|---|---|---|---|---|
| 20 | Columbia Gas of Pennsylvania | Pennsylvania | 2015 | Rate Case | Yes |
| 21 | Columbia Gas of Virginia | Virginia | 2003 | Compliance | No |
| | | Virginia | 2004 | Compliance | No |
| | | Virginia | 2005 | Rate Case | Yes |
| | | Virginia | 2006 | Compliance | No |
| | | Virginia | 2007 | Compliance | No |
| | | Virginia | 2008 | Compliance | No |
| | | Virginia | 2009 | Rate Case | Yes |
| | | Virginia | 2010 | Compliance | No |
| | | Virginia | 2011 | Compliance | No |
| | | Virginia | 2012 | Compliance | No |
| | | Virginia | 2013 | Rate Case | Yes |
| | | Virginia | 2014 | Compliance | No |
| | | Virginia | 2015 | Rate Case | Yes |
| | | Virginia | 2016 | Compliance | No |
| | | Virginia | 2017 | Rate Case | Yes |
| | | Virginia | 2018 | Compliance | No |
| 22 | Northern Indiana Public Service Company | Indiana | 2015 | Internal Info | No |
| | | Indiana | 2016 | Rate Case | Yes |
| 23 | Dominion Resources, Inc. (VA) | Virginia | 2008 | Rate Case | Yes |
| | | Virginia | 2009 | Compliance | No |
| | | Virginia | 2010 | Compliance | No |
| | | Virginia | 2011 | Compliance | No |
| | | Virginia | 2012 | Compliance | No |
| | | Virginia | 2014 | Compliance | No |
| | | Virginia | 2017 | Compliance | No |
| 24 | Duke Energy (NC) | North Carolina | 2006 | Compliance | No |
| 25 | Elizabethtown Gas (AGL Resources) (NJ) | New Jersey | 2008 | Rate Case | Yes |
| 26 | Electric Transmission Texas | Texas | 2016 | Rate Case | Yes |
| 27 | General Water Works of Rio Rancho (NM) | New Mexico | 1993 | Rate Case | Yes |
| 28 | General Water Works of Virginia | Virginia | 1992 | Rate Case | Yes |
| 29 | Po River Water and Sewer (VA) | Virginia | 1993 | Rate Case | Yes |
| | | Virginia | 2007 | Rate Case | Yes |
| | | Virginia | 2008 | Rate Case | Yes |
| 30 | Progress Energy (NC) | North Carolina | 2001 | Internal Info | No |
| 31 | Roanoke Gas Company (VA) | Virginia | 2006 | Compliance | No |
| 32 | Southern California Edison | California | 2002 | Compliance | No |
| | | California | 2003 | Compliance | No |
| | | California | 2004 | Compliance | No |
| | | California | 2005 | Compliance | No |
| 33 | AEP Texas | Texas | 2018 | Rate Case | Yes |
| 34 | Southwestern Electric Power | Texas | 2016 | Rate Case | Yes |
| 35 | Virginia Natural Gas (AGL Resources) | Virginia | 2004 | Compliance | No |
| | | Virginia | 2005 | Rate Case | Yes |
| | | Virginia | 2010 | Rate Case | Yes |
| 36 | United Water of Pennsylvania | Pennsylvania | 2004 | Rate Case | Yes |
| 37 | Utilities, Inc./Corix Infrastructure Inc. | | 2018 | Internal Info | No |
| 38 | Utilities, Inc. (VA) | Virginia | 2006 | Rate Case | Yes |
| | | Virginia | 2008 | Rate Case | Yes |
| | | Virginia | 2013 | Rate Case | Yes |
| | | Virginia | 2019 | Rate Case | Yes |
| 39 | Utilities, Inc. (KY) | Kentucky | 2010 | Rate Case | Yes |
| | | Kentucky | 2012 | Rate Case | Yes |

| | |
|---|---|
| Total Affiliate Transactions Studies | 114 |
| Number of Rate Cases | 77 |
| Number of Utility Clients | 39 |
| Number of States | 17 |

# Corix Regulated Utilities (US) Inc.

# Evaluation of Necessity and Reasonableness of 2021 Corporate Support Services

**November 2021**

# Corix Regulated Utilities (US) Inc.

## Evaluation of Necessity of Corporate Support Services and Reasonableness of 2021 Charges from Affiliates

Table of Contents

# I – Executive Summary

## Purpose of This Evaluation

This study was undertaken to determine the necessity and reasonableness of corporate support services ("Corporate Support Services") provided to Corix Regulated Utilities (US), Inc. ("CRU US"). CRU US utility companies operate in 17 of the lower 48 US states. During 2021, approximately $25.8 million is budgeted to be charged to CRU US for Corporate Support Services. Through September 30, 2021, actual 2021 charges to CRU US for Corporate Support Services were within 3% of budget. The services provided by Corporate Support Services are administrative and general (A&G) in nature.

Baryenbruch & Company, LLC, answered the following questions to determine the necessity and reasonableness of Corporate Support Services during 2021:

Necessity of Corporate Support Services

1. Are Corporate Support Services provided to CRU US comparable to services provided by other utility service companies?

2. Are Corporate Support Services beneficial to CRU US and their customers?

3. Are Corporate Support Services duplicative or overlapping with work performed by CRU US operating companies themselves?

4. Do governance structure and processes exist to ensure Corporate Support Services are necessary to CRU US?

Reasonableness of Corporate Support Services Charges

5. Are charges for Corporate Support Services provided to CRU US in line with charges of other utility service companies to their regulated utility affiliates?

6. Are Corporate Support Services provided to CRU US priced at the lower of cost or market?

7. Are CRU US' total customer accounts expenses, including charges directly from the Corporate Support Services organization, comparable to the costs of other utilities?

8. Are Corporate Support Services appropriately allocated to CRU US?

## Evaluation Results

Based upon its evaluation, Baryenbruch & Company, LLC, is able to reach the following conclusions regarding these questions.

- Question 1: Corporate Support Services provided to CRU US are comparable to those offered by comparison group utility service companies.

- Question 2: Corporate Support Services provided to CRU US would be required even if CRU US operating companies were stand-alone utilities. These Corporate Support Services provided during 2021 can be associated with one or more benefit categories.

- Question 3: There is no redundancy or overlap in Corporate Support Services provided to CRU US based on an analysis of the responsibilities for utility functions.

# I – Executive Summary

- Question 4: The governance structure and processes contribute to ensuring that Corporate Support Services provided to CRU US are necessary and the associated charges are reasonable.

- Question 5: Budgeted 2021 charges for Corporate Support Services provided to CRU US are below the comparison group average. CRU US were charged $94 per customer for these services. This is lower than the service company comparison group's average of $115 per-customer cost for A&G-related charges to affiliates.

- Question 6: Corporate Support Services are provided at a cost lower than outside providers.

  - On average, the hourly rates for outside service providers are approximately 141% higher than comparable hourly rates charged by the Corporate Support Services organization
  - If all the managerial and professional services now provided by the Corporate Support Services organization had been outsourced during 2021, CRU US and their customers would have incurred more than $21.3 million in additional expenses
  - Corporate Support Services charges do not include any profit markup. Only the actual cost of the service is allocated to CRU US.

- Question 7: CRU US' total budgeted 2021 customer accounts expenses, including charges directly from the Corporate Support Services organization, are comparable to the costs of other utilities.

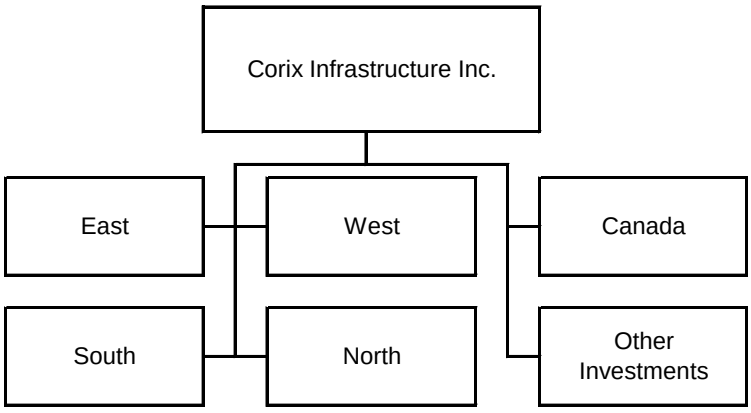
- Question 8: Corporate Support Services provided to CRU US are appropriately allocated, as evidenced by the following:

  - Separate books of accounts and records are maintained to facilitate accounting for the cost of Corporate Support Services provided to CRU US
  - Costs of Corporate Support Services are allocated and assigned on a fully distributed cost basis
  - Allocation factors employed are commonly used by other utility service companies
  - Cross-subsidization is avoided.

# II – Background

**Description of Corix Infrastructure, Inc.**

CRU US is an indirect, wholly owned subsidiary of Corix Infrastructure Inc. (Corix), a privately held corporation owned by certain affiliates of British Columbia Investment Management Corporation. Corix provides water, wastewater and energy utility services. Its businesses are organized, for management reporting purposes, into the units shown below. CRU US are in the East, West, South and North business units.




Source: Company information

CRU US is headquartered in Chicago, Illinois, and owns regulated utility companies doing business in 17 of the lower 48 US states.

**Description of Corporate Support Services**

CRU US is provided with Corporate Support Services from employees in two affiliated legal entities—Corix Infrastructure Inc. (Corix or CII) and Water Services Corporation (WSC). Exhibit 1 (page 4) shows where CRU US falls in the Corix legal entity structure.

CRU US has no employees of its own. All of the staff needed to operate CRU US are WSC employees. The table below shows 2021 staffing levels for CII and WSC. Utility operations staff of WSC are exclusively dedicated to CRU US. The staffing levels of Corporate Support Services and Utility Operations are shown in the table below.

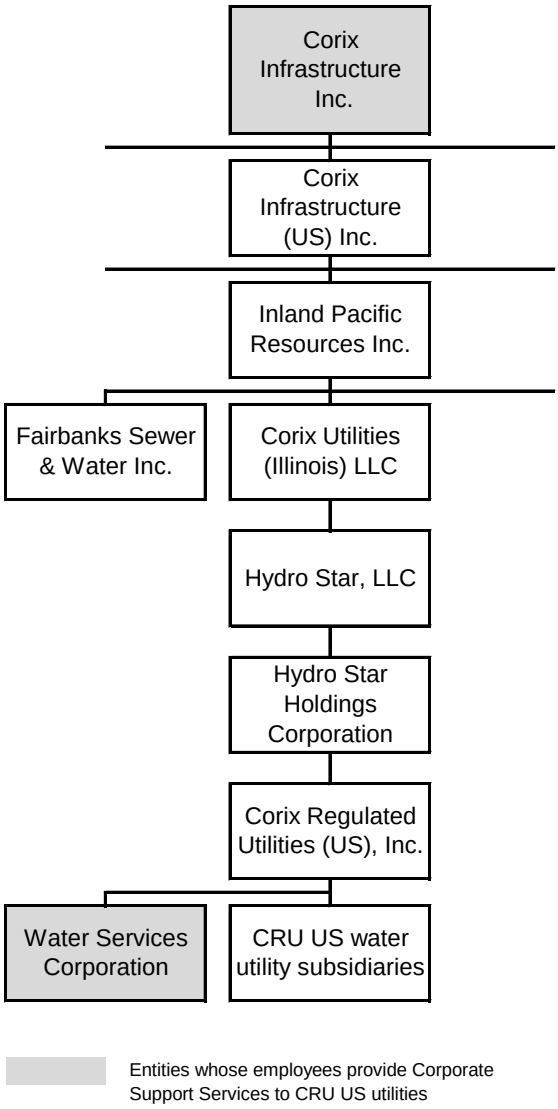
| | 2021 Staffing by Affiliate Entity | | |
|---|---|---|---|
| Type of Service | CII | WSC | Total |
| Corporate Support Services | 51 | 136 | 187 |
| Utility Operations | | 450 | 450 |
| Total | 51 | 586 | 637 |

Source: Company Information

The organization of Corporate Support Services is shown in Exhibit 2 (page 5). A description of the services that WSC is obligated to provide CRU US operating companies under an exemplar Affiliate Interest Agreement is presented in Exhibit 3 (pages 6-8). Certain of the described services in Exhibit 3 are provided by WSC employees, the costs of whom are directly assigned to the operating entity (e.g., operations). The cost of operational services is not A&G, thus, not part of the Tier 1 or Tier 2 allocations.

Exhibit 1

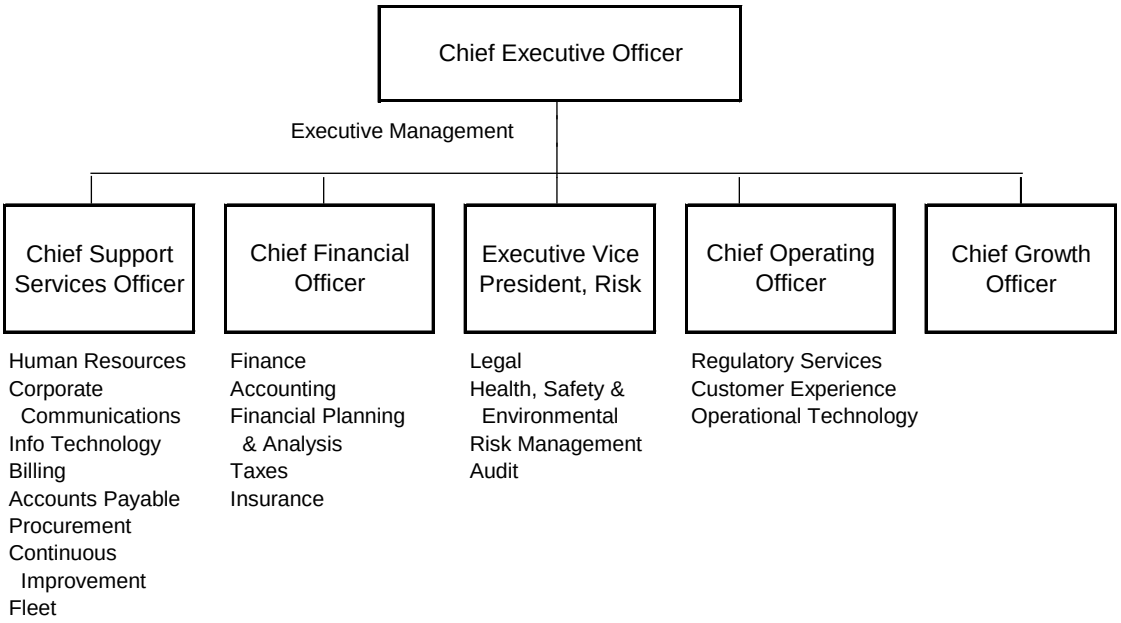
## Corix Regulated Utilities (US) Inc.
## Legal Entity Structure




Source: Company information

Exhibit 2

## Corix Regulated Utilities (US) Inc.
## Corporate Support Services Organization




Source: Company information

# Corix Regulated Utilities (US) Inc.
## Description of Services Available Under Affiliate Interest Agreement

| Service Category | Description |
|---|---|
| Executive | Includes executive officer and director assistance, including but not limited to that of presidents, vice presidents, treasurers and chief financial and other chief officers who will assist and advise operating companies in respect to corporate, financial, risk management, strategy, operating, engineering, organization, tax, audit, governance, regulatory and other issues. They will keep themselves informed with respect to the operations, maintenance, financial condition of and other matters relating to the operating companies through contacts with the officers, directors and other representatives of operating company. Such executive assistance will include visiting the property of operating companies when necessary to the proper furnishing of the services. They will also supervise the personnel to ensure services are performed efficiently, economically and satisfactorily to the operating companies. |
| Engineering | Includes services as requested by operating companies in areas including design, construction and management of operating companies. |
| Operating | Includes personnel to perform and/or control all usual operating functions, including pumping, treatment and distribution as well as maintenance of equipment and facilities. These responsibilities will include testing and record-keeping for compliance with all state and local regulatory agency requirements. |
| Accounting | Includes comprehensive accounting services, including bookkeeping, payroll, tax determination, financial statement preparation, budgets, credit, agency annual reports and similar agency support and filings. Periodic analysis will be made for purposes of planning and measurement of efficiency. |
| Centralized Cash Management | Includes a centralized cash management system whereby cash receipts and payments are managed by one central body on behalf of all of operating companies. Provision of centralized cash management offers more efficiently handled cash, increased visibility and control, simplified bank account structure and reduced overall bank transaction costs and may provide access to financing or funds for capital projects as well as acquisitions. |
| Legal | Includes general counsel and supporting in-house counsel, as necessary, to advise and assist in the performance of the services herein provided for and to aid operating companies in all matters where such assistance may be necessary and/or desired. |
| Customer Billing, Contact and Experience | Includes all customer contact, billing and collections, new accounts, deposits, meter reading, inquiries, complaints customer response and call center services. |
| Construction | Includes services associated with performing directly or supervising construction work, including customer connections, meter installations, main extensions, plant expansions or capital additions of any nature as required by operating companies. |

# Corix Regulated Utilities (US) Inc.
## Description of Services Available Under Affiliate Interest Agreement

| Service Category | Description |
|---|---|
| Continuing Improvement | Includes business transformation services (e.g., software implementation and upgrades) and identification and execution of other activities that improve efficiency, reliability or the delivery of services to operating companies and ultimately improve service to operating company customers. |
| Information Technology | Includes day-to-day IT services such as general system operations and maintenance, software maintenance, workstation acquisition support and certain network administration, as well as design, implementation and replacement of enterprise resource planning, oversight of cybersecurity programs, data storage and management, communication networks and development of IT equipment strategies. The services will enable operating companies to prepare and properly implement enterprise policies relevant to IT. IT services will include security analyses, monitoring and investigation of security alerts, conducting security awareness training and continuously work to improve security in the environment including identifying and implementing best practices to prevent incidents and mitigate risks. |
| Human Resources | Includes services for day-to-day personnel matters (such as recruiting, background checks, onboarding training, payroll, human resource complaints, investigations, reviews, assisting employees with various benefit questions and elections, etc.), the creation, update and compliance framework for personnel policies, support for executives' and employees' compensation plan design, retirement savings, and benefits management. The services cover matters related to employee and labor relations issues. |
| Health, Safety and Environmental | Includes services to ensure compliance and familiarity with local requirements, permits and regulators. The services will cover planning, including the review for compliance with all federal government mandates; development and deployment of company-wide HSE policies, procedures, training manuals, forms and tools for standardized programs to be used across the operating companies; compliance programs; assessment programs; industry research; and incident investigation, corrective actions, and audits. |
| Business Development | Includes business development services to operating companies in order to identify, evaluate and execute opportunities for acquisition of water and sewer systems. |
| Other Services | Includes services other than those described above (e.g., Finance, Financial Planning and Analysis, Accounts Payable, Treasury, Fleet, Communications) that are necessary for utility operating companies to provide service to customers. |

# III – Evaluation Approach for Corporate Support Services

**Baryenbruch & Company, LLC, Evaluation Methodology**

The necessity and reasonableness of Corporate Support Services provided to CRU US are evaluated by Baryenbruch & Company, LLC, as described below.

Necessity of Corporate Support Services

- Question 1 – Prevalence of Services

Question 1 is answered by determining if the Corporate Support Services provided to CRU US are consistent with services provided by other utility service companies. Information on the comparison group comes from their 2020 Form 60, which is a report designed to collect financial information from service companies that are subject to the Federal Energy Regulatory Commission's (FERC) regulation. Service company filers are those that belong to electric and combination electric/gas utility holding companies. The activities of energy-related services companies are relevant to Corporate Support Services provided to CRU US because they are the same type of A&G services, such as legal, finance, accounting, human resources and information technology.

- Question 2 – Benefits from Services

Question 2 is answered by associating the services provided by each functional area of Corporate Support Services with benefits to CRU US. The following is a set of benefits that are used to associate with the departments that charge CRU US during 2021:

| |
|---|
| **Governance** – The department provides oversight and management control over functional or operating areas and processes. Among other things, governance activities involve planning and reporting of actual performance. |
| **Compliance** – The department helps ensure compliance with regulatory, legal, financial and other obligations of individual operating companies and the combined company. |
| **Economies** – The department facilitates cost savings from purchasing and operating economies of scale. The service company is able to employ greater bargaining power to realize better prices for common goods and services and pass those savings on to enterprise operating companies. It can also more efficiently utilize staff through workload balancing and specialization, which allows operating companies to avoid the need to staff for less than a full-time workload. |
| **Continuity of Service** – The department helps assure on-going provision of service through the centralization of staff performing similar activities. Larger concentrations of these resources mean there is coverage of work during potential disruptions such as absences and departures. |
| **Standards** – The department plays a role in ensuring that standard policies, procedures and practices are established and followed across the enterprise. |
| **Other** – The department facilitates service company management, operations, business and accounting processes. |

Many specific benefits were also identified during interviews conducted to validate the benefits of Corporate Support Services provided to CRU US.

- Question 3 - Redundancy of Services

Question 3 is answered through an analysis of the responsibilities of the Corporate Support Services organization in the delivery of services to CRU US. The end product is a responsibility matrix with a designation of the role played by CRU US and the Corporate Support Services organization performing all the operational and A&G functions necessary to deliver service to customers.

- Question 4 – Governance Structures and Processes

Question 4 involves identifying and documenting the principal management practices and controls that help ensure charges from the Corporate Support Services organization to CRU US are necessary and reasonable.

Reasonableness of Corporate Support Services

- Question 5 – A&G Cost Comparison

Question 5 determines if the cost of Corporate Support Services is in line with the cost of similar services provided by other service companies to their utility affiliates. The metric used for this comparison is A&G-related charges per customer. Substantially all the services provided by Corporate Support Services are A&G in nature. Every other utility service company provides A&G services to affiliates and these services are similar across utility types. This common pool of costs provides a valuable cost-comparison opportunity.

- Question 6 – Provision of Services at the Lower of Cost or Market

Question 6 determines if support services are provided to CRU US at the lower of cost or market. This is accomplished by comparing the cost per hour for managerial and professional services provided by support services personnel to hourly billing rates that would be charged by outside providers of similar services.

- Question 7 – Customer Accounts Cost Comparison

Question 7 determines if the cost of customer accounts services provided to CRU US by the Corporate Support Services organization are comparable to other regulated utilities that do business in the states in which CRU US operates. The comparison metric is customer accounts services cost per customer.

- Question 8 – Appropriate Allocation of the Cost of Services

Question 8 involves an evaluation of Corix-wide financial systems, processes and data structure to determine if they are designed and configured to properly charge affiliates with fully distributed costs of services. Also, the factors used to allocate Corporate Support Services costs were evaluated to determine if they are reasonable, relate to cost causation and consistently applied to all affiliates.

**Interviews of Corporate Support Services and Utility Operations Personnel**

An important part of this evaluation update was interviews conducted with executives of each functional area of Corporate Support Services and with the recipient of services, executives of the CRU US organization. These interviews were particularly important in providing evidence necessary to draw conclusions on Question 2 – Benefits from Services and Question 3 - Redundancy of Services. The table below lists the executives who were interviewed:

## III – Evaluation Approach for Corporate Support Services

| Position |
|---|
| Executive Leadership Team |
| Chief Executive Officer |
| Chief Operating Officer |
| Chief Financial Officer |
| Chief Shared Services Officer |
| Executive Vice President, Risk |
| Chief Growth Officer |
| Utility Operations |
| East Region Business Unit |
| SVP East Region Business Unit/President, Atlantic |
| President, Florida |
| North Region Business Unit |
| SVP North Region Business Unit/President, Midwest and Mid Atlantic |
| President, Mid Atlantic |
| Vice President, Contract Utilities and Energy Systems |
| South Region Business Unit |
| SVP South Region Business Unit/ President, Louisiana |
| President, South |
| President, Texas |
| West Region Business Unit |
| SVP West Region Bus Unit/President, Alaska |
| President, West Region Bus Unit |
| Corporate Support Services |
| Vice President and Principal Accounting Officer |
| Vice President, Financial Reporting and Analytics |
| Vice President and Chief Information Officer |
| Vice President, Human Resources |
| Vice President, Support Operations |
| Director, Regulatory Affairs |

# IV – Necessity of Corporate Support Services

## Question 1 – Prevalence of Services

CRU US' need for corporate services was first evaluated by determining if those services are typically provided by other utility service companies. This determination was made with the use of information from the 2020 FERC Form 60. The analysis included the following 26 service companies associated with 20 utility holding companies.

| Utility Holding Company | Service Company | Utility Holding Company | Service Company |
|---|---|---|---|
| AEP | American Electric Power Service Corp. | Eversource | Eversource Energy Service Company |
| AES | AES US Services, LLC | Exelon | Exelon Business Services Company |
| Algonquin | Algonquin Power & Utilities Corp. | | PHI Service Company |
| | Liberty Utilities Service Corporation | FirstEnergy | FirstEnergy Service Company |
| | Liberty Utilities (Canada) Corporation | Nat Grid | National Grid USA Service Company Inc. |
| Alliant | Alliant Energy Corporate Services, Inc. | NiSource | NiSource Corporate Services Company |
| Ameren | Ameren Services Company | PNM | PNMR Services Company |
| Avangrid | Avangrid Service Company | PPL | LG&E and KU Services Company |
| Black Hills | Black Hills Service Company, LLC | | PPL EU Services Corporation |
| Dominion | Dominion Energy Services, Inc. | | PPL Services Corporation |
| | Dominion Energy Southeast Services, Inc. | Southern Co | Southern Company Services, Inc. |
| Duke | Duke Energy Business Services, LLC | WEC | WEC Business Services LLC |
| Entergy | Entergy Services, LLC | Xcel | Xcel Energy Services Inc. |

The table below compares corporate services provided to CRU US to the services provided by the comparison group. The Corporate Support Services provided to CRU US are similar to the service companies of the comparison group utility holding companies.

| | | Other Utility Service Companies (B) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Service Categories | Corix Corporate Support Services | AEP | AES | Algonquin | Alliant | Ameren | Avangrid | Black Hills | Dominion | Duke | Entergy | Eversource | Exelon | FirstEnergy | National Grid | NiSource | PNM | PPL | Southern Co | WEC | Xcel |
| Executive/Management | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Corporate Strategy | X | X | | X | X | X | X | | X | X | X | X | X | X | X | | | X | X | | X |
| Legal | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Corporate Communications | X | X | | X | X | X | X | | X | X | X | X | X | X | X | | X | X | X | X | X |
| Human Resources | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Customer Services | X | X | X | | X | | X | X | X | X | X | X | X | X | X | X | | X | | X | |
| Financial Services | | | | | | | | | | | | | | | | | | | | | |
| Finance | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Accounting | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Taxes | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Investor Relations | X | X | | X | X | X | X | | X | X | X | X | X | X | X | X | | X | X | X | X |
| Risk Management | X | X | X | X | X | | X | X | X | X | | | | X | X | | X | X | | | |
| Audit Services | X | X | X | X | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | | X |
| Regulatory Services | X | X | X | | X | X | X | X | X | X | X | X | X | X | X | X | | X | | X | X |
| Information Technology | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Environ., Health and Safety | X | X | X | X | X | | X | | X | X | X | X | | X | X | X | X | X | X | X | X |
| Supply Chain | X | X | X | X | X | X | X | | X | X | X | X | | X | X | X | | X | X | X | X |
| Other (A) | X | X | | X | X | | X | | X | X | X | X | X | X | X | X | | X | | X | X |
| Total Services | 17 | 17 | 13 | 15 | 17 | 12 | 17 | 11 | 17 | 17 | 16 | 16 | 14 | 17 | 17 | 14 | 11 | 17 | 13 | 14 | 15 |

Note A: Includes services such as transportation/fleet, real estate and facilities

Note B: These are service companies whose FERC Form 60s included detailed information on services provided to affiliates. Data was not available for CenterPoint and Unitil.

Source: FERC Form 60 (2020); Baryenbruch & Company, LLC, analysis

# IV – Necessity of Corporate Support Services

**Question 2 – Benefits from Services**

Corix Corporate Support Services follow a centralized model for the delivery of necessary services to CRU US. By consolidating executive, professional and operational Corporate Support Services into a centralized service organization utility, the following benefits are realized for CRU US and their customers:

- Governance – Corporate Support Services departments provide oversight and management control over functional or operating areas and processes. These governance activities include, among other things, planning and reporting of actual performance.
- Compliance – Corporate Support Services departments help ensure compliance with regulatory, legal, financial and other obligations of individual operating companies and the combined company.
- Economies – Corporate Support Services departments facilitate cost savings from purchasing and operating economies of scale. Corporate Support Services are able to employ greater bargaining power to realize better prices for common goods and services and pass those savings on to CRU US. It can also more efficiently utilize staff through workload balancing and specialization, which allows operating companies to avoid the need to staff for less than a full-time workload.
- Continuity of Service – Corporate Support Services departments help ensure on-going provision of service through the centralization of staff performing similar activities. Larger concentrations of these resources mean there is coverage of work during potential disruptions such as absences and departures.
- Standards – Corporate Support Services departments play a role in ensuring that standard policies, procedures and practices are established and followed across the enterprise.
- Other – Corporate Support Services departments facilitate service company management, operations, business and accounting processes.

Exhibit 4 (page 14) shows which of these benefits are provided by the Corporate Support Services organization. The five right-hand columns of this exhibit designate which of the above benefits are provided to CRU US by each Corporate Support Services unit.

Exhibit 5 (pages 15-18) provides examples of specific benefits to CRU US that were identified during interviews with Corporate Support Services management.

**Question 3 – Redundancy of Services**

The need for Corporate Support Services was also evaluated by determining if they would be required if CRU US operating companies were stand-alone utilities. This evaluation began by determining in detail what the Corporate Support Services organization does for CRU US. Based on discussions with Corporate Support Services personnel, the matrix in Exhibit 6 (pages 19-21) was created showing which entity—Corporate Support Services or CRU US—is responsible for each function that must be performed for CRU US to ultimately provide service to their customers. This matrix was reviewed to determine (1) if there was redundancy or overlap in the services being provided by the Corporate Support Services organization and (2) if Corporate Support Services provided to CRU US are typical of those needed by a stand-alone water utility.

## IV – Necessity of Corporate Support Services

Upon review of Exhibit 6, the following conclusions can be drawn:

- The services that Corporate Support Services organization provides are necessary and would be required even if CRU US operating companies were stand-alone water utilities.
- There is no redundancy or overlap in the services provided by the Corporate Support Services organization to CRU US.
- For all of the services listed in Exhibit 5, there was only one entity that was primarily responsible for the services provided by the Corporate Support Services organization to CRU US.

Exhibit 4

Corix Regulates Utilities (US) Inc.
Necessity of Services Matrix

| Support Services Organization | | Reasons Services Are Necessary to CRU US | | | | |
|---|---|---|---|---|---|---|
| | | Governance | Compliance | Economies | Continuity of Service | Enterprise Standards |
| Chief Executive Officer | Executive Management | X | X | X | X | X |
| Chief Operating Officer | Customer Experience | | | X | X | X |
| | Regulatory Services | X | X | X | | X |
| | Operational Technology | | X | X | X | X |
| Chief Financial Officer | Finance | X | X | X | X | |
| | Accounting | X | X | X | | X |
| | Financial Planning & Analysis | X | | X | | X |
| | Taxes | | X | X | | X |
| | Insurance | | | X | X | |
| Chief Support Services Officer | Human Resources | X | X | X | | X |
| | Corporate Communications | X | | X | | X |
| | Information Technology | X | X | X | X | X |
| | Accounts Payable | | | X | X | X |
| | Procurement | | | X | X | X |
| | Billing | | | X | X | X |
| | Continuous Improvement | X | | X | | X |
| | Fleet | | | X | X | X |
| Executive Vice President, Risk | Health, Safety & Environmental | X | X | X | X | X |
| | Legal | X | X | X | X | X |
| | Risk Management | X | X | X | X | X |
| | Internal Audit | X | X | X | X | X |

Source: Company information; Baryenbruch & Company, LLC, analysis

# Corix Regulated Utilities (US) Inc.
# Examples of Benefits to CRU US and Its Customers from Corporate Support Services

| Function/Service | Benefits to CRU (US) Utilities and Their Customers |
|---|---|
| Information Technology | Standard Network and Computing Infrastructure – The Corix enterprise migrated to shared cloud-based IT infrastructure (computing and network). This facilitates standardized network access across all Corix companies and improved access to data (facilitates improved operating efficiencies and customer service). The transition to cloud computing results in more predictable IT costs because there is no longer a need to periodically upgrade the computing infrastructure.<br><br>Standard Applications – In 2020 the Corix enterprise implemented standard systems—ERP, human capital management and other back-end platforms—that are now used by all Corix businesses. Common systems improve operational efficiency. This results in lower operating and support costs. Previously, support had to be provided for 4 financial systems, 3 payroll systems, 4 different human capital systems, multiple data centers and 3 different IT network platforms. This also facilitated the planned migration from 3 to 1 customer billing application. The transition resulted in a reduction of 10 IT positions.<br><br>IT Security – The Corix enterprise has implemented its strategy to have a single IT security platform, with security policies and procedures, testing, incident investigation and resolution process. The implementation of multifactor authentication provides secure access to the Corix applications from anywhere, thus supporting a work-from-anywhere strategy.<br><br>Corporate Security Capabilities Extended to Mobile Platforms – In 2021, a new security tool has been implemented to extend the capabilities of malware protection, ensuring mobile network safety and mobile application safety. This initiative covered all supported mobile devices. |
| Finance | Investor Relations - CRU US benefit from Corix's stakeholder relations program, which maintains communications with Corix equity and debt investors. This eliminates the need for CRU US to maintain its own investor relations program.<br><br>Debt Issuance – The Finance team provides support and arranges for debt financing issued by CRU US to fund capital investment activity of the Corix utilities. The Finance team assists by identifying lower-cost sources of financing based on its broader experience in the debt market. Compared to individual CRU US obtaining their own financing, this arrangement provides economies of scale (e.g., less record keeping and compliance) and lower financing costs (larger issuances backed by diversified collateral is viewed favorably by the investment community). These benefits are evidenced by the very favorable terms for a 2020 CRU US debt issuance for $100 million at interest rates ranging from 3.15% to 3.35% for notes with 10- and 15-year maturities, respectively.<br><br>Single Set of Financial Applications – The 2020 implementation of the Oracle Cloud ERP and Adaptive Insights (budgeting and forecasting) applications along with the single IT infrastructure facilitates a more effective, consistent and efficient delivery of financial Corporate Support Services.<br><br>Tax Expertise - Tax expertise is available to CRU US that CRU US would otherwise have to obtain from outside service providers. The Corporate Support Services tax unit monitors federal and state legislation that could affect CRU US. In the past few years, the Corporate Support Services tax team has brought certain tax work back-in house, thereby reducing tax-related fees to outside tax service providers. |

# Corix Regulated Utilities (US) Inc.
# Examples of Benefits to CRU US and Its Customers from Corporate Support Services

| Function/Service | Benefits to CRU (US) Utilities and Their Customers |
|---|---|
| Finance (cont.) | Financial Planning and Analysis – Adaptive Insights application has facilitated consistent enterprise-wide processes for budgeting (spending and headcount), analysis and financial performance reporting. Business units now report in a consistent format. Rolling forecast reported to ELT, BU management and the Board. Developed a 20-year financial forecast (in Adaptive Insights) and process for maintaining it. |
| Insurance | Corix undertook an insurance consolidation initiative in 2019 and now the Corporate Support Services organization arranges for insurance coverage of general liability, workers compensation, automobile, excess liability, D&O, crime, and cybersecurity risks for the enterprise, including CRU US. The consolidation of coverage has generally improved coverage terms and resulted in lower overall costs based on scale. |
| People and Culture | Single HCM Platform – The multiple HCM systems have been replaced with Oracle's HCM system. This has greatly improved HR administration across the enterprise. For instance, the HR administration-related (e.g., open enrollment) messaging can be standardized for all employees. One payroll-related position was eliminated in Jan 2020 when payroll for Canadian businesses was transitioned to Oracle HCM. It is expected that FSW will eliminate 1 position when it migrates to HCM for payroll. HR administration has been greatly streamlined with HCM system. For instance, pay periods have been harmonized across the enterprise, thereby reducing administrative time.<br><br>Wage and Salary Design and Administration – Corix designed and administered the enterprise wage and salary programs and provides support to CRU US in matters of compensation. The Corporate Support Services HR team also engaged outside providers to perform compensation surveys for certain Corix positions.<br><br>Benefit Plan Design and Administration – Benefit plans for all Corix companies are designed and administered for the entire enterprise by Human Resources.<br><br>Medical Plan and 401k Administrative Fees – Administration of these plans has been consolidated for US employee medical and 401K plans under single outside administrators. This has resulted in fewer outside contractors to deal with and lower administrative costs due to the larger pool of employees now being served (from 500 to 700 employees).<br><br>Excellence Plan (Performance Management) – A single methodology has been implemented for performance evaluation across the enterprise. The Excellence Plan covers all Corix employees and is conducted on the same timeframe throughout the enterprise. Everyone at Corix has an excellence plan with development objectives. This approach helps ensure consistency. There used to be four different performance review methodologies.<br><br>Centralized Guidance on Performance Matters – The Human Resource team ensures managers and senior leader are following Corix policies in dealing with performance issues and apply similar standards across the Corix enterprise. Consistency, which reduces risk and cost, is delivered via the HR business partners.<br><br>Equity, Diversity and Inclusion (EDI) – An EDI charter program has been established, coordinator hired, and EDI committee (open to any employee from entire organization) and EDI advisory council (management and non-management personnel directing EDI decisions) implemented. Among other things, this is expected to improve recruiting and retention. |

# Corix Regulated Utilities (US) Inc.
# Examples of Benefits to CRU US and Its Customers from Corporate Support Services

| Function/Service | Benefits to CRU (US) Utilities and Their Customers |
|---|---|
| People and Culture (cont.) | Recruiting – A position created and staffed to focus on attracting and recruiting candidates, ensuring that new hires are brought on board correctly and retained. |
| Customer Billing, Contact and Experience | Call Centers – CRU US customers can contact call centers with all requests for service. Calls are directed to a call queue that facilitates service quality and balanced workloads of call center representatives. The call centers achieve economies of scale and efficiency across the business and time zones to optimize call volume and eliminate the need for local staffing to handle customer requests.<br><br>Customer Billing – Bills for all CRU US customers are prepared by the Billing Operations department. Billing is performed in cycles, so workloads are levelized and staffing levels are optimized. Billing is accomplished without the need for local utility staff involvement.<br><br>Customer System – Corix is transitioning to one customer care and billing system for all business units. Currently, most business units, including CRU US, use a single system. This reduces IT support requirements of the multiple systems that were used in the past.<br><br>Customer Access Application – This application provides customers with more control over their services and reduces the need for calls to the call center. Among other things, the application provides self-service options for automated start/stop of services, bill payment and arranging for deferred payments. The customer application went live in February 2019. The single IT infrastructure has enabled the capability to connect the customer application with the customer care and billing application without the integration issues that existed with the old IT infrastructure. The customer application has cut down on customer calls to the call center. |
| Support Operations | Centralized Procurement – A procurement catalog has been activated on a pilot basis for Granger (utility materials vendor), USA BlueBook (water company operations-related materials vendor) and CDW (IT hardware vendor). The catalog is integrated with Fusion so employees can order online. Discounts that have been negotiated with vendors are automatically applied to company purchases. Availability of the catalog for all company purchases went live in the first and second quarters of 2021. During 2020, purchases through USA BlueBook generated discounts and rebates of over $80,000, or over 8% of total purchases from USA BlueBook.<br><br>Fleet Fuel and Maintenance Services – Many aspects of vehicle management are administered by the Corporate Support Services organization for CRU US, using the latest technology and outsourced solutions that help automate the following aspects of fleet management:<br>• Facilitating vehicle acquisition<br>• Fuel and maintenance procurement and tracking<br>• Vehicle tracking<br>• Vehicle divestiture<br>These services provide the enterprise with estimated annual savings of around $180,000.<br><br>Vehicle Acquisition Program – In 2019, a buying program was established with GM which gives business units a discount for vehicles purchased from local dealers. Discounts run to from $1,500 to $7,000 per vehicle off of MSRP. |

# Corix Regulated Utilities (US) Inc.
# Examples of Benefits to CRU US and Its Customers from Corporate Support Services

| Function/Service | Benefits to CRU (US) Utilities and Their Customers |
|---|---|
| Support Services (cont.) | Corporate Credit Card Program – Corporate Support Services administers the Bank of America credit cards used by employees (used to be handled locally by various accounting personnel). Previously, there were several types of credit cards. All transactions feed into Fusion to the employee's profile for coding. Fusion facilitates manager review/approval. This has significantly automated the previous decentralized arrangement for administering and processing credit card transactions. |
| Risk Management – Legal, HSE, Audit | Comprehensive Set of Legal Services – Legal provides the enterprise with a very broad set of services covering corporate governance, due diligence, contracts and agreements, litigation, claims and general advice to the corporation. Corix generally contracts with outside counsel for regulatory matters (e.g., rate cases) and other situations where local expertise is required. In 2020, Legal established a uniform master services agreement to facilitate consistency in dealings with outside contractors. Legal accomplishes all of this support with a complement of 4 in-house attorneys.<br><br>Internal Audit – The Corix Internal Audit function regularly conducts audits of CRU US operations.<br><br>Comprehensive Enterprise-Wide Program Safety Program – This provides for consistent operational practices.<br><br>Safety Culture Evolution (HSE) – An initiative was implemented in 2020 to establish a single safety culture throughout the enterprise. Benefits include: (1) economies of scale—expertise available in house, thus eliminating the need to retain outside consultants (currently only 1 of 40 HSE programs requires a consultant) and (2) standardized best practices can be established and disseminated throughout the enterprise.<br><br>Enterprise-Wide Environmental Focus – KPIs covering environmental matters are developed and actual performance reported to business unit managers, ELT and Corix Board.<br><br>Enterprise-Wide Environment Policy Guidance – Consistent analysis and policy development for Federal water quality requirements. This facilitates common standards for CRU US. Examples: (1) lead/copper rule and (2) emerging contaminant standards. |
| Regulatory | Centralized Research and Development of Regulatory Matters – One person is developing a single policy for the entire organization (e.g., a LIHWAP policy has been established for all US regulated utilities). The efficiency of rate cases has been improved (e.g., consolidation of cases). A centralized regulatory data repository has been created and is available for use by business unit and Corporate Support Services personnel. |

# Corix Regulates Utilities (US) Inc.
# Responsibility Matrix

| Primarily Responsible P<br>Provides Support S | 2020-2021 | |
|---|---|---|
| Water and Waste Water Function | CRU US | Corporate Support Servcies |
| **Engineering and Construction Management** | | |
| Long Term System Planning | P | S |
| Project Design | | |
| Major Projects (e.g., new treatment plant) | P | S |
| Minor Projects (e.g., pipelines) | P | S |
| Construction Project Management | | |
| Major Projects | P | S |
| Minor Projects | P | S |
| Hydraulics Review | P | |
| Developers Extensions | P | S |
| Tank Painting | P | S |
| **Water Quality and Purification** | | |
| Water Quality Standards Development | S | P |
| Research Studies | S | P |
| Water Quality Program Implementation | P | S |
| Water Treatment Operations & Maintenance | P | |
| Compliance Sampling | P | |
| Testing/Other Sampling | P | |
| **Transmission and Distribution** | | |
| Preventive Maintenance Program Development | S | P |
| System Maintenance | P | |
| Leak Detection | P | |
| **Customer Service** | | |
| Community Relations | P | S |
| Customer Contact | S | P |
| Call Processing | S | P |
| Service Order Creation | P | P |
| Service Order Processing | P | S |
| Customer Credit | S | P |
| Meter Reading | P | |
| Customer Billing | S | P |
| Customer Inserts & Mailings | S | P |
| Bill Collection | S | P |
| Customer Payment Processing | | P |
| Meter Standards Development | P | S |
| Meter Testing, Maintenance & Replacement | P | S |
| **Purchasing and Materials Management** | | |
| Specification Development | P (1) | S (1) |
| Bid Solicitation | P | S |
| Contract Administration | P | S |
| Ordering | P | S |
| Inventory Management | P | |

Note 1: Depends on the type of product

Source: Baryenbruch & Company, LLC, analysis

# Corix Regulates Utilities (US) Inc.
# Responsibility Matrix

| Primarily Responsible P<br>Provides Support S | 2020-2021 | |
|---|---|---|
| Water and Waste Water Function | CRU US | Corporate Support Servcies |
| **Financial Management** | | |
| Financial Planning - Enterprise-Wide | S | P |
| Financial Planning - CRU US-Wide | S | P |
| Financial Planning - CRU US Utilities | P | S |
| Financings—Equity | | P |
| Financings--Long Term Debt | | P |
| Short Term Lines of Credit Arrangements | | P |
| Insurance Program Administration | | P |
| Cash Management/Disbursements | | P |
| **Budgeting and Variance Reporting** | | |
| Overall Guidance | S | P |
| Operating Budget Preparation | | |
| Revenue | P | S |
| O&M | P | S |
| Service Company Charges | | P |
| Depreciation Expense | P | S |
| Interest Expense | | P |
| Capital Budget Preparation | | |
| Project Work | P | S |
| Non-Project Work | P | S |
| Financial Planning and Analysis - Enterprise | | P |
| Financial Planning and Analysis - CRU US | P | S |
| Year-End Projections - Business Unit | P | S |
| Year-End Projections - Overhead | | P |
| **Accounting** | | |
| Accounts Payable Accounting | | P |
| Payroll Accounting | | P |
| Work Order Accounting | P | |
| Fixed Asset Accounting | S | P |
| General Accounting - Corix Corporate | | P |
| General Accounting - Business Unit | S | P |
| State Commission Reporting | P | |
| Audit Services - Corp | | P |
| Audit Services - CRU US | S | P |
| **Taxes** | | |
| Tax Strategy and Planning | | P |
| State and Federal Taxes | | P |
| Property Taxes | S | P |
| Gross Receipts Taxes | S | p |
| **Rates** | | |
| Rate Studies & Tariff Change Administration | P | S |
| Rate Case Planning and Preparation | P | S |
| Rate Case Administration | P | S |
| Commission Inquiry Response | P | S |

Source: Baryenbruch & Company, LLC, analysis

# Corix Regulates Utilities (US) Inc.
# Responsibility Matrix

| Primarily Responsible P<br>Provides Support S | 2020-2021 | |
|---|---|---|
| Water and Waste Water Function | CRU US | Corporate Support Servcies |
| **Legal** | | |
| Legal - Enterprise | | P |
| Legal - Regulatory | P (2) | S |
| **Information Technology Services** | | |
| IT Governance | | P |
| IT Security | | P |
| IT Operations | | P |
| Enterprise Applications | | P |
| Local IT Support | | P |
| **Human Resources Management** | | |
| Employee Communications - HR Related | | P |
| Recruiting, On Boarding, Off Boarding | S | P |
| Leave/Unemployment Admin | S | P |
| Benefit Plan Design & Admin | | P |
| Management Compensation Admin | | P |
| Wage & Salary Plan Design & Admin | S | P |
| Training | P | S |
| Compliance with HR-Related Laws & Regs | S | P |
| Employee Policy Development | | P |
| Employee Policy Admin | S | P |
| Equity, Diversity & Inclusion | S | P |
| Employee Information Admin | S | P |
| Workers Compensation Admin | | P |
| Succession Planning | P | S |
| **Health, Safety and Environmental** | | |
| Governance (Policies, Standards, Tools) | | P |
| Compliance with Corporate Requirments | S | P |
| Compliance with Local Requirements | P | S |
| Communications - HSE | | P |
| Traning Development | | P |
| Training Delivery | S | P |
| Program Implementation & Support | P | S |
| **Communications** | | |
| External Communications | S | P |
| Internal Communications - HR Related | | S |
| Internal Communications - Other | S | P |
| **Fleet Management** | S | P |

Note 2: CRU US generally select and deals directly with outside counsel for regulatory proceedings. Corporate provides support, where necessary

Source: Baryenbruch & Company, LLC, analysis

# IV – Necessity of Corporate Support Services

**Question 4 – Governance Structures and Processes**

Management Oversight

Following are the principal enterprise-level governance bodies whose scope includes Corix corporate-wide planning, budgeting and cost management:

- Corix Board of Directors – The Corix Board of Directors (Board) is responsible for the management of the business and affairs of Corix. The Corix Chief Executive Officer (CEO) is responsible for preparing and presenting for Board approval an annual business plan which consists of operation and maintenance expense and capital budgets for the subsequent three years. The plan provides a roadmap for meeting the core business objectives of Corix and its subsidiaries, which are the delivery of district energy, natural gas, water and wastewater services to its customers at reasonable prices. The Board has delegated responsibility for certain areas to three committees: The Audit Committee, the Business Planning and Growth Committee and the Human Resource and Compensation Committee.

  Nine members comprise the Board. Five members of the Board are outside directors, three are employees of the British Columbia Investment Management Corporation and one is the CEO of Corix. When the Board reviews and approves the annual business plan, it is responsible for, among other things:
  - Reviewing and approving corporate strategy, which includes the structure and nature of the support services organization.
  - Overseeing risk management, including the security-related risks associated with the information technology systems deployed across the business.
  - Reviewing and approving operation and maintenance and capital spending plans for the support services organization.
  - Reviewing and approving significant individual O&M and capital projects proposed by Corix Executive Leadership Team (Corix ELT or ELT) members responsible for delivering the support services.
  - Reviewing and approving all capital projects with a budget of more than $10,000,000, including support service capital projects.

  The Board also is responsible for governance functions. This includes:
  - Monitoring budget versus actual spending for operations and maintenance and capital plans.
  - Monitoring budget versus actual spending for all significant capital projects, including support service organization capital projects.
  - Monitoring actual versus planned performance for Key Performance Indicators (KPIs), some of which measure the performance of the support services organization.
  - Monitoring compliance with laws and regulations, including those of the states in which CRU US do business.
- Corix ELT – There are six members on the Corix ELT. The members of the Corix ELT are the CEO, the Chief Financial Officer, the Chief Operating Officer, the Chief Shared Services Officer, the Chief Growth Officer and the Executive Vice President, Risk and Corporate Secretary. The Corix ELT oversees the quality and cost of the services provided by the support service organization to the Corix Group of Companies, including CRU US. Each member of the Corix ELT is responsible for delivering at least some portion of the support services. Each member of the Corix ELT is responsible for executing the individual's operation and maintenance and capital spending plans. Among other things, the Corix ELT reviews and approves the annual 3-year budget and monitors actual spending against that budget.

# IV – Necessity of Corporate Support Services

## Audit Review

The Corix Audit Committee is responsible for overseeing financial reporting, the system of internal controls, the enterprise risk management framework, ethics and compliance with laws and regulations. It oversees the work of the internal and independent auditors. Ernst & Young, LLP, performs annual audits of both Corix and CRU US.

Corix's Internal Audit function works with Corix management to identify, assess and monitor risk to the organization. Each year, the Internal Audit function develops a multi-year audit plan to examine higher risk areas and reports results to the Corix Audit Committee. Corix uses a single enterprise resource planning system, a single procurement system, a single customer care and billing system and a single human capital management system. Corix also operates under a single designation of authority (which defines spending authority and authorization procedures). The result of audits completed by Internal Audit thus provide benefits to all of Corix's operating subsidiaries.

## Business Planning and Growth

The Business Planning and Growth Committee supervises the development of Corix's three-year business plan, which includes its three-year operation and maintenance expense and capital budgets, growth opportunities with a value between $5 million and $10 million, and valuation of Corix. There is a natural intersection between the terms of reference of the Audit Committee and the Business Planning and Growth Committee. The Audit Committee is accountable for supervising reporting on financial performance; the Business Planning and Growth Committee is accountable for supervising the planning for the future. Thus, the Business Planning and Growth Committee facilitates the active supervision of Corix's budget and business improvement.

## Budgeting

O&M Budgeting – It is Corix's corporate practice to prepare an annual 3-year budget. The operation and maintenance expenditure budgets for each component of the support services are reviewed and approved in the following steps:

- Guidance instructions are provided by Corix's Chief Financial Officer, after consultation with the Board, to all business groups. The Chief Operating Officer provides additional guidance and direction to operating divisions in order to ensure compliance with overall budgetary targets.
- Initial budgets for the functional groups that provide the support services are compiled by the financial planning and analysis team. Budgets identify the amounts that will be assigned to each Corix business group, including CRU US.
- Budgets for each functional group that provides Corporate Support Service are presented to the Corix ELT and, in turn, to the management teams of all Corix business units including CRU US.
- After receiving feedback from the Business Planning and Growth Committee, the Corix ELT and business unit leaders and making any necessary adjustments, budgets for each of the functional groups Corporate Support Service, along with budgets of the other Corix business groups, are presented in sequence to:
  - Corix's CEO and ELT
  - Corix Business Planning and Growth Committee
  - Corix Board

# IV – Necessity of Corporate Support Services

Capital Budgeting – Budgets are prepared for the following two categories of capital spending:

- Non-Project Capital Spending (e.g., vehicle purchases, on-going replacement of IT hardware and software) – An annual budget is prepared for these capital expenditures and approved by the Corix ELT and the Board. This capital spending is included in the annual budget package and approved as part of the budget process.
- Project Capital Spending (e.g., Shared Services Transition Initiative) – Estimates are initially developed for each project included in the annual budget. Estimates are later updated and included in the business case required as part of the authorization process that occurs before any expenditures can be made. Project budgets must be approved by its executive sponsors, the Corix ELT, and the Board (for significant projects).

## Variance Analysis

Actual O&M and capital spending for each functional group providing support services are monitored in the following manner:

- Financial planning and analysis team members research material budget versus actual spending variances by department and account summary. Finance personnel also develop a year-end forecast.
- A standard monthly variance report package is prepared for the Corix ELT and business unit management that explains budget versus actual variances for the month, year to date and year-end forecast.
- Quarterly financial reports are delivered to the Board and the Audit Committee.
- Monthly, the Corix business unit management each meet to review actual performance against KPIs, one of which relates to budget versus actual spending. Every quarter agreed-upon KPIs are provided to British Columbia Investment Management Corporation.

Charges for Corporate Support Services are invoiced monthly. Explanations on variances from budget are obtained from the Corix Finance organization. The Corix finance team participates in the monthly results call which runs through explanations on any variances to Corix support services costs and provides answers to questions from the presidents of CRU US' divisions.

Actual versus budget variances in charges for Corporate Support Services charges to CRU US are analyzed and explained in the standard monthly variance report package. During the quarterly performance reviews, support services department heads present the status of their organizations to CRU US division presidents. Among the topics each department head must cover are any differences between actual and budgeted support services charges.

## Accounting Chontrols/Transaction Validation

Internal controls incorporated into accounting processes ensure that transactions are validated at the point of origination and that they receive proper levels of review and approval. The Corix ERP automates these controls and facilitate their consistent application and effectiveness. Controls are scrutinized and tested in connection with the annual financial audits performed by EY.

## Cost Allocation Manual

A Cost Allocation Manual (CAM) documents the process by which charges for support services are allocated to affiliates. Baryenbruch & Company, LLC's, review of the CAM found it to be a complete reference document that provides thorough directions to support services personnel responsible for assigning expenses to CRU US.

## IV – Necessity of Corporate Support Services

The practices described above support the conclusion that the governance structure and practices applied to Corporate Support Services charges to CRU US contribute to ensuring such services are necessary, reasonable and accurate.

# V – Reasonableness of Charges for Corporate Support Services

**Question 5 – Reasonableness of Charges**

Substantially all Corporate Support Services include salaries, benefits and other expenses associated with staff who provide services to CRU US. These services include the following, all of which are A&G in nature.

| | |
|---|---|
| Executive management | Human resources |
| Accounting | Information technology |
| Audit | Legal |
| Budgeting and performance analysis | Rates and regulatory |
| Communications | Supply chain |
| Customer service | Taxes |
| Finance | |

The comparison group service companies record A&G expenses in the FERC accounts shown in the table below.

| |
|---|
| 901 - Supervision |
| 903 - Customer records and collection expenses |
| 905 - Miscellaneous customer accounts expenses |
| 910 - Miscellaneous Customer Service And Informational Expenses |
| 920 - Administrative and General Salaries |
| 921 - Office Supplies and Expenses |
| 923 - Outside Services Employed |
| 924 - Property Insurance |
| 930.2 - Miscellaneous General Expenses |
| 931 - Rents |
| 935 - Maintenance of Structures and Equipment |

Corporate Support Services Charges per Customer

As calculated in the table below, Corporate Support Services' budgeted 2021 charges to CRU US are $94 per customer.

| | 2021 Budgeted Charges to CRU US |
|---|---|
| Total Corporate Support Services Charges | $ 25,830,780 |
| Number of CRU US Customers | 274,813 |
| 2021 A&G Charges per CRU US Customer | $ 94 |

Source: Company information; Baryenbruch & Company, LLC, analysis

# V – Reasonableness of Charges for Corporate Support Services

## Comparison Group Administrative and General Charges per Customer

The table below shows the calculation for 2020 A&G expenses per customer charged by service companies owned by the 22 utility holding companies in the comparison group. These charges were recorded to A&G-related FERC accounts and are equivalent to Corporate Support Services' A&G charges to CRU US during 2021. Comparison group service company charges were obtained from Schedule XVI – Analysis of Charges for Service Associate and Non-Associate Companies (pages 303 to 306) of each entity's FERC Form 60. This schedule shows charges by FERC Account. Number of customers were obtained from company information (e.g., annual report, 10K).

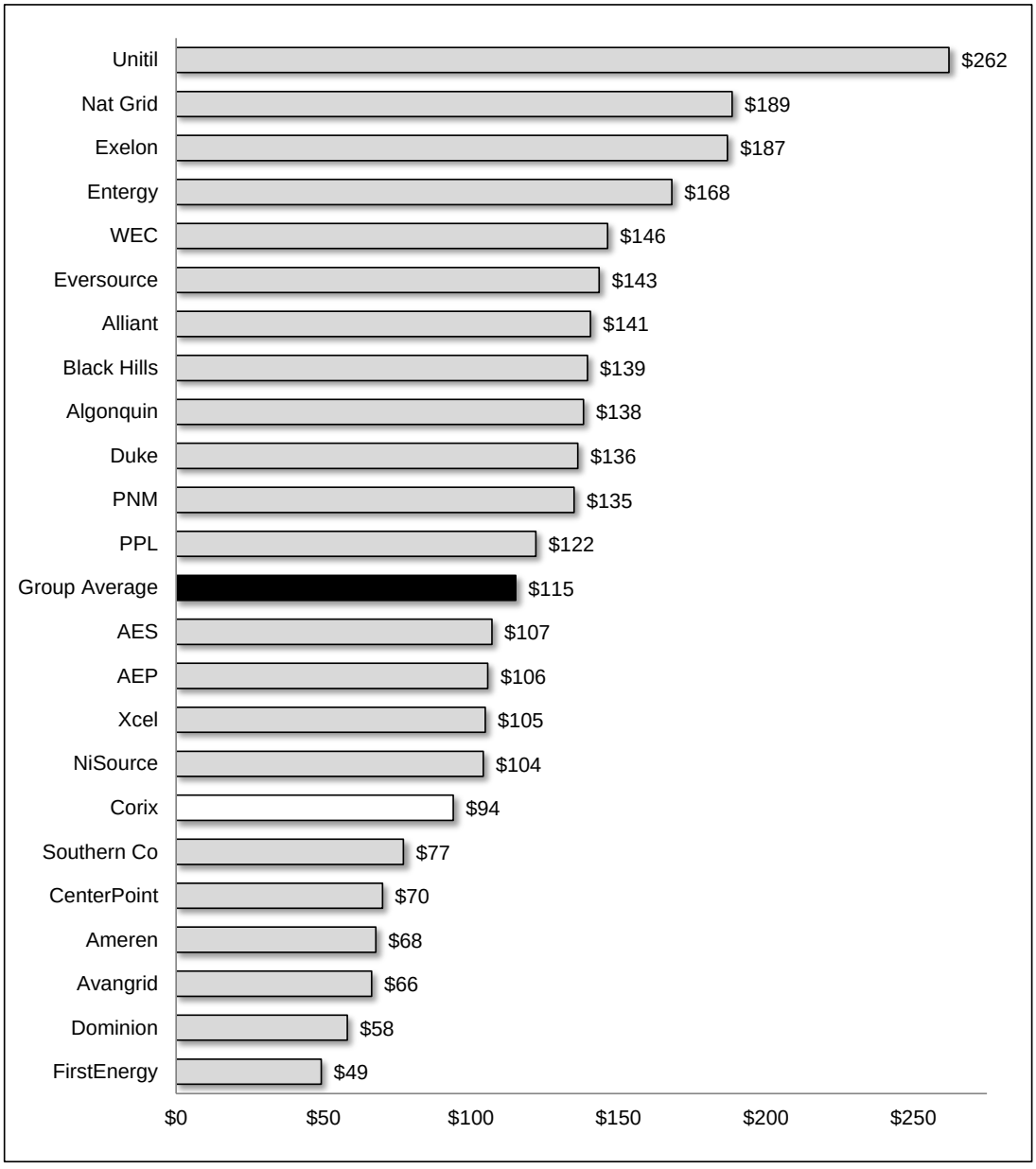
| Utility Company | 2020 Regulated Retail Service Company A&G Expenses | Regulated Retail Customers | Cost per Customer |
|---|---|---|---|
| AEP | $581,431,806 | 5,500,000 | $ 106 |
| AES | $84,972,673 | 793,500 | $ 107 |
| Algonquin | $93,507,879 | 677,000 | $ 138 |
| Alliant | $195,356,017 | 1,390,000 | $ 141 |
| Ameren | $223,383,695 | 3,300,000 | $ 68 |
| Avangrid | $218,683,477 | 3,300,000 | $ 66 |
| Black Hills | $178,511,164 | 1,280,000 | $ 139 |
| CenterPoint | $519,740,566 | 7,427,500 | $ 70 |
| Dominion | $404,160,305 | 6,963,000 | $ 58 |
| Duke | $1,299,912,203 | 9,541,000 | $ 136 |
| Entergy | $538,366,404 | 3,202,000 | $ 168 |
| Eversource | $575,146,581 | 4,009,000 | $ 143 |
| Exelon | $1,869,988,049 | 10,000,000 | $ 187 |
| FirstEnergy | $295,447,481 | 6,000,000 | $ 49 |
| Nat Grid | $1,319,903,837 | 7,000,000 | $ 189 |
| NiSource | $371,616,218 | 3,569,000 | $ 104 |
| PNM | $107,797,415 | 798,700 | $ 135 |
| PPL | $329,504,996 | 2,700,000 | $ 122 |
| Southern Co | $665,433,317 | 8,630,000 | $ 77 |
| Unitil | $50,514,408 | 192,700 | $ 262 |
| WEC | $335,637,101 | 2,294,000 | $ 146 |
| Xcel | $597,442,792 | 5,700,000 | $ 105 |
| Total/Average | $10,856,458,384 | 94,267,400 | $ 115 |

Source: FERC Form 60; Baryenbruch & Company, LLC, analysis

Exhibit 7 (page 28) shows Corix Corporate Support Services 2021 budget A&G charges per CRU US customer of $94 are lower than the comparison group's average of $115 per customer. CRU US' cost is lower than 16 comparison group companies and higher than 6. Based on this comparison, it is possible to say the cost of Corporate Support Services A&G-related services are reasonable.

Exhibit 7

Corix Regulated Utilities (US) Inc.
2021 Budgeted Corporate Support Services A&G Charges Per Customer




Source: Company information; 2020 FERC Form 60; Baryenbruch & Company, LLC, analysis

# V – Reasonableness of Charges for Corporate Support Services

**Question 6 – Lower of Cost or Market Pricing**

During 2021, CRU US is budgeted to be charged $25.8 million for Corporate Support Services. These billings are market-tested by comparing cost per hour for these services to those the hourly rates of outside service providers to whom the services could be outsourced. The following outside providers were selected for comparison:

- Attorneys - legal
- Management Consultants – executive management, external affairs, human resources, communications, health, safety and environmental
- Certified Public Accountants – accounting, tax, finance, treasury, audit and regulatory
- Information Technology Consultants – information technology

Corporate Support Services Hourly Rates

This study assigns Corporate Support Services charges to one of the four outside provider categories (described above) based on the specific nature of the service provided to CRU US. The following adjustments were made to ensure that Corporate Support Services-related cost pools reflect the costs recovered by outside providers in their hourly billing rates:

- Corix charges excluded from cost pools include the following items:
  - Travel Expenses – Client-related travel expenses are typically not recovered by outside service providers through their hourly billing rates. Rather, actual out-of-pocket travel expenses are billed to clients in addition to fees for professional services. Thus, these charges were removed from the hourly rate calculation.
  - Outside Services – These expenses are not associated with the cost of personnel performing Corporate Support Services for CRU US (outside firms perform the work under the direction of Corix). Charges from outside professional firms to perform certain corporate-wide services (e.g., audit, consulting) represent services that have, in effect, already been outsourced. Thus, these charges are also removed from the hourly rate calculation.
  - Non-Service Expenses – Some charges are not directly associated with Corporate Support Services personnel providing professional services to CRU US. Examples of these items include directors' fees and promotions expenses. An outside provider would not be expected to recover these costs in their hourly billing rates. Here too, these charges are excluded from the hourly rate calculation.
  - Enterprise IT Expenses – Corix pays for the licenses for several applications used by the entire enterprise. The portion of these expenses that pertain to employees providing Corporate Support Services are included in the cost pool. The remainder represents costs of the enterprise employees and is excluded from the hourly rate calculation since outside providers of professional services would not be expected to recover these in their hourly billing rates.
  - Other Costs Excluded from Scope – Corporate Support Services Business Development-related charges are eliminated because CRU US did not attempt to recover Corporate Support Service Business Development charges from customers during 2021.

    The Corporate Support Services organization includes 5 accounts payable clerks. The work of these positions would typically not be outsourced to any of the four professional

services providers. For this reason, the salaries and benefits of these positions were excluded from the hourly rate calculation.

Also excluded from the hourly rate calculation are expenses of the Customer Services and Customer Care and Billing units. Here too, these services typically are not outsourced to the professional service providers.

Exhibit 8 (page 31) presents the reconciliation of the total 2021 budgeted total Corporate Support Services charges to CRU US to testable charges for purposes of developing hourly rates that can be compared to those of outside service providers.

Based on the nature of the services provided by Corporate Support Services, their testable charges are assigned to the four outside provider categories, as shown in Exhibit 9 (page 32). The hours associated with Corporate Support Services testable charges are assigned to the three outside provider categories in Exhibit 10 (page 33).

Based on the cost and hour pools, the average 2021 budgeted hourly rates for Corporate Support Services are calculated in the table below:

| | 2021 Hourly Rates | | | | |
|---|---|---|---|---|---|
| Corporate Support Services | Attorney | Mgmt Consultant | Certified Public Accnt | IT Professional | Total |
| Corp Support Services Charges | $ 836,271 | $ 6,905,228 | $ 3,647,030 | $ 3,706,041 | $ 15,094,570 |
| Hours | 4,773 | 57,070 | 43,427 | 39,050 | 144,319 |
| **Average Hourly Rate** | **$ 175** | **$ 121** | **$ 84** | **$ 95** | |

Source: Company information; Baryenbruch & Company, LLC, analysis

Exhibit 8

# Corix Regulated Utilities (US) Inc.
# Calculation of 2021 Budget Net Testable Corporate Support Services Charges

| | | | | |
|---|---|---|---|---|
| 2021 Budgeted Corp Support Services Charges to CRU US | $ | 25,830,780 | $ | 25,830,780 |
| Less: Cost Items Eliminated from Market Comparison | | | | |
| Travel Expenses | | | | |
| 591000 - Accommodation/Hotel/Lodging | $ | 46,042 | | |
| 594000 - Travel - Meals and Entertainment | $ | 50,951 | | |
| 599900 - Other Travel | $ | 318,852 | | |
| 603000 - Vehicle Repairs and Maintenance | $ | 738 | | |
| 61657 - Office Gas | $ | 4,154 | | |
| 61759 - Entertainment | $ | 17 | | |
| 61781 - Travel Workforce (Forecast Adjustment) | $ | (362,142) | | |
| 61806 - Fuel | $ | 2,507 | | |
| 61811 - Other Transportation Exp | $ | 3,541 | | |
| 61813 - Leasing Costs | $ | 4,549 | | |
| 61814 - Car Allowance | $ | 4,050 | | |
| 61815 - Cost Of Sale - Vehicle | $ | (106) | | |
| Total Travel Expenses | $ | 73,154 | $ | (73,154) |
| Outside Services | | | | |
| 540100 - Consulting | $ | 286,014 | | |
| 540200 - Accounting and Audit | $ | 460,392 | | |
| 540400 - Legal | $ | 162,056 | | |
| 540500 - Payroll | $ | 50,657 | | |
| 540600 - Tax | $ | 190,966 | | |
| 540800 - Temporary Labor | $ | 113,000 | | |
| 541000 - Environmental | $ | 273,959 | | |
| 549000 - Other Outside Services | $ | 373,054 | | |
| 550200 - Computer Repair and Maintenance | $ | 1,242,544 | | |
| 550300 - Computer Supplies | $ | 4,391 | | |
| Total Outside Services | $ | 3,157,031 | $ | (3,157,031) |
| Non-Service Expenses | | | | |
| 61511 - Promotions | $ | 22,041 | | |
| 61515 - Bank Service Charges | $ | 109,347 | | |
| 61522 - Donations For Registered Charities | $ | 28,141 | | |
| 621100 - Advertising | $ | 31,157 | | |
| 621300 - Trade Shows | $ | 3,116 | | |
| 621500 - Promotions - 50% | $ | (32,906) | | |
| 624100 - License Fees | $ | 185 | | |
| 627200 - Bad Debt Collection Expense | $ | 14,946 | | |
| 628300 - Billing Postage | $ | 3,340 | | |
| 628400 - Customer Service Printing | $ | 13,847 | | |
| 629300 - Director and Board Fees | $ | 238,625 | | |
| Total Non-Services Expenses | $ | 431,841 | $ | (431,841) |
| Enterprise IT | | | | |
| 550200 - Computer Repair and Maintenance | $ | 624,007 | | |
| 550400 - Internet Services | $ | 108,158 | | |
| 550600 - Computer Licensing | $ | 531,510 | | |
| 586100 - Landline/Telephone/Fax | $ | 398,533 | | |
| 61415 - Other IT Expenses | $ | 641,947 | | |
| 61422 - Other Computer Expenses | $ | 22,080 | | |
| 61686 - Telephone | $ | 17,575 | | |
| 61711 - IT | $ | 61,088 | | |
| 62790 - Depr - Computer | $ | 597,422 | | |
| 62830 - Depr - Computer Hardware | $ | 56,266 | | |
| Total Enterprise IT Expenses | $ | 3,058,585 | $ | (3,058,585) |
| Excluded from Scope | | | | |
| 009060 - Billing | $ | 690,069 | | |
| 009070 - Customer Service | $ | 3,080,808 | | |
| Accounts Payable Clerks | $ | 244,721 | | |
| Total Excluded From Scope | $ | 4,015,598 | $ | (4,015,598) |
| **Net Testable Corporate Shared Services 2021 Budgeted Charges** | | | **$** | **15,094,570** |

Source: Company information; Baryenbruch & Company, LLC, analysis

Exhibit 9

# Corix Regulated Utilities (US) Inc.
## Market Testable 2021 Budgeted Corporate Support Services Charges by Outside Service Provider Category

| Corporate Support Services Department | Attorney | Consultant | CPA | IT Professional | Total |
|---|---|---|---|---|---|
| 009010 - Water Service Corporation Admin | | $ (131,767) | | | $ (131,767) |
| 009015 - Corporate Finance Cost Ctr | | | $ 851,532 | | $ 851,532 |
| 009020 - Accounting/Tax Cost Ctr | | | $ 1,107,195 | | $ 1,107,195 |
| 009030 - Communications | | $ 148,048 | | | $ 148,048 |
| 009035 - CI & ePMO | | | | $ 197,589 | $ 197,589 |
| 009040 - Human Resources Cost Ctr | | $ 1,048,465 | | | $ 1,048,465 |
| 009050 - IT Cost Ctr | | | | $ 1,526,985 | $ 1,526,985 |
| 009075 - COO Regulated Utility Cost Ctr | | $ 1,111,820 | | | $ 1,111,820 |
| 009080 - CSSO Cost Ctr | | $ 599,252 | | | $ 599,252 |
| 009084 - CRO Cost Center | | $ 449,252 | | | $ 449,252 |
| 009085 - Legal Costs Center | $ 568,062 | | | | $ 568,062 |
| 009090 - Chicago Admin Cost Ctr | | $ 880,322 | | | $ 880,322 |
| 009100 - HSE Support | | $ 580,415 | | | $ 580,415 |
| 009105 - Computer System Cost Ctr | | | | $ 381,440 | $ 381,440 |
| 009165 - Accounts Payable | | | $ 230,809 | | $ 230,809 |
| 1010-000100 - Corporate Admin | | $ 1,360,691 | | | $ 1,360,691 |
| 1010-000300 - Corporate Communications | | $ 287,504 | | | $ 287,504 |
| 1010-000400 - Finance | | | $ 978,444 | | $ 978,444 |
| 1010-000500 - IT Governance | | | | $ 415,926 | $ 415,926 |
| 1010-000600 - Human Resources | | $ 240,317 | | | $ 240,317 |
| 1010-000700 - CI & ePMO | | | | $ 195,102 | $ 195,102 |
| 1010-000800 - Legal, Regulatory & Govt Relations | $ 6,519 | $ 46,612 | | | $ 53,131 |
| 1010-000900 - Treasury | | | $ 70,313 | | $ 70,313 |
| 1010-001000 - HSE | | $ 64,849 | | | $ 64,849 |
| 1010-001100 - Internal Audit | | | $ 105,289 | | $ 105,289 |
| 1010-001200 - Strategy | | | | $ 744 | $ 744 |
| 1010-009010 - Account Payable SS | | | $ 58,537 | | $ 58,537 |
| 1010-009030 - Payroll SS | | | $ 132,494 | | $ 132,494 |
| 1010-009040 - IT Support Services | | | | $ 865,939 | $ 865,939 |
| 1010-009045 - IT RU SS | | | | $ 94,276 | $ 94,276 |
| 1010-009100 - Finance CU SS | | | $ 112,418 | | $ 112,418 |
| 1010-009110 - Legal SS | $ 261,691 | | | | $ 261,691 |
| 1010-009130 - Human Resources SS | | $ 67,741 | | | $ 67,741 |
| 1010-009140 - HSE Canada SS | | $ 151,708 | | | $ 151,708 |
| 1010-009150 - IT Canada (CUI) SS | | | | $ 28,039 | $ 28,039 |
| Total | $ 836,271 | $ 6,905,228 | $ 3,647,030 | $ 3,706,041 | $15,094,570 |

Source: Company information; Baryenbruch & Company, LLC, analysis

Exhibit 10

# Corix Regulated Utilities (US) Inc.
## Market Testable 2021 Budgeted Corporate Support Services Hours by Outside Service Provider Category

| Corporate Support Services Department | Attorney | Consultant | CPA | Professional | Total |
|---|---|---|---|---|---|
| 009010 - Water Service Corporation Admin | | | | | - |
| 009015 - Corporate Finance Cost Ctr | | | 4,395 | | 4,395 |
| 009020 - Accounting/Tax Cost Ctr | | | 14,283 | | 14,283 |
| 009030 - Communications | | 2,603 | | | 2,603 |
| 009035 - CI & ePMO | | | | 1,302 | 1,302 |
| 009040 - Human Resources Cost Ctr | | 15,620 | | | 15,620 |
| 009050 - IT Cost Ctr | | | | 19,525 | 19,525 |
| 009075 - COO Regulated Utility Cost Ctr | | 5,207 | | | 5,207 |
| 009080 - CSSO Cost Ctr | | 2,603 | | | 2,603 |
| 009084 - CRO Cost Center | | 1,302 | | | 1,302 |
| 009085 - Legal Costs Center | 2,603 | | | | 2,603 |
| 009090 - Chicago Admin Cost Ctr | | 9,112 | | | 9,112 |
| 009100 - HSE Support | | 6,508 | | | 6,508 |
| 009105 - Computer System Cost Ctr | | | | | - |
| 009165 - Accounts Payable | | | 3,905 | | 3,905 |
| 1010-000100 - Corporate Admin | | 1,099 | | | 1,099 |
| 1010-000300 - Corporate Communications | | 5,207 | | | 5,207 |
| 1010-000400 - Finance | | | 12,544 | | 12,544 |
| 1010-000500 - IT Governance | | | | 1,302 | 1,302 |
| 1010-000600 - Human Resources | | 2,603 | | | 2,603 |
| 1010-000700 - CI & ePMO | | | | 2,603 | 2,603 |
| 1010-000800 - Legal, Regulatory & Govt Relations | | | | | - |
| 1010-000900 - Treasury | | | 1,099 | | 1,099 |
| 1010-001000 - HSE | | 1,302 | | | 1,302 |
| 1010-001100 - Internal Audit | | | 1,099 | | 1,099 |
| 1010-001200 - Strategy | | | | | - |
| 1010-009010 - Account Payable SS | | | 1,302 | | 1,302 |
| 1010-009030 - Payroll SS | | | 2,603 | | 2,603 |
| 1010-009040 - IT Support Services | | | | 13,017 | 13,017 |
| 1010-009045 - IT RU SS | | | | 1,302 | 1,302 |
| 1010-009100 - Finance CU SS | | | 2,197 | | 2,197 |
| 1010-009110 - Legal SS | 2,169 | | | | 2,169 |
| 1010-009130 - Human Resources SS | | 1,302 | | | 1,302 |
| 1010-009140 - HSE Canada SS | | 2,603 | | | 2,603 |
| 1010-009150 - IT Canada (CUI) SS | | | | | - |
| Total | 4,773 | 57,070 | 43,427 | 39,050 | 144,319 |

Source: Company information; Baryenbruch & Company, LLC, analysis

# V – Reasonableness of Charges for Corporate Support Services

## Outside Service Provider Hourly Rates

The next step in the cost comparison is to calculate the average billing rates for each type of outside service provider. The source of this information and the determination of the average rates are described below.

It should be noted that professionals working for three of the five outside provider categories may be licensed to practice by state regulatory bodies. However, not every professional working for these firms is licensed. For instance, among US certified public accounting firms, only more experienced staff are predominantly CPAs, as shown in the table below. Some Corporate Support Services employees also have professional licenses. Thus, it is valid to compare the Corporate Support Services hourly rates to those of the outside professional service providers included in this study.

| Position | % Who Are CPAs |
|---|---|
| Partners/Owners | 98% |
| Directors (over 10 years experience) | 87% |
| Managers (6-10 years experience) | 79% |
| Sr Associates (4-5 years experience) | 50% |
| Associates (1-3 years experience) | 22% |
| New Professionals | 10% |

Source: AICPA's National PCPS/TSCPA Management of an Accounting Practice Survey (2010)

### Attorneys

An estimate of attorney rates was developed from National Law Journal's Survey of Law Firm Economics Report. As shown in Exhibit 11 (page 36), data from this survey has been adjusted for cost-of-living differences with Chicago, Illinois. The National Law Review billing survey hourly rates data is for 2019. The survey's calculated average rate was escalated to June 30, 2021—the midpoint of 2021.

### Management Consultants

The cost per hour for management consultants was developed from a survey performed by Rodenhauser & Company, LLC, a research company that monitors the consulting industry. The survey includes rates that were in effect during 2020 for firms throughout the United States. Consultants typically do not limit their practice to any one region and must travel to a client's location. Thus, the U.S. national average is appropriate for comparison.

The first step in the calculation, presented in Exhibit 12 (page 37), was to determine an average rate by consultant position level. From these rates, a single weighted average hourly rate was calculated based upon the percent of time that is typically applied to a consulting assignment by each consultant position level. This survey covered hourly rates in effect during 2020.

### Certified Public Accountants

The average hourly rate for Illinois CPAs was developed from a 2018 survey performed by the American Institute of Certified Public Accountants (AICPA). The Illinois version of this survey was used to develop hourly rates for member firms in Illinois.

# V – Reasonableness of Charges for Corporate Support Services

As shown in Exhibit 13 (page 38), a weighted average hourly rate was developed based on a set of accountant positions and a percent of time that is typically applied to an accounting assignment. This survey includes rate information in effect during 2017. (Note: the survey was originally scheduled to be performed during 2020 but was deferred due to the impact of COVID.) The calculated average rate was escalated to June 30, 2021—the midpoint of 2021.

Information Technology Consultants

The 2020 average hourly rate for information technology consultants and contractors was developed from two sources: The Corporate Support Services organization for IT contractor rates and a survey performed by Rodenhauser & Company, LLC, for IT consultants. As shown in Exhibit 14 (page 39), that data was compiled and a weighted average was calculated based on the staffing composition of the Corporate Support Services IT organization.

Exhibit 11

# Corix Regulated Utilities (US) Inc.
# 2019 Billing Rates for Attorneys

| Region | Avg Billing Rates (Note A) Partner | Associate | Weighted Avg Rate Calculation 0.25 Partner | 0.75 Associate | (X) Weighted Average | Cost of Living (COL) Adjustment COL Indices (Note B) Region | Chicago, IL | (Y) COL Adjustment | (X x Y) Adjusted Rate |
|---|---|---|---|---|---|---|---|---|---|
| Northeast | $ 478 | $ 303 | $ 119 | $ 227 | $ 346 | 121.1 | 117.4 | 97.0% | $ 336 |
| Midwest | $ 378 | $ 250 | $ 94 | $ 188 | $ 282 | 94.0 | 117.4 | 124.9% | $ 352 |
| South | $ 470 | $ 325 | $ 118 | $ 244 | $ 361 | 94.1 | 117.4 | 124.8% | $ 451 |
| West | $ 325 | $ 250 | $ 81 | $ 188 | $ 269 | 108.4 | 117.4 | 108.4% | $ 291 |
| | | | | | | | | Overall Average Hourly Billing Rate at January 1, 2020 | $ 357 |
| | | | | | | | | Escalation to Midpoint of 12 Months Ending June 30, 2021 (December 31, 2020) | |
| | | | | | | | | CPI at December 31, 2019 | 257.0 |
| | | | | | | | | CPI at June 30, 2021 | 271.7 |
| | | | | | | | | Inflation/Escalation (Note C) | 5.7% |
| | | | | | | | | Average Hourly Billing Rate For Attorneys At June 30, 2021 | $ 378 |

Note A: 2020 Survey of Law Firm Economics Report, National Law Journal
Note B: Cost of Living Index, Source Council for Community and Economic Research
Note C: U.S. Bureau of Labor Statistics (http://data.bls.gov/cgi-bin/surveymost)

Exhibit 12

# Corix Regulated Utilities (US) Inc.
# 2021 Billing Rates for Management Consultants

Survey billing rates in effect in 2020 (Note A)

A. Calculation of Average Hourly Billing Rate by Consultant Position

| | Average Hourly Rates (Note A) | | | | |
|---|---|---|---|---|---|
| | Analyst Consultant | Associate | Sr. Assoc/ Manager | Principal | Partner |
| Average | $ 227 | $ 273 | $ 334 | $ 515 | $ 641 |

B. Calculation of Overall Average Hourly Billing Rate Based on a Typical Distribution of Time on an Engagement

| | Entry-Level Consultant | Associate Consultant | Senior Consultant | Junior Partner | Senior Partner | |
|---|---|---|---|---|---|---|
| Average Hourly Billing Rate (from above) | $ 227 | $ 273 | $ 334 | $ 515 | $ 641 | |
| Percent of Consulting Assignment | 30% | 30% | 25% | 10% | 5% | Weighted Average |
| | $ 68 | $ 82 | $ 84 | $ 52 | $ 32 | $ 317 |

| | |
|---|---|
| Average Hourly Billing Rate for Management Consultants During 2020 | $ 317 |
| Escalation to Midpoint of 2021 (June 30, 2021) | |
| CPI at December 31, 2020 | 260.5 |
| CPI at June 30, 2021 | 271.7 |
| Inflation/Escalation (Note C) | 4.3% |
| Average Hourly Billing Rate For Consultants At June 30, 2021 | $331 |

Note A: Source is Rodenhauser & Company LLC; Baryenbruch & Company, LLC, analysis

Exhibit 13

# Corix Regulated Utilities (US) Inc.
# 2021 Billing Rates for Certified Public Accountants

A. Calculation of Average Hourly Billing Rate by Public Accounting Position
Survey billing rates were those in effect in 2017 (Note A)

| | Average Hourly Billing Rate (Note A) | | | | |
|---|---|---|---|---|---|
| | Staff Accountant | Senior Accountant | Director/ Manager | Partner | |
| Average Hourly Billing Rate by CPA Firm Position | $ 112 | $ 132 | $ 185 | $ 235 | |
| Percent of Accounting Assignment | 30% | 30% | 20% | 20% | Weighted Average |
| | $ 34 | $ 40 | $ 37 | $ 47 | $ 157 |

| Escalation to 2021 Midpoint (June 30, 2021) | |
|---|---|
| CPI at December 31, 2017 | 246.5 |
| CPI at June 30, 2021 | 271.7 |
| Inflation/Escalation (Note B) | 10.2% |
| Average Hourly Billing Rate for Certified Public Accountants at June 30, 2021 | $ 173 |

Note A: Source is AICPA's 2018 National PCPS/TSCPA Management of an Accounting Practice Survey (Illinois edition)

Note B: Source is U.S. Bureau of Labor Statistics (http://data.bls.gov/cgi-bin/surveymost)

Exhibit 14

# Corix Regulated Utilities (US) Inc.
# 2021 Billing Rates for IT Professionals

A. Calculation of Average Hourly Billing Rate by Information Technology Position
Survey billing rates were those in effect in 2020 (Note A)

| | Average Hourly Billing Rate (Note A) | | | | | |
|---|---|---|---|---|---|---|
| | Contractor Positions | | Consultant Positions | | | |
| | Contractor | Senior Contractor | Associate | Manager | Partner | |
| Average Hourly Billing Rate by IT Position Category | $ 55 | $ 95 | $ 211 | $ 353 | $ 478 | |
| Percent of IT Assignment | 17% | 21% | 38% | 17% | 7% | Weighted Average |
| | $ 9 | $ 20 | $ 80 | $ 61 | $ 33 | $ 203 |

| Escalation to 2021 Midpoint (June 30, 2021) | |
|---|---|
| CPI at December 31, 2020 | 260.5 |
| CPI at June 30, 2021 | 271.7 |
| Inflation/Escalation (Note B) | 4.3% |
| Average Hourly Billing Rate for IT Professionals at June 30, 2021 | $ 211 |

Note A: Source is company and Rodenhauser & Company, LLC
Note B: U.S. Bureau of Labor Statistics (http://data.bls.gov/cgi-bin/surveymost)

# V – Reasonableness of Charges for Corporate Support Services

**Comparison of Hourly Rates**

As shown in the table below, Corporate Support Services' costs per hour in 2021 are significantly lower than those of outside providers.

| | 2021 Budget | | |
|---|---|---|---|
| | Hourly Rates | | Difference-- |
| Service Provider | Corporate Support Services | Outside Provider | Service Co. Greater(Less) Than Outside |
| Attorney | $ 175 | $ 378 | $ (203) |
| Management Consultant | $ 121 | $ 331 | $ (210) |
| Certified Public Accountant | $ 84 | $ 173 | $ (89) |
| T&I Professional | $ 95 | $ 211 | $ (116) |

Based on the cost-per-hour differentials and the planned number of billed hours to CRU US during 2021, services from Corporate Support Services would have cost approximately $21.3 million more from outside providers, as calculated below. This is 141% more than the testable Corporate Support Services charges to CRU US during 2021 ($21,348,265 / $15,094,570 = 141%).

| | 2021 Budget | | |
|---|---|---|---|
| Service Provider | Hourly Rate Difference-- Service Co. Greater(Less) Than Outside | Corporate Support Services Hours Charged | Dollar Difference |
| Attorney | $ (203) | 4,773 | $ (968,862) |
| Management Consultant | $ (210) | 57,070 | $ (11,984,645) |
| Certified Public Accountant | $ (89) | 43,427 | $ (3,865,011) |
| T&I Professional | $ (116) | 39,050 | $ (4,529,747) |
| Corporate Support Services Less Than Outside Providers | | | $ (21,348,265) |

It should be noted that the cost differential associated with using outside providers is even greater than calculated above because exempt Corporate Support Services personnel do not charge more than 8 hours per day even when they work more. Outside providers generally charge clients for all hours worked. Thus, CRU US would have been charged by outside providers for overtime worked by Corporate Support Services personnel who are not paid for that time.

As a final step in this lower of cost or market pricing analysis, the 2021 budgeted income statements of Corix and WSC were reviewed. Both had no net income. This provides further evidence that Corporate Support Services were provided to CRU US at cost, which is below market, and that these charges are reasonable.

# V – Reasonableness of Charges for Corporate Support Services

**Question 7 – Customer Accounts Services Cost Comparison**

Customer Accounts Services involve the processes that occur from the time meter-read data is recorded in the customer information system through the printing and mailing of bills, concluding with the collection and processing of customer payments. Customer Accounts Services are accomplished by the following utility functions:

- Customer Call Center Operations – customer calls/contact, credit, order taking/disposition, bill collection efforts and outage calls
- Customer Call Center Maintenance – support of phone banks, voice recognition units, call center software applications and telecommunications
- Customer billing – service rate maintenance, bill printing, stuffing and mailing
- Remittance processing – processing customer payments received in the mail
- Bill payment centers – processing customer payments at locations where customers can pay their bills in person

Comparison group electric utility cost information comes from the FERC Form 1 that each utility subject to FERC regulation must file. FERC's chart of accounts is defined in Chapter 18, Part 101, of the Code of Federal Regulations. FERC accounts that contain expenses related to customer accounts services are Account 903 Customer Accounts Expense – Records and Collection Expense and Account 905 Customer Accounts Expense – Miscellaneous Customer Accounts Expense. Exhibit 15 (page 42) provides FERC's definition of the type of expenses that should be recorded in these accounts.

In addition to the charges in these FERC accounts, labor-related overhead charged to the following FERC accounts must be added to the labor components of Accounts 903 and 905:

- Account 926 Employee Pension and Benefits
- Account 408 Taxes Other Than Income (employer's portion of FICA)

Comparison Group

The comparison group includes utilities that provide service in the same states as CRU US and that filed a Form 1 for 2020 with the FERC. The following 52 utilities make up this group:

| Utility | State | Utility | State |
|---|---|---|---|
| AEP Texas | Texas | Kentucky Power | Kentucky |
| Alabama Power | Alabama | Kentucky Utilities | Kentucky |
| Ameren Illinois | Illinois | Kingsport Power | Tennessee |
| Appalachian Power | Virginia | Louisville Gas & Electric | Kentucky |
| Arizona Public Service | Arizona | Metropolitan Edison | Pennsylvania |
| Atlantic City Electric | New Jersey | MidAmerica Energy | Illinois |
| Baltimore Gas & Electric | Maryland | Nevada Power | Nevada |
| CLECO Power | Louisiana | NIPSCO | Indiana |
| Com Edison | Illinois | Oncor Electric | Texas |
| Delmarva Power & Light | Maryland | PECO Energy | Pennsylvania |
| Duke Energy Carolinas | North & South Carolina | Pennsylvania Electric | Pennsylvania |
| Duke Energy Florida | Florida | Pennsylvania Power | Pennsylvania |
| Duke Energy Indiana | Indiana | Potomac Edison | Maryland |
| Duke Energy Kentucky | Kentucky | Potomac Electric | Maryland |
| Duke Energy Progress | North & South Carolina | PPL Electric Utilities | Pennsylvania |
| Duquesne Light | Pennsylvania | Public Service Electric & Gas | New Jersey |
| El Paso Electric | Texas | Rockland Electric | New Jersey |
| Entergy Louisiana | Louisiana | Sierra Pacific Power | Nevada |
| Entergy New Orleans | Louisiana | South Carolina Electric & Gas | South Carolina |
| Entergy Texas | Texas | Southwestern Public Service | Texas |
| Florida Power & Light | Florida | Southwestern Electric Power | Texas & Louisiana |
| Georgia Power | Georgia | Tampa Electric | Florida |
| Gulf Power | Florida | Tucson Electric | Arizona |
| Indiana Michigan Power | Indiana | Vectren | Indiana |
| Indianapolis Power & Light | Indiana | Virginia Elect Power | Virginia |
| Jersey Central Power | New Jersey | West Penn Power | Pennsylvania |

Source: FERC Form 1; Baryenbruch & Company, LLC, analysis

Exhibit 15

# Corix Regulated Utilities (US) Inc.
## FERC Account Descriptions

**903 – Customer Records and Collection Expenses**
This account shall include the cost of labor, materials used and expenses incurred in work on customer applications, contracts, orders, credit investigations, billing and accounting, collections and complaints.

Labor
1. Receiving, preparing, recording and handling routine orders for service, disconnections, transfers or meter tests initiated by the customer, excluding the cost of carrying out such orders, which is chargeable to the account appropriate for the work called for by such orders.
2. Investigations of customers' credit and keeping of records pertaining thereto, including records of uncollectible accounts written off.
3. Receiving, refunding or applying customer deposits and maintaining customer deposit, line extension, and other miscellaneous records.
4. Checking consumption shown by meter readers' reports where incidental to preparation of billing data.
5. Preparing address plates and addressing bills and delinquent notices.
6. Preparing billing data.
7. Operating billing and bookkeeping machines.
8. Verifying billing records with contracts or rate schedules.
9. Preparing bills for delivery, and mailing or delivering bills.
10. Collecting revenues, including collection from prepayment meters unless incidental to meter reading operations.
11. Balancing collections, preparing collections for deposit, and preparing cash reports.
12. Posting collections and other credits or charges to customer accounts and extending unpaid balances.
13. Balancing customer accounts and controls.
14. Preparing, mailing, or delivering delinquent notices and preparing reports of delinquent accounts.
15. Final meter reading of delinquent accounts when done by collectors incidental to regular activities.
16. Disconnecting and reconnecting services because of nonpayment of bills.
17. Receiving, recording, and handling of inquiries, complaints, and requests for investigations from customers, including preparation of necessary orders, but excluding the cost of carrying out such orders, which is chargeable to the account appropriate for the work called for by such orders.
18. Statistical and tabulating work on customer accounts and revenues, but not including special analyses for sales department, rate department, or other general purposes, unless incidental to regular customer accounting routines.
19. Preparing and periodically rewriting meter reading sheets.
20. Determining consumption and computing estimated or average consumption when performed by employees other than those engaged in reading meters.

Materials and expenses
21. Address plates and supplies.
22. Cash overages and shortages.
23. Commissions or fees to others for collecting.
24. Payments to credit organizations for investigations and reports.
25. Postage.
26. Transportation expenses, including transportation of customer bills and meter books under centralized billing procedure.
27. Transportation, meals, and incidental expenses.
28. Bank charges, exchange, and other fees for cashing and depositing customers' checks.
29. Forms for recording orders for services, removals, etc.
30. Rent of mechanical equipment.

**905 – Miscellaneous Customer Accounts Expenses**
This account shall include the cost of labor, materials used and expenses incurred not provided for in other accounts.

Labor
1. General clerical and stenographic work.
2. Miscellaneous labor.

Materials and expenses
3. Communication service.
4. Miscellaneous office supplies and expenses and stationery and printing other than those specifically provided for in accounts 902 and 903.

# V – Reasonableness of Charges for Corporate Support Services

## Corporate Support Services Cost per Customer

As calculated below, Corporate Support Services' customer accounts services expense per customer was $20.95 for budget 2021. The cost pool used to calculate this average includes charges for services provided by Corporate Support Services (e.g., call center, billing, payment processing) and outside payments for postage, forms and lock box payment processing fees. It is necessary to adjust the Corporate Support Services' charges because electric utilities experience an average of 1.25 calls per customer compared to CRU US' 1.05 calls per customer during 2020. Thus, Corporate Support Services' expenses had to be increased, for comparison purposes, to reflect its costs if it had had 1.25 calls per customer.

| Corix Customer Account Services Expenses per Customer (2021 Budget) | | | Adjustment Fewer Calls For | |
|---|---|---|---|---|
| Cost Component | | 2021 Budget | Water Cos. (A) | Adjusted |
| Customer Billing | Billing | $ 829,123 | | $ 829,123 |
| Customer Service | Order processing, collection | $3,224,254 | $ 391,979 | $ 3,616,233 |
| Postage and Forms | Customer bill forms and postage | $1,112,605 | | $ 1,112,605 |
| Lock Box Charges | Payment processing bank charges | $ 200,000 | | $ 200,000 |
| | | | Cost Pool Total | $ 5,757,961 |
| | | | Total Customers | 274,813 |
| | 2021 Customer Account Services Cost Per CRU US Utility Customer | | | $ 20.95 |

Note A: Adjustment for CRU US utilities fewer calls per customer (this adjustment is necessary because water utilities experience fewer calls per customer than do electric utilities)

| | | | | |
|---|---|---|---|---|
| 2021 Customer Service customer contact expenses | | | $ 2,015,159 | |
| Electric utility industry's average calls/customer | | 1.25 | | |
| CRU US utilities 2019 average calls/customer | | | | |
| Number of Total Calls | 287,578 | | | |
| Number of Customers | 274,813 | | | |
| Corix's average calls/customer | 1.05 | 1.05 | | |
| Percent different | | 19% | 19% | |
| Total Adjustment | | | $ 391,979 | |

Source: Company information; Baryenbruch & Company, LLC, analysis

## Utility Group Cost per Customer

Exhibit 16 (pages 44) shows the calculation of customer accounts expense per customer for 2020 for the electric utility comparison group. All of the underlying data was taken from the utilities' FERC Form 1.

## Summary of Results

As shown in the Exhibit 17 (page 45), CRU US' 2020 cost of $20.95 per customer is lower than the 2020 average cost of $30.70 for the electric utility comparison group. It can be concluded that 2021 budget customer accounts services charges from Corporate Support Services are comparable to those of other utilities and, thus, reasonable.

Exhibit 16

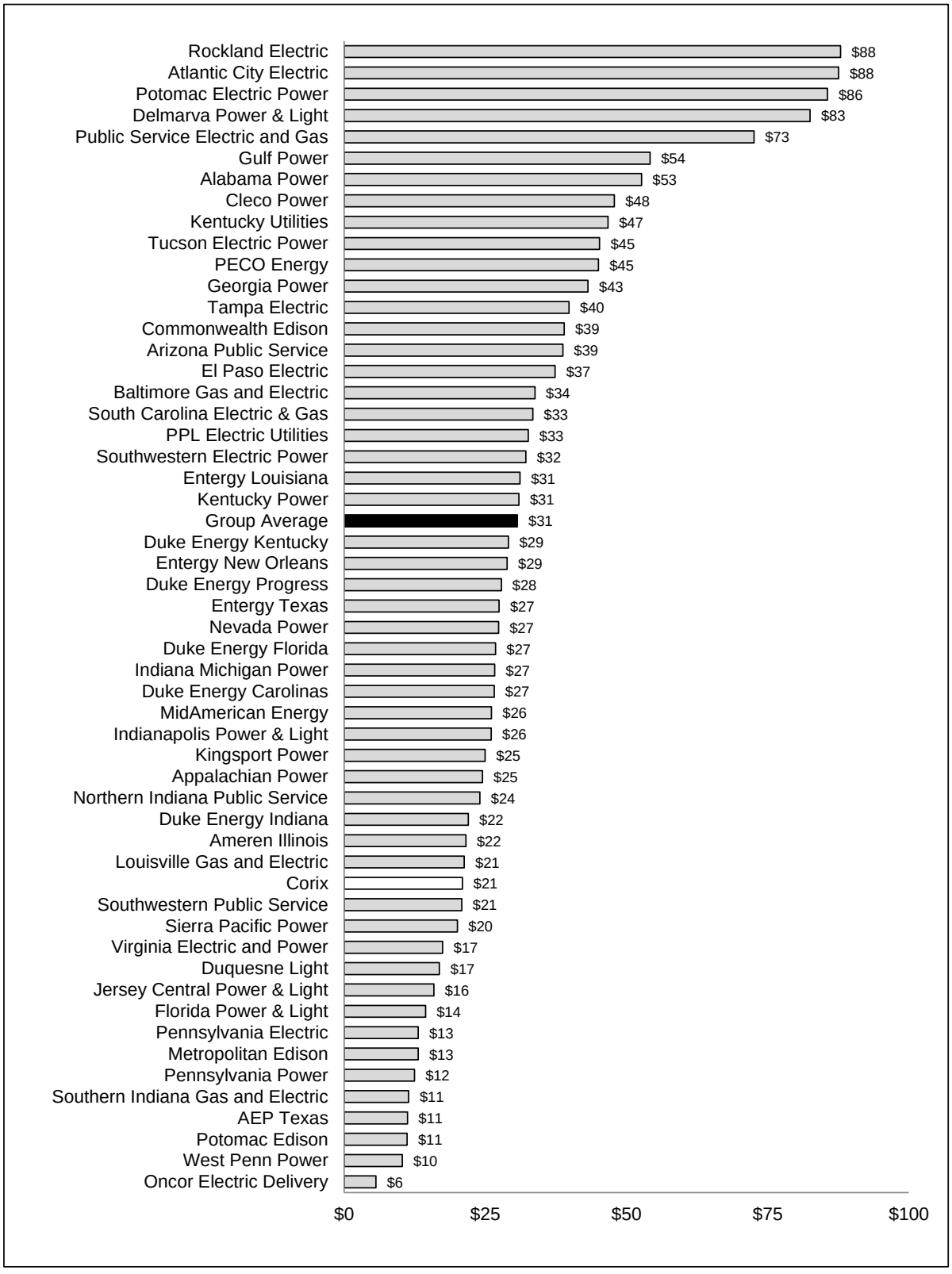
# Corix Regulated Utilities (US) Inc.
## Comparison Group 2020 Customer Accounts Expense Per Customer

| 2020 Comparison Group | Customer Accounts Services Cost Pool | | | | | Total Customers | Customer Account Services Expenses per Customer |
|---|---|---|---|---|---|---|---|
| | | | Employee Benefits | | | | |
| | Account 903 and 905 | Account 901 Supervision | Employee Pension and Benefits | Payroll Taxes | Total Cost Pool | | |
| AEP Texas Inc. | $ 11,270,437 | $ 409,893 | $ 97,711 | $ 361,020 | $ 12,139,061 | 1,080,764 | $ 11.23 |
| Alabama Power Company | $ 68,514,915 | $ 4,300,209 | $ 2,326,411 | $ 3,829,992 | $ 78,971,528 | 1,499,730 | $ 52.66 |
| Ameren Illinois Company | $ 24,765,977 | $ 358,198 | $ 222,714 | $ 1,059,266 | $ 26,406,156 | 1,225,204 | $ 21.55 |
| Appalachian Power Company | $ 22,570,951 | $ 362,436 | $ 169,180 | $ 438,328 | $ 23,540,895 | 960,162 | $ 24.52 |
| Arizona Public Service Company | $ 41,222,252 | $ 6,135,555 | $ 914,638 | $ 1,653,305 | $ 49,925,750 | 1,288,703 | $ 38.74 |
| Atlantic City Electric Company | $ 48,933,026 | $ - | $ 179,883 | $ 104,686 | $ 49,217,594 | 562,054 | $ 87.57 |
| Baltimore Gas and Electric Company | $ 37,906,927 | $ 2,168,654 | $ 2,520,871 | $ 1,750,911 | $ 44,347,363 | 1,312,219 | $ 33.80 |
| Cleco Power LLC | $ 11,266,495 | $ 757,762 | $ 1,630,780 | $ 306,315 | $ 13,961,352 | 291,799 | $ 47.85 |
| Commonwealth Edison Company | $ 142,494,826 | $ 788,501 | $ 10,023,108 | $ 6,056,804 | $ 159,363,239 | 4,089,726 | $ 38.97 |
| Delmarva Power & Light Company | $ 43,914,962 | $ - | $ 103,820 | $ 101,068 | $ 44,119,850 | 534,749 | $ 82.51 |
| Duke Energy Carolinas, LLC | $ 66,054,922 | $ 241,882 | $ 2,900,542 | $ 2,630,681 | $ 71,828,027 | 2,702,152 | $ 26.58 |
| Duke Energy Florida, Inc. | $ 46,386,010 | $ 293,068 | $ 1,223,197 | $ 2,061,126 | $ 49,963,401 | 1,863,801 | $ 26.81 |
| Duke Energy Indiana, Inc. | $ 17,086,524 | $ 138,521 | $ 834,242 | $ 674,799 | $ 18,734,086 | 852,004 | $ 21.99 |
| Duke Energy Kentucky, Inc. | $ 3,861,735 | $ 52,853 | $ 194,018 | $ 135,535 | $ 4,244,142 | 145,957 | $ 29.08 |
| Duke Energy Progress, Inc. | $ 40,981,817 | $ 121,995 | $ 2,493,875 | $ 1,499,916 | $ 45,096,974 | 1,619,704 | $ 27.84 |
| Duquesne Light Company | $ 672,802 | $ 8,574,200 | $ 474,900 | $ 469,397 | $ 10,191,299 | 603,791 | $ 16.88 |
| El Paso Electric Company | $ 14,675,911 | $ 1,215 | $ 1,098,822 | $ 574,017 | $ 16,349,965 | 437,543 | $ 37.37 |
| Entergy Louisiana, LLC | $ 27,844,903 | $ 729,731 | $ 806,724 | $ 93,071 | $ 29,474,429 | 946,440 | $ 31.14 |
| Entergy New Orleans, Inc. | $ 5,628,850 | $ 135,351 | $ 159,845 | $ 52,469 | $ 5,976,514 | 206,965 | $ 28.88 |
| Entergy Texas, Inc. | $ 12,253,174 | $ 318,061 | $ 213,059 | $ 75,274 | $ 12,859,568 | 468,749 | $ 27.43 |
| Florida Power & Light Company | $ 63,988,778 | $ 6,156,759 | $ 1,016,799 | $ 2,989,196 | $ 74,151,532 | 5,136,977 | $ 14.43 |
| Georgia Power Company | $ 98,661,303 | $ 9,377,483 | $ 1,151,338 | $ 3,739,676 | $ 112,929,799 | 2,614,431 | $ 43.19 |
| Gulf Power Company | $ 24,816,359 | $ - | $ 149,488 | $ 537,623 | $ 25,503,470 | 470,679 | $ 54.18 |
| Indiana Michigan Power Company | $ 14,562,360 | $ 1,051,748 | $ 186,166 | $ 223,726 | $ 16,023,999 | 600,946 | $ 26.66 |
| Indianapolis Power & Light Company | $ 10,660,082 | $ 932,354 | $ 1,207,296 | $ 530,787 | $ 13,330,519 | 511,501 | $ 26.06 |
| Jersey Central Power & Light Company | $ 15,450,652 | $ 56,966 | $ 2,083,330 | $ 598,487 | $ 18,189,435 | 1,145,080 | $ 15.88 |
| Kentucky Power Company | $ 4,989,770 | $ 16,963 | $ 30,061 | $ 93,370 | $ 5,130,163 | 165,762 | $ 30.95 |
| Kentucky Utilities Company | $ 20,946,073 | $ 2,748,843 | $ 1,796,667 | $ 717,619 | $ 26,209,202 | 560,922 | $ 46.73 |
| Kingsport Power Company | $ 1,170,852 | $ 22,293 | $ (2,475) | $ 19,346 | $ 1,210,017 | 48,444 | $ 24.98 |
| Louisville Gas and Electric Company | $ 7,373,579 | $ 922,564 | $ 446,907 | $ 234,068 | $ 8,977,118 | 421,842 | $ 21.28 |
| Metropolitan Edison Company | $ 7,207,514 | $ 53,506 | $ 235,563 | $ 79,896 | $ 7,576,479 | 577,500 | $ 13.12 |
| MidAmerican Energy Company | $ 18,335,639 | $ 948,037 | $ 447,818 | $ 1,031,696 | $ 20,763,190 | 795,351 | $ 26.11 |
| Nevada Power Company | $ 22,599,381 | $ 1,323,135 | $ 1,696,018 | $ 849,349 | $ 26,467,882 | 967,596 | $ 27.35 |
| Northern Indiana Public Service Company | $ 9,327,789 | $ 1,198,443 | $ 477,966 | $ 474,883 | $ 11,479,080 | 477,470 | $ 24.04 |
| Oncor Electric Delivery Company | $ 18,287,464 | $ 4,167 | $ 2,071,331 | $ 650,227 | $ 21,013,189 | 3,726,472 | $ 5.64 |
| PECO Energy Company | $ 70,883,132 | $ - | $ 1,930,280 | $ 2,463,572 | $ 75,276,984 | 1,671,433 | $ 45.04 |
| Pennsylvania Electric Company | $ 7,398,437 | $ 52,264 | $ 178,363 | $ 85,565 | $ 7,714,629 | 587,567 | $ 13.13 |
| Pennsylvania Power Company | $ 2,068,689 | $ 14,603 | $ (15,774) | $ 26,225 | $ 2,093,742 | 168,117 | $ 12.45 |
| Potomac Edison Company | $ 4,745,024 | $ - | $ (187,433) | $ 164,384 | $ 4,721,975 | 423,085 | $ 11.16 |
| Potomac Electric Power Company | $ 74,393,264 | $ - | $ 1,713,852 | $ 1,061,449 | $ 77,168,564 | 901,712 | $ 85.58 |
| PPL Electric Utilities Corporation | $ 42,367,848 | $ 1,151,341 | $ 2,536,441 | $ 1,472,728 | $ 47,528,358 | 1,457,376 | $ 32.61 |
| Public Service Electric and Gas Company | $ 147,539,469 | $ - | $ (3,572,346) | $ 3,670,184 | $ 147,637,306 | 2,033,919 | $ 72.59 |
| Rockland Electric Company | $ 5,451,171 | $ - | $ 879,031 | $ 178,531 | $ 6,508,733 | 74,052 | $ 87.89 |
| Sierra Pacific Power Company | $ 6,148,571 | $ 472,932 | $ 328,938 | $ 250,167 | $ 7,200,608 | 358,690 | $ 20.07 |
| South Carolina Electric & Gas Company | $ 29,113,167 | $ 921,980 | $ 1,973,858 | $ 1,021,285 | $ 33,030,290 | 988,855 | $ 33.40 |
| Southern Indiana Gas and Electric Company | $ 1,659,732 | $ 12,631 | $ 22,521 | $ 47,528 | $ 1,742,412 | 152,373 | $ 11.44 |
| Southwestern Electric Power Company | $ 16,104,249 | $ 753,964 | $ 314,155 | $ 301,994 | $ 17,474,361 | 543,101 | $ 32.18 |
| Southwestern Public Service Company | $ 7,389,326 | $ 17,732 | $ 589,665 | $ 269,269 | $ 8,265,992 | 396,990 | $ 20.82 |
| Tampa Electric Company | $ 25,937,817 | $ 905,599 | $ 3,346,362 | $ 1,124,419 | $ 31,314,198 | 786,048 | $ 39.84 |
| Tucson Electric Power Company | $ 18,168,519 | $ - | $ 910,782 | $ 524,650 | $ 19,603,950 | 433,421 | $ 45.23 |
| Virginia Electric and Power Company | $ 41,636,785 | $ 1,503,926 | $ 1,940,689 | $ 1,401,349 | $ 46,482,749 | 2,662,830 | $ 17.46 |
| West Penn Power Company | $ 7,433,384 | $ - | $ 33,069 | $ 57,608 | $ 7,524,061 | 730,526 | $ 10.30 |
| Total | $1,535,122,965 | $ 56,508,319 | $ 54,505,066 | $ 50,818,831 | $1,696,955,181 | 55,283,284 | $ 30.70 |

Source: FERC Form 1; Baryenbruch & Company, LLC, analysis

Exhibit 17

Corix Regulated Utilities (US) Inc.
Corix Versus Comparison Group Customer Accounts Services Expense Per Customer



# V – Reasonableness of Charges for Corporate Support Services

**Question 8 – Provision of Services at the Same Cost**

Financial Systems

In 2020, all of Corix transitioned to one network infrastructure and a single set of business applications. Previously, multiple networks and applications were in use by Corix business units. The following business applications are currently in use throughout Corix and provide the capability to account for and allocate the cost of services provided to CRU US operating companies:

- General Ledger System (Oracle Cloud or "Fusion") – Maintains the official financial records for Corix and its subsidiaries.
- Asset Accounting System (Fusion) – Maintains fixed asset records, acquisition, depreciation, disposal, etc. This is included in the fixed asset module.
- Time Reporting System (Fusion/ADP) – Employees enter their time (project, non-project, and personal time off) into the Fusion Time and Absence module and submit their time once complete. Submittal sends an alert email to the employee's direct manager for review and approval. Managers also receive auto-generated missing time reports and unsubmitted time reports and can follow up with their team as needed. All approved time and absences are loaded into the payroll module for processing. After payroll is fully processed, two files containing tax and wage information are sent to ADP through secure means. ADP pays relevant federal, state/provincial agencies as company power of attorney as well as the employees themselves. (Note: ADP does not communicate directly back with the system). Additional processes run in Fusion, such as Create Accounting, to move the relevant information to the general ledger and project modules.
- Project Management (Fusion) – Maintains project cost of both billable/cost tracking operating and maintenance projects and capital projects where the cost is to be capitalized and depreciated after transferring to the fixed asset module.
- Accounts Receivable System (Fusion/CC&B) – Revenues and payment accounting.
- Accounts Payable System (Fusion) – Vendor purchase and payment accounting.
- Materials and Supplies (Fusion) – Materials and supplies inventory accounting.
- Intercompany (Fusion) – Intercompany transactions and accounting including general journal and invoicing among Corix companies in Fusion.
- Employee & Travel Expense Reporting (Fusion) – Employee and travel-related expenses are documented and processed in Fusion.

Transactions are assigned the following account information that facilitates the compilation and allocation of support services charges to CRU US.

- Company
- Department
- Utility type
- Account
- Intercompany

Cost Allocation

Departments can provide support services to the entire enterprise or to a single business unit. For enterprise-wide support services, the associated departmental costs are first compiled into cost pools: (1) direct assigned, (2) allocated to affiliates and (3) retained (i.e., not assigned to Corix affiliates). Then the portion that is allocated is assigned to the operating units. The allocation basis is a Modified Massachusetts Formula composite average with the following components:

## V – Reasonableness of Charges for Corporate Support Services

| Factor | Weighting |
|---|---|
| Gross Revenue | 33.33% |
| Headcount | 33.33% |
| Gross Property, Plant and Equipment | 33.33% |

The portion assigned to CRU US is then allocated to individual operating companies based on Equivalent Residential Connection (ERC) per agreements with individual regulated utilities that are approved by the state regulator, as applicable. The diagram below shows the allocation process for enterprise support services costs.

| | | | |
|---|---|---|---|
| Total Enterprise Corporate Support Services Expenses | | | $ XXX |
| Less: Direct-Charge Expenses (A) | | | $ (XXX) |
| Remainder: Enterprise Indirect Expenses | | | $ XXX |
| | | | |
| Tier 1 Allocation of Enterprise Indirect Expenses (B) | | | |
| CRU US (lower 48 states) | XX% | $ XXX | |
| Canadian Utilities | XX% | $ XXX | |
| Energy Services Canada | XX% | $ XXX | |
| Corix Water Services, Inc. | XX% | $ XXX | |
| Alaska | XX% | $ XXX | |
| Gillem | XX% | $ XXX | |
| Cleveland Thermal | XX% | $ XXX | |
| Investments and Joint Ventures | XX% | $ XXX | |
| Total Enterprise Indirect Expenses | 100% | $ XXX | $ XXX |
| | | | |
| Tier 2 Allocation to CRU US of Enterprise Indirect Expenses (C) | | | |
| CRU US Operating Companies | | | |
| Corporation 1 | XX% | $ XXX | |
| Corporation 2 | XX% | $ XXX | |
| Corporation 3 | XX% | $ XXX | |
| etc. | XX% | $ XXX | |
| CRU US Portion of Enterprise Indirect Expenses | 100% | $ XXX | |

Note A: Includes expenses such as enterprise-wide insurance and benefits for certain employees.

Note B: Allocation based on composite allocation with the following factors:

| | |
|---|---|
| Gross Revenue | 33.33% |
| Headcount | 33.33% |
| Gross Plant, Property & Equipment | 33.33% |

Note C: Allocation to individual corporations is based on Equivalent Residential Connections (ERC)

Source: Company information; Baryenbruch & Company, LLC, analysis

# V – Reasonableness of Charges for Corporate Support Services

Baryenbruch & Company, LLC, Evaluation

Baryenbruch & Company, LLC, evaluated the design and implementation of the allocation methodology. The following criteria was considered in this examination:

1. Separate books of accounts and records are maintained to facilitate accounting for the cost of Corporate Support Services provided to CRU US
2. Costs are allocated and assigned on a fully distributed cost basis
3. Allocation factors are reasonable
4. Cross-subsidization is avoided

Based on Baryenbruch & Company, LLC's, evaluation, the following conclusions were reached:

1. Separate books of accounts and records are maintained to account for the cost of services provided by Corporate Support Services personnel. The financial systems provide the capability to separately account for Corporate Support Services expenses.

2. Corporate Support Services costs are allocated and assigned on a fully distributed cost basis. Charges to affiliates include labor overheads (e.g., non-productive time, payroll taxes, benefit plan expenses) and indirect expenses (e.g., office rent, office expenses).

3. The allocation process and factors employed are commonly used by other utility service companies. Corix uses a two-tier allocation process. The first tier is an allocation among business segments. The second tier allocates Corporate Support Services among operating companies using the ERC formula. Other utility service-providing affiliates in a utility holding company structure also have a two-tiered allocation process with the first allocating among business segments and the second among operating company affiliates. The allocation bases—modified Massachusetts formula and ERCs—are commonly used in the utility industry.

4. Cross subsidization is avoided. The previously discussed analysis of Corporate Support Services 2021 allocation shows a fair distribution of common support costs to CRU US.

The evidence presented above supports the conclusion that Corporate Support Services provided by Corporate Support Services personnel are priced at fully distributed costs and that the factors used to allocate those costs are reasonable.

**COMMONWEALTH OF KENTUCKY**

**BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

In the Matter of:

| | | |
|---|---|---|
| Application of Water Service Corporation | ) | |
| of Kentucky for a General Adjustment | ) | Case No. 2022-00147 |
| in Existing Rates and a Certificate Of Public | ) | |
| Convenience and Necessity to Deploy | ) | |
| Advanced Metering Infrastructure, and Approval | ) | |
| Of Certain Regulatory Accounting Treatment | ) | |

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# DIRECT TESTIMONY OF DYLAN W. D'ASCENDIS, CRRA, CVA

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# I. INTRODUCTION

## A. WITNESS IDENTIFICATION

**Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

A. My name is Dylan W. D'Ascendis. My business address is 3000 Atrium Way, Suite 200, Mount Laurel, NJ 08054.

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

A. I am a Partner at ScottMadden, Inc.

## B. BACKGROUND AND QUALIFICATIONS

**Q. PLEASE SUMMARIZE YOUR PROFESSIONAL EXPERIENCE AND EDUCATIONAL BACKGROUND.**

A. I have offered expert testimony on behalf of investor-owned utilities in over 30 state regulatory commissions in the United States, the Federal Energy Regulatory Commission, the Alberta Utility Commission, an American Arbitration Association panel, and the Rhode Island Superior Court on issues including, but not limited to, common equity cost rate, rate of return, valuation, capital structure, class cost of service, and rate design.

On behalf of the American Gas Association ("AGA"), I calculate the AGA Gas Index, which serves as the benchmark against which the performance of the American Gas Index Fund ("AGIF") is measured on a monthly basis. The AGA Gas Index and AGIF are a market capitalization weighted index and mutual fund, respectively, comprised of the common stocks of the publicly traded corporate members of the AGA.

I am a member of the Society of Utility and Regulatory Financial Analysts ("SURFA"). In 2011, I was awarded the professional designation "Certified Rate of Return Analyst" by SURFA, which is based on education, experience, and the successful completion of a comprehensive written examination.

I am also a member of the National Association of Certified Valuation Analysts ("NACVA") and was awarded the professional designation "Certified Valuation Analyst" by the NACVA in 2015.

I am a graduate of the University of Pennsylvania, where I received a Bachelor of Arts degree in Economic History. I have also received a Master of Business Administration with high honors and concentrations in Finance and International Business from Rutgers University.

The details of my educational background and expert witness appearances are included in Appendix A.

## II. PURPOSE OF TESTIMONY

**Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS PROCEEDING?**

A. The purpose of my direct testimony is to present evidence on behalf of Water Service Corporation of Kentucky ("WSCK" or the "Company") about the appropriate capital structure and corresponding cost rates the Company should be given the opportunity to earn on its jurisdictional rate base.

**Q. HAVE YOU PREPARED SCHEDULES IN SUPPORT OF YOUR RECOMMENDATION?**

A. Yes. The attached Schedules DWD-1 through DWD-8 have been prepared or compiled by me or under my direct supervision.

**Q. WHAT IS YOUR RECOMMENDED COST OF CAPITAL FOR WATER SERVICE CORPORATION OF KENTUCKY?**

A. I recommend the Kentucky Public Service Commission ("KY PSC" or the "Commission") authorize the Company the opportunity to earn an overall rate of return of 7.64% based on

the Company's forecasted actual 13-month average capital structure of 50.29% long-term debt at an embedded cost rate of 4.71% and 49.71% common equity at my recommended common equity cost rate of 10.60%. The overall rate of return is summarized on page 1 of Schedule DWD-1 and in Table 1 below:

**Table 1: Summary of Overall Rate of Return**

| Type of Capital | Ratios | Cost Rate | Weighted Cost Rate |
|---|---|---|---|
| Long-Term Debt | 50.29% | 4.71% | 2.37% |
| Common Equity | 49.71% | 10.60% | 5.27% |
| Total | 100.00% | | 7.64% |

## III. SUMMARY

**Q. PLEASE SUMMARIZE YOUR RECOMMENDED COMMON EQUITY COST RATE.**

A. My recommended common equity cost rate of 10.60% is summarized on page 2 of Schedule DWD-1. I have assessed the market-based common equity cost rates of companies of relatively similar, but not necessarily identical, risk to Water Service Corporation of Kentucky. Using companies of relatively comparable risk as proxies is consistent with the principles of fair rate of return established in the *Hope*[1] and *Bluefield*[2] cases. No proxy group can be identical in risk to any single company, so there must be an evaluation of relative risk between the Company and the proxy group to see if it is appropriate to make adjustments to the proxy group's indicated rate of return.

My recommendation results from the application of several cost of common equity models, specifically the Discounted Cash Flow ("DCF") model, the Risk Premium Model

[1] *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944). *("Hope")*
[2] *Bluefield Water Works Improvement Co. v. Public Serv. Comm'n*, 262 U.S. 679 (1922). ("*Bluefield*")

("RPM"), and the Capital Asset Pricing Model ("CAPM"), to the market data of a proxy group of seven water companies ("Utility Proxy Group") whose selection criteria will be discussed below. In addition, I also applied the DCF, RPM, and CAPM to a proxy group of domestic, non-price regulated companies comparable in total risk to the Utility Proxy Group ("Non-Price Regulated Proxy Group").

The results derived from each are as follows:

**Table 2: Summary of Common Equity Cost Rate**

| | |
|---|---|
| Discounted Cash Flow Model | 9.63% |
| Risk Premium Model | 11.72% |
| Capital Asset Pricing Model | 11.52% |
| Market Models Applied to Comparable Risk, Non-Price Regulated Companies | 11.43% |
| Indicated Range of Common Equity Cost Rates Before Adjustments for Company-Specific Risk | 9.63% - 11.72% |
| Size Adjustment | 1.00% |
| Indicated Range of Common Equity Cost Rates after Adjustment | 10.63% – 12.72% |
| Recommended Cost of Common Equity | 10.60% |

After analyzing the indicated common equity cost rates derived through these models, the indicated range of common equity cost rates applicable to the Utility Proxy Group is between 9.63% and 11.72%.[3]

The indicated range of common equity cost rates applicable to the Utility Proxy Group was then adjusted upward by 1.00% to reflect WSCK's smaller size relative to the Utility Proxy Group. This adjustment results in a Company-specific range of common

[3] The indicated range of ROEs applicable to the Utility Proxy Group excluding the Predictive Risk Premium Model ("PRPM") is 9.63% to 11.66%.

equity cost rates between 10.63% and 12.72%. Upon review of both the unadjusted and adjusted indicated ranges of ROEs, I recommend the Commission consider a common equity cost rate of 10.60% for use in setting rates for the Company.

## IV. GENERAL PRINCIPLES

**Q. WHAT GENERAL PRINCIPLES HAVE YOU CONSIDERED IN ARRIVING AT YOUR RECOMMENDED COMMON EQUITY COST RATE OF 10.60%?**

A. In unregulated industries, the competition of the marketplace is the principal determinant of the price of products or services. For regulated public utilities, regulation must act as a substitute for marketplace competition. Assuring that the utility can fulfill its obligations to the public, while providing safe and reliable service at all times, requires a level of earnings sufficient to maintain the integrity of presently invested capital. Sufficient earnings also permit the attraction of needed new capital at a reasonable cost, for which the utility must compete with other firms of comparable risk, consistent with the fair rate of return standards established by the U.S. Supreme Court in the previously cited *Hope* and *Bluefield* decisions. The U.S. Supreme Court affirmed the fair rate of return standards in *Hope*, when it stated:

> The rate-making process under the Act, i.e., the fixing of 'just and reasonable' rates, involves a balancing of the investor and the consumer interests. Thus we stated in the Natural Gas Pipeline Co. case that 'regulation does not insure [sic] that the business shall produce net revenues.' 315 U.S. at page 590, 62 S.Ct. at page 745. But such considerations aside, the investor interest has a legitimate concern with the financial integrity of the company whose rates are being regulated. From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. Cf. Chicago & Grand Trunk R. Co. v. Wellman, 143 U.S. 339, 345, 346 12 S.Ct. 400, 402. By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure

> confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital. [4]

In summary, the U.S. Supreme Court has found a return that is adequate to attract capital at reasonable terms enables the utility to provide service while maintaining its financial integrity. As discussed above, and in keeping with established regulatory standards, that return should be commensurate with the returns expected elsewhere for investments of equivalent risk. The Commission's decision in this proceeding, therefore, should provide the Company with the opportunity to earn a return that is: 1) adequate to attract capital at reasonable cost and terms; 2) sufficient to ensure its financial integrity; and 3) commensurate with returns on investments in enterprises having corresponding risks.

Lastly, the required return for a regulated public utility is established on a stand-alone basis, *i.e.*, for the utility operating company at issue in a rate case. Parent entities, like other investors, have capital constraints and must look at the attractiveness of the expected risk-adjusted return of each investment alternative in their capital budgeting process. That is, utility holding companies that own many utility operating companies have choices as to where they will invest their capital within the holding company family. Therefore, the opportunity cost concept applies regardless of whether the funding source is public or corporate.

When funding is provided by a parent entity, the return still must be sufficient to provide an incentive to allocate equity capital to the subsidiary or business unit rather than other internal or external investment opportunities. That is, the regulated subsidiary must compete for capital with all the parent company's affiliates, and with other similar risk

[4] *Hope*, 320 U.S. 591 (1944), at 603.

companies, which may include non-utilities. In that regard, investors value corporate entities on a sum-of-the-parts basis and expect each division within the parent company to provide an appropriate risk-adjusted return.

It therefore is important that the authorized return on common equity ("ROE") for the Company reflects the risks and prospects of its operations and supports its financial integrity from a stand-alone perspective.

**Q. WITHIN THAT BROAD FRAMEWORK, HOW IS THE COST OF CAPITAL ESTIMATED IN REGULATORY PROCEEDINGS?**

A. Regulated utilities primarily use common stock and long-term debt to finance their permanent property, plant, and equipment (*i.e.*, rate base). The fair rate of return for a regulated utility is based on its weighted average cost of capital, in which, as noted earlier, the costs of the individual sources of capital are weighted by their respective book values.

The cost of capital is the return investors require to make an investment in a firm. Investors will provide funds to a firm only if the return that they *expect* is equal to, or greater than, the return that they *require* to accept the risk of providing funds to the firm.

The cost of capital (that is, the combination of the costs of debt and equity) is based on the economic principle of "opportunity costs." The principle of opportunity costs recognizes that investing in any asset (whether debt or equity securities) represents a forgone opportunity to invest in alternative assets. For any investment to be sensible, its expected return must be at least equal to the return expected on alternative investment opportunities with comparable risks. Because investments with like risks should offer similar returns, the opportunity cost of an investment should equal the return available on an investment of comparable risk.

The cost of debt is contractually defined and can be directly observed as the interest rate or yield on debt securities. However, the cost of equity must be estimated based on market data and various financial models. Because the cost of equity is premised on opportunity costs, the models used to determine it are typically applied to a group of "comparable" or "proxy" companies.

In the end, the estimated cost of capital should reflect the return that investors require in light of the subject company's business and financial risks, and the returns available on comparable investments.

## A. BUSINESS RISK

**Q. PLEASE DEFINE BUSINESS RISK AND EXPLAIN WHY IT IS IMPORTANT TO THE DETERMINATION OF A FAIR RATE OF RETURN.**

A. Business risk is the riskiness of a company's common stock without the use of debt and/or preferred capital. Examples of such general business risks faced by all utilities (*i.e.*, electric, natural gas distribution, and water) include size, the quality of management, the regulatory environment in which utilities operate, customer mix and concentration of customers, service territory growth, and capital intensity. All of these have a direct bearing on earnings.

Consistent with the basic financial principle of risk and return, business risk is important to the determination of a fair rate of return, because the higher the level of risk, the higher the rate of return investors demand.

**Q. WHAT BUSINESS RISKS DO THE WATER AND WASTEWATER INDUSTRIES FACE IN GENERAL?**

A. Water and wastewater utilities have an ever-increasing responsibility to be stewards of the environment from which water supplies are drawn in order to preserve and protect essential

natural resources of the United States. This increased environmental stewardship is a direct result of compliance with the Safe Drinking Water Act, as well as a response to continuous monitoring by the Environmental Protection Agency ("EPA") and state and local governments, of the water supply for potential contaminants and their resultant regulations. This, plus aging infrastructure, necessitate additional capital investment in the distribution and treatment of water, exacerbating the pressure on free cash flows arising from increased capital expenditures for infrastructure repair and replacement. The significant amount of capital investment and, hence, high capital intensity, is a major risk factor for the water and wastewater utility industry.

*Value Line Investment Survey* ("*Value Line*") observes the following about the water utility industry:

> For decades, water companies barely raised their customers' bills. Meanwhile, they also spent very little on modernizing their existing infrastructure. Eventually, this led to the average age of a typical pipeline in the United States being about 50 to 70 years old, and badly in need of repair. Too, service also started to become less dependable. Finally, the industry took note, and with the assistance of state regulators (more below), started to invest heavily in replacing corroding pipes and broken valves. This means that the entire industry has been playing catch up over the past decade trying to upgrade as many of their assets as they can. Capital spending has been, and will continue to be, large for the foreseeable future. As a result, external funds ought to be required. This should leave many in the industry with just average finances.
>
> * * *
>
> When it comes to evaluating any type of public utility, one of the key determinants is the type of regulatory climate in their service area. Fortunately, almost every company we follow here is generally treated fairly. Most state authorities have allowed these entities to recover the sizeable investment they have made to modernize their systems by imposing higher rates on consumers.[5]

[5] *Value Line Investment Survey*, January 7, 2022.

The water and wastewater industry also experiences low depreciation rates. Depreciation rates are one of the principal sources of internal cash flows for all utilities (through a utility's depreciation expense) and are vital for a company to fund ongoing replacements and repairs of water and wastewater systems. Water / wastewater utility assets have long lives, and therefore have long capital recovery periods. As such, they face greater risk due to inflation, which results in a higher replacement cost per dollar of net plant.

Substantial capital expenditures, as noted by *Value Line*, will require significant financing. The three sources of financing typically used are debt, equity (common and preferred), and cash flow. All three are intricately linked to the opportunity to earn a sufficient rate of return as well as the ability to achieve that return. Consistent with *Hope* and *Bluefield*, the return must be sufficient to maintain credit quality as well as enable the attraction of necessary new capital, be it debt or equity capital. If unable to raise debt or equity capital, the utility must turn to either retained earnings or free cash flow,[6] both of which are directly linked to earning a sufficient rate of return. The level of free cash flow represents a utility's ability to meet the needs of its debt and equity holders. If either retained earnings or free cash flow is inadequate, it will be nearly impossible for the utility to attract the needed capital for new infrastructure investment necessary to ensure quality service to its customers. An insufficient rate of return can be financially devastating for utilities as well as a public safety issue for their customers.

The water and wastewater utility industry's high degree of capital intensity and low depreciation rates, coupled with the need for substantial infrastructure capital spending, require regulatory support in the form of adequate and timely rate relief, and in particular,

[6] Free Cash Flow = Operating Cash Flow (Funds From Operations) minus Capital Expenditures.

a sufficient authorized return on common equity, so that the industry can successfully meet the challenges it faces.

## B. FINANCIAL RISK

**Q. PLEASE DEFINE FINANCIAL RISK AND EXPLAIN WHY IT IS IMPORTANT TO THE DETERMINATION OF A FAIR RATE OF RETURN.**

A. Financial risk is the additional risk created by the introduction of debt and preferred stock into the capital structure. The higher the proportion of debt and preferred stock in the capital structure, the higher the financial risk (*i.e.*, likelihood of default). Therefore, consistent with the basic financial principle of risk and return, investors demand a higher common equity return as compensation for bearing higher default risk.

**Q. CAN BOND AND CREDIT RATINGS BE A PROXY FOR THE COMBINED BUSINESS AND FINANCIAL RISK (*I.E.*, INVESTMENT RISK OF AN ENTERPRISE)?**

A. Yes, similar bond ratings/issuer credit ratings reflect, and are representative of, similar combined business and financial risks (*i.e.*, total risk) faced by bond investors.[7] Although specific business or financial risks may differ between companies, the same bond/credit rating indicates that the combined risks are roughly similar, albeit not necessarily equal, as the purpose of the bond/credit rating process is to assess credit quality or credit risk, and not common equity risk.

[7] Risk distinctions within S&P's bond rating categories are recognized by a plus or minus, *i.e.*, within the A category, an S&P rating can be at A+, A, or A-. Similarly, risk distinctions for Moody's ratings are distinguished by numerical rating gradations, *i.e.*, within the A category, a Moody's rating can be A1, A2 and A3.

**Q. THAT BEING SAID, DO RATING AGENCIES REFLECT COMPANY SIZE IN THEIR BOND RATINGS?**

A. No. Neither S&P nor Moody's have minimum company size requirements for any given rating level. This means, all else equal, a relative size analysis needs to be conducted for companies with similar bond ratings.

## V. THE WATER SERVICE CORPORATION OF KENTUCKY AND THE UTILITY PROXY GROUP

**Q. ARE YOU FAMILIAR WITH THE OPERATIONS OF WSCK?**

A. Yes. WSCK provides water and wastewater services to approximately 8,000 customers throughout Kentucky. The Company is a wholly owned subsidiary of Corix Regulated Utilities, Inc. The Company's common stock is not publicly traded.

**Q. PLEASE EXPLAIN HOW YOU CHOSE YOUR UTILITY PROXY GROUP.**

A. The basis of selection for the Utility Proxy Group was to select those companies which meet the following criteria:

(i) They are included in the Water Utility Group of *Value Line's* Standard Edition (January 7, 2022);

(ii) They have 70% or greater of 2021 total operating income or 70% or greater of 2021 total assets attributable to regulated water operations;

(iii) At the time of preparation of this testimony, they had not publicly announced that they were involved in any major merger or acquisition activity (*i.e.*, one publicly traded utility merging with or acquiring another);

(iv) They have not cut or omitted their common dividends during the five years ending 2021 or through the time of the preparation of this testimony;

(v) They have *Value Line* and Bloomberg Professional Services ("Bloomberg") adjusted Beta coefficients ("beta");

(vi) They have a positive *Value Line* five-year dividends per share ("DPS") growth rate projection; and

(vii) They have *Value Line*, Zacks, and Yahoo! Finance, consensus five-year earnings per share ("EPS") growth rate projections.

The following seven companies met these criteria: American States Water Co., American Water Works Co., Inc., California Water Service Group, Essential Utilities, Inc., Middlesex Water Co., SJW Corp., and The York Water Co.

**Q. PLEASE DESCRIBE SCHEDULE DWD-2, PAGE 1.**

A. Page 1 of Schedule DWD-2 contains comparative capitalization and financial statistics for the Utility Proxy Group identified above for the years 2017 to 2021. During the five-year period ending 2021, the historically achieved earnings rate on book common equity for the group averaged 10.53%. The average common equity ratio based on total capital (including short-term debt) was 49.30%, and the average dividend payout ratio was 59.66%.

Total Debt / EBITDA for the years 2017 to 2021 ranges between 3.42x and 5.57x, with an average of 4.70x. Funds from operations to total debt range from 11.66% to 22.87%, with an average of 16.51%.

## VI. CAPITAL STRUCTURE

**Q. WHAT CAPITAL STRUCTURE RATIOS DO YOU RECOMMEND BE EMPLOYED IN DEVELOPING AN OVERALL FAIR RATE OF RETURN APPROPRIATE FOR THE COMPANY?**

A. I recommend the use of WSCK's projected capital structure which is the 13-month average ending December 31, 2023, consisting of 50.29% long-term debt and 49.71% common equity as shown on page 1 of Schedule DWD-1.

**Q. HOW DOES WSCK'S PROJECTED COMMON EQUITY RATIO OF 49.71% COMPARE WITH THE EQUITY RATIOS MAINTAINED BY THE COMPANIES IN YOUR UTILITY PROXY GROUP?**

A. A ratemaking common equity ratio of 49.71% is reasonable and consistent with the range of common equity ratios maintained, on average, by the companies in the Utility Proxy Group on which I base my recommended common equity cost rate. As shown on page 2 of Schedule DWD-2, the common equity ratios of the Utility Proxy Group range from 40.33% to 62.44% in 2021.

**Q. WHAT DEBT COST RATES ARE MOST APPROPRIATE FOR WSCK WATER IN THIS PROCEEDING?**

A. WSCK's projected long-term cost of debt of 4.71% is reasonable and appropriate as the cost of debt in this proceeding.

## VII. COMMON EQUITY COST RATE MODELS

**Q. IS IT IMPORTANT THAT COST OF COMMON EQUITY MODELS BE MARKET-BASED?**

A. Yes. A public utility must compete for equity in capital markets along with all other companies of comparable risk, which includes non-utilities. The cost of common equity is

thus determined based on equity market expectations for the returns of those comparable risk companies. When individual investors choose to invest capital among companies of comparable risk, they will choose a company which provides a higher return over a company providing a lower return.

**Q. ARE YOUR COST OF COMMON EQUITY MODELS MARKET-BASED MODELS?**

A. Yes. The DCF model is market-based because market prices are used in developing the dividend yield component of the model. The RPM is market-based because the bond ratings and expected bond yields used in the application of the RPM reflect the market's assessment of bond/credit risk. In addition, the use of betas (β) to determine the equity risk premium reflects the market's assessment of market/systematic risk, since betas are derived from regression analyses of market prices. The Predictive Risk Premium Model ("PRPM") uses monthly market returns in addition to expectations of the risk-free rate. The CAPM is market-based for many of the same reasons that the RPM is market-based (*i.e.*, the use of expected bond yields and betas). Selection of the comparable risk non-price regulated companies is market-based because it is based on statistics which result from regression analyses of market prices and reflect the market's assessment of total risk.

## A. DISCOUNTED CASH FLOW MODEL

**Q. WHAT IS THE THEORETICAL BASIS OF THE DCF MODEL?**

A. The theory underlying the DCF model is that the present value of an expected future stream of net cash flows during the investment holding period can be determined by discounting those cash flows at the cost of capital, or the investors' capitalization rate. DCF theory indicates that an investor buys a stock for an expected total return rate, which is derived from cash flows received in the form of dividends plus appreciation in market price (the

expected growth rate). Mathematically, the dividend yield on market price plus a growth rate equals the capitalization rate, *i.e.*, the total common equity return rate expected by investors.

**Q. WHICH VERSION OF THE DCF MODEL DID YOU USE?**

A. I used the single-stage constant growth DCF model.

**Q. PLEASE DESCRIBE THE DIVIDEND YIELD YOU USED IN YOUR APPLICATION OF THE DCF MODEL.**

A. The unadjusted dividend yields are based on the proxy companies' dividends as of March 31, 2022, divided by the average of closing market prices for the 60 trading days ending March 31, 2022.[8]

**Q. PLEASE EXPLAIN YOUR ADJUSTMENT TO THE DIVIDEND YIELD.**

A. Because dividends are paid periodically (quarterly), as opposed to continuously (daily), an adjustment must be made to the dividend yield. This is often referred to as the discrete, or the Gordon Periodic, version of the DCF model.

DCF theory calls for the use of the full growth rate, or $D_1$, in calculating the dividend yield component of the model. Since the various companies in the Utility Proxy Group increase their quarterly dividend at various times during the year, a reasonable assumption is to reflect one-half the annual dividend growth rate in the dividend yield component, or $D_{1/2}$. Because the dividend should be representative of the next 12-month period, my adjustment is a conservative approach that does not overstate the dividend yield. Therefore, the actual average dividend yields in Column 1 on page 1 of Schedule DWD-3 have been adjusted upward to reflect one-half the average projected growth rate shown in Column 6.

[8] *See*, Schedule DWD-3, page 1, Column 1.

**Q. PLEASE EXPLAIN THE BASIS OF THE GROWTH RATES YOU APPLIED TO THE UTILITY PROXY GROUP IN YOUR DCF MODEL.**

A. Investors with more limited resources than institutional investors are likely to rely on widely available financial information services, such as *Value Line*, Zacks, and Yahoo! Finance. Investors realize that analysts have significant insight into the dynamics of the industries and individual companies they analyze, as well as companies' abilities to effectively manage the effects of changing laws and regulations, and ever-changing economic and market conditions. For these reasons, I used analysts' five-year forecasts of EPS growth in my DCF analysis.

Over the long run, there can be no growth in DPS without growth in EPS. Security analysts' earnings expectations have a more significant influence on market prices than dividend expectations. Thus, the use of earnings growth rates in a DCF analysis provides a better match between investors' market price appreciation expectations and the growth rate component of the DCF.

**Q. PLEASE SUMMARIZE THE DCF MODEL RESULTS.**

A. As shown on page 1 of Schedule DWD-3, the mean result of the application of the single-stage DCF model is 9.44%, the median result is 9.81%, and the average of the two is 9.63% for the Utility Proxy Group. In arriving at a conclusion for the DCF-indicated common equity cost rate for the Utility Proxy Group, I have relied on an average of the mean and the median results of the DCF. This approach takes into consideration all the proxy companies' results, while mitigating the high and low outliers of those individual results.

## B. THE RISK PREMIUM MODEL

**Q. PLEASE DESCRIBE THE THEORETICAL BASIS OF THE RPM.**

A. The RPM is based on the fundamental financial principle of risk and return, namely, that investors require greater returns for bearing greater risk. The RPM recognizes that common equity capital has greater investment risk than debt capital, as common equity shareholders are behind debt holders in any claim on a company's assets and earnings. As a result, investors require higher returns from common stocks than from investment in bonds, to compensate them for bearing the additional risk.

While it is possible to directly observe bond returns and yields, investors' required common equity return cannot be directly determined or observed. According to RPM theory, one can estimate a common equity risk premium over bonds (either historically or prospectively) and use that premium to derive a cost rate of common equity. The cost of common equity equals the expected cost rate for long-term debt capital, plus a risk premium over that cost rate, to compensate common shareholders for the added risk of being unsecured and last-in-line for any claim on the corporation's assets and earnings in the event of a liquidation.

**Q. PLEASE EXPLAIN HOW YOU DERIVED YOUR INDICATED COST OF COMMON EQUITY BASED ON THE RPM.**

A. I relied on the results of the application of two risk premium methods. The first method is the PRPM, while the second method is a risk premium model using a total market approach.

**Q. PLEASE EXPLAIN THE PRPM.**

A. The PRPM, published in the *Journal of Regulatory Economics* and *The Electricity Journal*,[9] was developed from the work of Robert F. Engle, who shared the Nobel Prize in Economics in 2003 "for methods of analyzing economic time series with time-varying volatility ("ARCH")".[10] Engle found that volatility changes over time and is related from one period to the next, especially in financial markets. Engle discovered that the volatility in prices and returns clusters over time, and is therefore highly predictable, and can be used to predict future levels of risk and risk premiums.

The PRPM estimates the risk / return relationship directly, as the predicted equity risk premium is generated by the prediction of volatility or risk. The PRPM is not based on an estimate of investor behavior, but rather on the evaluation of the results of that behavior (*i.e.*, the variance of historical equity risk premiums).

The inputs to the model are the historical returns on the common shares of each company in the Utility Proxy Group minus the historical monthly yield on long-term U.S. Treasury securities through March 2022. Using a generalized form of ARCH, known as GARCH, I calculated each Utility Proxy Group company's projected equity risk premium using Eviews© statistical software. When the GARCH Model is applied to the historical return data, it produces a predicted GARCH variance series[11] and a GARCH coefficient.[12] Multiplying the predicted monthly variance by the GARCH coefficient, then annualizing

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9 Autoregressive conditional heteroscedasticity. *See*, "A New Approach for Estimating the Equity Risk Premium for Public Utilities", Pauline M. Ahern, Frank J. Hanley and Richard A. Michelfelder, *The Journal of Regulatory Economics* (December 2011), 40:261-278 and "Comparative Evaluation of the Predictive Risk Premium Model, the Discounted Cash Flow Model and the Capital Asset Pricing Model for Estimating the Cost of Common Equity", Richard A. Michelfelder, Pauline M. Ahern, Dylan W. D'Ascendis, and Frank J. Hanley, *The Electricity Journal* (May 2013), 84-89.

10 www.nobelprize.org.

11 Illustrated on Columns 1 and 2 of page 2 of Schedule DWD-4.

12 Illustrated on Column 4 of page 2 of Schedule DWD-4.

it,[13] produces the predicted annual equity risk premium. I then added the forecasted 30-year U.S. Treasury Bond yield, 3.18%,[14] to each company's PRPM-derived equity risk premium to arrive at an indicated cost of common equity. The 30-year Treasury yield is a consensus forecast derived from the *Blue Chip Financial Forecasts ("Blue Chip")*.[15] The mean PRPM indicated common equity cost rate for the Utility Proxy Group is 12.81%, the median is 11.97%, and the average of the two is 12.39%. Consistent with my reliance on the average of the median and mean results of the DCF, I relied on the average of the mean and median results of the Utility Proxy Group PRPM to calculate a cost of common equity rate of 12.39%.

**Q. IS THE PRPM SUPPORTED BY ACADEMIC LITERATURE?**

A. Yes, it is. The PRPM is based on the research of Dr. Robert F. Engle, dating back to the early 1980s. Dr. Engle discovered that the volatility of market prices, returns, and risk premiums clusters over time, making prices, returns, and risk premiums highly predictable. In 2003, he shared the Nobel Prize in Economics for this work, characterized as "methods of analyzing economic time series with time-varying volatility ("ARCH").[16] Dr. Engle[17] noted that relative to volatility, "the standard tools have become the ARCH/GARCH[18] models." Hence, the methodology is not new.

In addition, the GARCH methodology has been well tested by academia since Engle's, *et al*. research was originally published in 1982, 40 years ago. I use the well-established GARCH methodology to estimate the PRPM model using a standard

13 Annualized Return = (1+Monthly Return)^12 – 1.
14 *See*, Column 6 of page 2 of Schedule DWD-4.
15 *Blue Chip Financial Forecasts*, December 1, 2021 at p. 14 and April 1, 2022 at p. 2.
16 www.nobelprize.org.
17 Robert Engle, "GARCH 101: The Use of ARCH/GARCH Models in Applied Econometrics", *Journal of Economic Perspectives*, Volume 15, No. 4, Fall 2001, at 157-168.
18 Autoregressive Conditional Heteroskedasticity/Generalized Autoregressive Conditional Heteroskedasticity.

commercial and relatively inexpensive statistical package, Eviews,©[19] to develop a means by which to estimate a predicted equity risk premium which, when added to a bond yield, results in a cost of common equity.

Also, the PRPM is in the public domain, having been published six times in academically peer-reviewed journals: *Journal of Economics and Business* (June 2011 and April 2015),[20] *The Journal of Regulatory Economics* (December 2011),[21] *The Electricity Journal* (May 2013 and March 2020),[22] and *Energy Policy* (April 2019).[23] Notably, none of these articles have been rebutted in the academic literature.

Finally, the PRPM has also been presented to a number of utility industry/regulatory/academic groups including the following: The Edison Electric Institute Cost of Capital Working Group; The NARUC Staff Subcommittee on Accounting and Finance; The National Association of Electric Companies Finance/Accounting/Taxation and Rates and Regulations Committees; the NARUC Electric Committee; The Wall Street Utility Group; the Indiana Utility Regulatory Commission Cost of Capital Task Force; the Financial Research Institute of the University of Missouri Hot Topic Hotline Webinar; and

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19 In addition to Eviews,® the GARCH methodology can be applied and the PRPM derived using other standard statistical software packages such as SAS, RATS, S-Plus and JMulti, which are not cost-prohibitive. The software that I used in this proceeding, Eviews,® currently costs $600 - $700 for a single user commercial license. In addition, JMulti is a free downloadable software with GARCH estimation applications.

20 Eugene A. Pilotte and Richard A. Michelfelder, "Treasury Bond Risk and Return, the Implications for the Hedging of Consumption and Lessons for Asset Pricing", *Journal of Economics and Business*, June 2011, 582-604. and Richard A. Michelfelder, "Empirical Analysis of the Generalized Consumption Asset Pricing Model: Estimating the Cost of Capital", *Journal of Economics and Business*, April 2015, 37-50.

21 Pauline M. Ahern, Frank J. Hanley, and Richard A. Michelfelder, "New Approach to Estimating the Equity Risk Premium for Public Utilities", *The Journal of Regulatory Economics*, December 2011, at 40:261-278.

22 Richard A. Michelfelder, Pauline M. Ahern, Dylan W. D'Ascendis, and Frank J. Hanley, "Comparative Evaluation of the Predictive Risk Premium Model, the Discounted Cash Flow Model and the Capital Asset Pricing Model for Estimating the Cost of Common Equity", *The Electricity Journal*, April 2013, at 84-89; and Richard A. Michelfelder, Pauline M. Ahern, and Dylan W. D'Ascendis, "Decoupling, Risk Impacts and the Cost of Capital", *The Electricity Journal*, January 2020.

23 Richard A. Michelfelder, Pauline M. Ahern, and Dylan W. D'Ascendis, "Decoupling Impact and Public Utility Conservation Investment", *Energy Policy*, April 2019, 311-319.

the Center for Research and Regulated Industries Annual Eastern Conference on two occasions.

**Q. HAS THE PRPM BEEN IMPLICITLY ACCEPTED BY OTHER REGULATORY COMMISSIONS?**

A. Yes. In Docket No. 2017-292-WS, the Public Service Commission of South Carolina ("PSC SC") accepted Blue Granite Water Company's entire requested ROE, which included the PRPM. The relevant portion states:

> The Commission finds Mr. D'Ascendis' arguments persuasive. He provided more indicia of market returns, by using more analytical methods and proxy group calculations. Mr. D'Ascendis' use of analysts' estimates for his DCF analysis is supported by consensus, as is his use of the arithmetic mean. The Commission also finds that Mr. D'Ascendis' non-price regulated proxy group more accurately reflects the total risk faced [by] price regulated utilities and CWS. Furthermore, there is no dispute that CWS is significantly smaller than its proxy group counterparts, and, therefore, it may present a higher risk. An appropriate ROE for CWS is 10.45% to 10.95%. The Company used an ROE of 10.5% in computing its Application, a return on the low end of Mr. D'Ascendis' range, and the Commission finds that ROE is supported by the evidence.[24]

In addition, in Docket No. W-354, Subs 363, 364 and 365, the State of North Carolina Utilities Commission ("NCUC") approved my RPM and CAPM analyses, which used PRPM analyses as presented in this proceeding. The relevant portion of the order states:

> In doing so the Commission finds that the DCF (8.81%), Risk Premium (10.00%) and CAPM (9.29%) model results provided by witness D'Ascendis, as updated to use current rates in D'Ascendis Late-Filed Exhibit No. 1, as well as the risk premium (9.57%) analysis of witness Hinton, are credible, probative, and are entitled to substantial weight as set forth below.[25]

[24] PSC SC Docket No. 2017-292-WS - Order No. 2018-345, at 14. (May 17, 2018)

[25] NCUC Docket No. W-354, Sub 363, 364, 365, *Order Granting Partial Rate Increase and Requiring Customer Notice*, at PDF 72 (March 31, 2020).

**Q. DID THE COMMISSION REJECT THE PRPM IN CASE NO. 2021-00214 CONCERNING ATMOS ENERGY CORPORATION?**

A. Yes, it did. The Commission stated:

> Even though the Commission supports the use and presentation of multiple modelling approaches, the Commission finds that Atmos Kentucky's use of the Predictive Risk Premium Model (PRPM) should be rejected. Though the PRPM model has been published and presented in multiple forums, it has been rejected by this Commission and only been addressed by three other regulatory jurisdictions thus far and is not universally accepted.

**Q. DO YOU HAVE A RESPONSE TO THE COMMISSION'S STATEMENT?**

A. Yes, I do. I appreciate the Commission's openness to considering multiple models in its determination of ROEs for the utilities they regulate, but I respectfully disagree with their exclusion of the PRPM in Case No. 2021-00214. As noted above, the theory supporting the model is based on the Nobel Prize winning work of Engle, and the model itself has been published six times in four separate peer-reviewed academic journals, which indicates that it has been thoroughly vetted by the academic community. This, in addition to the fact that the model has not been rebutted in the academic literature in the over ten years since it has been presented should speak to the model's soundness.

Regarding the amount of times the model has been addressed in final orders; while it is true that only three (now four) regulatory commissions have addressed the PRPM in their final orders, the model has been presented in over 100 regulatory proceedings in over 30 U.S. regulatory jurisdictions and the Alberta Utilities Commission in Canada. This would indicate that while maybe not universally accepted, the model is widely disseminated across the U.S. regulatory landscape.

In view of the above, the soundness of the model, as evidenced in the underlying theory and the academic vetting of the PRPM, and the wide dissemination of the model in

the U.S. regulatory landscape should lead the Commission reconsider the PRPM in its determination regarding the ROE for WSCK in this proceeding.

**Q. HAVE YOU PRESENTED YOUR ROE MODEL RESULTS EXCLUDING THE PRPM?**

A. Yes. While I respectfully disagree with the Commission's finding in Case No. 2021-00214, I have presented my ROE model results including and excluding the PRPM for the Commission's convenience. As can be gleaned from page 2 of Schedule DWD-1, my recommended ROE of 10.60% is still within the range of ROEs produced by my models without the PRPM. Also, I would note that my CAPM and Non-Price Regulated Proxy Group results are higher after excluding the PRPM from those models.

**Q. PLEASE EXPLAIN THE TOTAL MARKET APPROACH RPM.**

A. The total market approach RPM adds a prospective public utility bond yield to an average of: 1) an equity risk premium that is derived from a beta-adjusted total market equity risk premium; and 2) an equity risk premium based on the S&P Utilities Index.

**Q. PLEASE EXPLAIN THE BASIS OF THE EXPECTED BOND YIELD OF 4.85% APPLICABLE TO THE UTILITY PROXY GROUP.**

A. The first step in the total market approach RPM analysis is to determine the expected bond yield. Because both ratemaking and the cost of capital, including common equity cost rate, are prospective in nature, a prospective yield on similarly-rated long-term debt is essential. I rely on a consensus forecast of about 50 economists of the expected yield on Aaa-rated corporate bonds for the six calendar quarters ending with the third calendar quarter of 2023, and the long-term projections for 2023 to 2027, and 2028 to 2032 from *Blue Chip*. As shown on line No. 1 of page 3 of Schedule DWD-4, the average expected yield on Moody's Aaa-rated corporate bonds is 4.34%. In order to derive an expected yield on A2-rated

public utility bonds, I make an upward adjustment of 0.46%, which represents a recent spread between Aaa-rated corporate bonds and A2-rated public utility bonds, in order to adjust the expected Aaa-rated corporate bond yield to an equivalent Moody's A2-rated public utility bond.[26] Adding that recent 0.46% spread to the expected Aaa-rated corporate bond yield of 4.34% results in an expected A2-rated public utility bond of 4.80%.

Since the Utility Proxy Group's average Moody's long-term issuer rating is A2/A3, another adjustment to the expected A2-rated public utility bond yield is needed to reflect the difference in bond ratings. An upward adjustment of 0.05%, which represents one-third of a recent spread between A2- and Baa2-rated public utility bond yields, is necessary to make the A2-rated prospective bond yield applicable to an A2/A3-rated public utility bond.[27] Adding the 0.05% to the 4.80% prospective A2-rated public utility bond yield results in a 4.85% expected bond yield for the Utility Proxy Group.

**Table 3: Summary of the Calculation of the Utility Proxy Group Projected Bond Yield[28]**

| | |
|---|---|
| Prospective Yield on Moody's Aaa-Rated Corporate Bonds (*Blue Chip)* | 4.34% |
| Adjustment to Reflect Yield Spread Between Moody's Aaa-Rated Corporate Bonds and Moody's A2-Rated Utility Bonds | 0.46% |
| Adjustment to Reflect the Utility Proxy Group's Average Moody's Bond Rating of A2/A3 | 0.05% |
| Prospective Bond Yield Applicable to the Utility Proxy Group | 4.85% |

[26] As shown on Line No. 2 and explained in Note 2 of page 3 of Schedule DWD-4.

[27] As shown on Line 4 and explained in note 3, page 3 of Schedule DWD-4. Moody's does not provide public utility bond yields for A3-rated bonds. As such, it was necessary to estimate the difference between A2-rated and A3-rated public utility bonds. Because there are three steps between Baa2 and A2 (Baa2 to Baa1, Baa1 to A3, and A3 to A2) I assumed an adjustment of one-third of the difference between the A2-rated and Baa2-rated public utility bond yield was appropriate.

[28] As shown on page 3 of Schedule DWD-4.

To develop the indicated ROE using the total market approach RPM, this prospective bond yield is then added to the average of the three different equity risk premiums described below.

**Q. PLEASE EXPLAIN HOW THE BETA-DERIVED EQUITY RISK PREMIUM IS DETERMINED.**

A. The components of the beta-derived risk premium model are: 1) an expected market equity risk premium over corporate bonds, and 2) the beta. The derivation of the beta-derived equity risk premium that I applied to the Utility Proxy Group is shown on Lines 1 through 9 of page 8 of Schedule DWD-4. The total beta-derived equity risk premium I applied was based on an average of: 1) Ibbotson-based equity risk premiums; 2) *Value Line*-based equity risk premiums; and 3) Bloomberg-based equity risk premiums. Each of these is described in turn.

**Q. HOW DID YOU DERIVE A MARKET EQUITY RISK PREMIUM BASED ON LONG-TERM HISTORICAL DATA?**

A. To derive a historical market equity risk premium, I used the most recent holding period returns for the large company common stocks from the Kroll 2022 SBBI® Yearbook Stocks, Bonds, Bills, and Inflation ("SBBI – 2022")[29] less the average historical yield on Moody's Aaa/Aa-rated corporate bonds for the period 1928 to 2021. The use of holding period returns over a very long period of time is appropriate because it is consistent with the long-term investment horizon presumed by investing in a going concern, *i.e.*, a company expected to operate in perpetuity.

The long-term arithmetic mean monthly total return rate on large company common stocks was 12.11% and the long-term arithmetic mean monthly yield on Moody's Aaa/Aa-

[29] SBBI – 2022, at 256-258.

rated corporate bonds was 5.98% from 1928 to 2021.[30] As shown on Line 1 of page 8 of Schedule DWD-4, subtracting the mean monthly bond yield from the total return on large company stocks results in a long-term historical equity risk premium of 6.13%.

I used the arithmetic mean monthly total return rates for the large company stocks and yields (income returns) for the Moody's Aaa/Aa-rated corporate bonds, because they are appropriate for the purpose of estimating the cost of capital as noted in SBBI – 2022.[31] The use of the arithmetic mean return rates and yields is appropriate because historical total returns and equity risk premiums provide insight into the variance and standard deviation of returns needed by investors in estimating future risk when making a current investment. If investors relied on the geometric mean of historical equity risk premiums, they would have no insight into the potential variance of future returns because the geometric mean relates to the change over many periods to a constant rate of change, thereby obviating the year-to-year fluctuations, or variance, which is critical to risk analysis.

**Q. PLEASE EXPLAIN THE DERIVATION OF THE REGRESSION-BASED MARKET EQUITY RISK PREMIUM.**

A. To derive the regression analysis-derived market equity risk premium of 8.16%, shown on Line 2 of page 8 of Schedule DWD-4, I used the same monthly annualized total returns on large company common stocks relative to the monthly annualized yields on Moody's Aaa/Aa-rated corporate bonds as mentioned above. The relationship between interest rates and the market equity risk premium was modeled using the observed monthly market equity risk premium as the dependent variable, and the monthly yield on Moody's Aaa/Aa-rated corporate bonds as the independent variable. I used a linear Ordinary Least Squares

[30] As explained in note 1 on page 9 of Schedule DWD-4.
[31] SBBI – 2022, at 200-201.

("OLS") regression, in which the market equity risk premium is expressed as a function of the Moody's Aaa/Aa-rated corporate bonds yield:

$$RP = \alpha + \beta\ (R_{Aaa/Aa})$$

**Q. PLEASE EXPLAIN THE DERIVATION OF A PRPM EQUITY RISK PREMIUM.**

A. I used the same PRPM approach described previously to develop another equity risk premium estimate. The inputs to the model are the historical monthly returns on large company common stocks minus the monthly yields on Aaa/Aa-rated corporate bonds during the period from January 1928 through March 2022.[32] Using the previously discussed generalized form of ARCH, known as GARCH, the projected equity risk premium is determined using Eviews© statistical software. The resulting PRPM predicted market equity risk premium is 8.03%.[33]

**Q. PLEASE EXPLAIN THE DERIVATION OF A PROJECTED EQUITY RISK PREMIUM BASED ON *VALUE LINE* DATA FOR YOUR RPM ANALYSIS.**

A. As noted previously, because both ratemaking and the cost of capital are prospective, a prospective market equity risk premium is needed. The derivation of the forecasted or prospective market equity risk premium can be found in note 4 on page 9 of Schedule DWD-4. Consistent with my calculation of the dividend yield component in my DCF analysis, this prospective market equity risk premium is derived from an average of the three to five-year median market price appreciation potential by *Value Line* for the 13 weeks ending April 1, 2022, plus an average of the median estimated dividend yield for the common stocks of the 1,700 firms covered in *Value Line*'s Standard Edition.[34]

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[32] Data from January 1928-December 2021 is from SBBI – 2022. Data from January – March 2022 is from Bloomberg Professional Services.

[33] Shown on Line No. 3 on page 8 of Schedule DWD-4.

[34] As explained in detail in page 2, note 1 of Schedule DWD-5.

The average median expected price appreciation is 47%, which translates to a 10.11% annual appreciation, and when added to the average of *Value Line's* median expected dividend yields of 1.87%, equates to a forecasted annual total return rate on the market of 11.98%. The forecasted Aaa-rated bond yield of 4.34% is deducted from the total market return of 11.98%, resulting in an equity risk premium of 7.64%, shown on page 8, Line 4 of Schedule DWD-4.

**Q. PLEASE EXPLAIN THE DERIVATION OF AN EQUITY RISK PREMIUM BASED ON THE S&P 500 COMPANIES.**

A. Using data from *Value Line*, I calculated an expected total return on Standard & Poor's ("S&P") 500 using expected dividend yields and long-term growth estimates as a proxy for capital appreciation. The expected total return for the S&P 500 is 15.90%. Subtracting the prospective yield on Aaa-rated Corporate bonds of 4.34% results in a 11.56% projected equity risk premium.

**Q. PLEASE EXPLAIN THE DERIVATION OF AN EQUITY RISK PREMIUM BASED ON BLOOMBERG DATA.**

A. Using data from Bloomberg, I calculated an expected total return on the S&P 500 using expected dividend yields and long-term growth estimates as a proxy for capital appreciation, identical to the method described above. The expected total return for the S&P 500 is 14.60%. Subtracting the prospective yield on Aaa-rated Corporate bonds of 4.34% results in a 10.26% projected equity risk premium.

**Q. WHAT IS YOUR CONCLUSION OF A BETA-DERIVED EQUITY RISK PREMIUM FOR USE IN YOUR RPM ANALYSIS?**

A. I gave equal weight to the six equity risk premiums in arriving at my conclusion of 8.63%.[35]

[35] *See*, line No. 7 on page 8 of Schedule DWD-4.

**Table 4: Summary of the Calculation of the Equity Risk Premium Using Total Market Returns[36]**

| | |
|---|---|
| Historical Spread Between Total Returns of Large Stocks and Aaa and Aa2-Rated Corporate Bond Yields (1928 – 2021) | 6.13% |
| Regression Analysis on Historical Data | 8.16% |
| PRPM Analysis on Historical Data | 8.03% |
| Prospective Equity Risk Premium using Total Market Returns from *Value Line* Summary & Index less Projected Aaa Corporate Bond Yields | 7.64% |
| Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from *Value Line* for the S&P 500 less Projected Aaa Corporate Bond Yields | 11.56% |
| Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from Bloomberg Professional Services for the S&P 500 less Projected Aaa Corporate Bond Yields | 10.26% |
| **Average** | 8.63% |

After calculating the average market equity risk premium of 8.63%, I adjusted it by beta to account for the risk of the Utility Proxy Group. As discussed below, beta is a meaningful measure of prospective relative risk to the market as a whole and is a logical means by which to allocate a company's, or proxy group's, share of the market's total equity risk premium relative to corporate bond yields. As shown on page 1 of Schedule DWD-5, the average of the mean and median beta for the Utility Proxy Group is 0.83. Multiplying the beta of the Utility Proxy Group of 0.83 by the market equity risk premium of 8.63% results in a beta-adjusted equity risk premium of 7.16% for the Utility Proxy Group.

**Q. HOW DID YOU DERIVE THE EQUITY RISK PREMIUM BASED ON THE S&P UTILITY INDEX AND MOODY'S A-RATED PUBLIC UTILITY BONDS?**

A. I estimated three equity risk premiums based on S&P Utility Index holding returns, and two equity risk premiums based on the expected returns of the S&P Utilities Index, using *Value Line* and Bloomberg data, respectively. Turning first to the S&P Utility Index

[36] As shown on page 8 of Schedule DWD-4.

holding period returns, I derived a long-term monthly arithmetic mean equity risk premium between the S&P Utility Index total returns of 10.74% and monthly A-rated public utility bond yields of 6.46% from 1928 to 2020, to arrive at an equity risk premium of 4.28%.[37] I then used the same historical data to derive an equity risk premium of 5.69% based on a regression of the monthly equity risk premiums. The final S&P Utility Index holding period equity risk premium involved applying the PRPM using the historical monthly equity risk premiums from January 1928 to March 2022 to arrive at a PRPM-derived equity risk premium of 5.24% for the S&P Utility Index.

I then derived expected total returns on the S&P Utilities Index of 10.66% and 9.94% using data from *Value Line* and Bloomberg, respectively, and subtracted the prospective A2-rated public utility bond yield (4.80%[38]), which results in risk premiums of 5.14% and 5.86%, respectively. As with the market equity risk premiums, I averaged each risk premium to arrive at my utility-specific equity risk premium of 5.24%.

**Table 5: Summary of the Calculation of the Equity Risk Premium Using S&P Utility Index Holding Returns[39]**

| | |
|---|---|
| Historical Spread Between Total Returns of the S&P Utilities Index and A2-Rated Utility Bond Yields (1928 – 2021) | 4.28% |
| Regression Analysis on Historical Data | 5.69% |
| PRPM Analysis on Historical Data | 5.24% |
| Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from *Value Line* for the S&P Utilities Index less Projected A2 Utility Bond Yields | 5.86% |
| Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from Bloomberg Professional Services for the S&P Utilities Index less Projected A2 Utility Bond Yields | 5.14% |
| **Average** | 5.24% |

[37] As shown on Line No. 1 on page 12 of Schedule DWD-4.
[38] Derived on Line No. 3 of page 3 of Schedule DWD-4.
[39] As shown on page 12 of Schedule DWD-4.

**Q. WHAT IS YOUR CONCLUSION OF AN EQUITY RISK PREMIUM FOR USE IN YOUR TOTAL MARKET APPROACH RPM ANALYSIS?**

A. The equity risk premium I applied to the Utility Proxy Group is 6.20%, which is the average of the beta-derived and the S&P utility equity risk premiums of 7.16% and 5.24%, respectively.[40]

**Q. WHAT IS THE INDICATED RPM COMMON EQUITY COST RATE BASED ON THE TOTAL MARKET APPROACH?**

A. As shown on line No. 7 of Schedule DWD-4, page 3, I calculated a common equity cost rate of 11.05% for the Utility Proxy Group based on the total market approach of the RPM.

**Table 6: Summary of the Total Market Return Risk Premium Model[41]**

| | |
|---|---|
| Prospective Moody's A2/A3-Rated Utility Bond Applicable to the Utility Proxy Group | 4.85% |
| Prospective Equity Risk Premium | 6.20% |
| Indicated Cost of Common Equity | 11.05% |

**Q. WHAT ARE THE RESULTS OF YOUR APPLICATION OF THE PRPM AND THE TOTAL MARKET APPROACH RPM?**

A. As shown on page 1 of Schedule DWD-4, the indicated RPM-derived common equity cost rate is 11.72%, which gives equal weight to the PRPM (12.39%) and the adjusted market approach results (11.05%).

[40] As shown on page 7 of Schedule DWD-4.
[41] As shown on page 3 of Schedule DWD-4.

## C. THE CAPITAL ASSET PRICING MODEL

**Q. PLEASE EXPLAIN THE THEORETICAL BASIS OF THE CAPM.**

A. CAPM theory defines risk as the co-variability of a security's returns with the market's returns as measured by beta (β). A beta less than 1.0 indicates lower variability than the market as a whole, while a beta greater than 1.0 indicates greater variability than the market.

The CAPM assumes that all other risk (*i.e.*, all non-market or unsystematic risk) can be eliminated through diversification. The risk that cannot be eliminated through diversification is called market, or systematic, risk. In addition, the CAPM presumes that investors require compensation only for systematic risk, which is the result of macroeconomic and other events that affect the returns on all assets. The model is applied by adding a risk-free rate of return to a market risk premium, which is adjusted proportionately to reflect the systematic risk of the individual security relative to the total market as measured by beta. The traditional CAPM model is expressed as:

$$R_s = R_f + \beta(R_m - R_f)$$

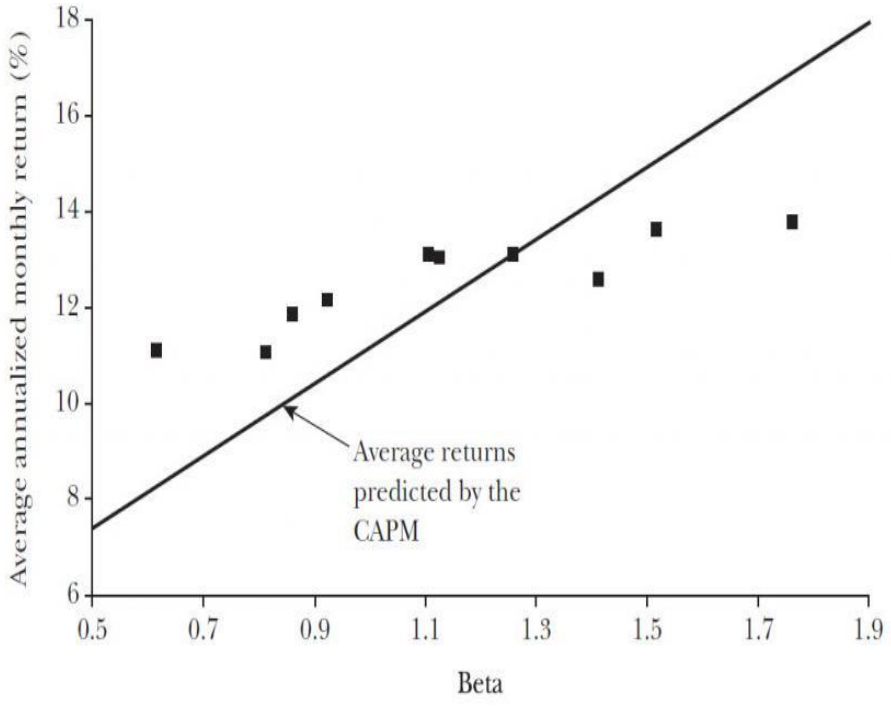
Where:
- $R_s$ = Return rate on the common stock;
- $R_f$ = Risk-free rate of return;
- $R_m$ = Return rate on the market as a whole; and
- $\beta$ = Adjusted beta (volatility of the security relative to the market as a whole).

Numerous tests of the CAPM have measured the extent to which security returns and betas are related as predicted by the CAPM, confirming its validity. The empirical CAPM ("ECAPM") reflects the reality that while the results of these tests support the notion that the beta is related to security returns, the empirical Security Market Line

("SML") described by the CAPM formula is not as steeply sloped as the predicted SML.[42] The ECAPM reflects this empirical reality. Fama and French clearly state regarding Figure 2, below, that "[t]he returns on the low beta portfolios are too high, and the returns on the high beta portfolios are too low." [43]

*Figure 2* http://pubs.aeaweb.org/doi/pdfplus/10.1257/0895330042162430

**Average Annualized Monthly Return versus Beta for Value Weight Portfolios Formed on Prior Beta, 1928–2003**




In addition, Morin observes that while the results of these tests support the notion that beta is related to security returns, the empirical SML described by the CAPM formula is not as steeply sloped as the predicted SML. Morin states:

> With few exceptions, the empirical studies agree that … low-beta securities earn returns somewhat higher than the CAPM would predict, and high-beta securities earn less than predicted.[44]

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42 Roger A. Morin, Modern Regulatory Finance, Public Utility Reports, Inc., 2021, at 205-209. ("Morin")

43 Eugene F. Fama and Kenneth R. French, "The Capital Asset Pricing Model: Theory and Evidence", *Journal of Economic Perspectives*, Vol. 18, No. 3, Summer 2004 at 33.("Fama & French").

44 Morin, at 207.

* * *

> Therefore, the empirical evidence suggests that the expected return on a security is related to its risk by the following approximation:

$$K = R_F + x\,\beta(R_M - R_F) + (1-x)\,\beta(R_M - R_F)$$

> where x is a fraction to be determined empirically. The value of x that best explains the observed relationship [is] Return = 0.0829 + 0.0520 β is between 0.25 and 0.30. If x = 0.25, the equation becomes:

$$K = R_F + 0.25(R_M - R_F) + 0.75\,\beta(R_M - R_F)$$ [45]

Fama and French provide similar support for the ECAPM when they state:

> The early tests firmly reject the Sharpe-Lintner version of the CAPM. There is a positive relation between beta and average return, but it is too 'flat.'… The regressions consistently find that the intercept is greater than the average risk-free rate… and the coefficient on beta is less than the average excess market return… This is true in the early tests… as well as in more recent cross-section regressions tests, like Fama and French (1992).[46]

Finally, Fama and French further note:

> Confirming earlier evidence, the relation between beta and average return for the ten portfolios is much flatter than the Sharpe-Linter CAPM predicts. The returns on low beta portfolios are too high, and the returns on the high beta portfolios are too low. For example, the predicted return on the portfolio with the lowest beta is 8.3 percent per year; the actual return as 11.1 percent. The predicted return on the portfolio with the highest beta is 16.8 percent per year; the actual is 13.7 percent.[47]

Clearly, the justification from Morin, Fama, and French along with their reviews of other academic research on the CAPM, validate the use of the ECAPM. In view of theory and practical research, I have applied both the traditional CAPM and the ECAPM to the companies in the Utility Proxy Group and averaged the results.

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45 Morin, at 221.
46 Fama & French, at 32.
47 Fama & French, at 33.

**Q. WHAT BETAS DID YOU USE IN YOUR CAPM ANALYSIS?**

A. With respect to the beta, I considered two sources: *Value Line* and Bloomberg. While both of those services adjust their calculated (or "raw") betas to reflect the tendency of the beta to regress to the market mean of 1.00, *Value Line* calculates the beta over a five-year period, while Bloomberg's calculation is based on two years of data.

**Q. PLEASE DESCRIBE YOUR SELECTION OF A RISK-FREE RATE OF RETURN.**

A. As shown in Column 5 on page 1 of Schedule DWD-5, the risk-free rate adopted for both applications of the CAPM is 3.18%. This risk-free rate of 3.18% is based on the average of the *Blue Chip* consensus forecast of the expected yields on 30-year U.S. Treasury bonds for the six quarters ending with the third calendar quarter of 2023, and long-term projections for the years 2023 to 2027 and 2028 to 2032.

**Q. WHY IS THE YIELD ON LONG-TERM U.S. TREASURY BONDS APPROPRIATE FOR USE AS THE RISK-FREE RATE?**

A. The yield on long-term U.S. Treasury Bonds is almost risk-free, and its term is consistent with the long-term cost of capital to public utilities measured by the yields on A2-rated public utility bonds, the long-term investment horizon inherent in utilities' common stocks, and the long-term life of the jurisdictional rate base to which the allowed fair rate of return (*i.e.*, cost of capital) will be applied. In contrast, short-term U.S. Treasury yields are more volatile and largely a function of Federal Reserve monetary policy.

**Q. PLEASE EXPLAIN THE ESTIMATION OF THE EXPECTED RISK PREMIUM FOR THE MARKET USED IN YOUR CAPM ANALYSES.**

A. The basis of the market risk premium is explained in detail in note 1 on page 2 of Schedule DWD-5. As discussed previously, the market risk premium is derived from an average of:

(i) Ibbotson-based market risk premiums;

(ii) *Value Line* data-based market risk premiums; and

(iii) Bloomberg data-based market risk premiums.

The long-term income return on U.S. Government Securities of 5.02% was deducted from the SBBI - 2022 monthly historical total market return of 12.37%, which results in an historical market equity risk premium of 7.35%.[48] I applied a linear OLS regression to the monthly annualized historical returns on the S&P 500 relative to historical yields on long-term U.S. Government Securities from SBBI - 2022. That regression analysis yielded a market equity risk premium of 9.51%. The PRPM market equity risk premium is 8.98% and is derived using the PRPM relative to the yields on long-term U.S. Treasury securities from January 1926 through March 2022.

The *Value Line*-derived forecasted total market equity risk premium is derived by deducting the forecasted risk-free rate of 3.18%, discussed above, from the *Value Line* projected total annual market return of 11.98%, resulting in a forecasted total market equity risk premium of 8.80%. The S&P 500 projected market equity risk premium using *Value Line* data is derived by subtracting the projected risk-free rate of 3.18% from the projected total return of the S&P 500 of 15.90%. The resulting market equity risk premium is 12.72%.

The S&P 500 projected market equity risk premium using Bloomberg data is derived by subtracting the projected risk-free rate of 3.18% from the projected total return of the S&P 500 of 14.60%. The resulting market equity risk premium is 11.42%.

These six market risk premiums, when averaged, result in an average total market equity risk premium of 9.80%.

[48] SBBI – 2021, at 256-258, 274-276.

**Table 7: Summary of the Calculation of the Market Risk Premium for Use in the CAPM[49]**

| | |
|---|---|
| Historical Spread Between Total Returns of Large Stocks and Long-Term Government Bond Yields (1926 – 2021) | 7.35% |
| Regression Analysis on Historical Data | 9.51% |
| PRPM Analysis on Historical Data | 8.98% |
| Prospective Equity Risk Premium using Total Market Returns from *Value Line* Summary & Index less Projected 30-Year Treasury Bond Yields | 8.80% |
| Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from *Value Line* for the S&P 500 less Projected 30-Year Treasury Bond Yields | 12.72% |
| Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from Bloomberg Professional Services for the S&P 500 less Projected 30-Year Treasury Bond Yields | 11.42% |
| **Average** | 9.80% |

**Q. WHAT ARE THE RESULTS OF YOUR APPLICATION OF THE TRADITIONAL AND EMPIRICAL CAPM TO THE UTILITY PROXY GROUP?**

A. As shown on page 1 of Schedule DWD-5, the mean and median result of my CAPM/ECAPM analysis is 11.52%.

## D. COMMON EQUITY COST RATES FOR A PROXY GROUP OF DOMESTIC, NON-PRICE REGULATED COMPANIES BASED ON THE DCF, RPM, AND CAPM

**Q. WHY DID YOU ALSO CONSIDER A PROXY GROUP OF DOMESTIC, NON-PRICE REGULATED COMPANIES?**

A. In the *Hope* and *Bluefield* cases, the U.S. Supreme Court did not specify that comparable risk companies had to be utilities. Since the purpose of rate regulation is to be a substitute for the competition of the marketplace, non-price regulated firms operating in the competitive marketplace make an excellent proxy if they are comparable in total risk to the Utility Proxy Group being used to estimate the cost of common equity. The selection of

[49] As shown on page 2 of Schedule DWD-5.

such domestic, non-price regulated competitive firms theoretically and empirically results in a proxy group which is comparable in total risk to the Utility Proxy Group.

**Q. HOW DID YOU SELECT NON-PRICE REGULATED COMPANIES THAT ARE COMPARABLE IN TOTAL RISK TO THE UTILITY PROXY GROUP?**

A. In order to select a proxy group of domestic, non-price regulated companies similar in total risk to the Utility Proxy Group, I relied on the betas and related statistics derived from *Value Line* regression analyses of weekly market prices over the most recent 260 weeks (*i.e.*, five years). Using these selection criteria resulted in a proxy group of 24 domestic, non-price regulated firms comparable in total risk to the Utility Proxy Group. Total risk is the sum of non-diversifiable market risk and diversifiable company-specific risks. The criteria used in the selection of the domestic, non-price regulated firms was:

(i) They must be covered by *Value Line Investment Survey* (Standard Edition);

(ii) They must be domestic, non-price regulated companies, *i.e.*, non-utilities;

(iii) Their betas must lie within plus or minus two standard deviations of the average unadjusted beta of the Utility Proxy Group; and

(iv) The residual standard errors of the *Value Line* regressions which gave rise to the unadjusted betas must lie within plus or minus two standard deviations of the average residual standard error of the Utility Proxy Group.

Betas are a measure of market or systematic risk, which is not diversifiable. The residual standard errors of the regressions were used to measure each firm's company-specific, diversifiable risk. Companies that have similar betas and similar residual standard errors resulting from the same regression analyses have similar total investment risk.

**Q. HAVE YOU PREPARED A SCHEDULE WHICH SHOWS THE DATA FROM WHICH YOU SELECTED THE 24 DOMESTIC, NON-PRICE REGULATED**

**COMPANIES THAT ARE COMPARABLE IN TOTAL RISK TO THE UTILITY PROXY GROUP?**

A. Yes, the basis of my selection, and both proxy groups' regression statistics, are shown in Schedule DWD-6.

**Q. DID YOU CALCULATE COMMON EQUITY COST RATES USING THE DCF, RPM, AND CAPM FOR THE NON-PRICE REGULATED PROXY GROUP?**

A. Yes. Because the DCF, RPM, and CAPM have been applied in an identical manner as described above, I will not repeat the details of the rationale and application of each model. One exception is in the application of the RPM, where I did not use public utility-specific equity risk premiums, nor did I apply the PRPM to the individual companies.

Page 2 of Schedule DWD-7 contains the derivation of the DCF cost rates. As shown, the indicated common equity cost rate using the DCF for the Non-Price Regulated Proxy Group comparable in total risk to the Utility Proxy Group, is 11.22%.

Pages 3 through 5 of DWD-7 contain the data and calculations that support the 12.08% RPM cost rate. As shown on line 1 of page 3 of Schedule DWD-7, the consensus prospective yield on Moody's Baa2-rated corporate bonds for the six quarters ending in the third quarter of 2023, and for the years 2023 to 2027 and 2028 to 2032, is 5.21%.[50] Since the Non-Price Regulated Proxy Group has an average Moody's long-term issuer rating of Baa1, a downward adjustment of 0.12% to the projected Baa2 corporate bond yield is necessary to reflect the difference in ratings. The adjustment results in a projected Baa1-rated corporate bond yield of 5.09%.

[50] *Blue Chip Financial Forecasts*, December 1, 2021, at 14 and April 1, 2022, at 2.

When the beta-adjusted risk premium of 6.99%[51] relative to the Non-Price Regulated Proxy Group is added to the prospective Baa1-rated corporate bond yield of 5.09%, the indicated RPM cost rate is 12.08%.

Page 6 contains the inputs and calculations that support my indicated CAPM/ECAPM cost rate of 11.31%.

**Q. WHAT IS THE COST RATE OF COMMON EQUITY BASED ON THE NON-PRICE REGULATED PROXY GROUP COMPARABLE IN TOTAL RISK TO THE UTILITY PROXY GROUP?**

A. As shown on page 1 of Schedule DWD-7, the results of the DCF, RPM, and CAPM applied to the Non-Price Regulated Proxy Group comparable in total risk to the Utility Proxy Group are 11.22%, 12.08%, and 11.31%, respectively. The average of the mean and median of these models is 11.43%, which I used as the indicated common equity cost rate for the Non-Price Regulated Proxy Group.

## VIII. CONCLUSION OF COMMON EQUITY COST RATE BEFORE ADJUSTMENT

**Q. WHAT IS THE INDICATED RANGE OF COMMON EQUITY COST RATES BEFORE ADJUSTMENTS?**

A. Based on the results of the application of multiple cost of common equity models to the Utility Proxy Group, the range of ROEs attributable to the Utility Proxy Group is between 9.63% and 11.72%.

I used multiple cost of common equity models as primary tools in arriving at my recommended common equity cost rate, because no single model is so inherently precise that it can be relied on solely to the exclusion of other theoretically sound models. The use

[51] Derived on page 5 of Schedule DWD-7.

of multiple models adds reliability to the estimation of the common equity cost rate, and the prudence of using multiple cost of common equity models is supported in both the financial literature and regulatory precedent.

As discussed previously, after determining the indicated range of ROEs attributable to a comparable group, there must be an evaluation of relative risk between that group and the target company to determine whether it is appropriate to apply adjustments to the comparable group's indicated ROE to better reflect the target company's specific risks.

## IX. ADJUSTMENTS TO THE COMMON EQUITY COST RATE

### A. SIZE ADJUSTMENT

**Q. DOES WSCK'S SMALLER SIZE COMPARED WITH THE UTILITY PROXY GROUP INCREASE ITS BUSINESS RISK?**

A. Yes. WSCK's smaller size relative to the Utility Proxy Group companies indicates greater relative business risk for the Company because, all else being equal, size has a material bearing on risk.

Size affects business risk because smaller companies generally are less able to cope with significant events that affect sales, revenues, and earnings. For example, smaller companies face more risk exposure to business cycles and economic conditions, both nationally and locally. Additionally, the loss of revenues from a few larger customers would have a greater effect on a small company than on a bigger company with a larger, more diverse, customer base.

As further evidence that smaller firms are riskier, investors generally demand greater returns from smaller firms to compensate for less marketability and liquidity of their securities. Kroll's Cost of Capital Navigator: U.S. Cost of Capital Module ("Kroll") discusses the nature of the small-size phenomenon, providing an indication of the

magnitude of the size premium based on several measures of size. In discussing "Size as a Predictor of Equity Premiums," Kroll states:

> The size effect is based on the empirical observation that companies of smaller size are associated with greater risk and, therefore, have greater cost of capital [sic]. The "size" of a company is one of the most important risk elements to consider when developing cost of equity capital estimates for use in valuing a business simply because size has been shown to be a *predictor* of equity returns. In other words, there is a significant (negative) relationship between size and historical equity returns - as size *decreases*, returns tend to *increase*, and vice versa. (footnote omitted) (emphasis in original)[52]

Furthermore, in "The Capital Asset Pricing Model: Theory and Evidence," Fama and French note size is indeed a risk factor which must be reflected when estimating the cost of common equity. On page 38, they note:

> . . . the higher average returns on small stocks and high book-to-market stocks reflect unidentified state variables that produce undiversifiable risks (covariances) in returns not captured in the market return and are priced separately from market betas.[53]

Based on this evidence, Fama and French proposed their three-factor model which includes a size variable in recognition of the effect size has on the cost of common equity.

Also, it is a basic financial principle that the use of funds invested, and not the source of funds, is what gives rise to the risk of any investment.[54] Eugene Brigham, a well-known authority, states:

> A number of researchers have observed that portfolios of small-firms (sic) have earned consistently higher average returns than those of large-firm stocks; this is called the "small-firm effect." On the surface, it would seem to be advantageous to the small firms to provide average returns in a stock market that are higher than those of larger firms. In reality, it is bad news for the small firm; **what the small-firm effect means is that the capital**

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52 Kroll, Cost of Capital Navigator: U.S. Cost of Capital Module, Size as a Predictor of Returns, at 1.

53 Fama & French, at 25-43.

54 Richard A. Brealey and Stewart C. Myers, Principles of Corporate Finance (McGraw-Hill Book Company, 1996), at 204-205, 229.

> **market demands higher returns on stocks of small firms than on otherwise similar stocks of the large firms.** (emphasis added)[55]

Consistent with the financial principle of risk and return discussed above, increased relative risk due to small size must be considered in the allowed rate of return on common equity. Therefore, the Commission's authorization of a cost rate of common equity in this proceeding must appropriately reflect the unique risks of WSCK, including its small size, which is justified and supported above by evidence in the financial literature.

**Q. SHOULD THE COMMISSION CONSIDER WSCK AS A STAND-ALONE COMPANY?**

A. Yes, it should. Because it is WSCK's rate base to which the overall rates of return set forth in this proceeding will be applied, they should be evaluated as a stand-alone entity. To do otherwise would be discriminatory, confiscatory, and inaccurate. It is also a basic financial precept that the use of the funds invested give rise to the risk of the investment. As Brealey and Myers state:

> *The true cost of capital depends on the use to which the capital is put.*
>
> ***
>
> ***Each project should be evaluated at its own opportunity cost of capital; the true cost of capital depends on the use to which the capital is put.*** (italics and bold in original) [56]

Morin confirms Brealey and Myers when he states:

> Financial theory clearly establishes that the cost of equity is the risk-adjusted opportunity cost of the investors and not the cost of the specific capital sources employed by the investors. The true cost of capital depends on the use to which the capital is put and not on its source. The Hope and Bluefield doctrines have made clear that the relevant considerations in calculating a company's cost of capital are the alternatives available to

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55 Eugene F. Brigham, Fundamentals of Financial Management, Fifth Edition (The Dryden Press, 1989), at 623.

56 Richard A. Brealey and Stewart C. Myers, Principles of Corporate Finance, McGraw-Hill, Third Edition, 1988, at 173, 198.

investors and the returns and risks associated with those alternatives.[57]

Additionally, Levy and Sarnat state:

> The firm's cost of capital is the discount rate employed to discount the firm's average cash flow, hence obtaining the value of the firm. It is also the weighted average cost of capital, as we shall see below. The weighted average cost of capital should be employed for project evaluation… only in cases where the risk profile of the new projects is a "carbon copy" of the risk profile of the firm.[58]

Although Levy and Sarnat discuss a project's cost of capital relative to a firm's cost of capital, these principles apply equally to the use of a proxy group-based cost of capital. Each company must be viewed on its own merits, regardless of the source of its equity capital. As *Bluefield* clearly states:

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; [59]

In other words, it is the "risks and uncertainties" surrounding the property employed for the "convenience of the public" which determines the appropriate level of rates. In this proceeding, the property employed "for the convenience of the public" is the rate base of WSCK. Thus, it is only the risk of investment in WSCK that is relevant to the determination of the cost of common equity to be applied to the common equity-financed portion of that rate base.

In addition, in the Fama and French article previously cited, the authors[60] proposed that their three-factor model include the SMB (Small Minus Big) factor, which indicates that small capitalization firms are more risky than large capitalization firms, confirming

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57 Morin, at 581.
58 Haim Levy & Marshall Sarnat, Capital Investment and Financial Decisions, Prentice/Hall International, 1986, at 465.
59 *Bluefield*, at 6.
60 Fama & French, at 39.

that size is a risk factor which must be taken into account in estimating the cost of common equity.

Consistent with the financial principle of risk and return discussed previously, and the stand-alone nature of ratemaking, an upward adjustment must be applied to the indicated cost of common equity derived from the cost of equity models of the proxy groups used in this proceeding.

**Q. IS THERE A WAY TO QUANTIFY A RELATIVE RISK ADJUSTMENT DUE TO WSCK'S SMALL SIZE RELATIVE TO THE UTILITY PROXY GROUP?**

A. Yes. The Company has greater relative risk than the average company in the Utility Proxy Group because of its smaller size compared with the group, as measured by an estimated market capitalization of common equity for WSCK (whose common stock is not publicly traded).

**Table 8: Size as Measured by Market Capitalization for the Company and the Utility Proxy Group**

| | Market Capitalization* ($ Millions) | Times Greater Than the Company |
|---|---|---|
| WSCK | $14.849 | |
| Utility Proxy Group Median | $3,184.284 | 214.4x |
| *From page 1 of Schedule DWD-8. | | |

The Company's estimated market capitalization was at $14.849 million as of March 31, 2022, compared with the median market capitalization of the Utility Proxy Group of over $3.1 billion as of March 31, 2022. The Utility Proxy Group's market capitalization is over 214 times the size of WSCK's estimated market capitalization.

As a result, it is necessary to upwardly adjust the indicated range of common equity cost rates to reflect WSCK's greater risk due to its smaller relative size. The determination

is based on the size premiums for portfolios of New York Stock Exchange, American Stock Exchange, and NASDAQ listed companies ranked by deciles for the 1926 to 2021 period. The average size premium for the Utility Proxy Group with a market capitalization of $3.1 billion falls in the sixth decile, while WSCK's market capitalization of $14.9 million places the Company in the tenth decile. The size premium spread between the sixth decile and the tenth decile is 3.62%. Even though a 3.62% upward size adjustment is indicated, I applied a size premium of 1.00% to WSCK's indicated range of common equity cost rates.

**Q. WHAT IS THE INDICATED COST OF COMMON EQUITY AFTER ADJUSTMENTS FOR SIZE?**

A. After applying the 1.00% upward adjustment for WSCK's smaller size to the indicated range of equity cost rates between 9.63% and 11.72% applicable to the proxy group, an adjusted range of common equity cost rates between 10.63% and 12.72% is applicable.

## X. CONCLUSION

**Q. WHAT IS YOUR RECOMMENDED ROE FOR THE COMPANY?**

A. Given the discussion above and the results from the analyses, including and excluding the PRPM and including and excluding the firm size adjustment, I recommend that an ROE of 10.60% is appropriate for the Company at this time.

**Q. IN YOUR OPINION, IS YOUR PROPOSED ROE OF 10.60% FAIR AND REASONABLE TO WSCK AND ITS CUSTOMERS?**

A. Yes, it is.

**Q. IN YOUR OPINION, IS WSCK'S PROPOSED CAPITAL STRUCTURE CONSISTING OF 50.29% LONG-TERM DEBT AND 49.71% COMMON EQUITY FAIR AND REASONABLE?**

A. Yes, it is.

**Q. IN YOUR OPINION, IS WSCK'S PROPOSED COST OF LONG-TERM DEBT OF 4.71% FAIR AND REASONABLE?**

A. Yes, it is.

**Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

A. Yes, it does.

# AFFIDAVIT

The undersigned, DYLAN W. D'ASCENDIS, being duly sworn, deposes and says that he is a partner at ScottMadden, Inc. which provides consulting services to the Water Service Corporation of Kentucky, that he is authorized to submit this testimony on behalf of Water Service Corporation of Kentucky, and that the information contained in the testimony is true and accurate to the best of his knowledge, information and belief, after reasonable inquiry, and as to those matters that are based on information provided to him, he believes to be true and correct.

Dylan W. D'Ascendis, Affiant

## NOTARY CERTIFICATE

**STATE OF** New Jersey

**COUNTY OF** Burlington

Subscribed, acknowledged and sworn to before me by Friday on this 27 day of May, 2022.

My commission expires: 12/14/25.

NOTARY PUBLIC

JOSEPH M NICHOLSON
Notary Public - State of New Jersey
My Commission Expires Dec 14, 2025

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MANAGEMENT CONSULTANTS

*Resume & Testimony Listing of:*

# Dylan W. D'Ascendis, CRRA, CVA
## Partner

### *Summary*

Dylan is an experienced consultant and a Certified Rate of Return Analyst (CRRA) and Certified Valuation Analyst (CVA). Dylan joined ScottMadden in 2016 and has become a leading expert witness with respect to cost of capital and capital structure. He has served as a consultant for investor-owned and municipal utilities and authorities for 13 years. Dylan has testified as an expert witness on over 100 occasions regarding rate of return, cost of service, rate design, and valuation before more than 30 regulatory jurisdictions in the United States and Canada, an American Arbitration Association panel, and the Superior Court of Rhode Island. He also maintains the benchmark index against which the Hennessy Gas Utility Mutual Fund performance is measured. Dylan holds a B.A. in economic history from the University of Pennsylvania and an M.B.A. with concentrations in finance and international business from Rutgers University.

### *Areas of Specialization*

- Regulation and Rates
- Rate of Return
- Valuation
- Mutual Fund Benchmarking
- Capital Market Risk
- Regulatory Strategy
- Cost of Service

### *Recent Expert Testimony Submission/Appearance*

- Regulatory Commission of Alaska – Capital Structure
- Federal Energy Regulatory Commission – Rate of Return
- Public Utility Commission of Texas – Return on Equity
- Hawaii Public Utilities Commission – Cost of Service / Rate Design
- Pennsylvania Public Utility Commission - Valuation

### *Recent Assignments*

- Provided expert testimony on the cost of capital for ratemaking purposes before numerous state utility regulatory agencies
- Sponsored valuation testimony for a large municipal water company in front of an American Arbitration Association Board to justify the reasonability of their lease payments to the City
- Co-authored a valuation report on behalf of a large investor-owned utility company in response to a new state regulation which allowed the appraised value of acquired assets into rate base

### *Recent Articles and Speeches*

- Co-Author of: "Decoupling, Risk Impacts and the Cost of Capital", co-authored with Richard A. Michelfelder, Ph.D., Rutgers University and Pauline M. Ahern. The Electricity Journal, March, 2020
- Co-Author of: "Decoupling Impact and Public Utility Conservation Investment", co-authored with Richard A. Michelfelder, Ph.D., Rutgers University and Pauline M. Ahern. Energy Policy Journal, 130 (2019), 311-319
- "Establishing Alternative Proxy Groups", before the Society of Utility and Regulatory Financial Analysts: 51st Financial Forum, April 4, 2019, New Orleans, LA
- "Past is Prologue: Future Test Year", Presentation before the National Association of Water Companies 2017 Southeast Water Infrastructure Summit, May 2, 2017, Savannah, GA.
- Co-author of: "Comparative Evaluation of the Predictive Risk Premium Model™, the Discounted Cash Flow Model and the Capital Asset Pricing Model", co-authored with Richard A. Michelfelder, Ph.D., Rutgers University, Pauline M. Ahern, and Frank J. Hanley, The Electricity Journal, May, 2013
- "Decoupling: Impact on the Risk and Cost of Common Equity of Public Utility Stocks", before the Society of Utility and Regulatory Financial Analysts: 45th Financial Forum, April 17-18, 2013, Indianapolis, IN

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MANAGEMENT CONSULTANTS

*Resume and Testimony Listing of:*
**Dylan W. D'Ascendis, CRRA, CVA**
**Partner**

| Sponsor | Date | Case/Applicant | Docket No. | Subject |
|---|---|---|---|---|
| ***Regulatory Commission of Alaska*** | | | | |
| Cook Inlet Natural Gas Storage Alaska, LLC | 07/21 | Cook Inlet Natural Gas Storage Alaska, LLC | Docket No. TA45-733 | Capital Structure |
| Alaska Power Company | 09/20 | Alaska Power Company; Goat Lake Hydro, Inc.; BBL Hydro, Inc. | Tariff Nos. TA886-2; TA6-521; TA4-573 | Capital Structure |
| Alaska Power Company | 07/16 | Alaska Power Company | Docket No. TA857-2 | Rate of Return |
| ***Alberta Utilities Commission*** | | | | |
| AltaLink, L.P., and EPCOR Distribution & Transmission, Inc. | 01/20 | AltaLink, L.P., and EPCOR Distribution & Transmission, Inc. | 2021 Generic Cost of Capital, Proceeding ID. 24110 | Rate of Return |
| ***Arizona Corporation Commission*** | | | | |
| EPCOR Water Arizona, Inc. | 06/20 | EPCOR Water Arizona, Inc. | Docket No. WS-01303A-20-0177 | Rate of Return |
| Arizona Water Company | 12/19 | Arizona Water Company – Western Group | Docket No. W-01445A-19-0278 | Rate of Return |
| Arizona Water Company | 08/18 | Arizona Water Company – Northern Group | Docket No. W-01445A-18-0164 | Rate of Return |
| ***Arkansas Public Service Commission*** | | | | |
| Southwestern Electric Power Co. | 07/21 | Southwestern Electric Power Co. | Docket No. 21-070-U | Return on Equity |
| CenterPoint Energy Resources Corp. | 05/21 | CenterPoint Arkansas Gas | Docket No. 21-004-U | Return on Equity |
| ***Colorado Public Utilities Commission*** | | | | |
| Summit Utilities, Inc. | 04/18 | Colorado Natural Gas Company | Docket No. 18AL-0305G | Rate of Return |
| Atmos Energy Corporation | 06/17 | Atmos Energy Corporation | Docket No. 17AL-0429G | Rate of Return |
| ***Delaware Public Service Commission*** | | | | |
| Delmarva Power & Light Co. | 01/22 | Delmarva Power & Light Co. | Docket No. 22-002 (Gas) | Return on Equity |
| Delmarva Power & Light Co. | 11/20 | Delmarva Power & Light Co. | Docket No. 20-0149 (Electric) | Return on Equity |
| Delmarva Power & Light Co. | 10/20 | Delmarva Power & Light Co. | Docket No. 20-0150 (Gas) | Return on Equity |
| Tidewater Utilities, Inc. | 11/13 | Tidewater Utilities, Inc. | Docket No. 13-466 | Capital Structure |
| ***Public Service Commission of the District of Columbia*** | | | | |
| Washington Gas Light Company | 04/22 | Washington Gas Light Company | Formal Case No. 1169 | Rate of Return |
| Washington Gas Light Company | 09/20 | Washington Gas Light Company | Formal Case No. 1162 | Rate of Return |
| ***Federal Energy Regulatory Commission*** | | | | |
| LS Power Grid California, LLC | 10/20 | LS Power Grid California, LLC | Docket No. ER21-195-000 | Rate of Return |
| ***Florida Public Service Commission*** | | | | |
| Tampa Electric Company | 04/21 | Tampa Electric Company | Docket No. 20210034-EI | Return on Equity |
| Peoples Gas System | 09/20 | Peoples Gas System | Docket No. 20200051-GU | Rate of Return |
| Utilities, Inc. of Florida | 06/20 | Utilities, Inc. of Florida | Docket No. 20200139-WS | Rate of Return |
| ***Hawaii Public Utilities Commission*** | | | | |
| Launiupoko Irrigation Company, Inc. | 12/20 | Launiupoko Irrigation Company, Inc. | Docket No. 2020-0217 / Transferred to 2020-0089 | Capital Structure |
| Lanai Water Company, Inc. | 12/19 | Lanai Water Company, Inc. | Docket No. 2019-0386 | Cost of Service / Rate Design |
| Manele Water Resources, LLC | 08/19 | Manele Water Resources, LLC | Docket No. 2019-0311 | Cost of Service / Rate Design |
| Kaupulehu Water Company | 02/18 | Kaupulehu Water Company | Docket No. 2016-0363 | Rate of Return |
| Aqua Engineers, LLC | 05/17 | Puhi Sewer & Water Company | Docket No. 2017-0118 | Cost of Service / Rate Design |

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*Resume and Testimony Listing of:*
**Dylan W. D'Ascendis, CRRA, CVA**
**Partner**

| Sponsor | Date | Case/Applicant | Docket No. | Subject |
|---|---|---|---|---|
| Hawaii Resources, Inc. | 09/16 | Laie Water Company | Docket No. 2016-0229 | Cost of Service / Rate Design |
| ***Illinois Commerce Commission*** | | | | |
| Utility Services of Illinois, Inc. | 02/21 | Utility Services of Illinois, Inc. | Docket No. 21-0198 | Rate of Return |
| Ameren Illinois Company d/b/a Ameren Illinois | 07/20 | Ameren Illinois Company d/b/a Ameren Illinois | Docket No. 20-0308 | Return on Equity |
| Utility Services of Illinois, Inc. | 11/17 | Utility Services of Illinois, Inc. | Docket No. 17-1106 | Cost of Service / Rate Design |
| Aqua Illinois, Inc. | 04/17 | Aqua Illinois, Inc. | Docket No. 17-0259 | Rate of Return |
| Utility Services of Illinois, Inc. | 04/15 | Utility Services of Illinois, Inc. | Docket No. 14-0741 | Rate of Return |
| ***Indiana Utility Regulatory Commission*** | | | | |
| Aqua Indiana, Inc. | 03/16 | Aqua Indiana, Inc. Aboite Wastewater Division | Docket No. 44752 | Rate of Return |
| Twin Lakes, Utilities, Inc. | 08/13 | Twin Lakes, Utilities, Inc. | Docket No. 44388 | Rate of Return |
| ***Kansas Corporation Commission*** | | | | |
| Atmos Energy | 07/19 | Atmos Energy | 19-ATMG-525-RTS | Rate of Return |
| ***Kentucky Public Service Commission*** | | | | |
| Atmos Energy Corporation | 07/21 | Atmos Energy Corporation | 2021-00304 | PRP Rider Rate |
| Atmos Energy Corporation | 06/21 | Atmos Energy Corporation | 2021-00214 | Rate of Return |
| Duke Energy Kentucky, Inc. | 06/21 | Duke Energy Kentucky, Inc. | 2021-00190 | Return on Equity |
| Bluegrass Water Utility Operating Company | 10/20 | Bluegrass Water Utility Operating Company | 2020-00290 | Return on Equity |
| ***Louisiana Public Service Commission*** | | | | |
| Utilities, Inc. of Louisiana | 05/21 | Utilities, Inc. of Louisiana | Docket No. U-36003 | Rate of Return |
| Southwestern Electric Power Company | 12/20 | Southwestern Electric Power Company | Docket No. U-35441 | Return on Equity |
| Atmos Energy | 04/20 | Atmos Energy | Docket No. U-35535 | Rate of Return |
| Louisiana Water Service, Inc. | 06/13 | Louisiana Water Service, Inc. | Docket No. U-32848 | Rate of Return |
| ***Maine Public Utilities Commission*** | | | | |
| The Maine Water Company | 09/21 | The Maine Water Company | Docket No. 2021-00053 | Rate of Return |
| ***Maryland Public Service Commission*** | | | | |
| Washington Gas Light Company | 08/20 | Washington Gas Light Company | Case No. 9651 | Rate of Return |
| FirstEnergy, Inc. | 08/18 | Potomac Edison Company | Case No. 9490 | Rate of Return |
| ***Massachusetts Department of Public Utilities*** | | | | |
| Unitil Corporation | 12/19 | Fitchburg Gas & Electric Co. (Elec.) | D.P.U. 19-130 | Rate of Return |
| Unitil Corporation | 12/19 | Fitchburg Gas & Electric Co. (Gas) | D.P.U. 19-131 | Rate of Return |
| Liberty Utilities | 07/15 | Liberty Utilities d/b/a New England Natural Gas Company | Docket No. 15-75 | Rate of Return |
| ***Minnesota Public Utilities Commission*** | | | | |
| Northern States Power Company | 11/01 | Northern States Power Company | Docket No. G002/GR-21-678 | Return on Equity |
| Northern States Power Company | 10/21 | Northern States Power Company | Docket No. E002/GR-21-630 | Return on Equity |
| Northern States Power Company | 11/20 | Northern States Power Company | Docket No. E002/GR-20-723 | Return on Equity |
| ***Mississippi Public Service Commission*** | | | | |
| Atmos Energy | 03/19 | Atmos Energy | Docket No. 2015-UN-049 | Capital Structure |

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*Resume and Testimony Listing of:*
**Dylan W. D'Ascendis, CRRA, CVA**
**Partner**

| Sponsor | Date | Case/Applicant | Docket No. | Subject |
|---|---|---|---|---|
| Atmos Energy | 07/18 | Atmos Energy | Docket No. 2015-UN-049 | Capital Structure |
| ***Missouri Public Service Commission*** | | | | |
| Spire Missouri, Inc. | 12/20 | Spire Missouri, Inc. | Case No. GR-2021-0108 | Return on Equity |
| Indian Hills Utility Operating Company, Inc. | 10/17 | Indian Hills Utility Operating Company, Inc. | Case No. SR-2017-0259 | Rate of Return |
| Raccoon Creek Utility Operating Company, Inc. | 09/16 | Raccoon Creek Utility Operating Company, Inc. | Case No. SR-2016-0202 | Rate of Return |
| ***Public Utilities Commission of Nevada*** | | | | |
| Southwest Gas Corporation | 09/21 | Southwest Gas Corporation | Docket No. 21-09001 | Return on Equity |
| Southwest Gas Corporation | 08/20 | Southwest Gas Corporation | Docket No. 20-02023 | Return on Equity |
| ***New Hampshire Public Utilities Commission*** | | | | |
| Aquarion Water Company of New Hampshire, Inc. | 12/20 | Aquarion Water Company of New Hampshire, Inc. | Docket No. DW 20-184 | Rate of Return |
| ***New Jersey Board of Public Utilities*** | | | | |
| Middlesex Water Company | 05/21 | Middlesex Water Company | Docket No. WR21050813 | Rate of Return |
| Atlantic City Electric Company | 12/20 | Atlantic City Electric Company | Docket No. ER20120746 | Return on Equity |
| FirstEnergy | 02/20 | Jersey Central Power & Light Co. | Docket No. ER20020146 | Rate of Return |
| Aqua New Jersey, Inc. | 12/18 | Aqua New Jersey, Inc. | Docket No. WR18121351 | Rate of Return |
| Middlesex Water Company | 10/17 | Middlesex Water Company | Docket No. WR17101049 | Rate of Return |
| Middlesex Water Company | 03/15 | Middlesex Water Company | Docket No. WR15030391 | Rate of Return |
| The Atlantic City Sewerage Company | 10/14 | The Atlantic City Sewerage Company | Docket No. WR14101263 | Cost of Service / Rate Design |
| Middlesex Water Company | 11/13 | Middlesex Water Company | Docket No. WR1311059 | Capital Structure |
| ***New Mexico Public Regulation Commission*** | | | | |
| Southwestern Public Service Co. | 01/21 | Southwestern Public Service Co. | Case No. 20-00238-UT | Return on Equity |
| ***North Carolina Utilities Commission*** | | | | |
| Carolina Water Service, Inc. | 07/21 | Carolina Water Service, Inc. | Docket No. W-354 Sub 384 | Rate of Return |
| Piedmont Natural Gas Co., Inc. | 03/21 | Piedmont Natural Gas Co., Inc. | Docket No. G-9, Sub 781 | Return on Equity |
| Duke Energy Carolinas, LLC | 07/20 | Duke Energy Carolinas, LLC | Docket No. E-7, Sub 1214 | Return on Equity |
| Duke Energy Progress, LLC | 07/20 | Duke Energy Progress, LLC | Docket No. E-2, Sub 1219 | Return on Equity |
| Aqua North Carolina, Inc. | 12/19 | Aqua North Carolina, Inc. | Docket No. W-218 Sub 526 | Rate of Return |
| Carolina Water Service, Inc. | 06/19 | Carolina Water Service, Inc. | Docket No. W-354 Sub 364 | Rate of Return |
| Carolina Water Service, Inc. | 09/18 | Carolina Water Service, Inc. | Docket No. W-354 Sub 360 | Rate of Return |
| Aqua North Carolina, Inc. | 07/18 | Aqua North Carolina, Inc. | Docket No. W-218 Sub 497 | Rate of Return |
| ***North Dakota Public Service Commission*** | | | | |
| Northern States Power Company | 09/21 | Northern States Power Company | Case No. PU-21-381 | Rate of Return |
| Northern States Power Company | 11/20 | Northern States Power Company | Case No. PU-20-441 | Rate of Return |
| ***Public Utilities Commission of Ohio*** | | | | |
| Duke Energy Ohio, Inc. | 10/21 | Duke Energy Ohio, Inc. | Case No. 21-887-EL-AIR | Return on Equity |
| Aqua Ohio, Inc. | 07/21 | Aqua Ohio, Inc. | Case No. 21-0595-WW-AIR | Rate of Return |
| Aqua Ohio, Inc. | 05/16 | Aqua Ohio, Inc. | Case No. 16-0907-WW-AIR | Rate of Return |
| ***Pennsylvania Public Utility Commission*** | | | | |
| Community Utilities of Pennsylvania, Inc. | 04/21 | Community Utilities of Pennsylvania, Inc. | Docket No. R-2021-3025207 | Rate of Return |
| Vicinity Energy Philadelphia, Inc. | 04/21 | Vicinity Energy Philadelphia, Inc. | Docket No. R-2021-3024060 | Rate of Return |
| Delaware County Regional Water Control Authority | 02/20 | Delaware County Regional Water Control Authority | Docket No. A-2019-3015173 | Valuation |

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MANAGEMENT CONSULTANTS

*Resume and Testimony Listing of:*
**Dylan W. D'Ascendis, CRRA, CVA**
**Partner**

| Sponsor | Date | Case/Applicant | Docket No. | Subject |
|---|---|---|---|---|
| Valley Energy, Inc. | 07/19 | C&T Enterprises | Docket No. R-2019-3008209 | Rate of Return |
| Wellsboro Electric Company | 07/19 | C&T Enterprises | Docket No. R-2019-3008208 | Rate of Return |
| Citizens' Electric Company of Lewisburg | 07/19 | C&T Enterprises | Docket No. R-2019-3008212 | Rate of Return |
| Steelton Borough Authority | 01/19 | Steelton Borough Authority | Docket No. A-2019-3006880 | Valuation |
| Mahoning Township, PA | 08/18 | Mahoning Township, PA | Docket No. A-2018-3003519 | Valuation |
| SUEZ Water Pennsylvania Inc. | 04/18 | SUEZ Water Pennsylvania Inc. | Docket No. R-2018-000834 | Rate of Return |
| Columbia Water Company | 09/17 | Columbia Water Company | Docket No. R-2017-2598203 | Rate of Return |
| Veolia Energy Philadelphia, Inc. | 06/17 | Veolia Energy Philadelphia, Inc. | Docket No. R-2017-2593142 | Rate of Return |
| Emporium Water Company | 07/14 | Emporium Water Company | Docket No. R-2014-2402324 | Rate of Return |
| Columbia Water Company | 07/13 | Columbia Water Company | Docket No. R-2013-2360798 | Rate of Return |
| Penn Estates Utilities, Inc. | 12/11 | Penn Estates, Utilities, Inc. | Docket No. R-2011-2255159 | Capital Structure / Long-Term Debt Cost Rate |
| ***South Carolina Public Service Commission*** | | | | |
| Blue Granite Water Co. | 12/19 | Blue Granite Water Company | Docket No. 2019-292-WS | Rate of Return |
| Carolina Water Service, Inc. | 02/18 | Carolina Water Service, Inc. | Docket No. 2017-292-WS | Rate of Return |
| Carolina Water Service, Inc. | 06/15 | Carolina Water Service, Inc. | Docket No. 2015-199-WS | Rate of Return |
| Carolina Water Service, Inc. | 11/13 | Carolina Water Service, Inc. | Docket No. 2013-275-WS | Rate of Return |
| United Utility Companies, Inc. | 09/13 | United Utility Companies, Inc. | Docket No. 2013-199-WS | Rate of Return |
| Utility Services of South Carolina, Inc. | 09/13 | Utility Services of South Carolina, Inc. | Docket No. 2013-201-WS | Rate of Return |
| Tega Cay Water Services, Inc. | 11/12 | Tega Cay Water Services, Inc. | Docket No. 2012-177-WS | Capital Structure |
| ***Tennessee Public Utility Commission*** | | | | |
| Piedmont Natural Gas Company | 07/20 | Piedmont Natural Gas Company | Docket No. 20-00086 | Return on Equity |
| ***Public Utility Commission of Texas*** | | | | |
| Oncor Electric Delivery Co. LLC | 05/22 | Oncor Electric Delivery Co. LLC | Docket No. 53601 | Return on Equity |
| Southwestern Public Service Company | 02/21 | Southwestern Public Service Company | Docket No. 51802 | Return on Equity |
| Southwestern Electric Power Company | 10/20 | Southwestern Electric Power Company | Docket No. 51415 | Rate of Return |
| ***Virginia State Corporation Commission*** | | | | |
| Virginia Natural Gas, Inc. | 04/21 | Virginia Natural Gas, Inc. | PUR-2020-00095 | Return on Equity |
| Massanutten Public Service Corporation | 12/20 | Massanutten Public Service Corporation | PUE-2020-00039 | Return on Equity |
| Aqua Virginia, Inc. | 07/20 | Aqua Virginia, Inc. | PUR-2020-00106 | Rate of Return |
| WGL Holdings, Inc. | 07/18 | Washington Gas Light Company | PUR-2018-00080 | Rate of Return |
| Atmos Energy Corporation | 05/18 | Atmos Energy Corporation | PUR-2018-00014 | Rate of Return |
| Aqua Virginia, Inc. | 07/17 | Aqua Virginia, Inc. | PUR-2017-00082 | Rate of Return |
| Massanutten Public Service Corp. | 08/14 | Massanutten Public Service Corp. | PUE-2014-00035 | Rate of Return / Rate Design |
| ***Public Service Commission of West Virginia*** | | | | |
| Monongahela Power Company and The Potomac Edison Company | 12/21 | Monongahela Power Company and The Potomac Edison Company | Case No. 21-0857-E-CN (ELG) | Return on Equity |
| Monongahela Power Company and The Potomac Edison Company | 11/21 | Monongahela Power Company and The Potomac Edison Company | Case No. 21-0813-E-P (Solar) | Return on Equity |

Water Service Corporation of Kentucky
Table of Contents
to Exhibit 9.5
of Dylan W. D'Ascendis, CRRA, CVA

Water Service Corporation of Kentucky
Recommended Capital Structure and Cost Rates
for Ratemaking Purposes

| Type Of Capital | Ratios (1) | Cost Rate | | Weighted Cost Rate |
|---|---|---|---|---|
| Long-Term Debt | 50.29% | 4.71% | (1) | 2.37% |
| Common Equity | 49.71% | 10.60% | (2) | 5.27% |
| Total | 100.00% | | | 7.64% |

Notes:

(1) Company-provided.
(2) From page 2 of this Schedule.

Water Service Corporation of Kentucky
Brief Summary of Common Equity Cost Rate

| Line No. | Principal Methods | Proxy Group of Seven Water Companies | Proxy Group of Seven Water Companies ex PRPM |
|---|---|---|---|
| 1. | Discounted Cash Flow Model (DCF) (1) | 9.63% | 9.63% |
| 2. | Risk Premium Model (RPM) (2) | 11.72% | 11.10% |
| 3. | Capital Asset Pricing Model (CAPM) (3) | 11.52% | 11.66% |
| 4. | Market Models Applied to Comparable Risk, Non-Price Regulated Companies (4) | 11.43% | 11.54% |
| 5. | Indicated Common Equity Cost Rate before Adjustment for Unique Risk | 9.63% - 11.72% | 9.63% - 11.66% |
| 6. | Size Risk Adjustment (5) | 1.00% | 1.00% |
| 7. | Indicated Common Equity Cost Rate after Adjustment | 10.63% - 12.72% | 10.63% - 12.66% |
| 8. | Recommended Common Equity Cost Rate | 10.60% | |

Notes:

(1) From page 1 of Schedule DWD-3.
(2) From page 1 of Schedule DWD-4.
(3) From page 1 of Schedule DWD-5.
(4) From page 1 of Schedule DWD-7.
(5) Size risk adjustment to reflect Water Service Kentucky's smaller size compared to the Utility Proxy Group as detailed in Mr. D'Ascendis' Direct Testimony.

Proxy Group of Seven Water Companies
CAPITALIZATION AND FINANCIAL STATISTICS (1)
2017 - 2021, Inclusive

| | 2021 | 2020 | 2019 | 2018 | 2017 | 5 YEAR AVERAGE |
|---|---|---|---|---|---|---|
| | | | (MILLIONS OF DOLLARS) | | | |
| **Capitalization Statistics** | | | | | | |
| Amount of Capital Employed | | | | | | |
| Total Permanent Capital | $5,096.955 | $4,622.646 | $3,885.041 | $3,208.636 | $2,837.657 | |
| Short-Term Debt | $133.499 | $291.642 | $189.862 | $184.221 | $185.250 | |
| Total Capital Employed | $5,230.454 | $4,914.288 | $4,074.903 | $3,392.857 | $3,022.907 | |
| Indicated Average Capital Cost Rates (2) | | | | | | |
| Total Debt | 3.55 % | 3.84 % | 4.18 % | 4.75 % | 4.83 % | |
| Preferred Stock | 5.76 % | 5.76 % | 5.84 % | 5.92 % | 5.91 % | |
| Capital Structure Ratios | | | | | | |
| Based on Total Permanent Capital: | | | | | | |
| Long-Term Debt | 50.01 % | 50.26 % | 47.11 % | 45.15 % | 45.58 % | 47.62 % |
| Preferred Stock | 0.05 | 0.05 | 0.06 | 0.09 | 0.10 | 0.07 |
| Common Equity | 49.94 | 49.69 | 52.83 | 54.76 | 54.32 | 52.31 |
| Total | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |
| Based on Total Capital: | | | | | | |
| Total Debt, Including Short-Term Debt | 51.86 % | 53.47 % | 50.55 % | 48.37 % | 48.93 % | 50.64 % |
| Preferred Stock | 0.03 | 0.05 | 0.06 | 0.08 | 0.09 | 0.06 |
| Common Equity | 48.10 | 46.48 | 49.39 | 51.55 | 50.98 | 49.30 |
| Total | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |
| **Financial Statistics** | | | | | | |
| Financial Ratios - Market Based | | | | | | |
| Earnings / Price Ratio | 3.14 % | 3.20 % | 2.67 % | 3.33 % | 3.65 % | 3.20 % |
| Market / Average Book Ratio | 361.91 | 328.25 | 340.26 | 308.46 | 310.75 | 329.93 |
| Dividend Yield | 1.66 | 1.81 | 1.77 | 2.00 | 1.99 | 1.85 |
| Dividend Payout Ratio | 53.26 | 56.81 | 72.34 | 60.08 | 55.80 | 59.66 |
| Rate of Return on Average Book Common Equity | 11.26 % | 10.49 % | 9.48 % | 10.12 % | 11.31 % | 10.53 % |
| Total Debt / EBITDA (3) | 4.95 x | 5.33 x | 5.57 x | 4.22 x | 3.42 x | 4.70 x |
| Funds from Operations / Total Debt (4) | 11.66 % | 12.11 % | 14.52 % | 21.37 % | 22.87 % | 16.51 % |
| Total Debt / Total Capital | 51.86 % | 53.47 % | 50.55 % | 48.37 % | 48.93 % | 50.64 % |

Notes:
(1) All capitalization and financial statistics for the group are the arithmetic average of the achieved results for each individual company in the group, and are based upon financial statements as originally reported in each year.
(2) Computed by relating actual total debt interest or preferred stock dividends booked to average of beginning and ending total debt or preferred stock reported to be outstanding.
(3) Total debt relative to EBITDA (Earnings before Interest, Income Taxes, Depreciation and Amortization).
(4) Funds from operations (sum of net income, depreciation, amortization, net deferred income tax and investment tax credits, less total AFUDC) plus interest charges as a percentage of total debt.

Source of Information: Company Annual Forms 10-K

Capital Structure Based upon Total Permanent Capital for the
Proxy Group of Seven Water Companies
2017 - 2021, Inclusive

| | 2021 | 2020 | 2019 | 2018 | 2017 | 5 YEAR AVERAGE |
|---|---|---|---|---|---|---|
| American States Water Company | | | | | | |
| Long-Term Debt | 37.56 % | 40.72 % | 31.87 % | 36.54 % | 37.75 % | 36.89 % |
| Preferred Stock | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Common Equity | 62.44 | 59.28 | 68.14 | 63.46 | 62.25 | 63.11 |
| Total Capital | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |
| American Water Works Company, Inc. | | | | | | |
| Long-Term Debt | 58.75 % | 59.93 % | 58.59 % | 56.55 % | 55.82 % | 57.93 % |
| Preferred Stock | 0.02 | 0.02 | 0.03 | 0.05 | 0.06 | 0.03 |
| Common Equity | 41.23 | 40.05 | 41.38 | 43.40 | 44.12 | 42.04 |
| Total Capital | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |
| California Water Service Group | | | | | | |
| Long-Term Debt | 47.28 % | 46.04 % | 50.90 % | 52.74 % | 43.40 % | 48.07 % |
| Preferred Stock | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Common Equity | 52.72 | 53.96 | 49.10 | 47.26 | 56.60 | 51.93 |
| Total Capital | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |
| Essential Utilities Inc. | | | | | | |
| Long-Term Debt | 53.28 % | 54.42 % | 44.23 % | 56.06 % | 52.26 % | 52.05 % |
| Preferred Stock | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Common Equity | 46.72 | 45.58 | 55.77 | 43.94 | 47.74 | 47.95 |
| Total Capital | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |
| Middlesex Water Company | | | | | | |
| Long-Term Debt | 45.86 % | 44.61 % | 42.21 % | 38.94 % | 38.65 % | 42.05 % |
| Preferred Stock | 0.30 | 0.33 | 0.36 | 0.59 | 0.64 | 0.45 |
| Common Equity | 53.84 | 55.06 | 57.43 | 60.47 | 60.71 | 57.50 |
| Total Capital | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |
| SJW Group | | | | | | |
| Long-Term Debt | 59.69 % | 59.79 % | 59.05 % | 32.67 % | 48.20 % | 51.88 % |
| Preferred Stock | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Common Equity | 40.31 | 40.21 | 40.95 | 67.33 | 51.80 | 48.12 |
| Total Capital | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |
| The York Water Company | | | | | | |
| Long-Term Debt | 47.64 % | 46.31 % | 42.95 % | 42.52 % | 43.02 % | 44.49 % |
| Preferred Stock | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Common Equity | 52.36 | 53.69 | 57.05 | 57.48 | 56.98 | 55.51 |
| Total Capital | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |
| Proxy Group of Seven Water Companies | | | | | | |
| Long-Term Debt | 50.01 % | 50.26 % | 47.11 % | 45.15 % | 45.59 % | 47.62 % |
| Preferred Stock | 0.04 | 0.05 | 0.06 | 0.09 | 0.10 | 0.07 |
| Common Equity | 49.95 | 49.69 | 52.83 | 54.76 | 54.31 | 52.31 |
| Total Capital | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |

Source of Information:
Annual Forms 10-K

Water Service Corporation of Kentucky
Indicated Common Equity Cost Rate Using the Discounted Cash Flow Model for the
Proxy Group of Seven Water Companies

| Proxy Group of Seven Water Companies | [1] Average Dividend Yield (1) | [2] Value Line Projected Five Year Growth in EPS (2) | [3] Zack's Five Year Projected Growth Rate in EPS | [4] Yahoo! Finance Projected Five Year Growth in EPS | [5] Average Projected Five Year Growth in EPS (3) | [6] Adjusted Dividend Yield (4) | [7] Indicated Common Equity Cost Rate (5) |
|---|---|---|---|---|---|---|---|
| American States Water Company | 1.65 % | 6.50 % | NA % | 4.90 % | 5.70 % | 1.70 % | 7.40 % |
| American Water Works Company, Inc. | 1.53 | 8.50 | 8.10 | 8.30 | 8.30 | 1.59 | 9.89 |
| California Water Service Group | 1.67 | 8.50 | NA | 11.70 | 10.10 | 1.75 | 11.85 |
| Essential Utilities Inc. | 2.23 | 10.00 | 6.10 | 6.40 | 7.50 | 2.31 | 9.81 |
| Middlesex Water Company | 1.14 | 5.00 | NA | 2.70 | 3.85 | 1.16 | 5.01 |
| SJW Group | 2.14 | 15.00 | NA | 9.70 | 12.35 | 2.27 | 14.62 |
| The York Water Company | 1.75 | 6.50 | NA | 4.90 | 5.70 | 1.80 | 7.50 |
| | | | | | | Average | 9.44 % |
| | | | | | | Median | 9.81 % |
| | | | | | | Average of Mean and Median | 9.63 % |

NA= Not Available

Notes:

(1) Indicated dividend at 03/31/2022 divided by the average closing price of the last 60 trading days ending 03/31/2022 for each company.
(2) From pages 2 through 8 of this Schedule.
(3) Average of columns 2 through 4 excluding any negative growth rates.
(4) This reflects a growth rate component equal to one-half the conclusion of growth rate (from column 5) x column 1 to reflect the periodic payment of dividends (Gordon Model) as opposed to the continuous payment. Thus, for American States Water Company, 1.65% x (1+( 1/2 x 5.70%) ) = 1.70%.
(5) Column 5 + Column 6.

Source of Information:

Value Line Investment Survey.
www.zacks.com Downloaded on 03/31/2022.
www.yahoo.com Downloaded on 03/31/2022.

# AMER. STATES WATER NYSE-AWR

RECENT PRICE 100.96 | P/E RATIO 41.4 (Trailing: 39.7 Median: 24.0) | RELATIVE P/E RATIO 2.18 | DIV'D YLD 1.5% | VALUE LINE

**TIMELINESS** 3 Raised 3/5/21
**SAFETY** 2 Raised 7/20/12
TECHNICAL 4 Lowered 12/24/21
**BETA** .65 (1.00 = Market)

**18-Month Target Price Range**

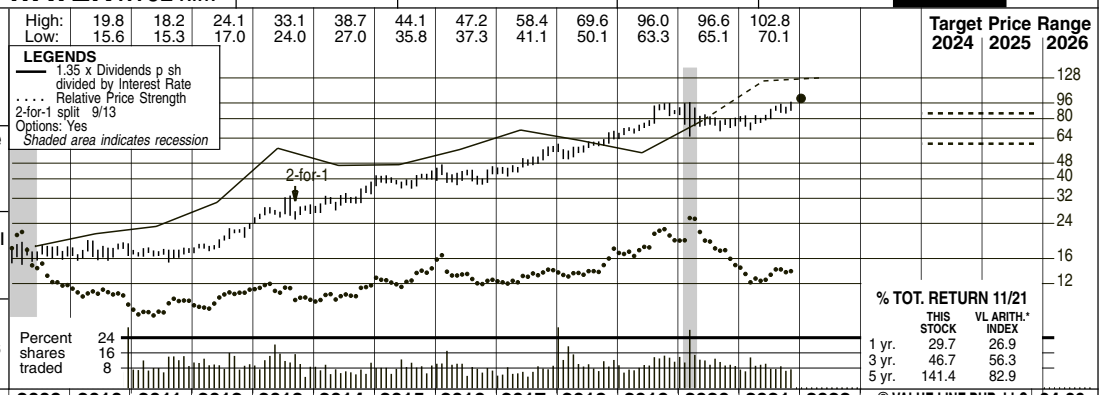
| Low-High | Midpoint (% to Mid) |
|---|---|
| $82-$115 | $99 (0%) |

**2024-26 PROJECTIONS**

| | Price | Gain | Ann'l Total Return |
|---|---|---|---|
| High | 85 | (-15%) | -2% |
| Low | 60 | (-40%) | -9% |

**Institutional Decisions**

| | 1Q2021 | 2Q2021 | 3Q2021 |
|---|---|---|---|
| to Buy | 120 | 126 | 146 |
| to Sell | 128 | 117 | 101 |
| Hld's(000) | 25737 | 25636 | 26958 |




| 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | © VALUE LINE PUB. LLC | 24-26 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7.03 | 7.88 | 8.75 | 9.21 | 9.74 | 10.71 | 11.12 | 12.12 | 12.19 | 12.17 | 12.56 | 11.92 | 12.01 | 11.88 | 12.86 | 13.24 | *13.55* | *13.75* | Revenues per sh | *17.20* |
| 1.32 | 1.45 | 1.65 | 1.69 | 1.70 | 2.11 | 2.13 | 2.48 | 2.65 | 2.67 | 2.81 | 2.70 | 2.96 | 2.84 | 3.26 | 3.34 | *3.50* | *3.75* | "Cash Flow" per sh | *4.80* |
| .66 | .67 | .81 | .78 | .81 | 1.11 | 1.12 | 1.41 | 1.61 | 1.57 | 1.61 | 1.62 | 1.88 | 1.72 | 2.28 | 2.33 | *2.45* | *2.60* | Earnings per sh [A] | *3.05* |
| .45 | .46 | .48 | .50 | .51 | .52 | .55 | .64 | .76 | .83 | .87 | .91 | .99 | 1.06 | 1.16 | 1.28 | 1.40 | *1.52* | Div'd Decl'd per sh [B]■ | *2.00* |
| 2.12 | 1.95 | 1.45 | 2.23 | 2.09 | 2.12 | 2.13 | 1.77 | 2.52 | 1.89 | 2.39 | 3.55 | 3.08 | 3.44 | 4.12 | 3.54 | *4.05* | *4.20* | Cap'l Spending per sh | *4.25* |
| 7.86 | 8.32 | 8.77 | 8.97 | 9.70 | 10.13 | 10.84 | 11.80 | 12.72 | 13.24 | 12.77 | 13.52 | 14.45 | 15.19 | 16.33 | 17.39 | *17.45* | *20.00* | Book Value per sh [D] | *23.20* |
| 33.60 | 34.10 | 34.46 | 34.60 | 37.06 | 37.26 | 37.70 | 38.53 | 38.72 | 38.29 | 36.50 | 36.57 | 36.68 | 36.76 | 36.85 | 36.89 | *37.25* | *37.50* | Common Shs Outst'g [C] | *37.50* |
| 21.9 | 27.7 | 24.0 | 22.6 | 21.2 | 15.7 | 15.4 | 14.3 | 17.2 | 20.1 | 24.6 | 25.6 | 25.7 | 34.0 | 34.4 | 34.3 | *34.6* | | Avg Ann'l P/E Ratio | *24.0* |
| 1.17 | 1.50 | 1.27 | 1.36 | 1.41 | 1.00 | .97 | .91 | .97 | 1.06 | 1.24 | 1.34 | 1.29 | 1.84 | 1.83 | 1.78 | *1.86* | | Relative P/E Ratio | *1.35* |
| 3.1% | 2.5% | 2.5% | 2.9% | 2.9% | 3.0% | 3.2% | 3.1% | 2.7% | 2.6% | 2.2% | 2.2% | 2.0% | 1.8% | 1.5% | 1.6% | 1.7% | | Avg Ann'l Div'd Yield | *2.8%* |
| 419.3 | 466.9 | 472.1 | 465.8 | 458.6 | 436.1 | 440.6 | 436.8 | 473.9 | 488.2 | *510* | *525* | Revenues ($mill) | *645* |
| 42.0 | 54.1 | 62.7 | 61.1 | 60.5 | 59.7 | 69.4 | 63.9 | 84.3 | 86.4 | *90.0* | *95.0* | Net Profit ($mill) | *115* |
| 41.7% | 39.9% | 36.3% | 38.4% | 38.4% | 36.8% | 36.0% | 22.0% | 22.6% | 24.6% | *23.5%* | *24.0%* | Income Tax Rate | *23.0%* |
| 2.0% | 2.5% | -- | -- | -- | -- | -- | -- | 2.5% | -- | *1.0%* | *1.0%* | AFUDC % to Net Profit | *1.0%* |
| 45.4% | 42.2% | 39.8% | 39.1% | 41.1% | 39.4% | 38.0% | 40.5% | 44.4% | 47.2% | *45.5%* | *48.5%* | Long-Term Debt Ratio | *53.5%* |
| 54.6% | 57.8% | 60.2% | 60.9% | 58.9% | 60.6% | 62.0% | 59.5% | 55.6% | 52.8% | *54.5%* | *51.5%* | Common Equity Ratio | *46.5%* |
| 749.1 | 787.0 | 818.4 | 832.6 | 791.5 | 815.3 | 854.9 | 938.4 | 1082.5 | 1216.2 | *1260* | *1390* | Total Capital ($mill) | *1620* |
| 896.5 | 917.8 | 981.5 | 1003.5 | 1060.8 | 1150.9 | 1205.0 | 1296.3 | 1415.7 | 1512.0 | *1600* | *1700* | Net Plant ($mill) | *1925* |
| 7.1% | 8.3% | 8.9% | 8.6% | 9.0% | 8.6% | 9.3% | 7.9% | 8.9% | 8.0% | *8.0%* | *8.0%* | Return on Total Cap'l | *8.5%* |
| 10.3% | 11.9% | 12.7% | 12.0% | 13.0% | 12.1% | 13.1% | 11.4% | 14.0% | 13.5% | *13.5%* | *13.5%* | Return on Shr. Equity | *13.0%* |
| 10.3% | 11.9% | 12.7% | 12.0% | 13.0% | 12.1% | 13.1% | 11.4% | 14.0% | 13.5% | *13.5%* | *13.5%* | Return on Com Equity | *13.0%* |
| 5.3% | 6.6% | 6.8% | 5.7% | 6.0% | 5.3% | 6.2% | 4.5% | 6.9% | 6.1% | *6.0%* | *5.5%* | Retained to Com Eq | *4.5%* |
| 49% | 45% | 47% | 53% | 54% | 56% | 52% | 61% | 51% | 55% | *57%* | *60%* | All Div'ds to Net Prof | *66%* |

**CAPITAL STRUCTURE as of 9/30/21**
**Total Debt** $440.5 mill. **Due in 5 Yrs** $136.0 mill.
**LT Debt** $412.1 mill. **LT Interest** $24.0 mill. (38% of Cap'l)

**Leases, Uncapitalized:** Annual rentals $2.6 mill.
**Pension Assets-12/20** $213.1 mill. **Oblig.** $272.8 mill.
**Pfd Stock** None

**Common Stock** 36,936,252 shs. **as of 10/29/21**

**MARKET CAP: $3.7 billion (Mid Cap)**

| CURRENT POSITION ($MILL.) | 2019 | 2020 | 9/30/21 |
|---|---|---|---|
| Cash Assets | 1.3 | 36.7 | 7.1 |
| Accts Receivable | 20.9 | 29.2 | 33.3 |
| Other | 100.3 | 91.2 | 103.3 |
| Current Assets | 122.5 | 157.1 | 143.7 |
| Accts Payable | 55.6 | 63.8 | 68.0 |
| Debt Due | 5.3 | .4 | 28.4 |
| Other | 55.1 | 54.4 | 54.7 |
| Current Liab. | 116.0 | 118.6 | 151.1 |

| ANNUAL RATES of change (per sh) | Past 10 Yrs. | Past 5 Yrs. | Est'd '18-'20 to '24-'26 |
|---|---|---|---|
| Revenues | 2.5% | .5% | *5.0%* |
| "Cash Flow" | 5.5% | 3.0% | *7.0%* |
| Earnings | 9.0% | 5.5% | *6.5%* |
| Dividends | 8.5% | 7.5% | *9.5%* |
| Book Value | 5.5% | 5.0% | *5.5%* |

| Calendar | QUARTERLY REVENUES ($ mill.) Mar.31 | Jun. 30 | Sep. 30 | Dec. 31 | Full Year |
|---|---|---|---|---|---|
| 2018 | 94.7 | 106.9 | 124.2 | 111.0 | 436.8 |
| 2019 | 101.7 | 124.7 | 134.5 | 113.0 | 473.9 |
| 2020 | 109.1 | 121.3 | 133.6 | 124.2 | 488.2 |
| 2021 | 117.1 | 128.4 | 136.8 | *127.7* | *510* |
| 2022 | *120* | *130* | *145* | *130* | *525* |

| Calendar | EARNINGS PER SHARE [A] Mar.31 | Jun. 30 | Sep. 30 | Dec. 31 | Full Year |
|---|---|---|---|---|---|
| 2018 | .29 | .44 | .62 | .37 | 1.72 |
| 2019 | .35 | .72 | .76 | .45 | 2.28 |
| 2020 | .38 | .69 | .72 | .54 | 2.33 |
| 2021 | .52 | .72 | .76 | *.45* | *2.45* |
| 2022 | *.48* | *.75* | *.80* | *.57* | *2.60* |

| Calendar | QUARTERLY DIVIDENDS PAID [B]■ Mar.31 | Jun.30 | Sep.30 | Dec.31 | Full Year |
|---|---|---|---|---|---|
| 2018 | .255 | .255 | .275 | .275 | 1.06 |
| 2019 | .275 | .275 | .305 | .305 | 1.16 |
| 2020 | .305 | .305 | .335 | .335 | 1.28 |
| 2021 | .335 | .335 | .365 | .365 | 1.40 |
| 2022 | | | | | |

**BUSINESS:** American States Water Co. operates as a holding company. Through its principal subsidiary, Golden State Water Co., it supplies water to 261,976 customers in 10 California counties. Service areas include the metropolitan areas of Los Angeles and Orange Counties. The company also provides electricity to 24,545 customers in Big Bear Lake and San Bernardino Cnty. Provides water & wastewater services to U.S. military bases through its ASUS subsidiary. Sold Chaparral City Wtr. of AZ. (6/11). Employs 841. BlackRock, Inc. owns 16.4% of out. shares; Vanguard, 12.0%; off. & dir., 1.0% (4/21 Proxy). Chairman: Lloyd Ross. Pres. & CEO: Robert Sprowls. Inc: CA. Address: 630 East Foothill Blvd., San Dimas, CA 91773. Tel.: 909-394-3600. Internet: www.aswater.com.

**American States Water has reached a preliminary agreement on a pending rate case.** In late November, its water subsidiary, Golden States Water (GSW), agreed to a settlement with the state's Public Advocates Office (PAO) on a petition for higher rates. The importance of the pact cannot be underestimated, as the application was for rates from 2022 through to 2024. (In California, utilities typically file new petitions for rate adjustments triennially.) Final approval is still required by the California Public Utility Commission, but, generally it tends to go along with the PAO's recommendations. According to the pact, GSW will invest about $417 million over the next three years to upgrade its water assets. Rates will increase $20.6 million a year. Also, GSW would be partially protected from inflation, as about $13 million in additional hikes can be implemented should costs continue to be a problem. Several minor issues have yet to be resolved.

**Wall Street took notice of the deal.** Since the announcement, the price of AWR stock has done much better than the S&P 500 Index and all but one of the equities in the Water Industry.

**Earnings prospects for 2022 are encouraging.** On a year-over-year basis, we expect the utility's share net to decline in the fourth quarter for two reasons. First, it's versus a strong 2020 interim. And second, it is not unusual for a utility's bottom line to not do well in the final stretch of an old rate case. Next year, we think American States share net can rise 6%, thanks to higher rates being in effect.

**Unregulated activities should also help spur profit and dividend growth.** The company's ASUS subsidiary provides water services to U.S. military bases. Returns on these operations are not determined by state authorities, so margins are typically higher here. One possible problem that could stall progress would be if inflation remains at its current level for an extended period.

**Investors can probably find better selections elsewhere.** All of the company's positive attributes seem to be fully factored into its current quote. Thus, total return potential in the short, medium, and long terms are not attractive.

*James A. Flood* *January 7, 2022*

**(A)** Primary earnings. Excludes nonrecurring gains/(losses): '05, 13¢; '06, 3¢; '08, (14¢); '10, (23¢); '11, 10¢. Next earnings report due early February.
**(B)** Dividends historically paid in early March, June, September, and December. ■ Div'd reinvestment plan available.
**(C)** In millions, adjusted for split.
**(D)** Includes intangibles. As of 9/30/20; $1.1 million/$0.03 a share.

| | |
|---|---|
| **Company's Financial Strength** | A |
| **Stock's Price Stability** | 100 |
| **Price Growth Persistence** | 90 |
| **Earnings Predictability** | 95 |

# AMERICAN WATER NYSE-AWK

RECENT PRICE 183.58 | P/E RATIO 42.4 (Trailing: 43.7 Median: 24.0) | RELATIVE P/E RATIO 2.23 | DIV'D YLD 1.4% | VALUE LINE

**TIMELINESS** 3 Lowered 6/25/21
**SAFETY** 3 New 7/25/08
TECHNICAL 4 Raised 1/7/22
**BETA** .85 (1.00 = Market)

**18-Month Target Price Range**

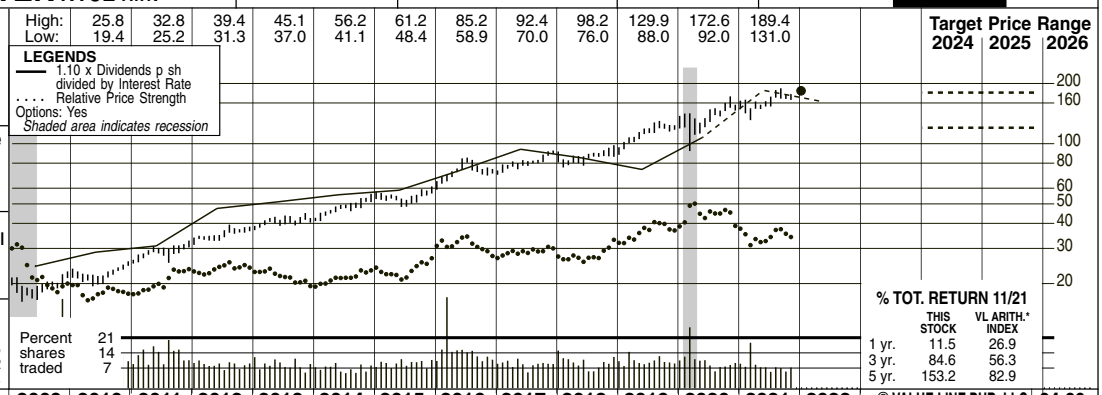
| Low-High | Midpoint (% to Mid) |
|---|---|
| $148-$237 | $193 (5%) |

**2024-26 PROJECTIONS**

| | Price | Gain | Ann'l Total Return |
|---|---|---|---|
| High | 180 | (Nil) | *1%* |
| Low | 120 | (-35%) | *-8%* |

**Institutional Decisions**

| | 1Q2021 | 2Q2021 | 3Q2021 |
|---|---|---|---|
| to Buy | 434 | 444 | 465 |
| to Sell | 388 | 377 | 362 |
| Hld's(000) | 148561 | 150291 | 155734 |




| 2005 | 2006E | 2007E | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | © VALUE LINE PUB. LLC | 24-26 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -- | 13.08 | 13.84 | 14.61 | 13.98 | 15.49 | 15.18 | 16.25 | 16.28 | 16.78 | 17.72 | 18.54 | 18.81 | 19.04 | 19.97 | 20.83 | *21.85* | *22.90* | Revenues per sh | *25.80* |
| -- | .65 | d.47 | 2.87 | 2.89 | 3.56 | 3.73 | 4.27 | 4.36 | 4.75 | 5.13 | 5.26 | 5.14 | 6.15 | 6.65 | 7.24 | *7.80* | *8.25* | "Cash Flow" per sh | *9.70* |
| -- | d.97 | d2.14 | 1.10 | 1.25 | 1.53 | 1.72 | 2.11 | 2.06 | 2.39 | 2.64 | 2.62 | 2.38 | 3.15 | 3.43 | 3.91 | *4.25* | *4.50* | Earnings per sh A | *5.50* |
| -- | -- | -- | .40 | .82 | .86 | .90 | 1.21 | .84 | 1.21 | 1.33 | 1.47 | 1.62 | 1.78 | 1.96 | 2.15 | 2.36 | *2.58* | Div'd Decl'd per sh B■ | *3.10* |
| -- | 4.31 | 4.74 | 6.31 | 4.50 | 4.38 | 5.27 | 5.25 | 5.50 | 5.33 | 6.51 | 7.36 | 8.04 | 8.78 | 9.15 | 10.05 | *10.75* | *12.60* | Cap'l Spending per sh | *11.75* |
| -- | 23.86 | 28.39 | 25.64 | 22.91 | 23.59 | 24.11 | 25.11 | 26.52 | 27.39 | 28.25 | 29.24 | 30.13 | 32.42 | 33.83 | 35.58 | *38.15* | *40.20* | Book Value per sh D | *50.00* |
| -- | 160.00 | 160.00 | 160.00 | 174.63 | 175.00 | 175.66 | 176.99 | 178.25 | 179.46 | 178.28 | 178.10 | 178.44 | 180.68 | 180.81 | 181.30 | *181.60* | *182.00* | Common Shs Outst'g C | *190.00* |
| -- | -- | -- | 18.9 | 15.6 | 14.6 | 16.8 | 16.7 | 19.9 | 20.0 | 20.5 | 27.7 | 33.8 | 27.3 | 32.9 | 35.3 | *38.8* | | Avg Ann'l P/E Ratio | *27.0* |
| -- | -- | -- | 1.14 | 1.04 | .93 | 1.05 | 1.06 | 1.12 | 1.05 | 1.03 | 1.45 | 1.70 | 1.47 | 1.75 | 1.83 | *2.09* | | Relative P/E Ratio | *1.50* |
| -- | -- | -- | 1.9% | 4.2% | 3.8% | 3.1% | 3.4% | 2.0% | 2.5% | 2.5% | 2.0% | 2.0% | 2.1% | 1.7% | 1.6% | 1.4% | | Avg Ann'l Div'd Yield | *2.1%* |
| | | | | | | 2666.2 | 2876.9 | 2901.9 | 3011.3 | 3159.0 | 3302.0 | 3357.0 | 3440.0 | 3610.0 | 3777.0 | *3965* | *4165* | Revenues ($mill) | *4900* |
| | | | | | | 304.9 | 374.3 | 369.3 | 429.8 | 476.0 | 468.0 | 426.0 | 567.0 | 621.0 | 709.0 | *772* | *835* | Net Profit ($mill) | *1045* |
| | | | | | | 39.5% | 40.7% | 39.1% | 39.4% | 39.1% | 39.2% | 53.3% | 28.2% | 25.5% | 23.3% | *17.5%* | *23.5%* | Income Tax Rate | *24.0%* |
| | | | | | | -- | 6.2% | 5.1% | -- | -- | -- | -- | -- | 5.1% | 4.0% | *4.0%* | *5.0%* | AFUDC % to Net Profit | *5.0%* |
| | | | | | | 55.7% | 53.9% | 52.4% | 52.4% | 53.7% | 52.4% | 54.7% | 56.3% | 58.5% | 59.1% | *60.0%* | *61.5%* | Long-Term Debt Ratio | *61.0%* |
| | | | | | | 44.2% | 46.1% | 47.6% | 47.4% | 46.2% | 47.5% | 45.3% | 43.6% | 41.4% | 40.9% | *40.0%* | *39.5%* | Common Equity Ratio | *39.0%* |
| | | | | | | 9580.3 | 9635.5 | 9940.7 | 10364 | 10911 | 10967 | 11875 | 13433 | 14760 | 15787 | *17425* | *18700* | Total Capital ($mill) | *20000* |
| | | | | | | 11021 | 11739 | 12391 | 12900 | 13933 | 14992 | 16246 | 17409 | 18232 | 19710 | *20825* | *22150* | Net Plant ($mill) | *24500* |
| | | | | | | 4.8% | 5.4% | 5.1% | 5.5% | 5.7% | 5.6% | 4.9% | 5.4% | 5.4% | 5.7% | *5.5%* | *5.5%* | Return on Total Cap'l | *6.0%* |
| | | | | | | 7.2% | 8.4% | 7.8% | 8.7% | 9.4% | 9.0% | 7.9% | 9.7% | 10.1% | 11.0% | *11.0%* | *11.5%* | Return on Shr. Equity | *11.0%* |
| | | | | | | 7.2% | 8.4% | 7.8% | 8.7% | 9.4% | 9.0% | 7.9% | 9.7% | 10.1% | 11.0% | *11.0%* | *11.5%* | Return on Com Equity | *11.0%* |
| | | | | | | 3.5% | 3.6% | 4.7% | 4.3% | 4.7% | 4.0% | 2.5% | 4.2% | 4.4% | 5.0% | *5.0%* | *5.5%* | Retained to Com Eq | *4.5%* |
| | | | | | | 52% | 57% | 40% | 50% | 50% | 56% | 68% | 56% | 57% | 55% | *56%* | *56%* | All Div'ds to Net Prof | *56%* |

**CAPITAL STRUCTURE as of 9/30/21**
**Total Debt** $11084 mil. **Due in 5 Yrs** $2867 mil.
**LT Debt** $10352 mil. **LT Interest** $384 mil. (58% of Cap'l)

**Leases, Uncapitalized:** Annual rentals $13.0 mill.
**Pension Assets 12/20** $1990.0 mill
**Oblig.** $2386.0 mill.
**Pfd Stock** $3.0 mill. **Pfd Div'd** $.2 mill

**Common Stock** 181,537,748 shares
**as of 10/27/21**

**MARKET CAP: $33.1 billion (Large Cap)**

| CURRENT POSITION ($MILL.) | 2019 | 2020 | 9/30/21 |
|---|---|---|---|
| Cash Assets | 91 | 576 | 100 |
| Accts Receivable | 294 | 321 | 348 |
| Other | 900 | 1009 | 1142 |
| Current Assets | 1285 | 1906 | 1590 |
| Accts Payable | 203 | 189 | 175 |
| Debt Due | 814 | 1611 | 732 |
| Other | 1028 | 1081 | 937 |
| Current Liab. | 2045 | 2881 | 1844 |

| ANNUAL RATES of change (per sh) | Past 10 Yrs. | Past 5 Yrs. | Est'd '18-'20 to '24-'26 |
|---|---|---|---|
| Revenues | 3.0% | 3.5% | *4.5%* |
| "Cash Flow" | 8.0% | 7.0% | *6.5%* |
| Earnings | 10.5% | 8.0% | *8.5%* |
| Dividends | 11.0% | 11.5% | *8.5%* |
| Book Value | 3.5% | 4.5% | *5.0%* |

| Calendar | QUARTERLY REVENUES ($ mill.) Mar.31 | Jun. 30 | Sep. 30 | Dec. 31 | Full Year |
|---|---|---|---|---|---|
| 2018 | 761 | 853 | 976 | 850 | 3440 |
| 2019 | 813 | 882 | 1013 | 902 | 3610 |
| 2020 | 844 | 931 | 1079 | 923 | 3777 |
| 2021 | 888 | 999 | 1092 | ***986*** | ***3965*** |
| 2022 | ***915*** | ***1065*** | ***1130*** | ***1055*** | ***4165*** |

| Calendar | EARNINGS PER SHARE A Mar.31 | Jun. 30 | Sep. 30 | Dec. 31 | Full Year |
|---|---|---|---|---|---|
| 2018 | .59 | .91 | 1.03 | .62 | 3.15 |
| 2019 | .62 | .94 | 1.33 | .54 | 3.43 |
| 2020 | .68 | .97 | 1.46 | .80 | 3.91 |
| 2021 | .73 | 1.14 | 1.53 | ***.85*** | ***4.25*** |
| 2022 | ***.75*** | ***1.20*** | ***1.60*** | ***.95*** | ***4.50*** |

| Calendar | QUARTERLY DIVIDENDS PAID B■ Mar.31 | Jun.30 | Sep.30 | Dec.31 | Full Year |
|---|---|---|---|---|---|
| 2018 | .415 | .455 | .455 | .455 | 1.78 |
| 2019 | .455 | .50 | .50 | .50 | 1.96 |
| 2020 | .50 | .55 | .55 | .55 | 2.15 |
| 2021 | .55 | .6025 | .6025 | .6025 | |
| 2022 | | | | | |

**BUSINESS:** American Water Works Company, Inc. is the largest investor-owned water and wastewater utility in the U.S., providing services to approximately 15 million people in 46 states. Nonregulated business assists municipalities and military bases with the maintenance and upkeep as well. Regulated operations made up 86% of 2020 revenues. New Jersey is its largest market accounting for 24.5% of regulated revenues; Pennsylvania, 22.5%; Missouri, 10.6%. Has 6,800 employees. The Vanguard Grp, owns 11.7% of outstanding shares; BlackRock, Inc., 8.1%; officers & directors, less than 1.0%. (3/21 Proxy). President & CEO: Susan N. Story. Chairman: George MacKenzie. Address: 1 Water Street, Camden, NJ 08102. Tel.: 856-346-8200. Internet: www.amwater.com.

**American Water Works most likely finished up another successful year.** Share earnings probably came in close to our $4.25 estimate, which represents a 9% gain over the previous year's healthy total. It should be noted that water utilities have been among the industries that have not been materially affected by the COVID-19 pandemic.

**Earnings prospects are bright for next year and out to mid-decade.** We believe the company's share net can rise to $4.50 in 2022. Moreover, management projects that share earnings can increase from 7% to 9% from 2022 to 2026.

**Acquisitions will continue to fuel American Water's income growth.** The water utility industry in the United States is extremely fragmented, as it consists of over 50,000 mostly small municipally run water districts. In addition to having very outdated infrastructure, most water districts are also not well capitalized and are extremely inefficient. This scenario is perfect for American Water's strategy of increasing its rate base, by investing heavily to update their pipelines, and wringing significant cost savings out of them. In this industry, there are clearly benefits to economies of scale. Thus far in 2021, American has made 14 acquisitions and has another 31 "under agreement" to be bought. With state regulators typically on board, we expect the buying spree to rise later in the decade. Indeed, out to 2026, management plans on budgeting $1.5 billion to $2 billion a year for takeovers.

**The capital budget remains large.** The company projects that it will spend, on average, somewhere between $2.3 billion to $2.4 billion per annum on construction. The two main sectors where the expenditures will be invested are to replace old infrastructure (69%) and improving the resiliency of current assets (11%). Though external funds will be required to finance a portion of the spending, American Water's balance sheet is capable of handling more debt without a problem.

**These shares do not stand out at this particular time.** In the short term, the stock is only ranked to be an average performer in the year ahead. Over the 18-month and three-to five-year period, the equity offers subpar total return potential.

*James A. Flood* *January 7, 2022*

**(A)** Diluted earnings. Excludes nonrecur. losses: '08, $4.62; '09, $2.63; '11, $0.07. Disc. oper.: '06, ($0.04); '11, $0.03; '12, ($0.10); '13,($0.01). GAAP used as of 2014. Next earnings report due early mid-February. **(B)** Dividends paid in March, June, September, and December. ■ Div. reinvestment available. **(C)** In millions. **(D)** Includes intangibles. On 9/30/21: $1.653 billion, $9.11/share. **(E)** Pro forma numbers for '06 & '07.

| | |
|---|---|
| Company's Financial Strength | B++ |
| Stock's Price Stability | 85 |
| Price Growth Persistence | 75 |
| Earnings Predictability | 90 |

# CALIFORNIA WATER NYSE-CWT

RECENT PRICE 70.02 | P/E RATIO 29.7 (Trailing: 31.8 Median: 24.0) | RELATIVE P/E RATIO 1.56 | DIV'D YLD 1.3% | VALUE LINE

TIMELINESS 3 Lowered 10/29/21
SAFETY 3 Lowered 7/27/07
TECHNICAL 3 Raised 1/7/22
BETA .70 (1.00 = Market)

**18-Month Target Price Range**

| Low-High | Midpoint (% to Mid) |
|---|---|
| $58-$89 | $74 (5%) |

**2024-26 PROJECTIONS**

| | Price | Gain | Ann'l Total Return |
|---|---|---|---|
| High | 75 | (+5%) | 3% |
| Low | 50 | (-30%) | -6% |

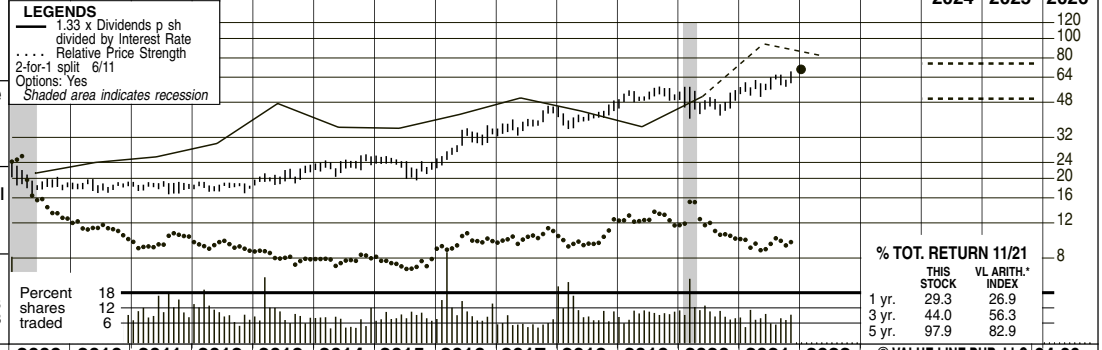
**Institutional Decisions**

| | 1Q2021 | 2Q2021 | 3Q2021 |
|---|---|---|---|
| to Buy | 112 | 113 | 133 |
| to Sell | 104 | 99 | 93 |
| Hld's(000) | 38005 | 39103 | 41511 |

| | 19.8 | 19.4 | 19.3 | 23.4 | 26.4 | 26.0 | 36.8 | 46.2 | 49.1 | 57.5 | 57.4 | 71.7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| High: | | | | | | | | | | | | |
| Low: | 16.9 | 16.7 | 16.8 | 18.4 | 20.3 | 19.5 | 22.5 | 32.4 | 35.3 | 44.6 | 39.7 | 51.0 |

LEGENDS
1.33 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
2-for-1 split 6/11
Options: Yes
*Shaded area indicates recession*

Target Price Range 2024 | 2025 | 2026




% TOT. RETURN 11/21

| | THIS STOCK | VL ARITH.* INDEX |
|---|---|---|
| 1 yr. | 29.3 | 26.9 |
| 3 yr. | 44.0 | 56.3 |
| 5 yr. | 97.9 | 82.9 |

| 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | © VALUE LINE PUB. LLC | 24-26 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8.72 | 8.10 | 8.88 | 9.90 | 10.82 | 11.05 | 12.00 | 13.34 | 12.23 | 12.50 | 12.29 | 12.70 | 13.89 | 14.53 | 14.72 | 15.78 | *15.55* | *15.75* | Revenues per sh | *16.40* |
| 1.52 | 1.36 | 1.56 | 1.86 | 1.93 | 1.93 | 2.07 | 2.32 | 2.21 | 2.47 | 2.22 | 2.34 | 3.00 | 3.11 | 3.14 | 3.88 | *3.80* | *3.85* | "Cash Flow" per sh | *4.05* |
| .74 | .67 | .75 | .95 | .98 | .91 | .86 | 1.02 | 1.02 | 1.19 | .94 | 1.01 | 1.40 | 1.36 | 1.31 | 1.97 | *2.30* | *2.35* | Earnings per sh A | *2.55* |
| .57 | .58 | .58 | .59 | .59 | .60 | .62 | .63 | .64 | .65 | .67 | .69 | .72 | .75 | .79 | .85 | .92 | *.98* | Div'd Decl'd per sh B ■ | *1.15* |
| 2.01 | 2.14 | 1.84 | 2.41 | 2.66 | 2.97 | 2.83 | 3.04 | 2.58 | 2.76 | 3.69 | 4.77 | 5.40 | 5.65 | 5.64 | 5.93 | *5.25* | *5.85* | Cap'l Spending per sh | *6.45* |
| 7.90 | 9.07 | 9.25 | 9.72 | 10.13 | 10.45 | 10.76 | 11.28 | 12.54 | 13.11 | 13.41 | 13.75 | 14.44 | 15.19 | 16.07 | 18.30 | *21.35* | *21.70* | Book Value per sh C | *22.70* |
| 36.78 | 41.31 | 41.33 | 41.45 | 41.53 | 41.67 | 41.82 | 41.98 | 47.74 | 47.81 | 47.88 | 47.97 | 48.01 | 48.07 | 48.53 | 50.33 | *52.75* | *53.00* | Common Shs Outst'g D | *54.00* |
| 24.9 | 29.2 | 26.1 | 19.8 | 19.7 | 20.3 | 21.3 | 17.9 | 20.1 | 19.7 | 24.8 | 29.6 | 26.9 | 30.3 | 39.3 | 24.9 | *26.0* | | Avg Ann'l P/E Ratio | *24.0* |
| 1.33 | 1.58 | 1.39 | 1.19 | 1.31 | 1.29 | 1.34 | 1.14 | 1.13 | 1.04 | 1.25 | 1.55 | 1.35 | 1.64 | 2.09 | 1.29 | *1.40* | | Relative P/E Ratio | *1.30* |
| 3.1% | 2.9% | 3.0% | 3.1% | 3.1% | 3.2% | 3.4% | 3.5% | 3.1% | 2.8% | 2.9% | 2.3% | 1.9% | 1.8% | 1.5% | 1.7% | 1.5% | | Avg Ann'l Div'd Yield | *1.8%* |
| 501.8 | 560.0 | 584.1 | 597.5 | 588.4 | 609.4 | 666.9 | 698.2 | 714.6 | 794.3 | *820* | *835* | Revenues ($mill) E | *885* |
| 36.1 | 42.6 | 47.3 | 56.7 | 45.0 | 48.7 | 67.2 | 65.6 | 63.1 | 96.8 | *120* | *125* | Net Profit ($mill) | *138* |
| 40.5% | 37.5% | 30.3% | 33.0% | 36.0% | 35.5% | 30.1% | 24.5% | 19.1% | 11.1% | *21.0%* | *21.0%* | Income Tax Rate | *21.0%* |
| 7.6% | 8.0% | 4.3% | 2.7% | 4.3% | 6.1% | 3.5% | 3.1% | 5.8% | 3.3% | *5.0%* | *5.0%* | AFUDC % to Net Profit | *5.0%* |
| 51.7% | 47.8% | 41.6% | 40.1% | 44.4% | 44.6% | 42.7% | 49.3% | 50.2% | 45.9% | *48.5%* | *44.0%* | Long-Term Debt Ratio | *38.0%* |
| 48.3% | 52.2% | 58.4% | 59.9% | 55.6% | 55.4% | 57.3% | 50.7% | 49.8% | 54.1% | *51.5%* | *56.0%* | Common Equity Ratio | *62.0%* |
| 931.5 | 908.2 | 1024.9 | 1045.9 | 1154.4 | 1191.2 | 1209.3 | 1440.2 | 1566.7 | 1702.4 | *2175* | *2050* | Total Capital ($mill) | *1975* |
| 1381.1 | 1457.1 | 1515.8 | 1590.4 | 1701.8 | 1859.3 | 2048.0 | 2232.7 | 2406.4 | 2650.6 | *2800* | *2835* | Net Plant ($mill) | *2925* |
| 5.5% | 6.3% | 6.0% | 6.3% | 5.2% | 5.5% | 7.1% | 5.9% | 5.5% | 7.0% | *6.0%* | *6.5%* | Return on Total Cap'l | *7.5%* |
| 8.0% | 9.0% | 7.9% | 9.1% | 7.0% | 7.4% | 9.7% | 9.0% | 8.1% | 10.5% | *11.0%* | *11.0%* | Return on Shr. Equity | *11.0%* |
| 8.0% | 9.0% | 7.9% | 9.1% | 7.0% | 7.4% | 9.7% | 9.0% | 8.1% | 10.5% | *11.0%* | *11.0%* | Return on Com Equity | *11.0%* |
| 2.3% | 3.4% | 3.4% | 4.1% | 2.0% | 2.4% | 4.7% | 4.0% | 3.2% | 6.0% | *6.5%* | *6.5%* | Retained to Com Eq | *6.0%* |
| 71% | 62% | 56% | 55% | 71% | 68% | 51% | 55% | 60% | 43% | *40%* | *42%* | All Div'ds to Net Prof | *45%* |

**CAPITAL STRUCTURE as of 9/30/21**
**Total Debt** $1184.9 mill. **Due in 5 Yrs** $357.0 mill.
**LT Debt** $1059.7 mill. **LT Interest** $40.0 mill.
(Total interest coverage: 8.4x) (48% of Cap'l)

**Pension Assets-12/20** $716.8 mill.
**Oblig.** $833.9 mill.

**Pfd Stock** None

**Common Stock** 52,608,000 shs.

**MARKET CAP: $3.7 billion (Mid Cap)**

| CURRENT POSITION ($MILL.) | 2019 | 2020 | 9/30/21 |
|---|---|---|---|
| Cash Assets | 42.7 | 44.6 | 140.4 |
| Other | 142.0 | 221.4 | 253.0 |
| Current Assets | 184.7 | 266.0 | 393.4 |
| Accts Payable | 108.5 | 131.7 | 148.4 |
| Debt Due | 197.0 | 375.1 | 125.2 |
| Other | 53.2 | 81.9 | 87.3 |
| Current Liab. | 358.7 | 588.7 | 360.9 |

**BUSINESS:** California Water Service Group provides regulated and nonregulated water service to 492,600 customers in 100 communities in the state of California. Accounts for about 94% of total customers. Also operates in Washington, New Mexico, and Hawaii. Main service areas: San Francisco Bay area, Sacramento Valley, Salinas Valley, San Joaquin Valley & parts of Los Angeles. Acquired Rio Grande Corp; West Hawaii Utilities (9/08). Revenue breakdown, '20: residential, 70%; business, 18%; industrial, 4%; public authorities, 5%; other 3%. Off. and dir. own 1% of common stock (4/21 proxy). Has 1,184 employees. Pres. and CEO: Martin A. Kropelnicki. Inc.: DE. Addr.: 1720 North First St., San Jose, CA 95112-4598. Tel.: 408-367-8200. Internet: www.calwatergroup.com.

| ANNUAL RATES of change (per sh) | Past 10 Yrs. | Past 5 Yrs. | Est'd '18-'20 to '24-'26 |
|---|---|---|---|
| Revenues | 3.5% | 4.0% | *1.5%* |
| "Cash Flow" | 6.0% | 8.0% | *3.0%* |
| Earnings | 5.0% | 8.0% | *8.5%* |
| Dividends | 3.0% | 4.0% | *6.5%* |
| Book Value | 5.0% | 5.0% | *5.5%* |

| Calendar | QUARTERLY REVENUES ($ mill.) E Mar.31 | Jun.30 | Sep.30 | Dec.31 | Full Year |
|---|---|---|---|---|---|
| 2018 | 134.6 | 174.9 | 221.3 | 167.4 | 698.2 |
| 2019 | 126.1 | 179.0 | 232.6 | 176.9 | 714.6 |
| 2020 | 125.6 | 175.5 | 304.1 | 189.1 | 794.3 |
| 2021 | 147.7 | 213.1 | 256.7 | *202.5* | *820* |
| 2022 | *155* | *215* | *260* | *205* | *835* |

| Calendar | EARNINGS PER SHARE A Mar.31 | Jun.30 | Sep.30 | Dec.31 | Full Year |
|---|---|---|---|---|---|
| 2018 | d.02 | .31 | .75 | .32 | 1.36 |
| 2019 | d.16 | .35 | .88 | .24 | 1.31 |
| 2020 | d.42 | .11 | 1.94 | .31 | 1.97 |
| 2021 | d.06 | .75 | 1.20 | *.41* | *2.30* |
| 2022 | *.10* | *.65* | *1.15* | *.45* | *2.35* |

| Calendar | QUARTERLY DIVIDENDS PAID B ■ Mar.31 | Jun.30 | Sep.30 | Dec.31 | Full Year |
|---|---|---|---|---|---|
| 2018 | .1875 | .1875 | .1875 | .1875 | .75 |
| 2019 | .1975 | .1975 | .1975 | .1975 | .79 |
| 2020 | .2125 | .2125 | .2125 | .2125 | .85 |
| 2021 | .230 | .230 | .230 | .230 | .92 |
| 2022 | | | | | |

**Shares of California Water Service Group have appreciated strongly over the past three months.** The stock is up more than 15% in price since our early-October full-page report, etching a fresh all-time high along the way. A combination of better-than-expected September-period financial results, coupled with a broader shift toward more-conservative, noncyclical assets, likely underpinned the advance. That said, we think the recent run-up in price presents a decent opportunity for committed investors to lock in some profits. In fact, the stock has slipped one spot on our Timeliness ranking scale, to 3, and is now just an Average selection for relative year-ahead price performance.

**Top- and bottom-line expansion may not be as pronounced in 2022 as it was in 2021.** Following a strong profit beat in the third-quarter, which was driven by rate hikes associated with its recent California rate case decision, we are raising our 2021 share-net estimate by $0.25, to $2.30. Thus, California Water probably closed the books on 2021 with revenues and earnings growth of 3% and 17%, respectively. For this year, however, growth may be a bit more muted. Revenues are poised to advance 2%, to $835 million, while earnings may increase only a nickel, to $2.35 per share. It's worth noting that a few one-off benefits recognized in 2021 are factored into our relatively flat bottom-line forecast.

**Robust capital spending on infrastructure upgrades is on tap for the pull to mid-decade.** Most notably, management's strategic investment initiatives include servicing outdated pipelines, watermain replacement projects, treatment plant upgrades, and IT system enhancements. On balance, California Water's annual capital budget is likely to approach $350 million over the next few years.

**Buy-and-hold subscribers should look elsewhere, too.** At the recent quotation, total return potential three to five years hence is unappealing, as the equity is presently trading near the top of our 3- to 5-year Target Price Range. In sum, investors would be wise to defer capital commitments at this juncture.

*Nicholas P. Patrikis* *January 7, 2022*

**(A)** Basic EPS. Excl. nonrecurring gain (loss): '11, 4¢. Next earnings report due early Feb.
**(B)** Dividends historically paid in late Feb., May, Aug., and Nov. ■ Div'd reinvestment plan available.
**(C)** Incl. intangible assets. In '20 : $27.6 mill., $0.55/sh.
**(D)** In millions, adjusted for split.
**(E)** Excludes non-regulated revenues

| | |
|---|---|
| Company's Financial Strength | B++ |
| Stock's Price Stability | 95 |
| Price Growth Persistence | 75 |
| Earnings Predictability | 55 |

# ESSENTIAL UTIL. NYSE-WTRG

RECENT PRICE **52.55** | P/E RATIO **31.5** (Trailing: 32.2 Median: 23.0) | RELATIVE P/E RATIO **1.66** | DIV'D YLD **2.1%** | **VALUE LINE**

**TIMELINESS** 3 Lowered 7/30/21
**SAFETY** 3 Lowered 1/8/21
TECHNICAL 4 Raised 1/7/22
**BETA** .95 (1.00 = Market)

**18-Month Target Price Range**

| Low-High | Midpoint (% to Mid) |
|---|---|
| $45-$80 | $63 (20%) |

**2024-26 PROJECTIONS**

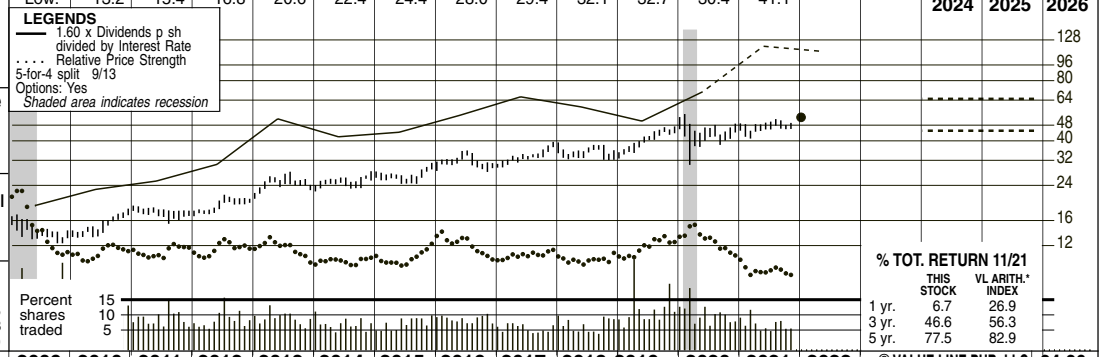
| | Price | Gain | Ann'l Total Return |
|---|---|---|---|
| High | 65 | (+25%) | 7% |
| Low | 45 | (-15%) | -1% |

**Institutional Decisions**

| | 1Q2021 | 2Q2021 | 3Q2021 |
|---|---|---|---|
| to Buy | 258 | 244 | 245 |
| to Sell | 238 | 231 | 223 |
| Hld's(000) | 176001 | 171680 | 174820 |

High: 18.4 19.0 21.5 28.1 28.2 31.1 35.8 39.6 39.4 47.3 54.5 52.7
Low: 13.2 15.4 16.8 20.6 22.4 24.4 28.0 29.4 32.1 32.7 30.4 41.1

LEGENDS
1.60 x Dividends p sh divided by Interest Rate
Relative Price Strength
5-for-4 split 9/13
Options: Yes
*Shaded area indicates recession*




**% TOT. RETURN 11/21**

| | THIS STOCK | VL ARITH.* INDEX |
|---|---|---|
| 1 yr. | 6.7 | 26.9 |
| 3 yr. | 46.6 | 56.3 |
| 5 yr. | 77.5 | 82.9 |

| 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | © VALUE LINE PUB. LLC | 24-26 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3.08 | 3.23 | 3.61 | 3.71 | 3.93 | 4.21 | 4.10 | 4.32 | 4.32 | 4.37 | 4.61 | 4.62 | 4.56 | 4.71 | 4.03 | 5.96 | *7.30* | *8.00* | Revenues per sh | *8.70* |
| .97 | 1.01 | 1.10 | 1.14 | 1.29 | 1.42 | 1.45 | 1.51 | 1.82 | 1.89 | 1.87 | 2.07 | 2.12 | 1.90 | 1.73 | 2.21 | *2.70* | *2.85* | "Cash Flow" per sh | *3.05* |
| .57 | .56 | .57 | .58 | .62 | .72 | .83 | .87 | 1.16 | 1.20 | 1.14 | 1.32 | 1.35 | 1.08 | 1.04 | 1.12 | *1.65* | *1.80* | Earnings per sh [A] | *2.00* |
| .32 | .35 | .38 | .41 | .44 | .47 | .50 | .54 | .58 | .63 | .69 | .74 | .79 | .85 | .91 | .97 | 1.04 | *1.12* | Div'd Decl'd per sh [B]■ | *1.40* |
| 1.47 | 1.64 | 1.43 | 1.58 | 1.66 | 1.89 | 1.90 | 1.98 | 1.73 | 1.84 | 2.07 | 2.16 | 2.69 | 2.78 | 2.49 | 3.41 | *4.00* | *4.00* | Cap'l Spending per sh | *3.75* |
| 5.04 | 5.57 | 5.85 | 6.26 | 6.50 | 6.81 | 7.21 | 7.90 | 8.63 | 9.27 | 9.78 | 10.43 | 11.02 | 11.28 | 17.58 | 19.09 | *20.45* | *21.80* | Book Value per sh | *24.15* |
| 161.21 | 165.41 | 166.75 | 169.21 | 170.61 | 172.46 | 173.60 | 175.43 | 177.93 | 178.59 | 176.54 | 177.39 | 177.71 | 178.09 | 220.76 | 245.39 | *253.00* | *254.50* | Common Shs Outst'g [C] | *270.00* |
| 31.8 | 34.7 | 32.0 | 24.9 | 23.1 | 21.1 | 21.3 | 21.9 | 21.2 | 20.8 | 23.5 | 23.9 | 24.7 | 32.6 | 39.1 | 39.6 | *28.7* | | Avg Ann'l P/E Ratio | *27.0* |
| 1.69 | 1.87 | 1.70 | 1.50 | 1.54 | 1.34 | 1.34 | 1.39 | 1.19 | 1.09 | 1.18 | 1.25 | 1.24 | 1.76 | 2.08 | 2.06 | *1.54* | | Relative P/E Ratio | *1.50* |
| 1.8% | 1.8% | 2.1% | 2.8% | 3.1% | 3.1% | 2.8% | 2.8% | 2.4% | 2.5% | 2.6% | 2.3% | 2.4% | 2.4% | 2.2% | 2.2% | 2.2% | | Avg Ann'l Div'd Yield | *2.8%* |
| | | | | | | 712.0 | 757.8 | 768.6 | 779.9 | 814.2 | 819.9 | 809.5 | 838.1 | 889.7 | 1462.7 | *1850* | *2040* | Revenues ($mill) | *2350* |
| | | | | | | 144.8 | 153.1 | 205.0 | 213.9 | 201.8 | 234.2 | 239.7 | 192.0 | 224.5 | 284.8 | *415* | *455* | Net Profit ($mill) | *540* |
| | | | | | | 32.9% | 39.0% | 10.0% | 10.5% | 6.9% | 8.2% | 6.6% | - - | 6.6% | 6.6% | *3.0%* | *6.0%* | Income Tax Rate | *7.0%* |
| | | | | | | - - | - - | 1.1% | 2.4% | 3.1% | 3.8% | 6.3% | 6.8% | 7.2% | 4.5% | *6.0%* | *7.5%* | AFUDC % to Net Profit | *6.0%* |
| | | | | | | 52.7% | 52.7% | 48.9% | 48.5% | 50.3% | 48.4% | 50.6% | 54.4% | 43.1% | 54.0% | *53.0%* | *56.0%* | Long-Term Debt Ratio | *55.0%* |
| | | | | | | 47.3% | 47.3% | 51.1% | 51.5% | 49.7% | 51.6% | 49.4% | 45.6% | 56.9% | 46.0% | *47.0%* | *44.0%* | Common Equity Ratio | *45.0%* |
| | | | | | | 2646.8 | 2929.7 | 3003.6 | 3216.0 | 3469.5 | 3587.7 | 3965.4 | 4407.8 | 6824.2 | 10192 | *11000* | *12400* | Total Capital ($mill) | *14500* |
| | | | | | | 3612.9 | 3936.2 | 4167.3 | 4402.0 | 4688.9 | 5001.6 | 5399.9 | 5930.3 | 6345.8 | 9512.9 | *10175* | *10875* | Net Plant ($mill) | *12300* |
| | | | | | | 6.9% | 6.6% | 8.0% | 7.8% | 6.9% | 7.6% | 7.1% | 5.5% | 4.2% | 3.7% | *4.5%* | *5.0%* | Return on Total Cap'l | *5.5%* |
| | | | | | | 11.6% | 11.0% | 13.4% | 12.9% | 11.7% | 12.7% | 12.2% | 9.6% | 5.8% | 6.1% | *8.0%* | *8.5%* | Return on Shr. Equity | *8.5%* |
| | | | | | | 11.6% | 11.0% | 13.4% | 12.9% | 11.7% | 12.7% | 12.2% | 9.6% | 5.8% | 6.1% | *8.0%* | *8.5%* | Return on Com Equity | *8.5%* |
| | | | | | | 4.6% | 4.3% | 6.7% | 6.1% | 4.7% | 5.6% | 5.1% | 2.1% | .9% | 1.1% | *3.0%* | *3.0%* | Retained to Com Eq | *3.0%* |
| | | | | | | 60% | 61% | 50% | 52% | 60% | 56% | 59% | 79% | 84% | 82% | *63%* | *62%* | All Div'ds to Net Prof | *70%* |

**CAPITAL STRUCTURE as of 9/30/21**
**Total Debt** $5708.7 mill. **Due in 5 Yrs** $1102 mill.
**LT Debt** $5598.7 mill. **LT Interest** $203.0 mill. (52% of Cap'l)

**Pension Assets-12/20** $426.8 mill. **Oblig.** $486.2 mill.

**Pfd Stock** None
**Common Stock** 252,742,882 shares
**as of 10/22/21**

**MARKET CAP: $13.3 billion (Large Cap)**

| CURRENT POSITION ($MILL.) | 2019 | 2020 | 9/30/21 |
|---|---|---|---|
| Cash Assets | 1868.9 | 4.8 | 9.7 |
| Receivables | 67.1 | 154.8 | 108.2 |
| Inventory (AvgCst) | 18.4 | 58.4 | 113.8 |
| Other | 58.3 | 162.2 | 120.8 |
| Current Assets | 2012.7 | 380.2 | 352.5 |
| Accts Payable | 74.9 | 177.5 | 163.8 |
| Debt Due | 130.8 | 162.6 | 110.0 |
| Other | 113.1 | 263.8 | 242.2 |
| Current Liab. | 318.8 | 603.9 | 516.0 |

| ANNUAL RATES of change (per sh) | Past 10 Yrs. | Past 5 Yrs. | Est'd '18-'20 to '24-'26 |
|---|---|---|---|
| Revenues | 2.0% | 2.0% | *10.0%* |
| "Cash Flow" | 4.5% | 1.0% | *6.5%* |
| Earnings | 5.5% | -1.5% | *10.0%* |
| Dividends | 7.5% | 7.5% | *7.5%* |
| Book Value | 9.5% | 11.5% | *6.5%* |

| Calendar | QUARTERLY REVENUES ($ mill.) Mar.31 | Jun.30 | Sep.30 | Dec.31 | Full Year |
|---|---|---|---|---|---|
| 2018 | 194.3 | 211.9 | 226.2 | 205.7 | 838.1 |
| 2019 | 201.1 | 218.9 | 243.6 | 226.1 | 889.7 |
| 2020 | 255.6 | 384.5 | 348.6 | 474.0 | 1462.7 |
| 2021 | 583.6 | 397.0 | 361.9 | ***507.5*** | ***1850*** |
| 2022 | ***610*** | ***435*** | ***425*** | ***570*** | ***2040*** |

| Calendar | EARNINGS PER SHARE [A] Mar.31 | Jun.30 | Sep.30 | Dec.31 | Full Year |
|---|---|---|---|---|---|
| 2018 | .29 | .37 | .44 | d.02 | 1.08 |
| 2019 | .09 | .25 | .38 | .28 | 1.04 |
| 2020 | .21 | .29 | .22 | .40 | 1.12 |
| 2021 | .72 | .32 | .19 | ***.42*** | ***1.65*** |
| 2022 | ***.73*** | ***.33*** | ***.29*** | ***.45*** | ***1.80*** |

| Calendar | QUARTERLY DIVIDENDS PAID [B] ■ Mar.31 | Jun.30 | Sep.30 | Dec.31 | Full Year |
|---|---|---|---|---|---|
| 2018 | .2047 | .2047 | .219 | .219 | .85 |
| 2019 | .219 | .219 | .2343 | .2343 | .91 |
| 2020 | .2343 | .2343 | .2507 | .2507 | .97 |
| 2021 | .2507 | .2507 | .2682 | .2682 | |
| 2022 | | | | | |

**BUSINESS:** Essential Utilities, Inc. became the new name for Aqua America on Feb. 3, 2020, to reflect the acquisition of Peoples, a natural gas utility, which occurred in 3/20. In 2020, Aqua Amer. provided water and wastewater services to about 5 million people in PA, OH, TX, IL, NC, NJ, IN, VA NS WS. Employed 3,180 Acquired AquaSource, 7/13; North Maine Utilities, 7/15; and others. Water respn. for 65% of revenues in 2020; residential, 39%; commercial, 10%; industrial, wastewater & other, 16%. Gas 35%. Off. & dir. own less than 1% of the common stock; Vanguard, 10.1%; BlackRock, 10.0%; Canadian Pension Plan about 8.8% (5/21 proxy). Pres. & CEO: Christopher Franklin. Inc.: PA Addr.: 762 W Lancaster Ave., Bryn Mawr, PA 19010. Tel.: 610-525-1400. Int.: www.essential.co.

**Essential Utilities probably finished 2021 in decent shape.** In the third quarter, net income came in less than was expected due to damage done by Hurricane Ida and a surprise rise in payroll costs. Nevertheless, we think the water and gas utility will post share earnings of $1.65 this year, significantly above the $1.12 figure posted in 2020. For 2022, we think a 9% rise to $1.80 is very obtainable. The good showing would be the result of fewer expenses related to the 2020 Peoples Gas merger and some rate relief.

**A major rate case is pending in Pennsylvania.** A water subsidiary of Essential (Aqua Pennsylvania) filed a petition last summer seeking to recover approximately $1.1 billion in funds it has spent on replacing aging pipelines and upgrading other assets. Should the utility be granted its full request, bills of customers in the service area could increase by 17% for water use and almost double that for wastewater. Though these rate hikes would raise residents' monthly payments, the investment was required to improve the company's water infrastructure. We don't expect a decision to be made until midyear, at the earliest.

**Expansion of the rate base also continues to generate profit growth.** Much like American Water Works, Essential has taken advantage of the fragmented industry to make many acquisitions. With over 50,000 individual water districts in the U.S., there is quite a bit of inefficiency in the group. By absorbing smaller entities, Essential can provide the needed capital to modernize facilities while also cutting expenses meaningfully. In 2021 alone, the company's closed and pending transactions totaled over $500 million. The largest is the $277 million purchase of DELCORA, a wastewater facility (currently being contested). When all of the deals are completed, Essential's customer base will increase by over 240,000.

**Shares of the stock have done well over the past three months.** The value of the equity has climbed 11% since our last report in October. As a result, the stock's year-ahead Timeliness rank has dropped one notch to 3 (Average). Over the pull to 2024-2026, long-term total rerun potential is also not enticing.

*James A. Flood* *January 7, 2022*

**(A)** Diluted egs. Excl. nonrec. gains: '12, 18¢. Excl. gain from disc. operations: '12, 7¢; '13, 9¢; '14, 11¢. Quarterly EPS do not add in '19 due to a large change in the number of shares outstanding in the Dec. period. Next earnings report early February. **(B)** Dividends historically paid in early March, June, Sept., & Dec. ■ Div'd. reinvestment plan available (5% discount). **(C)** In millions, adjusted for stock splits. **(D)** Includes intangibles: 9/30/21, $2.396 bill./$9.48 a share.

| | |
|---|---|
| **Company's Financial Strength** | B+ |
| **Stock's Price Stability** | 90 |
| **Price Growth Persistence** | 65 |
| **Earnings Predictability** | 60 |

# MIDDLESEX WATER NDQ-MSEX

RECENT PRICE 113.69 | P/E RATIO 50.8 (Trailing: 53.4 Median: 23.0) | RELATIVE P/E RATIO 2.67 | DIV'D YLD 1.0% | VALUE LINE

TIMELINESS 3 Lowered 6/4/21
SAFETY 2 New 10/21/11
TECHNICAL 4 Lowered 12/17/21
BETA .70 (1.00 = Market)

**18-Month Target Price Range**

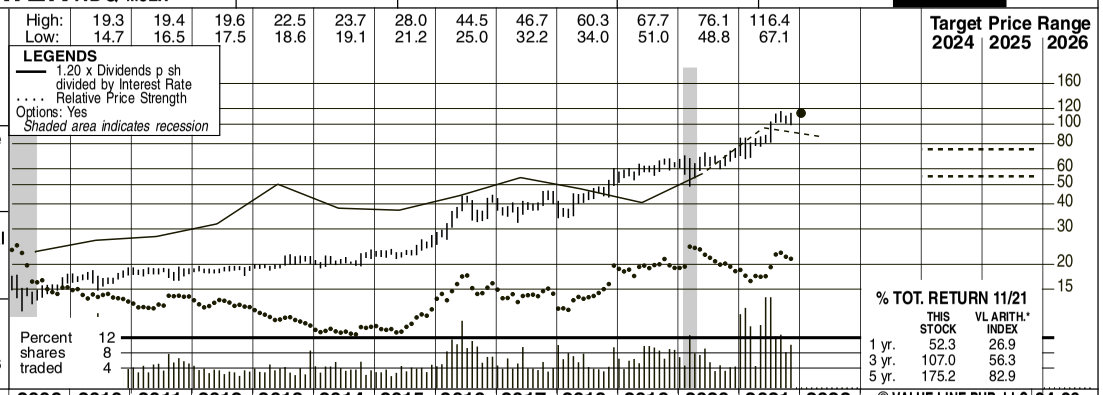
| Low-High | Midpoint (% to Mid) |
|---|---|
| $69-$133 | $101 (-10%) |

**2024-26 PROJECTIONS**

| | Price | Gain | Ann'l Total Return |
|---|---|---|---|
| High | 75 | (-35%) | -8% |
| Low | 55 | (-50%) | -15% |

**Institutional Decisions**

| | 1Q2021 | 2Q2021 | 3Q2021 |
|---|---|---|---|
| to Buy | 64 | 71 | 101 |
| to Sell | 67 | 65 | 66 |
| Hld's(000) | 10712 | 10852 | 12996 |




| 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | © VALUE LINE PUB. LLC | 24-26 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6.44 | 6.16 | 6.50 | 6.79 | 6.75 | 6.60 | 6.50 | 6.98 | 7.19 | 7.26 | 7.77 | 8.16 | 8.00 | 8.42 | 7.72 | 8.10 | *8.30* | *8.45* | Revenues per sh | *9.15* |
| 1.33 | 1.33 | 1.49 | 1.53 | 1.40 | 1.55 | 1.46 | 1.56 | 1.72 | 1.84 | 1.97 | 2.17 | 2.24 | 2.89 | 2.90 | 3.25 | *3.10* | *3.30* | "Cash Flow" per sh | *3.75* |
| .71 | .82 | .87 | .89 | .72 | .96 | .84 | .90 | 1.03 | 1.13 | 1.22 | 1.38 | 1.38 | 1.96 | 2.01 | 2.18 | *2.20* | *2.35* | Earnings per sh A | *2.75* |
| .67 | .68 | .69 | .70 | .71 | .72 | .73 | .74 | .75 | .76 | .78 | .81 | .86 | .91 | .98 | 1.04 | 1.11 | *1.18* | Div'd Decl'd per sh B■ | *1.35* |
| 2.18 | 2.31 | 1.66 | 2.12 | 1.49 | 1.90 | 1.50 | 1.36 | 1.26 | 1.40 | 1.59 | 2.91 | 3.08 | 4.40 | 5.11 | 6.04 | *5.50* | *5.50* | Cap'l Spending per sh | *6.25* |
| 8.26 | 9.52 | 10.05 | 10.03 | 10.33 | 11.13 | 11.27 | 11.48 | 11.82 | 12.24 | 12.74 | 13.40 | 14.02 | 15.17 | 18.57 | 19.81 | *20.85* | *21.15* | Book Value per sh | *22.20* |
| 11.58 | 13.17 | 13.25 | 13.40 | 13.52 | 15.57 | 15.70 | 15.82 | 15.96 | 16.12 | 16.23 | 16.30 | 16.35 | 16.40 | 17.43 | 17.47 | *17.50* | *17.75* | Common Shs Outst'g C | *18.00* |
| 27.4 | 22.7 | 21.6 | 19.8 | 21.0 | 17.8 | 21.7 | 20.8 | 19.7 | 18.5 | 19.1 | 25.6 | 28.4 | 22.2 | 29.7 | 30.1 | *41.7* | | Avg Ann'l P/E Ratio | *24.0* |
| 1.46 | 1.23 | 1.15 | 1.19 | 1.40 | 1.13 | 1.36 | 1.32 | 1.11 | .97 | .96 | 1.34 | 1.43 | 1.20 | 1.58 | 1.56 | *2.24* | | Relative P/E Ratio | *1.30* |
| 3.5% | 3.7% | 3.7% | 4.0% | 4.7% | 4.2% | 4.0% | 4.0% | 3.7% | 3.7% | 3.3% | 2.3% | 2.2% | 2.1% | 1.6% | 1.6% | 1.2% | | Avg Ann'l Div'd Yield | *2.1%* |
| | | | | | | 102.1 | 110.4 | 114.8 | 117.1 | 126.0 | 132.9 | 130.8 | 138.1 | 134.6 | 141.6 | *145* | *150* | Revenues ($mill) | *165* |
| | | | | | | 13.4 | 14.4 | 16.6 | 18.4 | 20.0 | 22.7 | 22.8 | 32.5 | 33.9 | 38.4 | *39.0* | *42.0* | Net Profit ($mill) | *49.5* |
| | | | | | | 32.7% | 33.9% | 34.1% | 35.0% | 34.5% | 34.0% | 32.7% | 2.8% | 2.8% | 2.8% | *21.0%* | *21.0%* | Income Tax Rate | *21.0%* |
| | | | | | | 6.1% | 3.4% | 1.9% | 1.7% | 1.9% | 2.7% | 3.1% | 1.4% | 3.4% | 3.9% | *2.5%* | *2.5%* | AFUDC % to Net Profit | *2.5%* |
| | | | | | | 42.3% | 41.5% | 40.4% | 40.5% | 39.4% | 37.9% | 37.5% | 37.8% | 41.5% | 44.0% | *42.0%* | *40.5%* | Long-Term Debt Ratio | *38.5%* |
| | | | | | | 56.6% | 57.4% | 58.7% | 58.8% | 59.8% | 61.5% | 61.8% | 61.6% | 58.2% | 55.7% | *57.5%* | *59.5%* | Common Equity Ratio | *61.5%* |
| | | | | | | 312.5 | 316.5 | 321.4 | 335.8 | 345.4 | 355.4 | 370.7 | 404.1 | 556.7 | 621.5 | *630* | *630* | Total Capital ($mill) | *655* |
| | | | | | | 422.2 | 435.2 | 446.5 | 465.4 | 481.9 | 517.8 | 557.2 | 618.5 | 705.7 | 796.6 | *865* | *875* | Net Plant ($mill) | *900* |
| | | | | | | 5.2% | 5.4% | 5.9% | 6.3% | 6.6% | 7.1% | 6.9% | 8.9% | 6.7% | 6.8% | *6.5%* | *7.0%* | Return on Total Cap'l | *8.0%* |
| | | | | | | 7.5% | 7.8% | 8.7% | 9.2% | 9.6% | 10.3% | 9.8% | 12.9% | 10.4% | 11.0% | *10.5%* | *11.0%* | Return on Shr. Equity | *12.5%* |
| | | | | | | 7.5% | 7.8% | 8.7% | 9.3% | 9.6% | 10.3% | 9.9% | 13.0% | 10.4% | 11.1% | *10.5%* | *11.0%* | Return on Com Equity | *12.5%* |
| | | | | | | 1.0% | 1.4% | 2.4% | 3.1% | 3.5% | 4.3% | 3.8% | 7.0% | 5.4% | 5.8% | *5.0%* | *5.5%* | Retained to Com Eq | *6.5%* |
| | | | | | | 87% | 83% | 73% | 67% | 63% | 58% | 62% | 46% | 48% | 48% | *50%* | *50%* | All Div'ds to Net Prof | *49%* |

**CAPITAL STRUCTURE as of 9/30/21**
**Total Debt** $273.3 mill. **Due in 5 Yrs** $43.7 mill.
**LT Debt** $266.5 mill. **LT Interest** $7.5 mill.
(Total interest coverage: 8.0x)
(43% of Cap'l)

**Pension Assets-12/20** $88.9 mill.
**Oblig.** $115.9 mill.
**Pfd Stock** $2.4 mill. **Pfd Div'd:** $.1 mill.

**Common Stock** 17,497,015 shs.
**as of 10/29/21**

**MARKET CAP: $2.0 billion (Mid Cap)**

| CURRENT POSITION ($MILL.) | 2019 | 2020 | 9/30/21 |
|---|---|---|---|
| Cash Assets | 2.2 | 4.5 | 5.3 |
| Other | 26.9 | 29.6 | 35.3 |
| Current Assets | 29.1 | 34.1 | 40.6 |
| Accts Payable | 23.3 | 30.4 | 17.3 |
| Debt Due | 27.2 | 9.3 | 6.8 |
| Other | 14.5 | 17.1 | 68.4 |
| Current Liab. | 65.0 | 56.8 | 92.5 |

| ANNUAL RATES of change (per sh) | Past 10 Yrs. | Past 5 Yrs. | Est'd '18-'20 to '24-'26 |
|---|---|---|---|
| Revenues | 2.0% | 2.0% | *2.0%* |
| "Cash Flow" | 7.5% | 10.5% | *3.5%* |
| Earnings | 9.0% | 12.5% | *5.0%* |
| Dividends | 3.0% | 5.0% | *5.5%* |
| Book Value | 5.5% | 8.0% | *3.5%* |

| Calendar | QUARTERLY REVENUES ($ mill.) Mar.31 | Jun. 30 | Sep. 30 | Dec. 31 | Full Year |
|---|---|---|---|---|---|
| 2018 | 31.2 | 34.9 | 38.7 | 33.3 | 138.1 |
| 2019 | 30.7 | 33.4 | 37.8 | 32.7 | 134.6 |
| 2020 | 31.8 | 35.3 | 39.9 | 34.6 | 141.6 |
| 2021 | 32.5 | 36.7 | 39.9 | *35.9* | *145* |
| 2022 | *34.0* | *38.0* | *41.0* | *37.0* | *150* |

| Calendar | EARNINGS PER SHARE A Mar.31 | Jun. 30 | Sep. 30 | Dec. 31 | Full Year |
|---|---|---|---|---|---|
| 2018 | .27 | .52 | .74 | .43 | 1.96 |
| 2019 | .39 | .49 | .66 | .46 | 2.01 |
| 2020 | .44 | .55 | .72 | .47 | 2.18 |
| 2021 | .39 | .62 | .65 | *.54* | *2.20* |
| 2022 | *.47* | *.58* | *.75* | *.55* | *2.35* |

| Calendar | QUARTERLY DIVIDENDS PAID B■ Mar.31 | Jun.30 | Sep.30 | Dec.31 | Full Year |
|---|---|---|---|---|---|
| 2018 | .22375 | .22375 | .22375 | .24 | .91 |
| 2019 | .24 | .24 | .24 | .2562 | .98 |
| 2020 | .2562 | .2562 | .2562 | .2725 | 1.04 |
| 2021 | .2725 | .2725 | .2725 | .290 | |
| 2022 | | | | | |

**BUSINESS:** Middlesex Water Company engages in the ownership and operation of regulated water utility systems in New Jersey, Delaware, and Pennsylvania. It also operates water and wastewater systems under contract on behalf of municipal and private clients in NJ and DE. Its Middlesex System provides water services to 61,000 retail customers, primarily in Middlesex County, New Jersey. In 2020, the Middlesex System accounted for 59% of operating revenues. At 12/31/20, the company had 348 employees. Incorporated: NJ. President, CEO, and Chairman: Dennis W. Doll. Officers & directors own 2.0% of the com. stock; BlackRock Inst. Trust Co., 7.8% (4/21 proxy). Add.: 485 C Route 1 South, Suite 400, Iselin, NJ 08830. Tel.: 732-634-1500. Int.: www.middlesexwater.com.

**The investment community continues to hold Middlesex Water stock in high regard.** Shares of the regulated water utility have risen 8% in value since our full-page report in early October, propelling the equity back to all-time high territory. Sustained market support can most aptly be linked to an increased adoption of a flight-to-safety investment strategy, as Middlesex's third-quarter financial showing was relatively unimpressive. On balance, the recent valuation gives us pause. To that end, we think the stock may encounter a bit of resistance around the $115 price point.

**Profit growth was probably modest in 2021, but should improve this year.** Subsequent to weaker-than-expected earnings of $0.65 per share in the September period, we are shaving a dime from our full-year 2021 forecast, to $2.20 per share. Higher operating expenses, namely labor and production costs, as well as flat revenues, on a year-over-year basis, weighed on the result. Nevertheless, we think net income can expand 7% this year, to $2.35 per share, supported by decent organic revenue growth, increased stability in the labor market, and prospects for a healthier economic backdrop.

**The board of directors lifted its quarterly dividend payout 6%, to $0.29 per share.** While the raise is encouraging, the current yield is hovering around 1.0%, which is significantly lower than the broader market, as well as the stock's historical average annual return.

**Spending on infrastructure upgrades ought to remain a key long-term objective.** Specifically, replacing aging pipelines and undertaking projects to secure water distribution and treatment facilities are likely. This suggests further rate hikes (management has a request currently pending with New Jersey regulators) are probable down the road.

**The equity lacks investment appeal, at present.** Middlesex stock is neutrally ranked for relative year-ahead price performance (Timeliness: 3). Looking at the 18-month and 3- to 5-year time horizons, nearly all of the growth we envision appears to already be factored into the recent quotation, despite considerably boosting our price-to-earnings multiple.

*Nicholas P. Patrikis* *January 7, 2022*

**(A)** Diluted earnings. Next earnings report due early February.

**(B)** Dividends historically paid in mid-Feb., May, Aug., and November.■ Div'd reinvestment plan available.

**(C)** In millions.

| | |
|---|---|
| Company's Financial Strength | B++ |
| Stock's Price Stability | 85 |
| Price Growth Persistence | 75 |
| Earnings Predictability | 85 |

# SJW GROUP NYSE-SJW

RECENT PRICE 70.57 | P/E RATIO 34.1 (Trailing: 37.5 Median: 21.0) | RELATIVE P/E RATIO 1.79 | DIV'D YLD 1.9% | VALUE LINE

TIMELINESS 4 Lowered 8/13/21
SAFETY 3 New 4/22/11
TECHNICAL 3 Lowered 12/17/21
BETA .80 (1.00 = Market)

**18-Month Target Price Range**

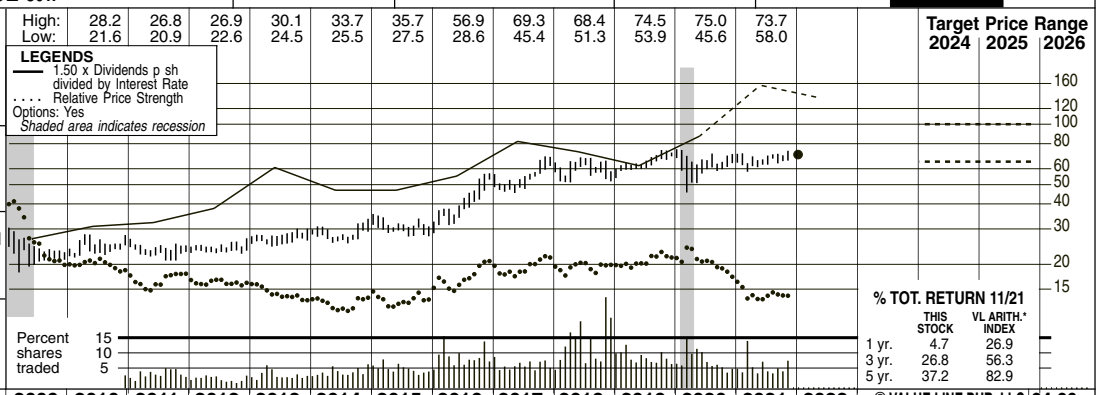
| Low-High | Midpoint (% to Mid) |
|---|---|
| $59-$105 | $82 (15%) |

**2024-26 PROJECTIONS**

| | Price | Gain | Ann'l Total Return |
|---|---|---|---|
| High | 100 | (+40%) | *11%* |
| Low | 65 | (-10%) | *Nil* |

**Institutional Decisions**

| | 1Q2021 | 2Q2021 | 3Q2021 |
|---|---|---|---|
| to Buy | 87 | 81 | 81 |
| to Sell | 73 | 64 | 53 |
| Hld's(000) | 20963 | 21472 | 22567 |




**% TOT. RETURN 11/21**

| | THIS STOCK | VL ARITH.* INDEX |
|---|---|---|
| 1 yr. | 4.7 | 26.9 |
| 3 yr. | 26.8 | 56.3 |
| 5 yr. | 37.2 | 82.9 |

| 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | © VALUE LINE PUB. LLC | 24-26 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9.86 | 10.35 | 11.25 | 12.12 | 11.68 | 11.62 | 12.85 | 14.01 | 13.73 | 15.76 | 14.97 | 16.61 | 18.97 | 14.00 | 14.78 | 19.77 | *19.35* | *20.15* | Revenues per sh | *22.15* |
| 2.21 | 2.38 | 2.30 | 2.44 | 2.21 | 2.38 | 2.80 | 2.97 | 2.90 | 4.42 | 3.86 | 4.76 | 5.24 | 3.29 | 3.67 | 5.28 | *3.55* | *4.15* | "Cash Flow" per sh | *5.30* |
| 1.12 | 1.19 | 1.04 | 1.08 | .81 | .84 | 1.11 | 1.18 | 1.12 | 2.54 | 1.85 | 2.57 | 2.86 | 1.82 | 1.35 | 2.14 | *1.90* | *2.50* | Earnings per sh [A] | *3.65* |
| .53 | .57 | .61 | .65 | .66 | .68 | .69 | .71 | .73 | .75 | .78 | .81 | 1.04 | 1.12 | 1.20 | 1.28 | 1.36 | *1.44* | Div'd Decl'd per sh [B]■ | *1.72* |
| 2.83 | 3.87 | 6.62 | 3.79 | 3.17 | 5.65 | 3.75 | 5.67 | 4.68 | 5.02 | 5.24 | 6.95 | 7.26 | 5.08 | 6.25 | 7.44 | *6.75* | *7.00* | Cap'l Spending per sh | *7.50* |
| 10.72 | 12.48 | 12.90 | 13.99 | 13.66 | 13.75 | 14.20 | 14.71 | 15.92 | 17.75 | 18.83 | 20.61 | 22.57 | 31.31 | 31.27 | 32.12 | *35.00* | *36.65* | Book Value per sh | *40.85* |
| 18.27 | 18.28 | 18.36 | 18.18 | 18.50 | 18.55 | 18.59 | 18.67 | 20.17 | 20.29 | 20.38 | 20.46 | 20.52 | 28.40 | 28.46 | 28.56 | *30.00* | *30.00* | Common Shs Outst'g [C] | *30.00* |
| 19.7 | 23.5 | 33.4 | 26.2 | 28.7 | 29.1 | 21.2 | 20.4 | 24.3 | 11.2 | 16.6 | 15.7 | 18.8 | 32.7 | 47.8 | 30.0 | *35.2* | | Avg Ann'l P/E Ratio | *23.0* |
| 1.05 | 1.27 | 1.77 | 1.58 | 1.91 | 1.85 | 1.33 | 1.30 | 1.37 | .59 | .84 | .82 | .95 | 1.77 | 2.55 | 1.56 | *1.89* | | Relative P/E Ratio | *1.30* |
| 2.4% | 2.0% | 1.7% | 2.3% | 2.8% | 2.8% | 2.9% | 3.0% | 2.7% | 2.6% | 2.5% | 2.0% | 1.9% | 1.9% | 1.9% | 2.0% | 2.0% | | Avg Ann'l Div'd Yield | *2.1%* |
| 239.0 | 261.5 | 276.9 | 319.7 | 305.1 | 339.7 | 389.2 | 397.7 | 420.5 | 564.5 | *580* | *605* | Revenues ($mill) | *665* |
| 20.9 | 22.3 | 23.5 | 51.8 | 37.9 | 52.8 | 59.2 | 38.8 | 38.7 | 61.5 | *57.0* | *75.0* | Net Profit ($mill) | *110* |
| 41.1% | 41.1% | 38.7% | 32.5% | 38.1% | 38.8% | 36.7% | 20.6% | 25.3% | 12.0% | *21.0%* | *21.5%* | Income Tax Rate | *21.0%* |
| -- | -- | -- | -- | -- | -- | -- | -- | 2.0% | 1.5% | *1.5%* | *1.5%* | AFUDC % to Net Profit | *1.5%* |
| 56.6% | 55.0% | 51.1% | 51.6% | 49.8% | 50.7% | 48.2% | 32.7% | 59.1% | 58.4% | *57.0%* | *53.0%* | Long-Term Debt Ratio | *38.0%* |
| 43.4% | 45.0% | 48.9% | 48.4% | 50.2% | 49.3% | 51.8% | 67.3% | 40.9% | 41.6% | *43.0%* | *47.0%* | Common Equity Ratio | *62.0%* |
| 607.9 | 610.2 | 656.2 | 744.5 | 764.6 | 855.0 | 894.3 | 1320.7 | 2173.6 | 2204.7 | *2450* | *2350* | Total Capital ($mill) | *1975* |
| 756.2 | 831.6 | 898.7 | 963.0 | 1036.8 | 1146.4 | 1239.3 | 1328.8 | 2206.5 | 2334.9 | *2450* | *2565* | Net Plant ($mill) | *2775* |
| 4.9% | 5.0% | 5.0% | 8.3% | 6.3% | 7.4% | 7.9% | 3.9% | 2.5% | 4.0% | *3.0%* | *3.5%* | Return on Total Cap'l | *6.0%* |
| 7.9% | 8.1% | 7.3% | 14.4% | 9.9% | 12.5% | 12.8% | 4.4% | 4.3% | 6.7% | *5.5%* | *7.0%* | Return on Shr. Equity | *9.0%* |
| 7.9% | 8.1% | 7.3% | 14.4% | 9.9% | 12.5% | 12.8% | 4.4% | 4.3% | 6.7% | *5.5%* | *7.0%* | Return on Com Equity | *9.0%* |
| 3.1% | 3.3% | 2.8% | 10.2% | 5.7% | 8.6% | 8.2% | 1.8% | .5% | 2.7% | *1.5%* | *3.0%* | Retained to Com Eq | *4.5%* |
| 61% | 59% | 62% | 29% | 42% | 31% | 36% | 60% | 88% | 59% | *72%* | *58%* | All Div'ds to Net Prof | *47%* |

**CAPITAL STRUCTURE as of 9/30/21**
**Total Debt** $1446.3 mill. **Due in 5 Yrs** $22.4 mill.
**LT Debt** $1420.0 mill. **LT Interest** $50.0 mill.
(LT Interest Coverage: 3.7x)
(59% of Cap'l)

**Pension Assets-12/20** $278.1 mill.
**Oblig.** $386.1 mill.
**Pfd Stock** None.
**Common Stock** 29,882,182 shs.

**MARKET CAP: $2.1 billion (Mid Cap)**

| CURRENT POSITION ($MILL.) | 2019 | 2020 | 9/30/21 |
|---|---|---|---|
| Cash Assets | 17.9 | 9.3 | 16.2 |
| Accts Receivable | 36.3 | 58.1 | 65.2 |
| Other | 67.8 | 59.9 | 74.1 |
| Current Assets | 122.0 | 127.3 | 155.5 |
| Accts Payable | 34.9 | 34.2 | 37.4 |
| Debt Due | 22.3 | 76.2 | 26.3 |
| Other | 177.4 | 240.4 | 203.6 |
| Current Liab. | 234.6 | 350.8 | 267.3 |

| ANNUAL RATES of change (per sh) | Past 10 Yrs. | Past 5 Yrs. | Est'd '18-'20 to '24-'26 |
|---|---|---|---|
| Revenues | 3.0% | 2.0% | *5.5%* |
| "Cash Flow" | 5.5% | 2.0% | *5.5%* |
| Earnings | 7.0% | -.5% | *15.0%* |
| Dividends | 6.0% | 10.0% | *6.0%* |
| Book Value | 8.5% | 12.5% | *4.5%* |

| Calendar | QUARTERLY REVENUES ($ mill.) Mar.31 | Jun. 30 | Sep. 30 | Dec. 31 | Full Year |
|---|---|---|---|---|---|
| 2018 | 75.0 | 99.1 | 124.9 | 98.7 | 397.7 |
| 2019 | 77.7 | 103.0 | 114.0 | 126.0 | 420.5 |
| 2020 | 115.8 | 147.2 | 165.9 | 135.6 | 564.5 |
| 2021 | 114.8 | 152.2 | 166.9 | *146.1* | *580* |
| 2022 | *125* | *155* | *175* | *150* | *605* |

| Calendar | EARNINGS PER SHARE [A] Mar.31 | Jun. 30 | Sep. 30 | Dec. 31 | Full Year |
|---|---|---|---|---|---|
| 2018 | .06 | .62 | .76 | .38 | 1.82 |
| 2019 | .21 | .47 | .33 | .34 | 1.35 |
| 2020 | .08 | .69 | .91 | .46 | 2.14 |
| 2021 | .09 | .69 | .64 | *.48* | *1.90* |
| 2022 | *.18* | *.77* | *.90* | *.65* | *2.50* |

| Calendar | QUARTERLY DIVIDENDS PAID [B]■ Mar.31 | Jun.30 | Sep.30 | Dec.31 | Full Year |
|---|---|---|---|---|---|
| 2018 | .28 | .28 | .28 | .28 | 1.12 |
| 2019 | .30 | .30 | .30 | .30 | 1.20 |
| 2020 | .32 | .32 | .32 | .32 | 1.28 |
| 2021 | .34 | .34 | .34 | .34 | 1.36 |
| 2022 | | | | | |

**BUSINESS:** SJW Group engages in the production, purchase, storage, purification, distribution, and retail sale of water. It provides water service to approximately 231,000 connections with a total population of roughly one million people in the San Jose area and 16,000 connections that reach about 49,000 residents in the region between San Antonio and Austin, Texas. The company merged with Connecticut Water (10/19) which provides service to approx. 138,000 connections with a total population of 450,000 people. Has 361 employees. Officers and directors own 8.3% of outstanding shares (3/21 proxy). Chairman & CEO: Eric Thornburg. Incorporated: California. Address: 110 West Taylor Street, San Jose, CA 95110. Telephone: (408) 279-7800. Internet: www.sjwater.com.

**SJW Group delivered softer-than-anticipated third-quarter results.** The regulated water operator generated revenues of $167 million, roughly matching the previous-year haul and missing our mark by about $8 million. Likewise, earnings of $0.64 per share for the September period came in well short of consensus estimates, contracting notably on both an annual and sequential basis. Higher production costs, administrative fees, and maintenance expenses weighed on the bottom line, while a year-over-year decline in customer usage kept a lid on revenue growth. All things considered, we now think SJW finished 2021 with revenues of $580 million (down $10 million from our previous call) and share net of $1.90 (down $0.30).

**The stock has risen modestly in price over the past three months, but continues to trade in a relatively tight range.** Shares of SJW have ping-ponged between $60 and $70 for much of 2021 and are essentially flat for the year, in comparison to the S&P 500 Index's +20% return over the same time frame. At this juncture, the equity is unfavorably ranked for relative year-ahead price performance (Timeliness: 4) and, thus, probably won't appeal to subscribers with a short-term horizon.

**An asset acquisition has recently been tabbed.** The company's Texas subsidiary, Canyon Lake Water Service Company, completed its purchase of Kendall West and Bandera East water and wastewater utilities. Overall, the transaction likely added around 1,600 service connections and over 4,000 customers in the high-growth region.

**Long-term operating prospects should hold up well.** In addition to a potentially healthier economic backdrop, increased water consumption, and a wider customer base, SJW has several rate hike requests pending with regulators in California, Connecticut, and Maine and, if approved, should provide a moderate top-line boost.

**Even so, investors with a 3- to 5-year holding period would be wise to defer capital allocations at the recent quotation.** Total return potential over the pull to mid-decade is unenticing, despite the stock's slightly above-average dividend yield.

*Nicholas P. Patrikis* *January 7, 2022*

**(A)** Diluted earnings. Excludes nonrecurring losses: '05, $1.09; '06, $16.36; '08, $1.22; '10, $0.46. GAAP accounting as of 2013. Next earnings report due early February. Quarterly egs. may not add due to rounding.
**(B)** Dividends historically paid in early March, June, September, and December. ■ Div'd reinvestment plan available.
**(C)** In millions.
**(D)** Paid special dividend of $0.17 per share on 11/17.
**(E)** Suspended due to recent CTWS merger.

| | |
|---|---|
| Company's Financial Strength | B+ |
| Stock's Price Stability | 80 |
| Price Growth Persistence | 70 |
| Earnings Predictability | 45 |

# YORK WATER NDQ-YORW

RECENT PRICE **48.66** | P/E RATIO **35.3** (Trailing: 38.3 Median: 28.0) | RELATIVE P/E RATIO **1.86** | DIV'D YLD **1.6%** | **VALUE LINE**

**TIMELINESS** 3 Lowered 1/15/21
**SAFETY** 3 Lowered 7/17/15
TECHNICAL 3 Raised 11/26/21
**BETA** .85 (1.00 = Market)

**18-Month Target Price Range**

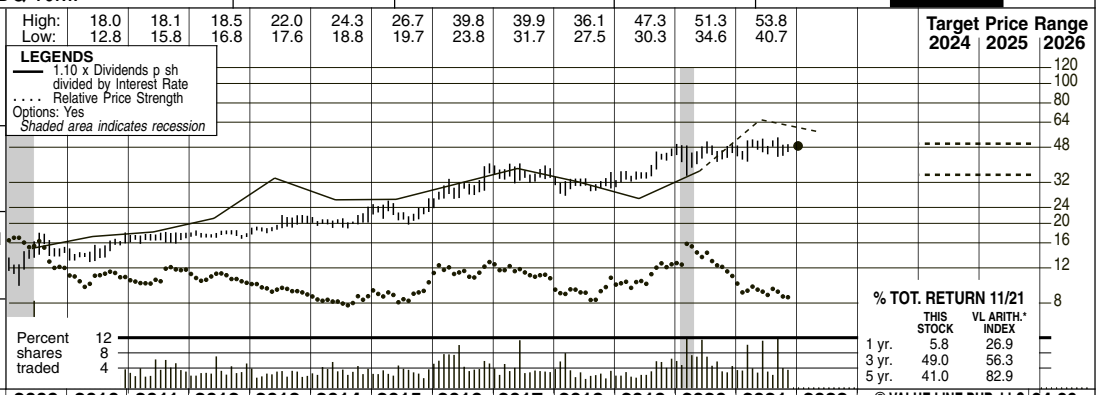
| Low-High | Midpoint (% to Mid) |
|---|---|
| $39-$70 | $55 (10%) |

**2024-26 PROJECTIONS**

| | Price | Gain | Ann'l Total Return |
|---|---|---|---|
| High | 50 | (+5%) | *2%* |
| Low | 35 | (-30%) | *-6%* |

**Institutional Decisions**

| | 1Q2021 | 2Q2021 | 3Q2021 |
|---|---|---|---|
| to Buy | 38 | 51 | 51 |
| to Sell | 56 | 43 | 39 |
| Hld's(000) | 5518 | 5416 | 5241 |




| 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | © VALUE LINE PUB. LLC | 24-26 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.58 | 2.56 | 2.79 | 2.89 | 2.95 | 3.07 | 3.18 | 3.21 | 3.27 | 3.58 | 3.68 | 3.70 | 3.77 | 3.74 | 3.96 | 4.12 | ***4.25*** | ***4.40*** | Revenues per sh | ***5.10*** |
| .79 | .77 | .86 | .88 | .95 | 1.07 | 1.09 | 1.12 | 1.19 | 1.36 | 1.45 | 1.42 | 1.53 | 1.58 | 1.70 | 1.90 | ***1.95*** | ***2.10*** | "Cash Flow" per sh | ***2.45*** |
| .56 | .58 | .57 | .57 | .64 | .71 | .71 | .72 | .75 | .89 | .97 | .92 | 1.01 | 1.04 | 1.11 | 1.27 | ***1.35*** | ***1.40*** | Earnings per sh [A] | ***1.65*** |
| .42 | .45 | .48 | .49 | .51 | .52 | .53 | .54 | .55 | .57 | .60 | .63 | .65 | .67 | .70 | .73 | .76 | ***.79*** | Div'd Decl'd per sh [B] | ***1.00*** |
| 1.69 | 1.85 | 1.69 | 2.17 | 1.18 | .83 | .74 | .94 | .76 | 1.10 | 1.11 | 1.03 | 1.95 | - - | .16 | .09 | ***1.35*** | ***1.45*** | Cap'l Spending per sh | ***1.85*** |
| 4.85 | 5.84 | 5.97 | 6.14 | 6.92 | 7.19 | 7.45 | 7.73 | 7.98 | 8.15 | 8.51 | 8.88 | 9.28 | 9.75 | 10.31 | 10.97 | ***11.55*** | ***11.90*** | Book Value per sh | ***12.90*** |
| 10.40 | 11.20 | 11.27 | 11.37 | 12.56 | 12.69 | 12.79 | 12.92 | 12.98 | 12.83 | 12.81 | 12.85 | 12.87 | 12.94 | 13.02 | 13.06 | ***13.00*** | ***13.00*** | Common Shs Outst'g [C] | ***12.80*** |
| 26.3 | 31.2 | 30.3 | 24.6 | 21.9 | 20.7 | 23.9 | 24.4 | 26.3 | 23.1 | 23.5 | 32.8 | 34.6 | 30.3 | 33.8 | 35.7 | ***35.4*** | | Avg Ann'l P/E Ratio | ***25.0*** |
| 1.40 | 1.68 | 1.61 | 1.48 | 1.46 | 1.32 | 1.50 | 1.55 | 1.48 | 1.22 | 1.18 | 1.72 | 1.74 | 1.64 | 1.80 | 1.83 | ***1.90*** | | Relative P/E Ratio | ***1.40*** |
| 2.9% | 2.5% | 2.8% | 3.5% | 3.6% | 3.5% | 3.1% | 3.1% | 2.8% | 2.8% | 2.6% | 2.1% | 1.9% | 2.1% | 1.9% | 1.6% | ***1.6%*** | | Avg Ann'l Div'd Yield | ***2.4%*** |
| | | | | | | 40.6 | 41.4 | 42.4 | 45.9 | 47.1 | 47.6 | 48.6 | 48.4 | 51.6 | 53.9 | ***55.0*** | ***57.0*** | Revenues ($mill) | ***65.0*** |
| | | | | | | 9.1 | 9.3 | 9.7 | 11.5 | 12.5 | 11.8 | 13.0 | 13.4 | 14.4 | 16.6 | ***17.5*** | ***18.2*** | Net Profit ($mill) | ***21.0*** |
| | | | | | | 35.3% | 37.6% | 37.6% | 29.8% | 27.5% | 31.3% | 25.9% | 15.7% | 13.5% | 10.8% | ***21.0%*** | ***21.0%*** | Income Tax Rate | ***21.0%*** |
| | | | | | | 1.1% | 1.1% | .8% | 1.8% | 1.6% | 1.9% | 6.7% | 1.7% | 2.5% | 3.2% | ***1.5%*** | ***1.5%*** | AFUDC % to Net Profit | ***1.5%*** |
| | | | | | | 47.1% | 46.0% | 45.1% | 44.8% | 44.4% | 42.6% | 43.0% | 42.5% | 41.3% | 46.3% | ***44.5%*** | ***42.5%*** | Long-Term Debt Ratio | ***37.5%*** |
| | | | | | | 52.9% | 54.0% | 54.9% | 55.2% | 55.6% | 57.4% | 57.0% | 57.5% | 58.7% | 53.7% | ***55.5%*** | ***57.5%*** | Common Equity Ratio | ***62.5%*** |
| | | | | | | 180.2 | 184.8 | 188.4 | 189.4 | 196.3 | 198.7 | 209.5 | 219.5 | 228.7 | 266.8 | ***270*** | ***270*** | Total Capital ($mill) | ***265*** |
| | | | | | | 233.0 | 240.3 | 244.2 | 253.2 | 261.4 | 270.9 | 288.8 | 299.2 | 313.2 | 343.6 | ***355*** | ***370*** | Net Plant ($mill) | ***405*** |
| | | | | | | 6.4% | 6.4% | 6.5% | 7.4% | 7.6% | 7.2% | 7.5% | 7.3% | 7.4% | 7.1% | ***7.5%*** | ***7.5%*** | Return on Total Cap'l | ***9.0%*** |
| | | | | | | 9.5% | 9.3% | 9.3% | 11.0% | 11.5% | 10.4% | 10.9% | 10.6% | 10.7% | 11.6% | ***11.5%*** | ***11.5%*** | Return on Shr. Equity | ***13.0%*** |
| | | | | | | 9.5% | 9.3% | 9.3% | 11.0% | 11.5% | 10.4% | 10.9% | 10.6% | 10.7% | 11.6% | ***11.5%*** | ***11.5%*** | Return on Com Equity | ***13.0%*** |
| | | | | | | 2.5% | 2.4% | 2.4% | 3.9% | 4.4% | 3.4% | 4.0% | 3.8% | 4.0% | 5.0% | ***5.0%*** | ***5.0%*** | Retained to Com Eq | ***5.0%*** |
| | | | | | | 73% | 74% | 74% | 64% | 62% | 67% | 63% | 64% | 62% | 57% | ***56%*** | ***56%*** | All Div'ds to Net Prof | ***61%*** |

**CAPITAL STRUCTURE as of 9/30/21**
**Total Debt** $132.2 mill. **Due in 5 Yrs** $42.5 mill.
**LT Debt** $132.2 mill. **LT Interest** $5.5 mill.

(47% of Cap'l)

**Pension Assets12/20** $56.3 mill.
**Oblig.** $54.1 mill.

**Pfd Stock** None

**Common Stock** 13,102,924 shs.

**MARKET CAP: $650 million (Small Cap)**

| CURRENT POSITION ($MILL.) | 2019 | 2020 | 9/30/21 |
|---|---|---|---|
| Cash Assets | - - | 5.0 | - - |
| Accounts Receivable | 4.4 | 5.2 | 3.9 |
| Inventory (Avg. Cost) | 1.0 | 1.0 | 1.4 |
| Other | 4.0 | 5.1 | 4.9 |
| Current Assets | 9.4 | 16.3 | 10.2 |
| Accts Payable | 3.4 | 6.5 | 7.5 |
| Debt Due | 6.5 | - - | - - |
| Other | 5.3 | 5.5 | 5.7 |
| Current Liab. | 15.2 | 12.0 | 13.2 |

| ANNUAL RATES of change (per sh) | Past 10 Yrs. | Past 5 Yrs. | Est'd '18-'20 to '24-'26 |
|---|---|---|---|
| Revenues | 3.0% | 2.5% | *4.5%* |
| "Cash Flow" | 6.0% | 5.5% | *6.0%* |
| Earnings | 6.0% | 5.5% | *6.5%* |
| Dividends | 3.5% | 4.0% | *6.0%* |
| Book Value | 4.5% | 4.5% | *4.0%* |

| Calendar | QUARTERLY REVENUES ($ mill.) Mar.31 | Jun. 30 | Sep. 30 | Dec. 31 | Full Year |
|---|---|---|---|---|---|
| 2018 | 11.6 | 12.0 | 12.7 | 12.1 | 48.4 |
| 2019 | 11.8 | 13.0 | 13.7 | 13.1 | 51.6 |
| 2020 | 12.9 | 13.3 | 14.3 | 13.4 | 53.9 |
| 2021 | 13.1 | 13.8 | 14.5 | ***13.6*** | ***55.0*** |
| 2022 | ***13.7*** | ***14.3*** | ***15.0*** | ***14.0*** | ***57.0*** |

| Calendar | EARNINGS PER SHARE [A] Mar.31 | Jun. 30 | Sep. 30 | Dec. 31 | Full Year |
|---|---|---|---|---|---|
| 2018 | .20 | .26 | .29 | .29 | 1.04 |
| 2019 | .22 | .28 | .35 | .26 | 1.11 |
| 2020 | .31 | .32 | .36 | .28 | 1.27 |
| 2021 | .28 | .35 | .36 | ***.36*** | ***1.35*** |
| 2022 | ***.30*** | ***.36*** | ***.38*** | ***.36*** | ***1.40*** |

| Calendar | QUARTERLY DIVIDENDS PAID [B] Mar.31 | Jun.30 | Sep.30 | Dec.31 | Full Year |
|---|---|---|---|---|---|
| 2018 | .1666 | .1666 | .1666 | .1733 | .673 |
| 2019 | .1733 | .1733 | .1733 | .1802 | .70 |
| 2020 | .1802 | .1802 | .1802 | .1874 | .73 |
| 2021 | .1874 | .1874 | .1874 | .1949 | |
| 2022 | | | | | |

**BUSINESS:** The York Water Company is the oldest investor-owned regulated water utility in the United States. It has operated continuously since 1816. As of December 31, 2020, the company's average daily availability was 35.6 million gallons and its service territory had an estimated population of 202,000. Has more than 72,600 customers. Residential customers accounted for 66% of 2020 revenues; commercial and industrial (26%); other (8%). It also provides sewer billing services. Incorporated: PA. York had 108 full-time employees at 12/31/20. President/Chief Executive Officer: J.T. Hand. Officers/directors own 1.3% of the common stock (3/21 proxy). Address: 130 East Market Street, York, Pennsylvania 17401. Telephone: (717) 845-3601. Internet: www.yorkwater.com.

**York Water reported third-quarter financial results roughly in line with expectations.** Revenues of $14.5 million improved modestly year over year, thanks to a wider customer base and higher distribution system improvement charges to its customers. On the earnings front, the company posted net income of $0.36 per share, which was a penny shy of our call but even with the previous-year figure. An uptick in operation and maintenance expenses during the period seemingly kept a lid on growth. On balance, we think York finished 2021 with revenues of $55 million and earnings of $1.35 per share. For the current year, low single-digit top- and bottom-line expansion is likely on tap.

**The board of directors increased the quarterly dividend payment 4%, to $0.1949 per share.** Indeed, the raise appears consistent with previous-year hikes, and reaffirms the company's commitment to returning capital to shareholders. That said, at recent levels, the dividend yield is slightly below *The Value Line Investment Survey* median.

**Long term, we think the operating landscape is bright.** Most notably, York ought to continue to invest heavily on infrastructure upgrades in the coming years, with much of its pipes and service lines in need of improvement, on top of completing various wastewater treatment plants and facilities. To wit, York is able to pass along some of these costs to its customers via approved charges from state regulators, suggesting additional rate hikes are in the cards. Moreover, in conjunction with an expanding customer base, prospects for a healthier economic environment are likely to support increased residential and business water consumption.

**York Water's investment characteristics do not jump off the page, at present.** The stock is ranked to move in line with the broader market averages over the coming six to 12 months (Timeliness: 3). Looking further out, total return potential out to 2024-2026 is limited, as the equity is currently trading near the upper end of our 3- to 5-year Target Price Range. In sum, subscribers seeking exposure to the water utility industry can find better options elsewhere at this juncture.

*Nicholas P. Patrikis* *January 7, 2022*

**(A)** Diluted earnings. Next earnings report due early February.
**(B)** Dividends historically paid in late February, June, September, and December.
**(C)** In millions, adjusted for split.

| | |
|---|---|
| Company's Financial Strength | B+ |
| Stock's Price Stability | 75 |
| Price Growth Persistence | 70 |
| Earnings Predictability | 100 |

Water Service Corporation of Kentucky
Summary of Risk Premium Models for the
Proxy Group of Seven Water Companies

| | Proxy Group of Seven Water Companies | Proxy Group of Seven Water Companies ex PRPM |
|---|---|---|
| Predictive Risk Premium Model (PRPM) (1) | 12.39 % | NA |
| Risk Premium Using an Adjusted Total Market Approach (2) | 11.05 % | 11.10 % |
| Average | 11.72 % | 11.10 % |

Notes:
(1) From page 2 of this Schedule.
(2) From page 3 of this Schedule.

Water Service Corporation of Kentucky
Indicated ROE
Derived by the Predictive Risk Premium Model (1)

| Proxy Group of Seven Water Companies | [1] LT Average Predicted Variance | [2] Spot Predicted Variance | [3] Recommended Variance (2) | [4] GARCH Coefficient | [5] Predicted Risk Premium (3) | [6] Risk-Free Rate (4) | [7] Indicated ROE (5) |
|---|---|---|---|---|---|---|---|
| American States Water Company | 0.38% | 0.43% | 0.38% | 1.8976 | 9.00% | 3.18% | 12.18% |
| American Water Works Company, Inc. | 0.27% | 0.38% | 0.27% | 4.9973 | 17.42% | 3.18% | NMF |
| California Water Service Group | 0.32% | 0.61% | 0.32% | 1.9517 | 7.84% | 3.18% | 11.02% |
| Essential Utilities Inc. | 0.44% | 0.46% | 0.44% | 2.2739 | 12.71% | 3.18% | 15.89% |
| Middlesex Water Company | 0.32% | 0.96% | 0.32% | 2.1167 | 8.57% | 3.18% | 11.75% |
| SJW Group | 0.41% | 0.35% | 0.41% | 1.5576 | 7.94% | 3.18% | 11.12% |
| The York Water Company | 0.46% | 0.44% | 0.46% | 2.0240 | 11.74% | 3.18% | 14.92% |
| | | | | | | Average | 12.81% |
| | | | | | | Median | 11.97% |
| | | | | | Average of Mean and Median | | 12.39% |

NMF = Not Meaningful Figure

Notes:
(1) The Predictive Risk Premium Model uses historical data to generate a predicted variance and a GARCH coefficient. The historical data used are the equity risk premiums for the first available trading month as reported by Bloomberg Professional Services.
(2) Due to current market conditions, Mr. D'Ascendis recommends the long-term average variance.
(3) (1+(Column [3] * Column [4])^12) - 1.
(4) From note 2 on page 2 of Schedule DWD-5.
(5) Column [5] + Column [6].

Water Service Corporation of Kentucky
Indicated Common Equity Cost Rate
Through Use of a Risk Premium Model
Using an Adjusted Total Market Approach

| Line No. | | Proxy Group of Seven Water Companies | Proxy Group of Seven Water Companies ex PRPM |
|---|---|---|---|
| 1. | Prospective Yield on Aaa Rated Corporate Bonds (1) | 4.34 % | 4.34 % |
| 2. | Adjustment to Reflect Yield Spread Between Aaa Rated Corporate Bonds and A2 Rated Public Utility Bonds | 0.46 (2) | 0.46 (2) |
| 3. | Adjusted Prospective Yield on A2 Rated Public Utility Bonds | 4.80 % | 4.80 % |
| 4. | Adjustment to Reflect Bond Rating Difference of Proxy Group | 0.05 (3) | 0.05 (3) |
| 5. | Adjusted Prospective Bond Yield | 4.85 % | 4.85 % |
| 6. | Equity Risk Premium (4) | 6.20 | 6.25 |
| 7. | Risk Premium Derived Common Equity Cost Rate | 11.05 % | 11.10 % |

Notes:
(1) Consensus forecast of Moody's Aaa Rated Corporate bonds from Blue Chip Financial Forecasts (see pages 10 and 11 of this Schedule).
(2) The average yield spread of A2 rated public utility bonds over Aaa rated corporate bonds of 0.46% from page 4 of this Schedule.
(3) Adjustment to reflect the A2/A3 Moody's LT issuer rating of the Utility Proxy Group as shown on page 5 of this Schedule. The 0.05% upward adjustment is derived by taking 1/6 of the spread between A2 and Baa2 Public Utility Bonds (1/6 * 0.27% = 0.05%) as derived from page 4 of this Schedule.
(4) From page 7 of this Schedule.

Water Service Corporation of Kentucky
Interest Rates and Bond Spreads for
Moody's Corporate and Public Utility Bonds

Selected Bond Yields

| | [1] Aaa Rated Corporate Bond | [2] A2 Rated Public Utility Bond | [3] Baa2 Rated Public Utility Bond |
|---|---|---|---|
| Mar-2022 | 3.43 % | 3.98 % | 4.28 % |
| Feb-2022 | 3.25 | 3.68 | 3.95 |
| Jan-2022 | 2.93 | 3.33 | 3.57 |
| Average | 3.20 % | 3.66 % | 3.93 % |

Selected Bond Spreads

A2 Rated Public Utility Bonds Over Aaa Rated Corporate Bonds: 0.46 % (1)

Baa2 Rated Public Utility Bonds Over A2 Rated Public Utility Bonds: 0.27 % (2)

Notes:
(1) Column [2] - Column [1].
(2) Column [3] - Column [2].

Source of Information:
Bloomberg Professional Services

Water Service Corporation of Kentucky
Comparison of Long-Term Issuer Ratings for
Proxy Group of Seven Water Companies

| | Moody's | | Standard & Poor's | |
|---|---|---|---|---|
| | Long-Term Issuer Rating March 2022 | | Long-Term Issuer Rating March 2022 | |
| Proxy Group of Seven Water Companies | Long-Term Issuer Rating | Numerical Weighting (1) | Long-Term Issuer Rating | Numerical Weighting (1) |
| American States Water Company (2) | A2 | 6.0 | A+ | 5.0 |
| American Water Works Company, Inc. (3) | A3 | 7.0 | A | 6.0 |
| California Water Service Group | NR | - - | A+ | 5.0 |
| Essential Utilities Inc. (4) | NA | - - | A | 6.0 |
| Middlesex Water Company | NR | - - | A | 6.0 |
| SJW Group (5) | NR | - - | A/A- | 6.5 |
| The York Water Company | NR | - - | A- | 7.0 |
| Average | A2/A3 | 6.5 | A | 5.9 |

Notes:
(1) From page 6 of this Schedule.
(2) Ratings that of Golden State Water Company.
(3) Ratings that of New Jersey and Pennsylvania American Water Companies.
(4) Ratings that of Peoples Gas (Moody's) Aqua Pennsylvania, Inc. (S&P).
(5) Ratings that of San Jose Water Company and Connecticut Water Inc.

Source Information: Moody's Investors Services
Standard & Poor's Global Utilities Rating Services

# Numerical Assignment for Moody's and Standard & Poor's Bond Ratings

| Moody's Bond Rating | Numerical Bond Weighting | Standard & Poor's Bond Rating |
|---|---|---|
| Aaa | 1 | AAA |
| Aa1 | 2 | AA+ |
| Aa2 | 3 | AA |
| Aa3 | 4 | AA- |
| A1 | 5 | A+ |
| A2 | 6 | A |
| A3 | 7 | A- |
| Baa1 | 8 | BBB+ |
| Baa2 | 9 | BBB |
| Baa3 | 10 | BBB- |
| Ba1 | 11 | BB+ |
| Ba2 | 12 | BB |
| Ba3 | 13 | BB- |
| B1 | 14 | B+ |
| B2 | 15 | B |
| B3 | 16 | B- |

Water Service Corporation of Kentucky
Judgment of Equity Risk Premium for the
Proxy Group of Seven Water Companies

| Line No. | | Proxy Group of Seven Water Companies | Proxy Group of Seven Water Companies ex PRPM |
|---|---|---|---|
| 1. | Calculated equity risk premium based on the total market using the beta approach (1) | 7.16 % | 7.26 % |
| 2. | Mean equity risk premium based on a study using the holding period returns of public utilities with A2 rated bonds (2) | 5.24 | 5.24 |
| 3. | Average equity risk premium | 6.20 % | 6.25 % |

Notes: (1) From page 8 of this Schedule.
(2) From page 12 of this Schedule.

Water Service Corporation of Kentucky
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for the
Proxy Group of Seven Water Companies

| Line No. | Equity Risk Premium Measure | Proxy Group of Seven Water Companies | Proxy Group of Seven Water Companies ex PRPM |
|---|---|---|---|
| | Ibbotson-Based Equity Risk Premiums: | | |
| 1. | Ibbotson Equity Risk Premium (1) | 6.13 % | 6.13 % |
| 2. | Regression on Ibbotson Risk Premium Data (2) | 8.16 | 8.16 |
| 3. | Ibbotson Equity Risk Premium based on PRPM (3) | 8.03 | NA |
| 4. | Equity Risk Premium Based on Value Line Summary and Index (4) | 7.64 | 7.64 |
| 5. | Equity Risk Premium Based on Value Line S&P 500 Companies (5) | 11.56 | 11.56 |
| 6. | Equity Risk Premium Based on Bloomberg S&P 500 Companies (6) | 10.26 | 10.26 |
| 7. | Conclusion of Equity Risk Premium | 8.63 % | 8.75 % |
| 8. | Adjusted Beta (7) | 0.83 | 0.83 |
| 9. | Forecasted Equity Risk Premium | 7.16 % | 7.26 % |

Notes provided on page 9 of this Schedule.

Water Service Corporation of Kentucky
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for the
Proxy Group of Seven Water Companies

Notes:

(1) Based on the arithmetic mean historical monthly returns on large company common stocks from Kroll 2022 SBBI® Yearbook Market Report minus the arithmetic mean monthly yield of Moody's average Aaa and Aa2 corporate bonds from 1928-2021.

(2) This equity risk premium is based on a regression of the monthly equity risk premiums of large company common stocks relative to Moody's average Aaa and Aa2 rated corporate bond yields from 1928-2021 referenced in Note 1 above.

(3) The Predictive Risk Premium Model (PRPM) is discussed in the accompanying direct testimony. The Ibbotson equity risk premium based on the PRPM is derived by applying the PRPM to the monthly risk premiums between Ibbotson large company common stock monthly returns and average Aaa and Aa2 corporate monthly bond yields, from January 1928 through March 2022.

(4) The equity risk premium based on the Value Line Summary and Index is derived by subtracting the average consensus forecast of Aaa corporate bonds of 4.34% (from page 3 of this Schedule) from the projected 3-5 year total annual market return of 11.98% (described fully in note 1 on page 2 of Schedule DWD-5).

(5) Using data from Value Line for the S&P 500, an expected total return of 15.90% was derived based upon expected dividend yields and long-term earnings growth estimates as a proxy for capital appreciation. Subtracting the. average consensus forecast of Aaa corporate bonds of 4.34% results in an expected equity risk premium of 11.56%.

(6) Using data from Bloomberg Professional Services for the S&P 500, an expected total return of 14.60% was derived based upon expected dividend yields and long-term earnings growth estimates as a proxy for capital appreciation. Subtracting the average consensus forecast of Aaa corporate bonds of 4.34% results in an expected equity risk premium of 10.26%.

(7) Average of mean and median beta from Schedule DWD-5.

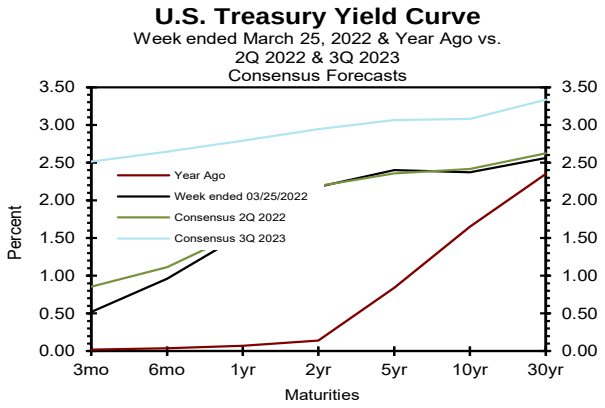
Sources of Information:

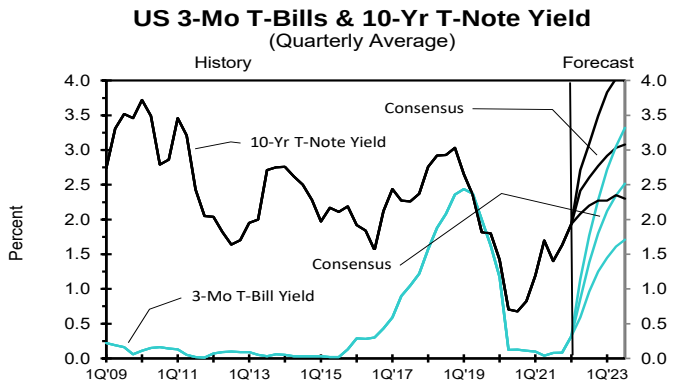
Kroll 2022 SBBI® Yearbook
Industrial Manual and Mergent Bond Record Monthly Update
Value Line Summary and Index
Blue Chip Financial Forecasts, December 1, 2021 and April 1, 2022
Bloomberg Professional Services

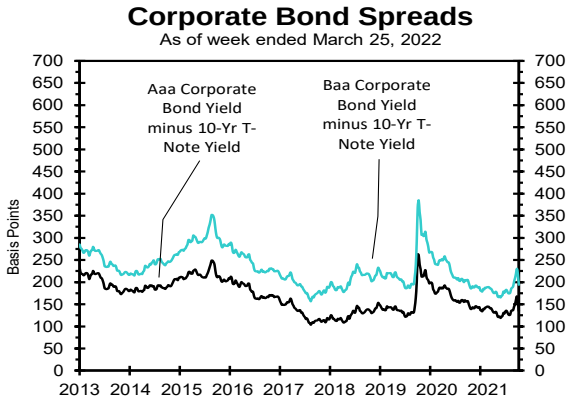
# Consensus Forecasts of U.S. Interest Rates and Key Assumptions

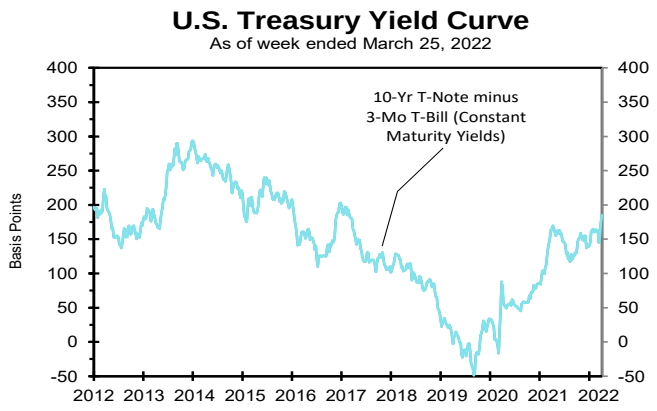
| | History | | | | History | | | | Consensus Forecasts-Quarterly Avg. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Average For Week Ending | | | | Average For Month | | | *Latest Qtr* | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q |
| Interest Rates | Mar 25 | Mar 18 | Mar 11 | Mar 4 | Feb | Jan | Dec | 1Q 2022* | 2022 | 2022 | 2022 | 2023 | 2023 | 2023 |
| Federal Funds Rate | 0.33 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.11 | **0.8** | **1.4** | **1.8** | **2.2** | **2.4** | **2.6** |
| Prime Rate | 3.50 | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 | 3.28 | **3.9** | **4.4** | **4.9** | **5.2** | **5.5** | **5.7** |
| SOFR | 0.28 | 0.15 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.08 | **0.7** | **1.3** | **1.8** | **2.1** | **2.3** | **2.5** |
| Commercial Paper, 1-mo. | 0.33 | 0.36 | 0.30 | 0.25 | 0.16 | 0.07 | 0.07 | 0.17 | **0.7** | **1.3** | **1.7** | **2.1** | **2.3** | **2.5** |
| Treasury bill, 3-mo. | 0.52 | 0.43 | 0.38 | 0.35 | 0.31 | 0.15 | 0.06 | 0.30 | **0.9** | **1.4** | **1.8** | **2.1** | **2.3** | **2.5** |
| Treasury bill, 6-mo. | 0.96 | 0.84 | 0.75 | 0.67 | 0.64 | 0.33 | 0.15 | 0.60 | **1.1** | **1.6** | **2.0** | **2.3** | **2.5** | **2.6** |
| Treasury bill, 1 yr. | 1.55 | 1.30 | 1.15 | 1.02 | 1.00 | 0.55 | 0.30 | 0.95 | **1.6** | **1.9** | **2.2** | **2.5** | **2.7** | **2.8** |
| Treasury note, 2 yr. | 2.18 | 1.92 | 1.67 | 1.46 | 1.44 | 0.98 | 0.68 | 1.42 | **2.2** | **2.4** | **2.6** | **2.8** | **2.9** | **2.9** |
| Treasury note, 5 yr. | 2.40 | 2.14 | 1.85 | 1.68 | 1.81 | 1.54 | 1.23 | 1.80 | **2.4** | **2.6** | **2.7** | **2.9** | **3.0** | **3.1** |
| Treasury note, 10 yr. | 2.37 | 2.16 | 1.91 | 1.80 | 1.93 | 1.76 | 1.47 | 1.93 | **2.4** | **2.6** | **2.8** | **2.9** | **3.0** | **3.1** |
| Treasury note, 30 yr. | 2.56 | 2.47 | 2.29 | 2.18 | 2.25 | 2.10 | 1.85 | 2.25 | **2.6** | **2.8** | **3.0** | **3.2** | **3.3** | **3.3** |
| Corporate Aaa bond | 3.72 | 3.72 | 3.59 | 3.40 | 3.36 | 3.06 | 2.79 | 3.34 | **3.7** | **4.0** | **4.2** | **4.4** | **4.5** | **4.6** |
| Corporate Baa bond | 4.31 | 4.33 | 4.21 | 3.99 | 3.92 | 3.54 | 3.26 | 3.89 | **4.6** | **4.9** | **5.1** | **5.3** | **5.4** | **5.5** |
| State & Local bonds | 3.41 | 3.32 | 3.18 | 3.08 | 3.01 | 2.74 | 2.57 | 3.00 | **3.1** | **3.4** | **3.6** | **3.8** | **3.9** | **3.9** |
| Home mortgage rate | 4.42 | 4.16 | 3.85 | 3.76 | 3.76 | 3.45 | 3.10 | 3.75 | **4.3** | **4.5** | **4.7** | **4.9** | **5.0** | **5.0** |
| | History | | | | History | | | | Consensus Forecasts-Quarterly | | | | | |
| | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q |
| Key Assumptions | 2020 | 2020 | 2020 | 2021 | 2021 | 2021 | 2021 | 2022** | 2022 | 2022 | 2022 | 2023 | 2023 | 2023 |
| Fed's AFE $ Index | 112.4 | 107.2 | 105.1 | 103.4 | 102.9 | 105.0 | 107.0 | 108.4 | **109.4** | **109.4** | **109.3** | **109.1** | **108.9** | **109.0** |
| Real GDP | -31.2 | 33.8 | 4.5 | 6.3 | 6.7 | 2.3 | 6.9 | 1.9 | **2.9** | **2.8** | **2.4** | **2.2** | **2.1** | **2.0** |
| GDP Price Index | -1.5 | 3.6 | 2.2 | 4.3 | 6.1 | 6.0 | 7.1 | 4.8 | **5.1** | **3.7** | **3.0** | **2.8** | **2.6** | **2.6** |
| Consumer Price Index | -3.4 | 4.8 | 2.2 | 4.1 | 8.2 | 6.7 | 7.9 | 5.8 | **6.6** | **3.8** | **3.0** | **2.9** | **2.6** | **2.6** |
| PCE Price Index | -1.6 | 3.7 | 1.5 | 3.8 | 6.5 | 5.3 | 6.4 | 5.1 | **5.4** | **3.5** | **2.8** | **2.6** | **2.5** | **2.4** |

Forecasts for interest rates and the Federal Reserve's Advanced Foreign Economies Index represent averages for the quarter. Forecasts for Real GDP, GDP Price Index, CPI and PCE Price Index are seasonally-adjusted annual rates of change (saar). Individual panel members' forecasts are on pages 4 through 9. Historical data: Treasury rates from the Federal Reserve Board's H.15; AAA-AA and A-BBB corporate bond yields from Bank of America-Merrill Lynch and are 15+ years, yield to maturity; State and local bond yields from Bank of America-Merrill Lynch, A-rated, yield to maturity; Mortgage rates from Freddie Mac, 30-year, fixed; SOFR from the New York Fed. *Interest rate data for 1Q 2022 are based on historical data through the week ended March 25. **Data for 1Q 2022 for the Fed's AFE $ Index are based on data through the week ended March 25. Figures for 1Q 2022 Real GDP, GDP Chained Price Index, Consumer Price Index, and PCE Price Index are consensus forecasts from the March 2022 survey.



# Long-Range Survey:

The table below contains the results of our twice-annual long-range CONSENSUS survey. There are also Top 10 and Bottom 10 averages for each variable. Shown are consensus estimates for the years 2023 through 2027 and averages for the five-year periods 2023-2027 and 2028-2032. Apply these projections cautiously. Few if any economic, demographic and political forces can be evaluated accurately over such long time spans.

| | | Average For The Year | | | | | Five-Year Averages | |
|---|---|---|---|---|---|---|---|---|
| | | 2023 | 2024 | 2025 | 2026 | 2027 | 2023-2027 | 2028-2032 |
| 1. Federal Funds Rate | **CONSENSUS** | **0.8** | **1.6** | **2.0** | **2.2** | **2.3** | **1.8** | **2.2** |
| | Top 10 Average | 1.2 | 2.2 | 2.7 | 2.7 | 2.8 | 2.3 | 2.9 |
| | Bottom 10 Average | 0.4 | 1.0 | 1.4 | 1.7 | 1.8 | 1.2 | 1.5 |
| 2. Prime Rate | **CONSENSUS** | **4.0** | **4.7** | **5.1** | **5.3** | **5.4** | **4.9** | **5.3** |
| | Top 10 Average | 4.3 | 5.3 | 5.8 | 5.8 | 5.9 | 5.4 | 6.0 |
| | Bottom 10 Average | 3.6 | 4.1 | 4.5 | 4.9 | 5.0 | 4.4 | 4.6 |
| 3. LIBOR, 3-Mo. | **CONSENSUS** | **1.0** | **1.7** | **2.2** | **2.4** | **2.5** | **1.9** | **2.4** |
| | Top 10 Average | 1.3 | 2.1 | 2.7 | 2.9 | 3.0 | 2.4 | 3.1 |
| | Bottom 10 Average | 0.7 | 1.2 | 1.6 | 1.9 | 2.0 | 1.5 | 1.8 |
| 4. Commercial Paper, 1-Mo | **CONSENSUS** | **0.9** | **1.6** | **2.1** | **2.3** | **2.4** | **1.9** | **2.4** |
| | Top 10 Average | 1.2 | 2.0 | 2.6 | 2.8 | 2.9 | 2.3 | 2.9 |
| | Bottom 10 Average | 0.6 | 1.2 | 1.6 | 1.9 | 2.0 | 1.5 | 1.8 |
| 5. Treasury Bill Yield, 3-Mo | **CONSENSUS** | **0.8** | **1.4** | **1.8** | **2.0** | **2.3** | **1.7** | **2.2** |
| | Top 10 Average | 1.2 | 1.9 | 2.5 | 2.6 | 2.8 | 2.2 | 2.9 |
| | Bottom 10 Average | 0.4 | 0.8 | 1.2 | 1.5 | 1.8 | 1.1 | 1.6 |
| 6. Treasury Bill Yield, 6-Mo | **CONSENSUS** | **0.8** | **1.4** | **1.9** | **2.1** | **2.4** | **1.7** | **2.3** |
| | Top 10 Average | 1.2 | 2.0 | 2.6 | 2.7 | 2.9 | 2.3 | 3.0 |
| | Bottom 10 Average | 0.4 | 0.9 | 1.2 | 1.6 | 1.9 | 1.2 | 1.7 |
| 7. Treasury Bill Yield, 1-Yr | **CONSENSUS** | **1.0** | **1.6** | **2.1** | **2.4** | **2.5** | **1.9** | **2.4** |
| | Top 10 Average | 1.4 | 2.1 | 2.7 | 2.8 | 3.0 | 2.4 | 3.1 |
| | Bottom 10 Average | 0.6 | 1.2 | 1.5 | 1.9 | 2.0 | 1.4 | 1.8 |
| 8. Treasury Note Yield, 2-Yr | **CONSENSUS** | **1.3** | **1.9** | **2.4** | **2.6** | **2.6** | **2.2** | **2.6** |
| | Top 10 Average | 1.7 | 2.5 | 3.0 | 3.1 | 3.2 | 2.7 | 3.4 |
| | Bottom 10 Average | 0.8 | 1.4 | 1.8 | 2.0 | 2.1 | 1.6 | 1.9 |
| 9. Treasury Note Yield, 5-Yr | **CONSENSUS** | **1.9** | **2.4** | **2.8** | **2.9** | **2.9** | **2.6** | **3.0** |
| | Top 10 Average | 2.3 | 3.0 | 3.4 | 3.5 | 3.6 | 3.1 | 3.8 |
| | Bottom 10 Average | 1.5 | 1.9 | 2.1 | 2.3 | 2.3 | 2.0 | 2.2 |
| 10. Treasury Note Yield, 10-Yr | **CONSENSUS** | **2.4** | **2.8** | **3.1** | **3.2** | **3.2** | **2.9** | **3.3** |
| | Top 10 Average | 2.8 | 3.3 | 3.7 | 3.8 | 3.9 | 3.5 | 4.2 |
| | Bottom 10 Average | 2.0 | 2.3 | 2.4 | 2.5 | 2.5 | 2.3 | 2.4 |
| 11. Treasury Bond Yield, 30-Yr | **CONSENSUS** | **2.9** | **3.3** | **3.6** | **3.7** | **3.7** | **3.4** | **3.8** |
| | Top 10 Average | 3.4 | 3.9 | 4.3 | 4.4 | 4.4 | 4.1 | 4.6 |
| | Bottom 10 Average | 2.4 | 2.8 | 2.9 | 3.0 | 3.0 | 2.8 | 3.0 |
| 12. Corporate Aaa Bond Yield | **CONSENSUS** | **3.7** | **4.2** | **4.5** | **4.6** | **4.8** | **4.4** | **4.9** |
| | Top 10 Average | 4.3 | 4.7 | 5.1 | 5.2 | 5.4 | 4.9 | 5.6 |
| | Bottom 10 Average | 3.2 | 3.7 | 3.9 | 4.1 | 4.2 | 3.8 | 4.2 |
| 13. Corporate Baa Bond Yield | **CONSENSUS** | **4.6** | **5.0** | **5.3** | **5.5** | **5.6** | **5.2** | **5.7** |
| | Top 10 Average | 5.1 | 5.5 | 5.9 | 6.1 | 6.2 | 5.7 | 6.5 |
| | Bottom 10 Average | 4.0 | 4.5 | 4.8 | 4.9 | 5.0 | 4.7 | 5.0 |
| 14. State & Local Bonds Yield | **CONSENSUS** | **3.2** | **3.7** | **3.9** | **4.1** | **4.2** | **3.8** | **4.3** |
| | Top 10 Average | 3.8 | 4.3 | 4.5 | 4.7 | 4.8 | 4.4 | 5.0 |
| | Bottom 10 Average | 2.7 | 3.2 | 3.4 | 3.5 | 3.6 | 3.3 | 3.6 |
| 15. Home Mortgage Rate | **CONSENSUS** | **4.0** | **4.4** | **4.7** | **4.8** | **4.8** | **4.5** | **4.9** |
| | Top 10 Average | 4.5 | 5.0 | 5.3 | 5.4 | 5.4 | 5.1 | 5.7 |
| | Bottom 10 Average | 3.6 | 3.9 | 4.1 | 4.1 | 4.2 | 4.0 | 4.1 |
| A. Fed's AFE Nominal $ Index | **CONSENSUS** | **106.2** | **106.0** | **106.1** | **106.2** | **106.4** | **106.2** | **106.5** |
| | Top 10 Average | 108.1 | 108.4 | 108.9 | 109.0 | 109.2 | 108.7 | 110.1 |
| | Bottom 10 Average | 104.4 | 104.0 | 103.7 | 103.7 | 103.9 | 103.9 | 103.1 |
| | | Year-Over-Year, % Change | | | | | Five-Year Averages | |
| | | 2023 | 2024 | 2025 | 2026 | 2027 | 2023-2027 | 2028-2032 |
| B. Real GDP | **CONSENSUS** | **2.6** | **2.2** | **2.1** | **2.0** | **2.0** | **2.2** | **2.0** |
| | Top 10 Average | 3.1 | 2.6 | 2.5 | 2.4 | 2.3 | 2.6 | 2.4 |
| | Bottom 10 Average | 2.2 | 1.7 | 1.7 | 1.7 | 1.7 | 1.8 | 1.7 |
| C. GDP Chained Price Index | **CONSENSUS** | **2.5** | **2.2** | **2.2** | **2.1** | **2.1** | **2.2** | **2.1** |
| | Top 10 Average | 3.0 | 2.7 | 2.5 | 2.4 | 2.4 | 2.6 | 2.4 |
| | Bottom 10 Average | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 |
| D. Consumer Price Index | **CONSENSUS** | **2.6** | **2.3** | **2.3** | **2.2** | **2.2** | **2.3** | **2.2** |
| | Top 10 Average | 3.2 | 2.8 | 2.6 | 2.5 | 2.5 | 2.7 | 2.5 |
| | Bottom 10 Average | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 |
| E. PCE Price Index | **CONSENSUS** | **2.5** | **2.2** | **2.1** | **2.1** | **2.1** | **2.2** | **2.1** |
| | Top 10 Average | 3.0 | 2.6 | 2.4 | 2.4 | 2.3 | 2.6 | 2.4 |
| | Bottom 10 Average | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 |

Water Service Corporation of Kentucky
Derivation of Mean Equity Risk Premium Based Studies
Using Holding Period Returns and
Projected Market Appreciation of the S&P Utility Index

| Line No. | | Implied Equity Risk Premium | Implied Equity Risk Premium ex PRPM |
|---|---|---|---|
| | Equity Risk Premium based on S&P Utility Index Holding Period Returns (1): | | |
| 1. | Historical Equity Risk Premium | 4.28 % | 4.28 % |
| 2. | Regression of Historical Equity Risk Premium (2) | 5.69 | 5.69 |
| 3. | Forecasted Equity Risk Premium Based on PRPM (3) | 5.24 | NA |
| 4. | Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (Value Line Data) (4) | 5.86 | 5.86 |
| 5. | Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (Bloomberg Data) (5) | 5.14 | 5.14 |
| 6. | Average Equity Risk Premium (6) | 5.24 % | 5.24 % |

Notes:
(1) Based on S&P Public Utility Index monthly total returns and Moody's Public Utility Bond average monthly yields from 1928-2021. Holding period returns are calculated based upon income received (dividends and interest) plus the relative change in the market value of a security over a one-year holding period.
(2) This equity risk premium is based on a regression of the monthly equity risk premiums of the S&P Utility Index relative to Moody's A2 rated public utility bond yields from 1928 - 2021 referenced in note 1 above.
(3) The Predictive Risk Premium Model (PRPM) is applied to the risk premium of the monthly total returns of the S&P Utility Index and the monthly yields on Moody's A2 rated public utility bonds from January 1928 - March 2022.
(4) Using data from Value Line for the S&P Utilities Index, an expected return of 10.66% was derived based on expected dividend yields and long-term growth estimates as a proxy for market appreciation. Subtracting the expected A2 rated public utility bond yield of 4.80%, calculated on line 3 of page 3 of this Schedule results in an equity risk premium of 5.86%. (10.66% - 4.80% = 5.86%)
(5) Using data from Bloomberg Professional Service for the S&P Utilities Index, an expected return of 9.94% was derived based on expected dividend yields and long-term growth estimates as a proxy for market appreciation. Subtracting the expected A2 rated public utility bond yield of 4.80%, calculated on line 3 of page 3 of this Schedule results in an equity risk premium of 5.14%. (9.94% - 4.80% = 5.14%)
(6) Average of lines 1 through 5.

Water Service Corporation of Kentucky
Indicated Common Equity Cost Rate Through Use
of the Traditional Capital Asset Pricing Model (CAPM) and Empirical Capital Asset Pricing Model (ECAPM)

| Proxy Group of Seven Water Companies | [1] Value Line Adjusted Beta | [2] Bloomberg Adjusted Beta | [3] Average Beta | [4] Market Risk Premium (1) | [5] Risk-Free Rate (2) | [6] Traditional CAPM Cost Rate | [7] ECAPM Cost Rate | [8] Indicated Common Equity Cost Rate (3) |
|---|---|---|---|---|---|---|---|---|
| American States Water Company | 0.65 | 0.82 | 0.73 | 9.80 % | 3.18 % | 10.33 % | 10.99 % | 10.66 % |
| American Water Works Company, Inc. | 0.85 | 0.87 | 0.86 | 9.80 | 3.18 | 11.60 | 11.95 | 11.78 |
| California Water Service Group | 0.70 | 0.97 | 0.84 | 9.80 | 3.18 | 11.41 | 11.80 | 11.60 |
| Essential Utilities Inc. | 0.95 | 0.93 | 0.94 | 9.80 | 3.18 | 12.39 | 12.54 | 12.46 |
| Middlesex Water Company | 0.70 | 0.86 | 0.78 | 9.80 | 3.18 | 10.82 | 11.36 | 11.09 |
| SJW Group | 0.80 | 0.87 | 0.83 | 9.80 | 3.18 | 11.31 | 11.73 | 11.52 |
| The York Water Company | 0.85 | 0.81 | 0.83 | 9.80 | 3.18 | 11.31 | 11.73 | 11.52 |
| Mean | | | 0.83 | | | 11.31 % | 11.73 % | 11.52 % |
| Median | | | 0.83 | | | 11.31 % | 11.73 % | 11.52 % |
| Average of Mean and Median | | | 0.83 | | | 11.31 % | 11.73 % | 11.52 % |

Results Excluding the PRPM MRP

| Proxy Group of Seven Water Companies | [1] Value Line Adjusted Beta | [2] Bloomberg Adjusted Beta | [3] Average Beta | [4] Market Risk Premium (1) | [5] Risk-Free Rate (2) | [6] Traditional CAPM Cost Rate | [7] ECAPM Cost Rate | [8] Indicated Common Equity Cost Rate (3) |
|---|---|---|---|---|---|---|---|---|
| American States Water Company | 0.65 | 0.82 | 0.73 | 9.96 % | 3.18 % | 10.45 % | 11.12 % | 10.79 % |
| American Water Works Company, Inc. | 0.85 | 0.87 | 0.86 | 9.96 | 3.18 | 11.75 | 12.09 | 11.92 |
| California Water Service Group | 0.70 | 0.97 | 0.84 | 9.96 | 3.18 | 11.55 | 11.95 | 11.75 |
| Essential Utilities Inc. | 0.95 | 0.93 | 0.94 | 9.96 | 3.18 | 12.54 | 12.69 | 12.62 |
| Middlesex Water Company | 0.70 | 0.86 | 0.78 | 9.96 | 3.18 | 10.95 | 11.50 | 11.22 |
| SJW Group | 0.80 | 0.87 | 0.83 | 9.96 | 3.18 | 11.45 | 11.87 | 11.66 |
| The York Water Company | 0.85 | 0.81 | 0.83 | 9.96 | 3.18 | 11.45 | 11.87 | 11.66 |
| Mean | | | 0.83 | | | 11.45 % | 11.87 % | 11.66 % |
| Median | | | 0.83 | | | 11.45 % | 11.87 % | 11.66 % |
| Average of Mean and Median | | | 0.83 | | | 11.45 % | 11.87 % | 11.66 % |

Notes on page 2 of this Schedule.

Water Service Corporation of Kentucky
Notes to Accompany the Application of the CAPM and ECAPM

Notes:

(1) The market risk premium (MRP) is derived by using six different measures from three sources: Ibbotson, Value Line, and Bloomberg as illustrated below:

Historical Data MRP Estimates:

Measure 1: Ibbotson Arithmetic Mean MRP (1926-2021)

| | |
|---|---|
| Arithmetic Mean Monthly Returns for Large Stocks 1926-2021: | 12.37 % |
| Arithmetic Mean Income Returns on Long-Term Government Bonds: | 5.02 |
| MRP based on Ibbotson Historical Data: | 7.35 % |

Measure 2: Application of a Regression Analysis to Ibbotson Historical Data
(1926-2021) 9.51 %

Measure 3: Application of the PRPM to Ibbotson Historical Data:
(January 1926 - March 2022) 8.98 %

Value Line MRP Estimates:

Measure 4: Value Line Projected MRP (Thirteen weeks ending April 01, 2022)

| | |
|---|---|
| Total projected return on the market 3-5 years hence*: | 11.98 % |
| Projected Risk-Free Rate (see note 2): | 3.18 |
| MRP based on Value Line Summary & Index: | 8.80 % |

*Forcasted 3-5 year capital appreciation plus expected dividend yield

Measure 5: Value Line Projected Return on the Market based on the S&P 500

| | |
|---|---|
| Total return on the Market based on the S&P 500: | 15.90 |
| Projected Risk-Free Rate (see note 2): | 3.18 |
| MRP based on Value Line data | 12.72 % |

Measure 6: Bloomberg Projected MRP

| | |
|---|---|
| Total return on the Market based on the S&P 500: | 14.60 % |
| Projected Risk-Free Rate (see note 2): | 3.18 |
| MRP based on Bloomberg data | 11.42 % |

Average of Value Line, Ibbotson, and Bloomberg MRP: 9.80 %

Average MRP Excluding the PRPM MRP: 9.96 %

(2) For reasons explained in the direct testimony, the appropriate risk-free rate for cost of capital purposes is the average forecast of 30 year Treasury Bonds per the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts. (See pages 10-11 of Schedule DWD-4.) The projection of the risk-free rate is illustrated below:

| | |
|---|---|
| Second Quarter 2022 | 2.60 % |
| Third Quarter 2022 | 2.80 |
| Fourth Quarter 2022 | 3.00 |
| First Quarter 2023 | 3.20 |
| Second Quarter 2023 | 3.30 |
| Third Quarter 2023 | 3.30 |
| 2023-2027 | 3.40 |
| 2028-2032 | 3.80 |
| | 3.18 % |

(3) Average of Column 6 and Column 7.

Sources of Information:
Value Line Summary and Index
Blue Chip Financial Forecasts, December 1, 2021 and April 1, 2022
Kroll 2022 SBBI® Yearbook
Bloomberg Professional Services

Water Service Corporation of Kentucky
Basis of Selection of the Group of Non-Price Regulated Companies
Comparable in Total Risk to the Utility Proxy Group

The criteria for selection of the proxy group of twenty-four non-price regulated companies was that the non-price regulated companies be domestic and reported in Value Line Investment Survey (Standard Edition).

The Non-Price Regulated Proxy Group were then selected based on the unadjusted beta range of 0.48 – 0.78 and residual standard error of the regression range of 2.82253 – 3.36653 of the Utility Proxy Group.

These ranges are based upon plus or minus two standard deviations of the unadjusted beta and standard error of the regression. Plus or minus two standard deviations captures 95.50% of the distribution of unadjusted betas and residual standard errors of the regression.

The standard deviation of the Utility Proxy Group's residual standard error of the regression is 0.1360. The standard deviation of the standard error of the regression is calculated as follows:

$$\text{Standard Deviation of the Std. Err. of the Regr.} = \frac{\text{Standard Error of the Regression}}{\sqrt{2N}}$$

where: N = number of observations. Since Value Line betas are derived from weekly price change observations over a period of five years, N = 259

$$\text{Thus, } 0.1360 = \frac{3.0945}{\sqrt{518}} = \frac{3.0945}{22.7596}$$

Source of Information: Value Line, Inc., March 2022
Value Line Investment Survey (Standard Edition)

Water Service Corporation of Kentucky
Basis of Selection of Comparable Risk
Domestic Non-Price Regulated Companies

| Proxy Group of Seven Water Companies | [1] Value Line Adjusted Beta | [2] Unadjusted Beta | [3] Residual Standard Error of the Regression | [4] Standard Deviation of Beta |
|---|---|---|---|---|
| American States Water Company | 0.65 | 0.40 | 2.4309 | 0.0601 |
| American Water Works Company, Inc. | 0.85 | 0.75 | 3.2139 | 0.0795 |
| California Water Service Group | 0.65 | 0.46 | 3.0606 | 0.0757 |
| Essential Utilities Inc. | 0.95 | 0.90 | 2.6745 | 0.0662 |
| Middlesex Water Company | 0.70 | 0.51 | 3.4876 | 0.0863 |
| SJW Group | 0.80 | 0.68 | 3.3451 | 0.0827 |
| The York Water Company | 0.85 | 0.71 | 3.4491 | 0.0853 |
| Average | 0.78 | 0.63 | 3.0945 | 0.0765 |
| Beta Range (+/- 2 std. Devs. of Beta) | 0.48 | 0.78 | | |
| 2 std. Devs. of Beta | 0.15 | | | |
| Residual Std. Err. Range (+/- 2 std. Devs. of the Residual Std. Err.) | 2.82253 | 3.36653 | | |
| Std. dev. of the Res. Std. Err. | 0.1360 | | | |
| 2 std. devs. of the Res. Std. Err. | 0.2720 | | | |

Source of Information: Valueline Proprietary Database, March 2022

Water Service Corporation of Kentucky
Proxy Group of Non-Price Regulated Companies
Comparable in Total Risk to the
Proxy Group of Seven Water Companies

| Proxy Group of Twenty-Four Non-Price Regulated Companies | [1] Value Line Adjusted Beta | [2] Unadjusted Beta | [3] Residual Standard Error of the Regression | [4] Standard Deviation of Beta |
|---|---|---|---|---|
| Smith (A.O.) | 0.85 | 0.77 | 2.8592 | 0.0707 |
| Balchem Corp. | 0.70 | 0.51 | 3.3114 | 0.0819 |
| Becton, Dickinson | 0.75 | 0.60 | 2.8626 | 0.0708 |
| Bristol-Myers Squibb | 0.85 | 0.75 | 2.9154 | 0.0721 |
| Chemed Corp. | 0.85 | 0.70 | 2.8432 | 0.0703 |
| C.H. Robinson | 0.75 | 0.56 | 3.0412 | 0.0752 |
| CSG Systems Int'l | 0.75 | 0.57 | 3.0997 | 0.0767 |
| Quest Diagnostics | 0.80 | 0.65 | 3.1904 | 0.0789 |
| Heartland Express | 0.75 | 0.55 | 2.8513 | 0.0705 |
| Henry (Jack) & Assoc | 0.85 | 0.70 | 2.9159 | 0.0721 |
| Lancaster Colony | 0.70 | 0.49 | 2.9597 | 0.0732 |
| Lilly (Eli) | 0.75 | 0.62 | 3.2324 | 0.0800 |
| ManTech Int'l 'A' | 0.85 | 0.75 | 3.1083 | 0.0769 |
| McCormick & Co. | 0.80 | 0.65 | 2.8247 | 0.0699 |
| Monster Beverage | 0.85 | 0.75 | 2.9659 | 0.0734 |
| Northrop Grumman | 0.85 | 0.75 | 2.9830 | 0.0738 |
| Oracle Corp. | 0.75 | 0.61 | 2.8406 | 0.0703 |
| Progressive Corp. | 0.75 | 0.59 | 2.9344 | 0.0726 |
| RLI Corp. | 0.80 | 0.65 | 2.8568 | 0.0707 |
| Rollins, Inc. | 0.85 | 0.73 | 3.1605 | 0.0782 |
| Tyler Technologies | 0.75 | 0.59 | 3.2277 | 0.0798 |
| United Parcel Serv. | 0.80 | 0.65 | 3.3248 | 0.0822 |
| Werner Enterprises | 0.75 | 0.62 | 3.2786 | 0.0811 |
| Western Union | 0.80 | 0.64 | 2.8493 | 0.0705 |
| Average | 0.79 | 0.64 | 3.0182 | 0.0747 |
| Proxy Group of Seven Water Companies | 0.78 | 0.63 | 3.0945 | 0.0765 |

Source of Information: Valueline Proprietary Database, March 2022

Water Service Corporation of Kentucky
Summary of Cost of Equity Models Applied to
Proxy Group of Twenty-Four Non-Price Regulated Companies
Comparable in Total Risk to the
Proxy Group of Seven Water Companies

| Principal Methods | | Proxy Group of Twenty-Four Non-Price Regulated Companies | Proxy Group of Twenty-Four Non-Price Regulated Companies ex PRPM |
|---|---|---|---|
| Discounted Cash Flow Model (DCF) (1) | | 11.22 % | 11.22 % |
| Risk Premium Model (RPM) (2) | | 12.08 | 12.18 |
| Capital Asset Pricing Model (CAPM) (3) | | 11.31 | 11.45 |
| | Mean | 11.54 % | 11.62 % |
| | Median | 11.31 % | 11.45 % |
| | Average of Mean and Median | 11.43 % | 11.54 % |

Notes:
(1) From page 2 of this Schedule.
(2) From page 3 of this Schedule.
(3) From page 6 of this Schedule.

Water Service Corporation of Kentucky
DCF Results for the Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to the
Proxy Group of Seven Water Companies

| | [1] | [2] | [3] | [4] | [5] | [6] | [7] |
|---|---|---|---|---|---|---|---|
| Proxy Group of Twenty-Four Non-Price Regulated Companies | Average Dividend Yield | Value Line Projected Five Year Growth in EPS | Zack's Five Year Projected Growth Rate in EPS | Yahoo! Finance Projected Five Year Growth in EPS | Average Projected Five Year Growth Rate in EPS | Adjusted Dividend Yield | Indicated Common Equity Cost Rate (1) |
| Smith (A.O.) | 1.55 % | 11.00 % | 9.00 % | 8.00 % | 9.33 % | 1.62 % | 10.95 % |
| Balchem Corp. | 0.45 | 14.00 | NA | 24.00 | 19.00 | 0.49 | 19.49 |
| Becton, Dickinson | 1.32 | 6.00 | 6.30 | 6.00 | 6.10 | 1.36 | 7.46 |
| Bristol-Myers Squibb | 3.21 | NMF | 6.80 | 5.00 | 5.90 | 3.30 | 9.20 |
| Chemed Corp. | 0.30 | 9.50 | 8.30 | 6.60 | 8.13 | 0.31 | 8.44 |
| C.H. Robinson | 2.17 | 8.50 | 9.00 | 12.30 | 9.93 | 2.28 | 12.21 |
| CSG Systems Int'l | 1.76 | 11.00 | NA | NMF | 11.00 | 1.86 | 12.86 |
| Quest Diagnostics | 1.90 | 7.00 | NA | NMF | 7.00 | 1.97 | 8.97 |
| Heartland Express | 0.54 | 8.50 | NA | 13.30 | 10.90 | 0.57 | 11.47 |
| Henry (Jack) & Assoc | 1.12 | 10.50 | 17.00 | 14.00 | 13.83 | 1.20 | 15.03 |
| Lancaster Colony | 2.01 | 5.50 | NA | 3.00 | 4.25 | 2.05 | 6.30 |
| Lilly (Eli) | 1.53 | 11.50 | 14.20 | 6.31 | 10.67 | 1.61 | 12.28 |
| ManTech Int'l 'A' | 2.05 | 9.00 | NA | 5.38 | 7.19 | 2.12 | 9.31 |
| McCormick & Co. | 1.51 | 6.00 | 6.10 | 6.95 | 6.35 | 1.56 | 7.91 |
| Monster Beverage | - | 13.00 | 15.90 | 14.01 | 14.30 | - | NA |
| Northrop Grumman | 1.52 | 7.50 | 6.20 | 4.80 | 6.17 | 1.57 | 7.74 |
| Oracle Corp. | 1.59 | 10.00 | 8.00 | 10.24 | 9.41 | 1.66 | 11.07 |
| Progressive Corp. | 0.37 | 4.50 | 18.00 | NMF | 11.25 | 0.39 | 11.64 |
| RLI Corp. | 0.95 | 12.00 | NA | 9.80 | 10.90 | 1.00 | 11.90 |
| Rollins, Inc. | 1.23 | 10.50 | NA | 8.20 | 9.35 | 1.29 | 10.64 |
| Tyler Technologies | - | 14.00 | NA | 10.00 | 12.00 | - | NA |
| United Parcel Serv. | 2.86 | 11.50 | 12.00 | 14.03 | 12.51 | 3.04 | 15.55 |
| Werner Enterprises | 1.09 | 9.00 | 11.10 | 11.94 | 10.68 | 1.15 | 11.83 |
| Western Union | 5.08 | 8.00 | NA | 8.11 | 8.06 | 5.28 | 13.34 |
| | | | | | | Mean | 11.16 % |
| | | | | | | Median | 11.27 % |
| | | | | | | Average of Mean and Median | 11.22 % |

NA= Not Available
NMF= Not Meaningful Figure

Notes: (1) The application of the DCF model to the domestic, non-price regluated comparable risk companies is identical to the application of the DCF to the utility proxy group. The dividend yield is derived by using the 60 day average price and the spot indicated dividend as of March 31, 2022. The dividend yield is then adjusted by 1/2 the average projected growth rate in EPS, which is calculated by averaging the 5 year projected growth in EPS provided by Value Line, www.zacks.com, and www.yahoo.com (excluding any negative growth rates) and then adding that growth rate to the adjusted dividend yield.

Source of Information: Value Line Investment Survey
www.zacks.com Downloaded on 03/31/2022
www.yahoo.com Downloaded on 03/31/2022

Water Service Corporation of Kentucky
Indicated Common Equity Cost Rate
Through Use of a Risk Premium Model
Using an Adjusted Total Market Approach

| Line No. | | Proxy Group of Twenty-Four Non-Price Regulated Companies | Proxy Group of Twenty-Four Non-Price Regulated Companies ex PRPM |
|---|---|---|---|
| 1. | Prospective Yield on Baa2 Rated Corporate Bonds (1) | 5.21 % | 5.21 % |
| 2. | Adjustment to Reflect Bond rating Difference of Non-Price Regulated Companies (2) | (0.12) | (0.12) |
| 3. | Adjusted Prospective Bond Yield | 5.09 % | 5.09 % |
| 4 | Equity Risk Premium (3) | 6.99 | 7.09 |
| 5. | Risk Premium Derived Common Equity Cost Rate | 12.08 % | 12.18 % |

Notes: (1) Average forecast of Baa2 corporate bonds based upon the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts dated December 1, 2021 and April 1, 2022 (see pages 10 and 11 of Schedule DWD-4). The estimates are detailed below.

| | |
|---|---|
| Second Quarter 2022 | 4.60 % |
| Third Quarter 2022 | 4.90 |
| Fourth Quarter 2022 | 5.10 |
| First Quarter 2023 | 5.30 |
| Second Quarter 2023 | 5.40 |
| Third Quarter 2023 | 5.50 |
| 2023-2027 | 5.20 |
| 2028-2032 | 5.70 |
| Average | 5.21 % |

(2) The average yield spread of Baa rated corporate bonds over A corporate bonds for the three months ending March 2022 . To reflect the Baa1 average rating of the non-utility proxy group, the prosepctive yield on Baa corporate bonds must be adjusted by 1/3 of the spread between A and Baa corporate bond yields as shown below:

| | A Corp. Bond Yield | Baa Corp. Bond Yield | Spread |
|---|---|---|---|
| Mar-22 | 3.88 % | 4.29 % | 0.41 % |
| Feb-22 | 3.60 | 3.97 | 0.37 |
| Jan-22 | 3.25 | 3.59 | 0.34 |
| | Average yield spread | | 0.37 |
| | 1/3 of spread | | 0.12 |

(3) From page 5 of this Schedule.

Water Service Corporation of Kentucky
Comparison of Long-Term Issuer Ratings for the
Proxy Group of Twenty-Four Non-Price Regulated Companies of Comparable risk to the
Proxy Group of Seven Water Companies

| | Moody's Long-Term Issuer Rating March 2022 | | Standard & Poor's Long-Term Issuer Rating March 2022 | |
|---|---|---|---|---|
| Proxy Group of Twenty-Four Non-Price Regulated Companies | Long-Term Issuer Rating | Numerical Weighting (1) | Long-Term Issuer Rating | Numerical Weighting (1) |
| Smith (A.O.) | NA | -- | NA | -- |
| Balchem Corp. | NA | -- | NA | -- |
| Becton, Dickinson | Baa3 | 10.0 | BBB | 9.0 |
| Bristol-Myers Squibb | A2 | 6.0 | A+ | 5.0 |
| Chemed Corp. | WR | -- | NR | -- |
| C.H. Robinson | Baa2 | 9.0 | BBB+ | 8.0 |
| CSG Systems Int'l | NA | -- | BB+ | 11.0 |
| Quest Diagnostics | Baa2 | 9.0 | BBB+ | 8.0 |
| Heartland Express | NA | -- | NA | -- |
| Henry (Jack) & Assoc | NA | -- | NA | -- |
| Lancaster Colony | NA | -- | NA | -- |
| Lilly (Eli) | A2 | 6.0 | A+ | 5.0 |
| ManTech Int'l 'A' | WR | -- | BB+ | 11.0 |
| McCormick & Co. | Baa2 | 9.0 | BBB | 9.0 |
| Monster Beverage | NA | -- | NA | -- |
| Northrop Grumman | Baa1 | 8.0 | BBB+ | 8.0 |
| Oracle Corp. | Baa2 | 9.0 | BBB+ | 8.0 |
| Progressive Corp. | A2 | 6.0 | A | 6.0 |
| RLI Corp. | Baa2 | 9.0 | BBB | 9.0 |
| Rollins, Inc. | NA | -- | NA | -- |
| Tyler Technologies | NA | -- | NA | -- |
| United Parcel Serv. | A2 | 6.0 | A- | 7.0 |
| Werner Enterprises | NA | -- | NA | -- |
| Western Union | Baa2 | 9.0 | BBB | 9.0 |
| Average | Baa1 | 8.0 | BBB+ | 8.1 |

Notes:
(1) From page 6 of Schedule DWD-4.

Source of Information:
Bloomberg Professional Services

Water Service Corporation of Kentucky
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for
Proxy Group of Twenty-Four Non-Price Regulated Companies of Comparable risk to the
Proxy Group of Seven Water Companies

| Line No. | Equity Risk Premium Measure | Proxy Group of Twenty-Four Non-Price Regulated Companies | Proxy Group of Twenty-Four Non-Price Regulated Companies ex PRPM |
|---|---|---|---|
| 1. | Ibbotson Equity Risk Premium (1) | 6.13 % | 6.13 % |
| 2. | Regression on Ibbotson Risk Premium Data (2) | 8.16 | 8.16 |
| 3. | Ibbotson Equity Risk Premium based on PRPM (3) | 8.03 | NA |
| 4. | Equity Risk Premium Based on Value Line Summary and Index (4) | 7.64 | 7.64 |
| 5 | Equity Risk Premium Based on Value Line S&P 500 Companies (5) | 11.56 | 11.56 |
| 6. | Equity Risk Premium Based on Bloomberg S&P 500 Companies (6) | 10.26 | 10.26 |
| 7. | Conclusion of Equity Risk Premium | 8.63 % | 8.75 % |
| 8. | Adjusted Beta (7) | 0.81 | 0.81 |
| 9. | Forecasted Equity Risk Premium | 6.99 % | 7.09 % |

Notes:
(1) From note 1 of page 19 of Schedule DWD-4.
(2) From note 2 of page 19 of Schedule DWD-4.
(3) From note 3 of page 19 of Schedule DWD-4.
(4) From note 4 of page 19 of Schedule DWD-4.
(5) From note 5 of page 19 of Schedule DWD-4.
(6) From note 6 of page 19 of Schedule DWD-4.
(7) Average of mean and median beta from page 6 of this Schedule.

Sources of Information:
Kroll 2022 SBBI® Yearbook
Value Line Summary and Index
Blue Chip Financial Forecasts, December 1, 2021 and April 1, 2022
Bloomberg Professional Services

Water Service Corporation of Kentucky
Traditional CAPM and ECAPM Results for the Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to the Proxy Group of Seven Water Companies

| | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] |
|---|---|---|---|---|---|---|---|---|
| Proxy Group of Twenty-Four Non-Price Regulated Companies | Value Line Adjusted Beta | Bloomberg Beta | Average Beta | Market Risk Premium (1) | Risk-Free Rate (2) | Traditional CAPM Cost Rate | ECAPM Cost Rate | Indicated Common Equity Cost Rate (3) |
| Smith (A.O.) | 0.85 | 1.09 | 0.97 | 9.80 % | 3.18 % | 12.68 % | 12.76 % | 12.72 % |
| Balchem Corp. | 0.70 | 0.85 | 0.78 | 9.80 | 3.18 | 10.82 | 11.36 | 11.09 |
| Becton, Dickinson | 0.75 | 0.59 | 0.67 | 9.80 | 3.18 | 9.74 | 10.55 | 10.15 |
| Bristol-Myers Squibb | 0.85 | 0.61 | 0.73 | 9.80 | 3.18 | 10.33 | 10.99 | 10.66 |
| Chemed Corp. | 0.85 | 0.82 | 0.84 | 9.80 | 3.18 | 11.41 | 11.80 | 11.60 |
| C.H. Robinson | 0.75 | 0.88 | 0.81 | 9.80 | 3.18 | 11.12 | 11.58 | 11.35 |
| CSG Systems Int'l | 0.75 | 0.92 | 0.83 | 9.80 | 3.18 | 11.31 | 11.73 | 11.52 |
| Quest Diagnostics | 0.80 | 0.76 | 0.78 | 9.80 | 3.18 | 10.82 | 11.36 | 11.09 |
| Heartland Express | 0.75 | 0.83 | 0.79 | 9.80 | 3.18 | 10.92 | 11.43 | 11.18 |
| Henry (Jack) & Assoc | 0.85 | 0.75 | 0.80 | 9.80 | 3.18 | 11.02 | 11.51 | 11.26 |
| Lancaster Colony | 0.70 | 0.76 | 0.73 | 9.80 | 3.18 | 10.33 | 10.99 | 10.66 |
| Lilly (Eli) | 0.75 | 0.64 | 0.69 | 9.80 | 3.18 | 9.94 | 10.70 | 10.32 |
| ManTech Int'l 'A' | 0.85 | 0.82 | 0.84 | 9.80 | 3.18 | 11.41 | 11.80 | 11.60 |
| McCormick & Co. | 0.80 | 0.59 | 0.69 | 9.80 | 3.18 | 9.94 | 10.70 | 10.32 |
| Monster Beverage | 0.85 | 1.03 | 0.94 | 9.80 | 3.18 | 12.39 | 12.54 | 12.46 |
| Northrop Grumman | 0.85 | 0.67 | 0.76 | 9.80 | 3.18 | 10.63 | 11.21 | 10.92 |
| Oracle Corp. | 0.75 | 0.83 | 0.79 | 9.80 | 3.18 | 10.92 | 11.43 | 11.18 |
| Progressive Corp. | 0.75 | 0.68 | 0.71 | 9.80 | 3.18 | 10.14 | 10.85 | 10.49 |
| RLI Corp. | 0.80 | 0.96 | 0.88 | 9.80 | 3.18 | 11.80 | 12.09 | 11.95 |
| Rollins, Inc. | 0.85 | 0.80 | 0.83 | 9.80 | 3.18 | 11.31 | 11.73 | 11.52 |
| Tyler Technologies | 0.75 | 0.90 | 0.82 | 9.80 | 3.18 | 11.21 | 11.65 | 11.43 |
| United Parcel Serv. | 0.80 | 1.04 | 0.92 | 9.80 | 3.18 | 12.19 | 12.39 | 12.29 |
| Werner Enterprises | 0.75 | 0.89 | 0.82 | 9.80 | 3.18 | 11.21 | 11.65 | 11.43 |
| Western Union | 0.80 | 1.05 | 0.92 | 9.80 | 3.18 | 12.19 | 12.39 | 12.29 |
| Mean | | | 0.81 | | | 11.07 % | 11.55 % | 11.31 % |
| Median | | | 0.81 | | | 11.07 % | 11.54 % | 11.31 % |
| Average of Mean and Median | | | 0.81 | | | 11.07 % | 11.55 % | 11.31 % |

Notes:
(1) From Schedule DWD-5, note 1.
(2) From Schedule DWD-5, note 2.
(3) Average of CAPM and ECAPM cost rates.

Water Service Corporation of Kentucky
Traditional CAPM and ECAPM Results for the Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to the
Proxy Group of Seven Water Companies

| | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] |
|---|---|---|---|---|---|---|---|---|
| Proxy Group of Twenty-Four Non-Price Regulated Companies | Value Line Adjusted Beta | Bloomberg Beta | Average Beta | Market Risk Premium (1) | Risk-Free Rate (2) | Traditional CAPM Cost Rate | ECAPM Cost Rate | Indicated Common Equity Cost Rate (3) |
| Smith (A.O.) | 0.85 | 1.09 | 0.97 | 9.96 % | 3.18 % | 12.84 % | 12.92 % | 12.88 % |
| Balchem Corp. | 0.70 | 0.85 | 0.78 | 9.96 | 3.18 | 10.95 | 11.50 | 11.22 |
| Becton, Dickinson | 0.75 | 0.59 | 0.67 | 9.96 | 3.18 | 9.85 | 10.68 | 10.26 |
| Bristol-Myers Squibb | 0.85 | 0.61 | 0.73 | 9.96 | 3.18 | 10.45 | 11.12 | 10.79 |
| Chemed Corp. | 0.85 | 0.82 | 0.84 | 9.96 | 3.18 | 11.55 | 11.95 | 11.75 |
| C.H. Robinson | 0.75 | 0.88 | 0.81 | 9.96 | 3.18 | 11.25 | 11.72 | 11.48 |
| CSG Systems Int'l | 0.75 | 0.92 | 0.83 | 9.96 | 3.18 | 11.45 | 11.87 | 11.66 |
| Quest Diagnostics | 0.80 | 0.76 | 0.78 | 9.96 | 3.18 | 10.95 | 11.50 | 11.22 |
| Heartland Express | 0.75 | 0.83 | 0.79 | 9.96 | 3.18 | 11.05 | 11.57 | 11.31 |
| Henry (Jack) & Assoc | 0.85 | 0.75 | 0.80 | 9.96 | 3.18 | 11.15 | 11.65 | 11.40 |
| Lancaster Colony | 0.70 | 0.76 | 0.73 | 9.96 | 3.18 | 10.45 | 11.12 | 10.79 |
| Lilly (Eli) | 0.75 | 0.64 | 0.69 | 9.96 | 3.18 | 10.05 | 10.82 | 10.44 |
| ManTech Int'l 'A' | 0.85 | 0.82 | 0.84 | 9.96 | 3.18 | 11.55 | 11.95 | 11.75 |
| McCormick & Co. | 0.80 | 0.59 | 0.69 | 9.96 | 3.18 | 10.05 | 10.82 | 10.44 |
| Monster Beverage | 0.85 | 1.03 | 0.94 | 9.96 | 3.18 | 12.54 | 12.69 | 12.62 |
| Northrop Grumman | 0.85 | 0.67 | 0.76 | 9.96 | 3.18 | 10.75 | 11.35 | 11.05 |
| Oracle Corp. | 0.75 | 0.83 | 0.79 | 9.96 | 3.18 | 11.05 | 11.57 | 11.31 |
| Progressive Corp. | 0.75 | 0.68 | 0.71 | 9.96 | 3.18 | 10.25 | 10.97 | 10.61 |
| RLI Corp. | 0.80 | 0.96 | 0.88 | 9.96 | 3.18 | 11.95 | 12.24 | 12.09 |
| Rollins, Inc. | 0.85 | 0.80 | 0.83 | 9.96 | 3.18 | 11.45 | 11.87 | 11.66 |
| Tyler Technologies | 0.75 | 0.90 | 0.82 | 9.96 | 3.18 | 11.35 | 11.80 | 11.57 |
| United Parcel Serv. | 0.80 | 1.04 | 0.92 | 9.96 | 3.18 | 12.34 | 12.54 | 12.44 |
| Werner Enterprises | 0.75 | 0.89 | 0.82 | 9.96 | 3.18 | 11.35 | 11.80 | 11.57 |
| Western Union | 0.80 | 1.05 | 0.92 | 9.96 | 3.18 | 12.34 | 12.54 | 12.44 |
| Mean | | | 0.81 | | | 11.21 % | 11.69 % | 11.45 % |
| Median | | | 0.81 | | | 11.20 % | 11.68 % | 11.44 % |
| Average of Mean and Median | | | 0.81 | | | 11.21 % | 11.69 % | 11.45 % |

Notes:
(1) From Schedule DWD-5, note 1.
(2) From Schedule DWD-5, note 2.
(3) Average of CAPM and ECAPM cost rates.

Water Service Corporation of Kentucky
Derivation of Investment Risk Adjustment Based upon
Ibbotson Associates' Size Premia for the Decile Portfolios of the NYSE/AMEX/NASDAQ

| Line No. | | [1] Market Capitalization on March 31, 2022 (1) ( millions ) | | [2] Applicable Decile of the NYSE/AMEX/ NASDAQ (2) | [3] Applicable Size Premium (3) | [4] Spread from Applicable Size Premium (4) |
|---|---|---|---|---|---|---|
| 1. | Water Service Corporation of Kentucky | $ 14.849 | | 10 | 4.80% | |
| 2. | Proxy Group of Seven Water Companies | $ 3,184.284 | 214.4 x | 6 | 1.18% | 3.62% |
| | | | [A] | [B] | [C] | [D] |

| | Decile | Market Capitalization of Smallest Company ( millions ) | Market Capitalization of Largest Company ( millions ) | Size Premium (Return in Excess of CAPM)* |
|---|---|---|---|---|
| Largest | 1 | $ 36,160.584 | $ 2,324,390.219 | -0.22% |
| | 2 | 16,759.390 | 36,099.221 | 0.43% |
| | 3 | 8,216.356 | 16,738.364 | 0.55% |
| | 4 | 5,019.883 | 8,212.638 | 0.54% |
| | 5 | 3,281.009 | 5,003.747 | 0.89% |
| | 6 | 2,170.315 | 3,276.553 | 1.18% |
| | 7 | 1,306.402 | 2,164.524 | 1.34% |
| | 8 | 629.118 | 1,306.038 | 1.21% |
| | 9 | 290.002 | 627.803 | 2.10% |
| Smallest | 10 | 10.588 | 289.007 | 4.80% |

*From 2022 Kroll Cost of Capital Navigator

Notes:
(1) From page 2 of this Schedule.
(2) Gleaned from Columns [B] and [C] on the bottom of this page. The appropriate decile (Column [A]) corresponds to the market capitalization of the proxy group, which is found in Column [1].
(3) Corresponding risk premium to the decile is provided in Column [D] on the bottom of this page.
(4) Line No. 1 Column [3] – Line No. 2 Column [3]. For example, the 3.62% in Column [4], Line No. 2 is derived as follows 3.62% = 4.8% - 1.18%.

Water Service Corporation of Kentucky
Market Capitalization of Water Service Corporation of Kentucky and the
Proxy Group of Seven Water Companies

| Company | Exchange | [1] Common Stock Shares Outstanding at Fiscal Year End 2021 ( millions ) | [2] Book Value per Share at Fiscal Year End 2021 (1) | [3] Total Common Equity at Fiscal Year End 2021 ( millions ) | [4] Closing Stock Market Price on March 31, 2022 | [5] Market-to-Book Ratio on March 31, 2022 (2) | [6] Market Capitalization on March 31, 2022 (3) ( millions ) |
|---|---|---|---|---|---|---|---|
| Water Service Corporation of Kentucky | | NA | NA | $ 3.843 (4) | NA | NA | NA |
| Based upon Proxy Group of Seven Water Companies | | | | | | 386.4 (5) | $ 14.849 (6) |
| Proxy Group of Seven Water Companies | | | | | | | |
| American States Water Company | NYSE | 36.936 | $ 18.571 | $ 685.947 | $ 89.020 | 479.3 % | $ 3,288.068 |
| American Water Works Company, Inc. | NYSE | 181.611 | 40.185 | 7,298.000 | 165.530 | 411.9 | 30,062.084 |
| California Water Service Group | NYSE | 53.716 | 22.023 | 1,182.980 | 59.280 | 269.2 | 3,184.284 |
| Essential Utilities Inc. | NYSE | 252.868 | 20.503 | 5,184.450 | 51.130 | 249.4 | 12,929.122 |
| Middlesex Water Company | NASDAQ | 17.522 | 20.987 | 367.726 | 105.170 | 501.1 | 1,842.789 |
| SJW Group | NYSE | 30.181 | 34.277 | 1,034.519 | 69.580 | 203.0 | 2,100.018 |
| The York Water Company | NASDAQ | 13.113 | 11.639 | 152.622 | 44.970 | 386.4 | 589.689 |
| Median | | 36.936 | $ 20.987 | $ 1,034.519 | $ 69.580 | 386.4 % | $ 3,184.284 |

NA= Not Available

Notes: (1) Column 3 / Column 1, otherwise NA.
(2) Column 4 / Column 2, otherwise NA.
(3) Column 1 * Column 4, otherwise NA.
(4) Company requested rate base multiplied by requested equity ratio.
(5) The market-to-book ratio of Water Service Corporation of Kentucky on March 31, 2022 is assumed to be equal to the market-to-book ratio of Proxy Group of Seven Water Companies on March 31, 2022 as appropriate.
(6) Column [3] multiplied by Column [5].

Source of Information: 2021 Annual Forms 10K
Bloomberg Financial Services

**COMMONWEALTH OF KENTUCKY**

**BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

In the Matter of:

| | | |
|---|---|---|
| Application of Water Service Corporation | ) | |
| of Kentucky for a General Adjustment | ) | Case No. 2022-00147 |
| in Existing Rates and a Certificate Of Public | ) | |
| Convenience and Necessity to Deploy | ) | |
| Advanced Metering Infrastructure, and Approval | ) | |
| Of Certain Regulatory Accounting Treatment | ) | |

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# DIRECT TESTIMONY OF QUENTIN M. WATKINS

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# WATER SERVICE CORPORATION OF KENTUCKY

## CASE NO. 2022-00147

## Direct Testimony of Quentin M. Watkins

## I. INTRODUCTION

### A. WITNESS IDENTIFICATION

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

A. My name is Quentin M. Watkins. My business address is 2626 Glenwood Ave., Suite 480, Raleigh, NC 27608.

**Q. On whose behalf are you testifying in this proceeding?**

A. I am filing testimony on behalf of Water Service Corporation of Kentucky ("WSCK" or the "Company"), a Kentucky corporation, which is a wholly-owned subsidiary of the CORIX Group of Companies ("CORIX").

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

A. I am the Energy Benchmarking Manager at ScottMadden, Inc. ("ScottMadden").

**Q. Please describe ScottMadden's consulting practice and the services it provides.**

A. Founded in 1983, ScottMadden is a management consulting firm with three practice areas: Energy; Rates & Regulation; and Corporate and Shared Services. Since 1983, they have served hundreds of clients, including the top 20 energy utilities in the United States. ScottMadden has performed projects across every energy utility business unit and every function.

## B. BACKGROUND AND QUALIFICATIONS

**Q. Please summarize your professional experience and educational background.**

A. I have more than 16 years of experience with ScottMadden, including more than 12 years in my current role, and I have conducted or contributed to almost 100 different benchmarking studies for regulated water, gas, and electric utilities across North America.

I am a graduate of the University of the South in Sewanee, Tennessee, where I received a Bachelor of Arts degree in Economics and Religion. I have also received a Master of Business Administration degree, with concentrations in Finance and Strategy from Vanderbilt University.

The details of my educational background, past benchmarking studies, and my past contributions to regulatory testimony in other proceedings in other jurisdictions are included in Appendix A.

## II. PURPOSE OF TESTIMONY

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

A. The purpose of my testimony is to present findings from a Wage and Benefit Study that was conducted on behalf of WSCK in response to the Kentucky Public Service Commission's ("KPSC", or the "Commission") request for a formal study that provides local wage and benefit information from the geographic area where WSCK operates.

**Q. Is the Wage and Benefit Study included in your submission?**

A. Yes. The Wage and Benefit Study, which has been prepared by me or under my direct supervision is being filed in conjunction with a petition for confidential treatment.

**Q. Please explain how you performed the Wage and Benefit Study prepared for WSCK to satisfy the KPSC directive.**

A. ScottMadden and WSCK identified 19 employee positions that were determined to be relevant and in-scope for the market salary and benefits study, including six positions that are allocated in part to WSCK by its parent company CORIX, and 13 positions which are directly employed by WSCK. These positions are shown in Table 1 below:

**Table 1 – WSCK Positions Included in the Study**

| **WSCK Allocated Positions** | | |
|---|---|---|
| **#** | **Position** | **Location** |
| 1 | Compliance Manager | Chicago, IL |
| 2 | Dir. Engineering & Asset Management | Chicago, IL |
| 3 | Financial Planning & Analysis Manager | Cleveland, OH |
| 4 | GIS Analyst | Chicago, IL |
| 5 | President KY | Cleveland, OH |
| 6 | Senior Vice President | Chicago, IL |
| **WSCK Direct Positions** | | |
| **#** | **Position** | **Location** |
| 1 | Field Tech I | Middlesboro, KY |
| 2 | Field Tech I | Clinton, KY |
| 3 | Field Tech I | Middlesboro, KY |
| 4 | Field Tech I | Middlesboro, KY |
| 5 | Field Tech I | Middlesboro, KY |
| 6 | KY Operations Apprentice | Middlesboro, KY |
| 7 | Lead Water-Wastewater Operator | Middlesboro, KY |
| 8 | Lead Water-Wastewater Operator | Middlesboro, KY |
| 9 | State Operations Manager | Middlesboro, KY |
| 10 | Water-Wastewater Operator I | Middlesboro, KY |
| 11 | Water-Wastewater Operator I | Clinton, Ky |
| 12 | Water-Wastewater Operator II | Middlesboro, KY |
| 13 | Water-Wastewater Operator II | Middlesboro, KY |

To determine the competitiveness of the base compensation, total cash compensation, and total employee benefits for these positions, a variety of tools and data sources, both public and private, were used to establish an appropriate basis of comparison for each component of the analysis. For the salary and total cash compensation analysis,

two private compensation analysis tools were used as described below, supplemented with private data from a custom survey of other regulated utilities with operations in Kentucky, and public data from the Department of Labor ("DOL"), Bureau of Labor Statistics ("BLS"). For the analysis of pay practices, health, and retirement benefits, public data from the BLS was supplemented with private data from a custom survey of regulated utilities and other companies with operations in Kentucky, and specifically the towns of Middlesboro and Clinton, where WSCK has operations.

**Q. Please describe the results of the Wage and Benefit Study.**

A. As set forth in Wage and Benefit Study, based on the analysis of base compensation, using a weighted average for all 19 positions, WSCK's 2022 base pay is 5% below the market midpoint. WSCK's total compensation in 2022, including salary, as well as health and retirement benefit costs compares slightly less favorably at 7% above the market midpoint, though still within a reasonable range to be considered competitive compared to peers. Similarly, after aging the market midpoint averages for all positions to 2023 and incorporating planned salary increases for WSCK in 2023, WSCK's projected base compensation increases 5% below the market midpoint to 3% above the market averages based on the Company's projected values for 2023.

Regarding pay practices and employee benefits, based on our analysis of WSCK's offerings compared to peer companies, the Company's benefits are competitive and in line with the benefits offered by other companies in the state and region that compete for the same talent in the marketplace.

**Q. Please explain what you mean by "aging" the market midpoint averages.**

A. In order to represent what the market midpoint averages are projected to be in 2023, I applied a prorated share of the total expected percentage increase in base pay over the

course of the next twelve months. By "aging" the market data in this manner, it provides an appropriate basis of comparison to assess the competitiveness of WSCK's projected base pay in 2023.

**Q. In your opinion, are WSCK's salaries, pay practices, and employee health and retirement benefits reasonable, competitive, and comparable to local, state and regional averages?**

A. Yes, WSCK's wages and benefits are competitive and comparable to local, state, and regional averages. Further, the projected base salaries for 2023 in support of the future test year filing, incorporating an expected increase in hourly wages, remain competitive with market averages.

**Q. Does this conclude your direct testimony?**

A. Yes, it does.

# AFFIDAVIT

The undersigned, QUENTIN M. WATKINS, being duly sworn, deposes and says that he is the Energy Benchmarking Manager at ScottMadden, Inc., and provides consulting services for the Water Service Corporation of Kentucky, that he is authorized to submit this testimony on behalf of Water Service Corporation of Kentucky, and that the information contained in the testimony is true and accurate to the best of his knowledge, information and belief, after reasonable inquiry, and as to those matters that are based on information provided to him, he believes to be true and correct.

Quentin M. Watkins, Affiant

## NOTARY CERTIFICATE

**STATE OF** NC

**COUNTY OF** WAKE

Subscribed, acknowledged and sworn to before me by Quentin Mills Watkins on this 20 day of May, 2022.

My commission expires: 03-28-2024.

NOTARY PUBLIC

ROMMEL SIMON
NOTARY PUBLIC
WAKE COUNTY, NC
My Commission Expires 3/28/2024

**COMMONWEALTH OF KENTUCKY**

**BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

In the Matter of:

| | | |
|---|---|---|
| Application of Water Service Corporation | ) | |
| of Kentucky for a General Adjustment | ) | Case No. 2022-00147 |
| in Existing Rates and a Certificate Of Public | ) | |
| Convenience and Necessity to Deploy | ) | |
| Advanced Metering Infrastructure, and Approval | ) | |
| Of Certain Regulatory Accounting Treatment | ) | |

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**WAGE AND SALARY SURVEY**
**FILED CONFIDENTIALLY**

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# Quentin Watkins
## Manager, Energy Benchmarking & Leading Practices

### *Summary*

Quentin Watkins joined ScottMadden in 2005 after graduating from Vanderbilt University's Owen Graduate School of Management with an M.B.A. in finance and strategy. As manager of energy benchmarking and leading practices, Quentin has managed a variety of client benchmarking projects. He also leads the development of ScottMadden's benchmarking and leading practices infrastructure. This includes a robust knowledgebase and proprietary tools and methodologies to help clients assess their performance, both quantitatively and qualitatively, and improve it. Quentin has extensive consulting experience in performance management, M&A integration, operations improvement, and financial planning. He has worked in a variety of industries, including electric utilities, financial services, engineering and construction, and information technology services. Prior to business school, Quentin worked in commercial banking, managing client relationships and administering a commercial loan portfolio of up to $100 million. Quentin earned an undergraduate degree in religion and economics from the University of the South in Sewanee, Tennessee.

### *Areas of Specialization*

- Benchmarking and leading practices
- Financial analysis and modeling
- Operations improvement and process design
- Performance management
- Organization assessment and design
- Merger and acquisition integration
- Transmission
- Distribution
- Generation
- Gas LDCs

### *Recent Publications*

- Co-author of "51st State Perspectives: Massachusetts: A Great Clean Energy Story – DERs and the Next Chapter." ScottMadden and SEPA
- "California's Combined Cycle Costs in the Age of the Duck Curve." The 69th Annual AREGC Conference. June 26, 2018
- Co-author of "The Smart City Opportunity for Utilities." ScottMadden
- Co-author of "G&T Organizational Benchmarking Study." co-authored with Todd Williams, ScottMadden; Barbara Hampton, GTC; Bob Kees, ODEC. G&T Accounting & Finance Association Annual Conference. June 22, 2016

### *Recent Assignments*

#### *Enterprise*

- Developed a comprehensive organizational assessment of a large public power agency compared to a panel of investor-owned utility peers, combining financial and operational analyses with key industry trends and drivers, to support a strategic off-site retreat for executive leadership and the board of directors
- Completed an assessment of a vertically integrated utility's cost structure, benchmarking the costs for each business unit and support service against a panel of like-in-kind peers. Worked collaboratively with the client to identify which metrics, both internally monitored and externally benchmarked, should be used to manage the business—resulting in a dashboard of key performance indicators for senior management
- Developed and administered data collection and analysis processes to support two different iterations of the utility warehouse study conducted by the Utility Materials Management Benchmarking Consortium (UMMBC), serving as the point of contact for data collection and validation, and leading the development of reports
- Developed a proprietary tool to evaluate stand-alone utility service company performance down to the functional level. By enhancing and normalizing publicly available data, the model can be tailored to unique client needs to provide accurate comparisons of like-in-kind cost data
- Assisted a large investor-owned utility identify and screen potential acquisition candidates, leveraging a deep understanding of power supply markets, market and state regulatory environments, and contracting arrangements for power generation plant off-take
- Conducted market research on federal and state policies and financial incentives designed to encourage the development of new renewable and alternative energy and energy efficiency initiatives

***Transmission***

- Managed data collection and data analysis for a benchmarking consortium of transmission owners and designed enhanced modeling functionality to present data and results to participants in new ways which provide unique insights into performance measurement and management
- Designed, developed and administered a customized, recurring staffing study on behalf of a consortium of large electric G&T cooperatives that included all common utility corporate support functions
- Conducted industry research and analysis to support the development of a white paper on the potential for electric transmission development to serve as a solution for renewable integration in the United States
- Led the design, development, and construction of a backup operations center. Coordinated with client stakeholders, compliance personnel, and contractors to ensure that the implementation plan met all regulatory and company-defined requirements for the facility
- Conducted integration planning and project management for a client acquiring electric transmission facilities in four states. Coordinated management teams in engineering, operations, maintenance, field operations, human resources, planning, IT, and facilities to develop and track work plans, organize meetings, and report results to senior management
- Served as one of a two-person project management team responsible for the integration of the operations functions of two independent transmission companies. Developed and managed integration work plan for facilities, staffing, energy management system, training, document conversion, and procedures
- Worked as an integral member of the project management team responsible for building a transmission operations center to enable an independent transmission company to manage its transmission assets. Responsibilities included organizing recurring project meetings, assisting management with reporting requirements, and managing project documentation, calendars, task lists, meeting minutes, and work plans

***Fossil/Hydro***

- Conducted a comprehensive cost and staffing benchmarking study of a fossil and hydro generation fleet for a large public power company and provided an independent and objective assessment of cost and staffing performance of the client units compared to catered groups of like-in-kind peer units. Worked with accounting personnel to ensure that client plant costs were comparable to rate-regulated plants and conducted an assessment of the existing reliability performance benchmarking process based on leading industry practices
- Conducted a generation fleet cost and reliability benchmarking study for a large electric utility, including a deep-dive root cause analysis of all lost hours of production for each unit. Benchmarking results were used to support the development of organizational performance goals in the context of business planning, as well as specific improvement initiatives to bridge gaps to top-tier performance
- Conducted a comprehensive generation fleet benchmarking study for a large investor-owned utility, combining cost, reliability, and staffing assessments through the application of various data sources, to provide client management with actionable insights to improve fleet performance
  Conducted a comprehensive generation fleet benchmarking study for a large investor-owned utility, combining cost, reliability, and staffing assessments through the application of various data sources, to provide client management with actionable insights to improve fleet performance

***Nuclear***

- Developed and administered an industry survey of large nuclear operators examining project controls practices, including estimating and earned value management. Conducted interviews with executives in project management and project controls, analyzed the survey of the results, and developed key findings and recommendations for the client future state project controls organization
- Collected and analyzed the results of a data-intensive survey conducted by a consortium of nuclear operators to identify patterns and commonalities of spend on service and materials vendors and identified seven high-priority opportunities for savings through buyer aggregation, supplier aggregation, and improved competition
- Developed a framework for a management operating model for a nuclear power industry organization. Facilitated a series of workshops with a cross-functional client team and conducted interviews with the senior leadership team to determine current state gaps, priorities, and recommended focus areas for implementation
- Worked with a nuclear power operator to support the regulatory response and recovery plan for a site preparing for a rigorous inspection. Developed process improvement recommendations and created an automated work management tool for a group created to reduce the backlog for the site's corrective action program
- Worked with a multisite nuclear power operator to revise its contracting strategy for maintenance and construction services. Developed and administered an industry survey to identify leading practices, conducted

reference interviews with senior executive personnel from other utilities to validate contractors' past performance, and developed recommendations for improving results through future alliances with contractors

***Gas LDC***

- Completed a series of five different benchmarking studies for gas LDC companies in the United States, each including a unique examination of cost and operational performance compared to catered panels of peer companies, to support a variety of different management objectives, including due diligence in the context of M&A transactions, analysis to support strategic reviews, and assessment of target setting for strategic planning
- Developed an independent analysis of the gas LDC industry for a large contractor, examining historical capital and O&M expenditures among the universe of investor-owned gas utilities in the United States and conducted research on regulatory requirements, performance trends, technological developments, and other factors to develop an understanding of the drivers of historical and forecast spend by region and state

***Other/Non-Benchmarking***

- Managed an organizational assessment of the procurement function for a multinational engineering, procurement, and construction firm in the utility industry. Performed a leading practice assessment, comparing existing company practices to those of leading procurement organizations, to help management identify high-impact opportunities to improve operational efficiency and performance
- Performed market and competitor analysis, including on-site interviews and research in Shanghai, to develop a market-entry plan for a construction company considering expanding operations into China
- Developed a marketing plan for a $100 million IT consulting company, integrating a book on IT management authored by two principals of the company. Coordinated with internal stakeholders to investigate sales channels for the book through online retailers, universities, and trade organizations resulting in a ranking of #23 on the Amazon business best-seller list
- Completed current state assessment, defined the future state processes, and conducted gap analysis to support a strategic IT automation project for a top-10 financial services company. Worked with client management and subject matter experts to develop recommendations for business rules, new roles, and work unit process flows

**COMMONWEALTH OF KENTUCKY**

**BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

In the Matter of:

| | | |
|---|---|---|
| Application of Water Service Corporation | ) | |
| of Kentucky for a General Adjustment | ) | Case No. 2022-00147 |
| in Existing Rates, a Certificate Of Public | ) | |
| Convenience and Necessity to Deploy | ) | |
| Advanced Metering Infrastructure and Approval | ) | |
| Of Certain Regulatory Accounting Treatment | ) | |

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# DIRECT TESTIMONY OF COLBY WILSON

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**WATER SERVICE CORPORATION OF KENTUCKY**

**CASE NO. 2022-00147**

**Direct Testimony of Colby Wilson**

## INTRODUCTION AND QUALIFICATIONS

**Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

A. My name is Colby Wilson. My business address is 102 Water Plant Rd., Middlesboro, Kentucky, 40965.

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

A. I am the State Operations Manager ("SOM") for Water Service Corporation of Kentucky, Inc. ("WSCK" or "Company"). WSCK is a wholly owned subsidiary of Corix Regulated Utilities (US), Inc. ("CRU"), whose ultimate parent company is Corix Infrastructure, Inc. ("CII").

**Q. WHAT DO YOUR JOB RESPONSIBILITIES INCLUDE?**

A. In my current position, I oversee the daily operations at the Company's two water systems in Middlesboro and Clinton, Kentucky. I am responsible for leading the operations team to ensure compliance with all applicable local, state, and federal regulations so that our customers receive safe and reliable water services at reasonable cost. I am also responsible for managing the preparation and execution of all Kentucky Public Service Commission-related activities in coordination with the Company's Financial and Regulatory staff, budgeting and forecasting operating and maintenance expenses, and monitoring the financial performance throughout the year. I also oversee the development and execution

of developer agreements, payment of applicable fees, maintenance of facilities, company vehicles, and equipment.

I collaborate with the local operations staff in Kentucky and President – Ohio/Kentucky Business Unit regarding the capital and operating expense budgets, acquisitions, and provide stewardship of customer complaints ensuring that all issues are reported through the management hierarchy as appropriate. In addition, I am responsible for recruiting and training employees, and providing leadership to the operations staff.

**Q. PLEASE DESCRIBE YOUR PROFESSIONAL BACKGROUND.**

A. I am a 2007 Graduate of Lincoln Memorial University with a bachelor's degree in applied science. After working in the coal mining industry for 11 years, I went to work for the Company in 2015 as a water plant operator. Since then, I have operated the water plant and received a class 4 certification and been the operator in charge of the distribution system with a class 3 certification. On January 1, 2022, I became the State Operations Manager for the Company.

**Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION ("COMMISSION")?**

A. No.

**Q. HAVE YOU TESTIFIED BEFORE ANY OTHER PUBLIC UTILITY COMMISSION?**

A. No.

**Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

A. My testimony provides support for WSCK's request to adjust water rates. I will describe our service territories, our water operations, impacts of recent major system improvements, capital improvement needs and upcoming projects, and provide support for the Company's request for a Certificate of Public Convenience and Necessity ("CPCN") for the planned Advanced Metering Infrastructure ("AMI") project.

**Q. PLEASE GENERALLY DESCRIBE WSCK'S SERVICE TERRITORIES.**

A. WSCK currently owns and operates two water systems in Kentucky. WSCK has a surface water facility in Middlesboro, Kentucky, where the Company provides water and fire service to approximately 5,575 connections. In Clinton, Kentucky, WSCK serves approximately 572 water connections.

**Q. PLEASE GENERALLY DESCRIBE WSCK'S WATER OPERATIONS.**

A. As part of the Company's operations, we deliver safe, potable water through distribution systems with filtration and chemical addition to our two water systems. The system in Middlesboro consists of a 3 MGD conventional surface water treatment plant. The plant has two 1.25 MG storage tanks. There is one booster station that supplies a remote 15,000-gallon storage tank. The distribution system consists of approximately 86 miles of water mains varying in size from .75 inches to 24 inches. In addition, the Middlesboro system has over 1,000 valves and 366 fire hydrants for use in public fire protection and water main maintenance.

The system in Clinton has a .75 MGD groundwater plant. The plant has one clear well with a capacity of 30,000 gallons that supplies two 178,000 ground storage tanks. The distribution system consists of approximately 11.5 miles of water mains varying in size

from .75 inches to 8 inches. In addition, the Clinton system has 91 valves and 56 fire hydrants for use in public fire protection and water main maintenance.

**Q. PLEASE DESCRIBE THE DUTIES OF THE STAFF AT WSCK.**

A. WSCK's operational staff consists of an SOM, Lead Operators, Operators, Field Technicians, and an Administrative Assistant. Staff is responsible for the daily operation and maintenance of our water facilities. Staff completes daily monitoring and testing activities in conjunction with needed and scheduled preventative maintenance activities. Staff is responsible for maintaining accurate records that are submitted to the Kentucky Department of Environmental Protection and Kentucky Division of Water monthly. Staff also maintain the distribution system, as well as monitoring chemical usage for inventory and treatment requirements. Field Activities are completed by Staff which are recorded and documented through our Operations Management Software (Lucity) as well as our Customer Care Billing System.

**Q. ARE YOU SPONSORING ANY EXHIBITS IN THE COMPANY'S APPLICATION?**

A. Yes, I am sponsoring the following Exhibits, which were prepared by me or under my supervision:

- Exhibit 39 – Maps and Descriptions of Installation of AMI infrastructure
- Exhibit 40 – Plans and Specifications of AMI Infrastructure

**Q. PLEASE DISCUSS THE COMPANY'S EFFORTS TO MANAGE UNACCOUNTED-FOR-WATER.**

A. The below two tables depict the 2021 unaccounted-for-water ("UFW") for Middlesboro and Clinton respectively. Middlesboro UFW rate was 15.30% and Clinton's UFW rate was 13.23%.

| Middlesboro (These numbers do not include plant use, flushing or fire station reports) | | | | | |
|---|---|---|---|---|---|
| Total Water Pumped | Water Sold | % Pumped | Revenue Water | UFW Per System | UFW Gallons |
| 466,008,000 | 371,788,000 | 100% | 84.70% | 15.30% | 71,923,000 |

| Clinton (These numbers do not include plant use, flushing, or fire station reports) | | | | | |
|---|---|---|---|---|---|
| Total Water Pumped | Water Sold | % Pumped | Revenue Water | UFW Per System | UFW Gallons |
| 42,421,000 | 35,137,000 | 100% | 86.77% | 13.23% | 5,614,000 |

**Q. WHAT ACTIONS HAS THE COMPANY TAKEN TO KEEP UFW LEVELS TO A MINIMUM?**

A. The operations staff undertakes active leak detection measures, and constantly monitors storage tank levels through SCADA. Once leaks are discovered, a plan is put into place to make necessary repairs. We also closely monitor trouble locations in order to promptly discover and address leaks in these places. Finally, as I discuss below, the Company is implementing AMI technology to help eliminate unknown customer leaks.

**Q. PLEASE DESCRIBE THE LEVEL OF WATER QUALITY WITHIN THE SYSTEM.**

A. Our Company has maintained constant compliance with the DOW requirements, with no notice of violations having been received since 2019. As explained below, we have experienced minimal taste, odor, or color water complaints.

**Q. PLEASE SUMMARIZE ANY CUSTOMER COMPLAINTS RECEIVED IN RECENT MONTHS RELATED TO WATER QUALITY.**

A. During the last 17 months, WSCK has received 23 water quality complaints related to discoloration or taste and order concerns. The discoloration may have been due to possible iron leaching from unlined cast-iron water mains.

**Q. PLEASE DESCRIBE WHAT ACTIONS WERE TAKEN TO RECTIFY THESE WATER QUALITY SITUATIONS.**

A. In 18 of the instances, water was flushed to clear up the water. For the remaining instances, no problem was found. An ongoing, more stringent flushing plan is in place for problematic areas. For one area in Clinton, an automatic flusher was installed in order to, on a more frequent basis, optimize the amount of water used.

**Q. PLEASE DESCRIBE THE IMPACTS OF THE RECENT MIDDLESBORO AND CLINTON TANK RECONDITIONING PROJECTS.**

A. The Company has two 1,250,000 gallon-ground storage tanks, referred to as Tank #1 and Tank #2, at its Middlesboro water treatment plant. The Middlesboro water system has a 15,000 gallon standpipe that provides storage for the Beans Fork Road service area. In the Clinton service area, there is a 200,000 gallon standpipe, referred to as Grubbs Tank, and a 30,000 gallon storage tank, referred to as the Reservoir. In 2021, tank reconditioning projects were completed on each of the tanks, extending the expected life of the tanks. The

Commission authorized recovery of the costs of the tank rehabilitation projects in the Company's most recent rate case.

**Q. PLEASE DESCRIBE THE OPERATIONAL IMPROVEMENTS THE COMPANY HAS MADE SINCE THE LAST RATE CASE IN 2020.**

A. Treatment and technology are currently the same as in 2020, consistent with our recent history of no compliance issues. Also, as I explained above, the tanks were reconditioned and placed back into service in 2021.

**Q. PLEASE DESCRIBE THE COMPANY'S RESPONSE TO THE COVID-19 PANDEMIC.**

A. WSCK has complied with all CDC requirements and followed all Governor recommendations for conducting our day-to-day operations, including the implementation of a stay on shut offs and automatic 24-month deferred payment arrangements. Effective January 2022, we have resumed shut offs, starting at a $400 threshold for past due balances then working back down to normal shut off procedures. Additionally, a company-wide Incident Command Team was established in order to support the local business units with accurate statistics and latest guidance from health agencies. With regard to our employees, we provided them with all necessary PPE needed to maintain a sufficient level of safety to perform their daily duties. Since returning to "green" in our respective counties, we continue to provide our employees with all necessary PPE to keep them and our customers safe.

**Q. PLEASE DESCRIBE THE COMPANY'S NEEDS FOR CAPITAL INVESTMENT AND ITS CURRENT PRIORITIES.**

A. With an aging infrastructure and UFW slowly creeping up it is imperative to get out in front of this issue before it becomes a larger concern. As will be explained below, investment in AMI technology would give customers a better understanding of their water consumption. This would help customers better control their own water bills and promote water conservation in our communities.

**Q. PLEASE EXPLAIN THE CAPITAL IMPROVEMENTS REQUESTED FOR RECOVERY IN THIS PROCEEDING.**

A. The Company is requesting recovery through the Forecast Period of its Application of the following major capital investments:

Clinton Main Replacement: This project consists of replacing the East Clay Street waterline in Clinton. This project will provide a loop in the system, improving water quality to this section of the community. The project will begin in March 2023 and is projected to be completed in 2024. Vaughn and Melton engineering firm is ready to proceed with bid documents as soon as approved. The total estimated project cost is $546,550.

New Vehicles: The Company is purchasing two new vehicles in 2022 and 2023, collectively. The vehicles will replace current aging vehicles which have ever-increasing mileage. These vehicle purchases will help eliminate 2-wheel drive vehicles currently being utilized by the Company. The estimated cost of vehicle purchases is $41,600 in 2022 and $43,264 in 2023.

AMI: This project will be explained later in my testimony.

In addition to the above major investments, the Company is continually identifying and replacing and/or upgrading its existing assets on a recurring basis. Examples of these

improvements are service line replacements, hydrant replacements, pump rehabs or replacement, and other various equipment replacements for components at the end of their useful life.

**Q. PLEASE DESCRIBE THE COMPANY'S PROPOSED CPCN PROJECT FOR ADVANCED METERING INFRASTRUCTURE OR AMI.**

A. The Company is proposing to move from existing manual reading meters to Neptune AMI meters throughout its entire service area. The project involves deploying AMI to one-third of the distribution system every 2 years, with the whole system being deployed over a 5-year rollout period. The initial round of AMI meter deployment is set to begin in January 2023.

**Q. PLEASE EXPLAIN THE NEED FOR THE COMPANY'S REQUEST FOR A CPCN FOR THE AMI PROJECT.**

A. It is my understanding that KRS 278.020 requires a utility to obtain a CPCN to construct or acquire any facility to be used in providing utility service to the public unless there is an exemption, such as the one for ordinary extensions of existing systems in the usual course of business. Although WSCK's proposed installation of AMI infrastructure may be considered an "ordinary extension," WSCK is seeking a CPCN from the Commission out of an abundance of caution.

**Q. PLEASE DESCRIBE THE BENEFITS OF THE AMI PROJECT.**

A. There are many advantages to AMI meters. Because the AMI meters will have two-way communications capabilities that will transmit usage and other relevant data to the Company, the AMI meters will allow the Company to gather real-time consumption data,

allowing it to better understand community usage patterns. Additionally, AMI meters will provide more accurate readings than manual read meters, resulting in fewer incorrect readings, fewer estimates, and fewer re-readings. The Company will be able to more quickly identify unusual water usage patterns indicative of potential water leaks. Further, our customers will have better information at their fingertips, as they will have 24/7 access to their water usage through the Company's MyUtilityConnect app. This should lead to more efficient billing resolutions, and thus improved customer satisfaction. Finally, there are operational advantages for the Company, which will not have to send field technicians for manual meter reads, eliminating employee safety concerns, reducing truck rolls, and allowing the Company to re-deploy its Staff to address other priorities.

**Q. PLEASE DESCRIBE THE AMI METER DEPLOYMENT PLAN.**

A. As I mentioned above, the project contemplates deploying AMI to approximately one-third of the distribution system every 2 years, with the whole system being deployed over a 5-year rollout period. The initial round of AMI meter deployment is set to begin in January 2023. Manual read meters have begun being installed in the system in 2022 with full retro fit ability. In 2023, retrofit will continue as well as installation of approximately 2,000 meters, including the entirety of the Clinton system as well as a third of the Middlesboro system.

**Q. WHY IS THE COMPANY PROPOSING TO REPLACE THE CURRENT METERS, PARTICULARLY IN THIS FASHION?**

A. Replacing the current meters in this phased in approach will have multiple benefits for the Company and its customers. The current meters are scheduled to be tested and replaced if necessary. The proposal to replacing the current meters with AMI meters, in this phased

in approach, will compress the meter replacement cycle and ensure the meters are modernized in a way that benefits customer service. Additionally, the rollout will begin in troubled locations, less accessible areas, and more dangerous areas for our meter readers within our service area. This will allow customers in these areas to benefit from the AMI meters more rapidly than others in the system.

**Q. PLEASE EXPLAIN WHAT IS SHOWN IN EXHIBIT 39.**

A. Exhibit 39 are GIS maps and descriptions of the planned installation of the AMI infrastructure. Exhibit 39 reflects the timeline of the proposed rollout, showing which routes and customers will be in the various phases of the AMI deployment, as well as showing the infrastructure being installed in each phase.

**Q. WILL COMPANY STAFF INSTALL THE AMI METERS?**

A. Yes.

**Q. WHAT TYPE OF AMI METERS WILL BE INSTALLED?**

A. Neptune AMI meters will be installed. Neptune meters were selected following a market analysis, Request For Information, and Request For Proposals were conducted by the Company's parent company, Corix, to select a meter vendor of choice. Following this process, Neptune was selected, which provided a level of product flexibility at a competitive price that met the needs of Corix's operating requirements. Corix was also able to negotiate a discount on nationwide pricing, providing value and annual price certainty.

**Q. PLEASE DESCRIBE EXHIBIT 40.**

A. Exhibit 40 contains specifications and information on the type of meters and equipment which will be used in the AMI project.

**Q. WHAT ARE SOME OF THE PHYSICAL COMPONENTS AND COSTS OF THE AMI PROJECT?**

A. The components of the AMI system include AMI meters, Gateway data collectors, an MRX920 mobile data collector, and retro-fitting materials. AMI training will be provided to relevant Company staff, who will complete AMI meter installation at a rate of approximately 4 meters per day until completion. Company Witness Kilbane provides further detail regarding the cost analysis of the AMI project.

**Q. IS THE COMPANY INCURRING ANY NEW DEBT AS A RESULT OF THE AMI PROJECT?**

A. No.

**Q. WILL THE AMI PROJECT NEGATIVELY IMPACT ANY OTHER REGULATORY OBLIGATIONS OF THE COMPANY?**

A. No. For example, the AMI project and its deployment schedule will not impact the Company's compliance with Commission's periodic meter testing requirements.

**Q. PLEASE EXPLAIN ANY IMPACT THE AMI METERS MAY HAVE ON CURRENT COMPANY STAFF.**

A. No Company employee will lose their job as a result of AMI installation. In fact, the Company will have the opportunity to redeploy its human resources in order to continue to improve system reliability and customer service. For example, instead of requiring a number of Company staff to conduct periodic meter reading tasks, their job time will be

opened up to better monitor the system, promptly address leaks that are detected by AMI meters, and otherwise add value to our Company by addressing needs other than meter reading.

**Q. DOES THIS CONCLUDE YOUR PREPARED DIRECT TESTIMONY?**

A. Yes, it does. I reserve the right to supplement my testimony at a later date due to additional information becoming available.

# AFFIDAVIT

The undersigned, COLBY WILSON, being duly sworn, deposes and says that he is the State Operations Manager for the Water Service Corporation of Kentucky, that he is authorized to submit this testimony on behalf of Water Service Corporation of Kentucky, and that the information contained in the testimony is true and accurate to the best of his knowledge, information and belief, after reasonable inquiry, and as to those matters that are based on information provided to him, he believes to be true and correct.

Colby Wilson, Affiant

## NOTARY CERTIFICATE

**STATE OF** Ky

**COUNTY OF** Bell

Subscribed, acknowledged and sworn to before me by Colby Wilson on this 26 day of May, 2022.

My commission expires: 2-1-26.

Sandra K. Wilson KYNP 42894

NOTARY PUBLIC