EXHIBIT Y

TESTIMONY OF DYLAN D'ASCENDIS

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

AQUA PENNSYLVANIA WASTEWATER, INC.

DOCKET NO. A-2019-3015173

AQUA STATEMENT NO. 9

DIRECT TESTIMONY OF DYLAN W. D'ASCENDIS

March 3, 2020

DIRECT TESTIMONY OF
DYLAN W. D'ASCENDIS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS FOR THE RECORD.

A. My name is Dylan W. D'Ascendis. My business address is 3000 Atrium Way, Suite 241, Mount Laurel, NJ 08054.

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

A. I am employed by ScottMadden, Inc. ("ScottMadden") as Director.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EDUCATION AND EXPERIENCE.

A. I offer expert testimony on behalf of investor-owned utilities on rate of return issues and class cost of service issues. I am a Utility Valuation Expert ("UVE") in the Commonwealth of Pennsylvania approved by the PUC (Utility Code 9919278). I also assist in preparing rate filings, including, but not limited to, revenue requirements and original cost and lead/lag studies. I am a graduate of the University of Pennsylvania, where I received a Bachelor of Arts degree in Economic History. I also hold a Masters of Business Administration from Rutgers University with a concentration in Finance and International Business, which was conferred with high honors. I am a Certified Rate of Return Analyst ("CRRA") and a Certified Valuation Analyst ("CVA"). My full professional qualifications, including my expert witness appearances, are provided in Attachment A.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION?

A. Yes. I have testified before the Pennsylvania Public Utility Commission ("Commission" or "PUC") on several occasions as shown on Attachment A.

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

A. The purpose of my testimony is to describe the fair market value appraisal of the wastewater operations of the Delaware County Regional Water Quality Control Authority ("DELCORA") that my staff and I performed on their behalf. DELCORA is selling their operations to Aqua Pennsylvania Wastewater, Inc. ("Aqua"). Our report is entitled "Valuation Report Delaware County Regional Water Quality Control Authority February 20, 2020." The appraisal and its report were developed to meet the criteria established in Section 1329 of the Pennsylvania Public Utility Code ("Code"), 66 Pa. C.S. § 1329 ("Determination of the fair market value of water and wastewater assets").

In its 2015-2016 legislative session, the Pennsylvania Legislature passed Act 12 of 2016 and Governor Wolf signed into law Section 1329 of the Code establishing the legislative guidelines facilitating the acquisition of municipal water and wastewater systems by private investor-owned utilities and other entities which are rate-regulated by the PUC.

QUALIFICATION AS UTILITY VALUATION EXPERT

Q. ARE YOU ON THE COMMISSION'S REGISTRY OF UTILITY VALUATION EXPERTS?

A. Yes. I am considered a UVE in the Commonwealth of Pennsylvania approved by the PUC (Utility Code 9919278).

Q. PLEASE DESCRIBE THE PROCESS BY WHICH SCOTTMADDEN WAS PLACED ON THE COMMISSION'S REGISTRY OF UTILITY VALUATION EXPERTS.

A. After passage of Section 1329 of the Code, the Commission established an application process by which the Commission would approve and designate firms to be placed on the Commission's "Registry of Utility Valuation Experts." ScottMadden submitted its application and the required proof of experience on October 13, 2016 and received confirmation and approval from the Commission of ScottMadden's placement on the Commission's UVE Registry on December 7, 2016. ScottMadden has remained on the Commission's registry ever since.

Q. HAVE YOU EVER HAD YOUR PROFESSIONAL CREDENTIALS REVOKED OR SUSPENDED?

A. No.

Q. DO YOU HAVE SPECIFIC EXPERIENCE WITH THE VALUATION AND APPRAISAL OF UTILITY ASSETS?

A. Yes. Please see Attachment A for the details of my valuation assignments.

Q. HAVE YOU, SCOTTMADDEN, OR ANY OF ITS STAFF DERIVED ANY MATERIAL FINANCIAL BENEFIT FROM THE SALE OF DELCORA'S ASSETS OTHER THAN FEES FOR YOUR SERVICES RENDERED?

A. No.

Q. ARE YOU, SCOTTMADDEN, OR ANY OF ITS STAFF AN IMMEDIATE FAMILY MEMBER OF A DIRECTOR, OFFICER, OR EMPLOYEE OF EITHER AQUA OR DELCORA?

A. No.

Q. IS SCOTTMADDEN IN COMPLIANCE WITH APPLICABLE PENNSYLVANIA LAWS?

A. Yes.

Q. DOES SCOTTMADDEN HAVE THE FINANCIAL AND TECHNICAL FITNESS, INCLUDING PROFESSIONAL LICENSES AND TECHNICAL CERTIFICATIONS, TO PERFORM A FAIR MARKET VALUATION OF THE ASSETS OF DELCORA?

A. Yes.

Q. ARE YOU AWARE OF ANY FACT, INCLUDING BUT NOT LIMITED TO ANY POTENTIAL CONFLICT OF INTEREST, THAT WOULD CAST DOUBT UPON YOUR ABILITY TO PROVIDE A THOROUGH, OBJECTIVE, UNBIASED, AND FAIR VALUATION IN THIS PROCEEDING?

A. No.

Q. ARE YOU ADVOCATING FOR ANY PARTY OR OUTCOME?

A. No.

FEES PAID FOR UTILITY VALUATION EXPERT SERVICES

Q. HOW IS SCOTTMADDEN BEING COMPENSATED FOR ITS SERVICES IN THIS MATTER?

A. ScottMadden is being compensated on a fee basis, which includes a fixed fee upon delivery of the initial valuation report, and hourly rates for any services rendered thereafter. True, correct, and complete copies of ScottMadden's invoices to DELCORA for this matter, as of the date of Application filing, are attached to Aqua's Application as Application Exhibit S2 and I incorporate those invoices in my direct testimony as if set forth in their entirety.

Q. WILL SCOTTMADDEN RECEIVE FEES FOR ITS SERVICES REGARDLESS OF WHETHER THE COMMISSION APPROVES THE PROPOSED TRANSACTION OR WHETHER IT CLOSES?

A. Yes.

Q. ARE THESE FEES CONSISTENT WITH COMPENSATION RECEIVED FOR SIMILAR SERVICES PROVIDED TO OTHER CLIENTS?

A. Yes.

FAIR MARKET VALUATION OF DELCORA'S ASSETS

Q. PLEASE IDENTIFY EXHIBIT R TO THE APPLICATION IN THIS PROCEEDING?

A. Exhibit R of Aqua's Application includes my appraisal report dated February 20, 2020, which I prepared for DELCORA to be filed in this proceeding.

Q. HOW DO YOU RECOGNIZE IT?

A. I personally prepared and supervised ScottMadden personnel in preparing the report, and recognize it as ScottMadden's work product.

Q. IS APPLICATION EXHIBIT R A TRUE, COMPLETE, AND ACCURATE COPY OF YOUR VALUATION REPORT?

A. Yes, and I incorporate it into my direct testimony as if set forth in its entirety.

Q. PLEASE DESCRIBE THE PROCESS BY WHICH YOU PREPARED THE VALUATION REPORT.

A. In accordance with Section 1329 of the Code, Aqua and DELCORA engaged Pennoni Associates and Weston Solutions, Inc. (collectively, "the Consulting Engineers") as the licensed engineer to conduct an assessment of the DELCORA's tangible assets. DELCORA engaged ScottMadden to prepare the fair market valuation report for their operations. DELCORA provided financial statements regarding their operations and a copy of the Engineering Assessment development by the Consulting Engineers as required by Section 1329(a)(4). In addition, ScottMadden performed an on-site visit of the above ground facilities and conducted intensive interviews of DELCORA staff on January 17, 2020. After those activities and data gathering, we developed the appraisal.

The appraisal contains a letter of transmittal; a narrative report explaining our methodology and conclusions; a statement of assumptions and limiting conditions; a statement of the Valuation Analyst's Representations; a statement of the professional qualifications of Dylan W. D'Ascendis, CVA, CRRA; and various schedules and appendices.

The intent of the valuation report is to provide the appraisal results, as well as the entire appraisal work file, in sufficient detail to satisfy the parties' and Commission's

review requirements of Section 1329 and the Commission's Final Implementation Order, *In re: Implementation of Section 1329 of the Public Utility Code*, Docket No. M-2016-2543193 (Order entered October 27, 2016). In addition to a copy of my appraisal report, I have provided supporting work papers for the appraisal report. The relevant work papers have been submitted to the Commission with the Application and provided to the public advocates in live electronic format. ScottMadden considers the live electronic files, which are in Excel format, to be CONFIDENTIAL.

Q. IS THERE ANYTHING THAT YOU WOULD CHANGE IN THE VALUATION REPORT SINCE ITS PREPARATION?

A. No.

Q. WAS THE FAIR MARKET VALUATION OF THE DELCORA ASSETS DETERMINED IN COMPLIANCE WITH THE UNIFORM STANDARDS OF PROFESSIONAL APPRAISAL PRACTICE ("USPAP")?

A. Yes. Included in my cover letter is a statement of our report's compliance with USPAP.

Q. DID YOU EMPLOY THE COST, MARKET AND INCOME APPROACHES IN PREPARING YOUR VALUATION?

A. Yes. We developed our appraisal utilizing the cost, market, and income approaches as required by USPAP and Section 1329 of the Code. These approaches are summarized below.

Table 1: Summary of Indicated Values

Valuation Approach	Indicated Value
Cost Approach	$292,413,993
Market Approach	$613,520,480
Income Approach	$291,863,370

Q. DID YOU RELY UPON A LICENSED ENGINEER'S ASSESSMENT OF THE TANGIBLE ASSETS OF DELCORA IN PERFORMING YOUR VALUATION?

A. Yes. Aqua and DELCORA engaged the Consulting Engineers as the licensed engineers to conduct an assessment of DELCORA's tangible assets. DELCORA provided a copy of the Engineering Assessment developed by the Consulting Engineers as required by Section 1329(a)(4). A copy of the Engineering Assessment is included as Exhibit D to the Application.

Q. DID THE LICENSED ENGINEER'S ASSESSMENT INCLUDE AN INVENTORY OF THE USED AND USEFUL UTILITY PLANT ASSETS TO BE TRANSFERRED COMPILED BY YEAR AND ACCOUNT?

A. Yes.

Q. DID THE LICENSED ENGINEER'S ASSESSMENT LIST ALL NON-DEPRECIABLE PROPERTY SUCH AS LAND AND RIGHTS-OF-WAY?

A. Yes.

Q. TO THE BEST OF YOUR KNOWLEDGE, WAS THE LICENSED ENGINEER'S INVENTORY DEVELOPED FROM AVAILABLE RECORDS, MAPS, WORK ORDERS, DEBT ISSUE CLOSING DOCUMENTS FUNDING CONSTRUCTION PROJECTS, AND OTHER SOURCES TO ENSURE AN ACCURATE LISTING OF UTILITY PLANT INVENTORY BY UTILITY ACCOUNT?

A. Yes.

Q. DO YOU HAVE ANY REASON TO DOUBT THE ACCURACY OF THE LICENSED ENGINEER'S INVENTORY OF THE ASSETS?

A. No.

Q. DID YOU INCORPORATE THE LICENSED ENGINEER'S ASSESSMENT INTO YOUR COST APPROACH IN DEVELOPING YOUR VALUATION?

A. Yes.

Q. DID YOU CONDUCT AN ON-SITE INSPECTION OF THE DELCORA ASSETS, AND IF SO, WHAT WAS ITS RESULT ON THE APPRAISAL?

A. Yes. I travelled to DELCORA's Western Regional Wastewater Treatment Plant on January 17, 2020 for interviews with management and a tour of the treatment plant. The information gathered during the interviews were used to finalize assumptions regarding DELCORA's operations if they were not being acquired. As far as an inspection of individual DELCORA assets as to their operating condition, I relied on the Engineering Assessment for that information.

Q. DID YOU HAVE TO EXERCISE PROFESSIONAL DISCRETION IN DEVELOPING ANY ASPECT OF YOUR VALUATION?

A. Yes. The use of professional discretion is detailed throughout Application Exhibit R, where applicable.

Q. PLEASE DESCRIBE ANY ASSUMPTIONS, EXTRAORDINARY ASSUMPTIONS, HYPOTHETICAL CONDITIONS, AND/OR LIMITING CONDITIONS THAT YOU APPLIED TO THE VALUATION.

A. The Statement of Assumptions and Limiting Conditions and the Valuation Analyst's Representations are provided in Appendices A and B to Exhibit R of the Application. Two examples of the limiting conditions for this valuation are:

- Some of the National Association of Regulatory Utility Commissioners ("NARUC") account numbers used in the Engineering Assessment did not

match the NARUC account numbers in the Handy-Whitman Index. Because of this, I had to make informed judgements on the appropriate NARUC account numbers to use for my trended original cost study; and

- Other original cost information was not available. Because of this, I relied on the Engineering Assessment for their estimation of original cost.

Q. HOW DID YOU DEVELOP THE WEIGHTING APPLIED TO EACH APPROACH IN YOUR APPRAISAL AND WHY ARE THE INDIVIDUAL WEIGHTS YOU CHOSE APPROPRIATE FOR THE PROPOSED TRANSACTION?

A. No method of valuation will produce the exact value of a business. A valuation study cannot incorporate market conditions at the time of sale or predict a potential investor's desire, or lack thereof, to acquire the business. DELCORA's desire to sell additional assets to the potential acquirer may increase the desire of some investors, and as a result, increase the value of both sets of assets. Our valuation and report cannot incorporate these considerations.

I have determined the range of values of DELCORA based on the relative weighting of the three valuation methods, as will be discussed below. The weightings indicate the value placed on each appraisal method from the valuation expert. In my opinion, the income and cost approaches should receive significant weight and the market approach should receive minimal weight. The reason for this is that the value derived from the market approach is an obvious outlier from the other two approaches, even when using the most conservative assumptions. The range of values and relative weightings of the valuation approaches are set forth in Table 2, below:

Table 2: Conclusion of Value for DELCORA

Valuation Approach	Indicated Value	Weight	Weighted Value
Cost	$292,413,993	45%	$131,586,297
Market	$613,520,480	5%	$30,676,024
Income	$291,863,370	50%	$145,931,685
Indicated Value		**100%**	**$308,194,006**

Cost Approach

Q. REGARDING YOUR APPLICATION OF THE COST APPROACH, WHAT METHOD DID YOU USE TO DETERMINE THE COST APPROACH RESULT?

A. I used a trended original cost method to determine the original cost new, less depreciation ("RCNLD") of DELCORA's assets. In order to arrive at the reproduction cost new for the DELCORA's assets, I began with the original cost of the assets provided by the Engineering Assessment and used the Handy-Whitman Index ("HW Index") to determine the current reproduction value. The HW Index is prepared specifically for electric, gas, and water utilities, and is the only publication of its kind available to the public. The HW Index has been published continuously since 1924. The Index is comprised of historical index values for various accounts prescribed by the NARUC Uniform System of Accounts, as well as for construction, material, and labor, by geographic region of the United States. For assets not included in the HW Index, specifically communication equipment, transportation equipment, and computer and software, I used the Producer Pricing Index.

The trended original cost method consists of the development of adjustment factors from the time when the asset was put into service to the current date. For example, an average main (NARUC account 331) placed into service in 1985 with an original cost of $100,000 would be trended forward by the ratio of the index value at the current date divided by the index value at the time of installation. The index value of NARUC account 331 in January 2018 is 790.00, and the index value at 1985 when the assets were installed was 254.00, which means the ratio applied to the original cost of the distribution main would be 3.11.[1] This would translate into a current cost for that main of $311,024.[2]

The next step in deriving the RCNLD for DELCORA's assets is to quantify the amount of physical deterioration, functional obsolescence, and economic obsolescence of the assets. Physical deterioration is caused by use, wear and tear, and the aging process. Functional obsolescence is caused by changes in design or construction to create efficiencies not present in the current asset. Economic obsolescence is a loss in value due to external factors not in the control of DELCORA such as economic conditions. The most common measure of physical deterioration is the reserve held for depreciation, which is based on the asset's remaining life versus its average useful life. Functional obsolescence is measured by comparing the subject asset to a replacement asset with current technology. The Engineering Assessment found no significant functional obsolescence for DELCORA assets. Economic obsolescence is usually measured by market conditions, which have been supportive towards the water and wastewater industries in the recent past, as well as prospectively, so I do not believe there is significant economic obsolescence present in DELCORA assets. Since the only

[1] 790.00 / 254.00 = 3.11.
[2] (790.00 / 254.00) x $100,000 = $311,023.

applicable measure of loss of value is physical deterioration, the useful lives for each asset were determined, and reserves for depreciation were calculated for each DELCORA asset if original costs were available

Q. HOW DID YOU CALCULATE THE DEPRECIATION RESERVE FOR EACH ASSET?

A. First, I determined the useful life for each asset,[3] then I reduced the original cost of each asset each year by 1/useful life until the asset was fully depreciated or 2019, which ever one came first and put that value into the depreciation reserve.

Q. WHAT IS THE INDICATED VALUE OF DELCORA BASED ON THE COST APPROACH?

A. Using the HW and Producers Pricing Indices to trend the original cost, less depreciation of DELCORA's assets forward, I derived a reproduction cost new minus depreciation of $292,413,993 as shown on Schedule 1 of Exhibit R.

As stated above, the value derived from the cost approach is based solely on DELCORA's underlying assets, which means it does not take into account the expected cash flows of these assets. Additionally, even though the HW Index takes into account the changes in the cost of various factors over time in different regions throughout the country, it cannot take into account intricacies such as terrain (e.g. mountains in Appalachia versus farmland in Pennsylvania) or changes in development and zoning since original installation. All else remaining equal, different terrains or changes in laws will translate into different timeframes to complete the project, which will directly affect costs.

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[3] Useful lives are based on the System of Accounts for Water and Wastewater Utilities – with 200 or more connections from the Public Utility Commission of Texas with one exception. I used a 75 year useful life for mains as determined by the PUC in Docket No. A-2019-3008491.

Also mentioned previously, some of DELCORA's assets were classified under NARUC account numbers that did not coincide with NARUC account numbers in the HW Index, and therefore, I had to make judgments as to what NARUC account was the most appropriate. In addition, some assets did not have original costs assigned, so I relied upon the estimation of original cost provided by the Engineering Assessment.

Market Approach

Q. REGARDING YOUR APPLICATION OF THE MARKET APPROACH, WHAT METHODS DID YOU USE TO DETERMINE THE MARKET APPROACH RESULT?

A. I used the market-to-book multiple and comparable sales methods.

Q. PLEASE DISCUSS THE MARKET-TO-BOOK METHOD.

A. The market-to-book method applies a market-to-book ratio of a comparable risk group to the book value of equity of the subject company to derive an indicated market value. As shown on page 2 of Schedule 2 of Exhibit R, market-to-book ratios of the water utility proxy group used to derive the weighted average cost of capital ("WACC") in the income approach range from 2.25x to 5.71x book value. Using DELCORA's net position balance from its 2018 audited financial statements of $180,035,336,[4] indicated values range from $415,589,365 to $1,055,626,592, with an average of $695,732,863 as shown on page 3 of Schedule 2 of Exhibit R.

Q. PLEASE DESCRIBE THE COMPARABLE SALES METHOD.

A. I also researched transactions involving companies who acquired 100% of a water or sewer interest since 2015. That research returned 69 results from around the country, 20

[4] From DELCORA's audited financial statements for the year ended December 31, 2018.

of which were acquisitions in Pennsylvania, which are contained on page 4 of Schedule 2 of Exhibit R. A common ratio which can be used to determine DELCORA's market value is transaction value per equivalent domestic unit ("EDU"). The purchase price per EDU ratios for the relevant transactions are also shown on page 4 of Schedule 2 of Exhibit R. As shown on page 4 of Schedule 2 of Exhibit R, the nationwide average purchase price to EDU is approximately $4,100, while the Pennsylvania average purchase price to EDU is $6,450. Given the 197,769 EDUs served by DELCORA,[5] indicated values using this approach range from $811,451,596 to $1,276,340,191.

Q. WHAT WERE THE RESULTS OF EACH ANALYSIS YOU PERFORMED?

A. The market-to-book analysis produced a resulting range of $415,589,365 to $1,055,626,592, with an average of $695,732,863. The comparable sales method produced a result of $811,451,596 to $1,276,340,191.

Q. WHICH RESULTS WERE USED TO DETERMINE YOUR MARKET APPROACH RESULT? PLEASE EXPLAIN WHY THESE RESULTS WERE USED.

A. I averaged the lowest values of the market-to-book method and comparable sales method to come to an indicated value of $613,520,480.

Income Approach

Q. WHAT ASSUMPTIONS DID YOU EMPLOY TO DEVELOP YOUR INCOME APPROACH RESULT?

A. In determining the indicated value using the income approach, I made assumptions regarding DELCORA's operating revenue, operating expenses, and capital requirements.

[5] EDU count provided by DELCORA.

The vast majority of DELCORA's revenues are tied to fees for wastewater treatment. Because of this, their revenues are dependent on two factors; population growth and rate increases. Upon review of US census data and interviews with key staff, I conclude that the population served by DELCORA will be flat or slightly increasing going forward. Because of this, I did not make any further adjustment to the going forward revenues due to population changes.

In regard to rate increases, because of major capital improvements scheduled for the period 2020-2028, I assumed 11% rate increases every year from 2020 until 2028, and then a rate increase of 3% every three years thereafter. The assumption of the 11% annual rate increases from 2020 through 2028 are based on DELCORA's presentations to various stakeholders regarding operations if they did not pursue being acquired. An example of one of these presentations to stakeholders is attached as Appendix F of Exhibit R. My assumption of 3% triennial rate increases in the period from 2029 to perpetuity is the result of my discussion with DELCORA management and their strong desire to keep rates as low as possible for their customers. Raising sewer rates slower than the assumed rate of inflation (discussed below) in the period 2029 to perpetuity is an extremely conservative assumption.

General operating expenses for DELCORA are comprised of taxes and operation and maintenance expenses. Since the acquiring company will not be tax exempt, we have assumed a composite income tax rate (state and federal) of 28.892%.[6] The state and federal income taxes will be reduced by the tax shield created by its depreciation expense. To simplify, we will assume that book depreciation expense is equal to tax

[6] Federal income tax of 21% and Pennsylvania corporate income tax of 9.99%. (100%-21%) x 9.99% = 7.892%. 21% + 7.892% = 28.892%

depreciation expense[7] and multiply depreciation expense by the effective tax rate to derive the value of the tax shield.

All operation and maintenance expenses are assumed to increase at the projected level of the Consumer Price Index[8] ("CPI") with two exceptions. In my assumptions, DELCORA does not renew its contract with the Philadelphia Water Department ("PWD"), which expires in 2028. Because of this, I eliminate the Philadelphia Long-Term Control Plan expense in 2029 and going forward. Similarly, since DELCORA will be treating the flows formerly going to the Southwest Water Pollution Control Plant, they will not be paying the 12% management fee to PWD to treat their wastewater. Because of this, in 2029, I reduce the Philadelphia plant treatment costs 12%. I also assumed that PWD was charging cost-based rates to DELCORA throughout their contract. Due to this assumption, all operation and maintenance expenses associated with the DELCORA plant expansion would be subsumed in the former Philadelphia treatment plant costs. These are conservative adjustments, as DELCORA management in their interviews expressed that costs would dramatically decrease after the expiration of the PWD contract in excess of my assumed 12% decrease. After 2029, I assume that the former Philadelphia treatment plant costs increase at CPI every year.

There are several major capital projects that are reflected in the income approach, which include improvements to the DELCORA system to allow them to bypass the PWD Plant (~$450M); the implementation of the long-term control plan for the City of Chester (~$87M); regulatory required capital projects to expand ammonia and nutrient control

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[7] Book depreciation expense was assumed to be the rate base in that year multiplied by the DELCORA's current depreciation rate of 2.5%.

[8] I employed a CPI projection of 2.1% per year, based on the long-term CPI projection published by *Blue Chip Financial Forecasts*. *See, Blue Chip Financial Forecasts*, Vol. 38, No. 12, December 1, 2019 at 14.

(~$100M); DELCORA's 2019 capital plan (~$340M), and annual replacements of aged sewer lines (~$4M / year).

For the expected system improvements for the period used in the income approach, I relied on DELCORA's internal projected capital expenditures for the period 2020-2040 (provided as Appendix G to Exhibit R). For the period from 2041 to perpetuity, I assumed regular capital expenditures of $20M / year increased by CPI.

Q. WHAT DISCOUNT RATE DID YOU USE TO CALCULATE YOUR INCOME APPROACH?

A. The discount rate is the investor-required expected rate of return on the assets. An investor in any company needs to be compensated for the risk of that investment, and a higher level of risk equates to a higher required rate of return. The overall rate of return in this instance is defined by the WACC. I have calculated a discount rate which relates to the traditional method of financing for publicly-traded water companies, which uses an equal mix between debt and equity capital.

For the common equity cost rate, I applied the Discounted Cash Flow ("DCF"), Risk Premium ("RPM") and Capital Asset Pricing Models ("CAPM") to a proxy group of publicly-traded water companies and a group of non-regulated companies comparable in total risk to the water utility group. Application of these cost of common equity models to these groups results in an indicated cost of common equity of 9.75% which is presented in Appendix H of Exhibit R.

The representative capital structure is a hypothetical capital structure based on the range of capital structures for fiscal year 2018 of the publicly-traded proxy group

companies used to derive the cost of common equity.[9] For the debt cost rate used in the WACC calculation, I used a projected Moody's A public utility bond rate of 4.11%.[10] Table 3 below illustrates the assumed WACC of an investor-owned water utility.

Table 3: Assumed WACC for Water Utility Company

Type of Capital	Cost Rate	Ratio	Weighted Cost
Long-Term Debt	4.11%	50.00%	2.06%
Common Equity	9.75%	50.00%	4.88%
Total		**100.00%**	**6.94%**

Q. IF YOU USED A TERMINAL VALUE IN YOUR DISCOUNTED CASH FLOW ANALYSIS WHAT IS THE NUMBER OF YEARS OVER WHICH THE CASH FLOWS ARE CONSIDERED?

A. I considered those cash flows over 30 years (2020 – 2050).

Q. WHAT IS THE BASIS FOR USING THIS NUMBER OF YEARS?

A. It is my opinion that it is necessary to use 30 years to calculate terminal value because it incorporates DELCORA's capital plan (2020 – 2040) and a normalized period after the major capital expenditures are finished (2041 – 2050).

Q. WHAT IS THE INDICATED VALUE OF DELCORA USING THE INCOME APPROACH?

A. Inputting the estimated revenue, expense, and capital expenditure data into the model resulted in an indicated value of $291,863,370.

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[9] The range of equity ratios of the proxy group companies were from 43.40% to 67.33% at 2018 fiscal year end.

[10] Exhibit R, Appendix H, at 13.

CONCLUSION

Q. WHAT IS YOUR CONCLUSION REGARDING THE FAIR MARKET VALUE OF DELCORA'S WASTEWATER OPERATIONS TO BE PURCHASED BY AQUA?

A. The fair market value of DELCORA's wastewater operations is $308,194,006 as of February 20, 2020. The results of my appraisal and conclusions are summarized in the following table:

Table 4: Conclusion of Value for DELCORA

Valuation Approach	Indicated Value	Weight	Weighted Value
Cost	$292,413,993	45%	$131,586,297
Market	$613,520,480	5%	$30,676,024
Income	$291,863,370	50%	$145,931,685
Indicated Value		**100%**	**$308,194,006**

Q. DID YOU MAKE ANY UPDATES TO YOUR APPRAISAL AFTER IT WAS SUBMITTED TO THE SELLER/BUYER, AND IF SO, WHAT WAS THE UPDATE, WHEN WAS IT MADE, AND WHY WAS IT NECESSARY?

A. I did not update or revise my appraisal after it was submitted to the Seller.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes. However, I reserve the right to supplement my testimony as additional issues and facts arise during the course of the proceeding.

Attachment A: Professional Qualifications of
Dylan W. D'Ascendis, CRRA, CVA
Director

Summary

Dylan is an experienced consultant and a Certified Rate of Return Analyst (CRRA) and Certified Valuation Analyst (CVA). He has served as a consultant for investor-owned and municipal utilities and authorities for 11 years. Dylan has extensive experience in rate of return analyses, class cost of service, rate design, and valuation for regulated public utilities. He has testified as an expert witness in the subjects of rate of return, cost of service, rate design, and valuation before 19 regulatory commissions in the U.S., one Canadian province, and an American Arbitration Association panel.

He also maintains the benchmark index against which the Hennessy Gas Utility Mutual Fund performance is measured.

Areas of Specialization

- Regulation and Rates
- Utilities
- Mutual Fund Benchmarking
- Capital Market Risk
- Financial Modeling
- Valuation
- Regulatory Strategy
- Rate Case Support
- Rate of Return
- Cost of Service
- Rate Design

Recent Expert Testimony Submission/Appearances

Jurisdiction	***Topic***
Massachusetts Department of Public Utilities	Rate of Return
New Jersey Board of Public Utilities	Rate of Return
Hawaii Public Utilities Commission	Cost of Service, Rate Design
South Carolina Public Service Commission	Return on Common Equity
American Arbitration Association	Valuation

Recent Assignments

- Provided expert testimony on the cost of capital for ratemaking purposes before numerous state utility regulatory agencies
- Maintains the benchmark index against which the Hennessy Gas Utility Mutual Fund performance is measured
- 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 Publications 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.

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Regulatory Commission of Alaska				
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.	2021Generic Cost of Capital, Proceeding ID. 24110	Rate of Return
Arizona Corporation Commission				
Arizona Water Company	12/19	Arizona Water Company – Western Group	Docket No. W01445A-19-0278	Rate of Return
Arizona Water Company	08/18	Arizona Water Company – Northern Group	Docket No. W01445A-18-0164	Rate of Return
Colorado Public Utilities Commission				
Summit Utilities, Inc.	04/18	Colorado Natural Gas Company	Docket No. 18AL-0305G	Return on Equity
Atmos Energy Corporation	06/17	Atmos Energy Corporation	Docket No. 17AL-0429G	Return on Equity
Delaware Public Service Commission				
Tidewater Utilities, Inc.	11/13	Tidewater Utilities, Inc.	Docket No. 13-466	Capital Structure
Hawaii Public Utilities Commission				
Lanai Water Company, Inc.	12/19	Lanai Water Company, Inc.	Docket No. 2019-0386	Cost of Service / Rate Design
Manele Water Resources, LLC	8/19	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
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.	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
Louisiana Public Service Commission				
Louisiana Water Service, Inc.	06/13	Louisiana Water Service, Inc.	Docket No. U-32848	Rate of Return
Maryland Public Service Commission				

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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
Mississippi Public Service Commission				
Atmos Energy	03/19	Atmos Energy	Docket No. 2015-UN-049	Capital Structure
Atmos Energy	07/18	Atmos Energy	Docket No. 2015-UN-049	Capital Structure
Missouri Public Service Commission				
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.	Docket No. SR-2016-0202	Rate of Return
New Jersey Board of Public Utilities				
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
North Carolina Utilities Commission				
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
Public Utilities Commission of Ohio				
Aqua Ohio, Inc.	05/16	Aqua Ohio, Inc.	Docket No. 16-0907-WW-AIR	Rate of Return
Pennsylvania Public Utility Commission				
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

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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
Virginia State Corporation Commission				
WGL Holdings, Inc.	7/18	Washington Gas Light Company	PUR-2018-00080	Rate of Return
Atmos Energy Corporation	5/18	Atmos Energy Corporation	PUR-2018-00014	Rate of Return
Aqua Virginia, Inc.	7/17	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

Valuation Engagements:

SPONSOR	DATE	ASSETS VALUED	DESCRIPTION
Delaware County Regional Water Quality Control Authority	2/20	Wastewater Operations	Authored Valuation Report, which will be a part of an Act 12 Filing.
Washington County Water System, NC	2/20	Water Operations	Authored Valuation Report for internal purposes.
Egg Harbor City, NJ	2/20	Water Operations	Authored Valuation Report for internal purposes.
City of Ashtablua, OH	11/19	Wastewater Operations	Authored Valuation Report for internal purposes.
Steelton Water Authority	6/18	Water Operations	Authored Valuation Report, which will be a part of an Act 12 Filing.

SPONSOR	DATE	ASSETS VALUED	DESCRIPTION
Block Island Power Company	4/18	Electric Operations	Authored Valuation Report for internal purposes.
Mahoning Township, PA	9/17	Water and Sewer Assets	Authored Valuation Report, which is part of Act 12 Filing.
Atmos Energy Corporation	9/16	Intrastate Natural Gas Pipeline	Authored Valuation for internal purposes.
Village of Glenview, IL (North Maine Utilities)	7/14	Water and Sewer Assets	Co-Authored Valuation Report, which was part of House Bill 1379 Filing (similar to PA Act 12).
Springfield Township, PA	8/14	Sewer Assets	Co-Authored Valuation report for internal purposes.
Erie City Water Authority, Erie, PA	12/13	Water Assets	Sponsored Valuation Testimony in Arbitration Hearing.
City of Allentown, PA	12/12	Water and Sewer Assets	Assisted in the generation of Valuation Report.