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Preston N. Carter, ISB No. 8462
Blake W. Ringer, ISB No. 11223
Givens Pursley LLP
601 W. Bannock St.
Boise, ID 83702
Telephone: (208) 388-1200
Facsimile: (208) 388-1300
prestoncarter@givenspursley.com
morgangoodin@givenspursley.com

Attorneys for Veolia Water Idaho, Inc.

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION OF VEOLIA WATER IDAHO, INC. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE IN THE STATE OF IDAHO	)	**Case No. VEO-W-22-02**

REBUTTAL TESTIMONY OF HAROLD WALKER, III FOR

VEOLIA WATER IDAHO, INC.

MARCH 8, 2023

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INTRODUCTION

Q. Please state your name, occupation and business address.

A. My name is Harold Walker, III. I am employed by Gannett Fleming Valuation and Rate Consultants, LLC as Manager, Financial Studies. My business address is 1010 Adams Avenue, Audubon, Pennsylvania 19403.

Q. Are you the same Harold Walker who previously submitted Direct Testimony in this proceeding?

A. Yes.

SCOPE OF TESTIMONY

Q. What is the purpose of your Rebuttal Testimony?

A. Veolia Water Idaho, Inc. ("VWID" or the "Company") asked me to respond to and comment on the Direct Testimony submitted by Idaho Public Utilities Commission ("Staff") witness Joseph Terry and the Direct Testimony submitted by Micron Technology, Inc. ("Micron") witness Michael P. Gorman. My rebuttal testimony is supported by Exhibit No. 15, which is composed of 6 Schedules.

SUMMARY

Q. Please summarize your comments on Mr. Terry and Mr. Gorman's Direct Testimonies.

A. I respectfully disagree with Mr. Terry's proposed return on equity ("ROE") of 9.00% and Mr. Gorman's proposed ROE of 9.35% for VWID. I also disagree with Mr. Terry's proposed overall rate of return ("ROR") of 6.77% and Mr. Gorman's proposed ROR of 6.97% for VWID.

I do not believe Idaho Public Utilities Commission ("Commission") should accept Mr. Terry's or Mr. Gorman's proposals because:

- Mr. Terry's and Mr. Gorman's recommended returns on equity and related overall rates of return do not afford VWID the opportunity to earn a fair rate of return.

- Capital cost rates are higher today than they have been for several years. For example, the last year that yields on long-term treasury bonds exceeded the current rate was 2011, or 12 years ago.

- The last year yields on A rated public utility bonds exceeded the current rate was 2009, or 14 years ago.

- The current yield on A rated public utility bonds are substantially higher than they have been over the last three years. Therefore, the required return on equity for a water utility should also exceed returns authorized over the last three years.

- The water comparison companies used by Mr. Terry and Mr. Gorman earn significantly higher returns of equity and are projected to earn considerably higher returns on equity than Mr. Terry and Mr. Gorman propose for VWID.

- If other water utilities are earning returns noticeably higher than Mr. Terry and Mr. Gorman advocate for VWID, adoption of either Mr. Terry's or Mr. Gorman's recommendations will place VWID at a competitive disadvantage in the competition to attract capital.

Based upon the results of my entire analysis contained in my Direct and Rebuttal Testimonies, my recommendation is that VWID be permitted an overall fair rate of return of 7.77%, including a 10.80% cost of common equity that reflects VWID's unique risk characteristics. My recommended fair rate of return is equal to the return of other similar risk water utilities, will permit VWID access to capital on reasonable terms and will assure confidence in VWID's financial integrity.

FAIR RATE OF RETURN

Q. Do the recommendations of Mr. Terry and Mr. Gorman provide the Company a fair rate of return?

A. No. Under *Bluefield*[1], a fair rate of return is defined as: (1) equal to the return on investments in other business undertakings with the same level of risks (the comparable earnings standard); (2) sufficient to assure confidence in the financial soundness of a utility (the financial integrity standard); and (3) adequate to maintain and support its credit, enabling the utility to raise or attract additional capital necessary to provide reliable service (the capital attraction standard).

Mr. Terry and Mr. Gorman's rate of return recommendations are flawed and do not produce a fair rate of return for VWID. Throughout this Rebuttal Testimony I highlight the numerous flaws contained in their Direct Testimonies. Mr. Terry and Mr. Gorman's proposals show a lack of understanding of the precepts of a fair rate of return, including the comparable earnings standard, and the capital attraction standard. Mr. Terry and Mr. Gorman's Direct Testimonies are couched with innuendos that Veolia Utility Resources LLC's ("VUR") ownership of VWID reduces the risk of providing water service to customers in parts of Ada County, Idaho. I do not believe it is reasonable that VWID should be afforded something less than a fair rate of return because they are owned by a larger company such as VUR.

Mr. Terry and Mr. Gorman's testimonies violates the precepts of a fair rate of return, including the comparable earnings standard, and the capital attraction standard.

[1] *Bluefield Water Works & Improvement Company v. P.S.C. of West Virginia*, 262 U.S. 679 (1923).

Their recommendations violate all two aforementioned fair rate of return precepts as demonstrated by their own testimonies. VWID is entitled to a return that will enable it to attract additional capital, not only capital provided by VUR. The credit that enables VUR bonds to be issued is the issuing entity, VUR. A fair rate of return for VWID is the credit that should enable the VWID to attract capital regardless of VUR. The risk of VWID providing service to customers is not mitigated simply because the VUR provides capital or because VUR owns other water utilities. Risk does not change with ownership, and the price or cost of bearing risk is a fair rate of return. Mr. Terry and Mr. Gorman's recommendations offer no incentive to investors to invest in VWID water assets when higher returns are available from other less risky water assets or higher retuning assets of similar risk. Investors will not provide capital and should not be forced to provide capital when higher risk-adjusted returns are available.

AREAS OF AGREEMENT

Q. Are there any areas of agreement in the fair rate of return testimonies presented in these proceedings?

A. Yes. Mr. Terry, Mr. Gorman, and I agree regarding the appropriate capital structure and debt cost rate. We all recommend a capital structure which includes 44.43% debt and 55.57% common equity, and an embedded debt cost rate of 3.99%.

COMPARABLE GROUPS

Q. What companies did Mr. Terry and Mr. Gorman use to estimate the cost of common equity for VWID?

A. Mr. Terry included the same seven water utility comparison companies that I used. Additionally, Mr. Terry added Veolia Environnement S.A, the ultimate parent company of

VWID, to his comparison group.[2] I refer to Mr. Terry's comparison group as "Terry's Proxy Group" in my rebuttal testimony.

Mr. Gorman used six of the seven water utility comparison companies that Mr. Terry and I used.[3] In addition, Mr. Gorman used a second comparison group, a gas utility comparison group. I refer to Mr. Gorman's water comparison group as "Water Proxy" and his gas comparison group as "Gas Proxy" in my rebuttal testimony.

It should also be noted that I use the phrase "Proxy Groups" in my rebuttal testimony to refer to all the comparison groups used by Mr. Terry and Mr. Gorman.

Q. Do you agree with Mr. Terry and Mr. Gorman's selection of companies used in their Proxy Groups?

A. No. I do not agree with Mr. Terry's inclusion of Veolia Environnement S.A as part of Terry's Proxy Group. Veolia Environnement S.A. is a French transnational company with operations around the world, providing different services than VWID provides. Veolia Environnement S.A.'s financial records and financial reporting requirements differ from US practice and requirements. As such, I do not believe the use of Veolia Environnement S.A. as a comparison company to VWID is beneficial, meaningful or proper.

I do not agree with Mr. Gorman's use of his Gas Proxy as a comparison to VWID. Mr. Gorman's Gas Proxy companies provide different services than VWID and operate in a different industry. Mr. Gorman's Gas Proxy companies primarily deliver a product

[2] VWID is a wholly-owned subsidiary of VUR. VUR is a subsidiary of Veolia Utility Parent, Inc., which is a subsidiary of Veolia North America, Inc. Veolia North America, Inc. is a wholly-owned subsidiary of Veolia Environnement S.A. Veolia Environnement S.A. is a French transnational company with activities in three main service and utility areas: water management, waste management and energy services.

3 Mr. Gorman did not include The York Water Company in his six company water comparison group.

(natural gas) that many do not own.[4] Conversely, VWID acquires a product (water), VWID owns a product (water), treats and/or purifies a product, transports their product, and then delivers their product. In a sense, VWID is an integrated company while Mr. Gorman's Gas Proxy companies are in the transportation and delivery business. As such, I do not believe the use of Gas Proxy as comparison companies to VWID is beneficial, meaningful or proper.

Mr. Gorman's Gas Proxy group is better suited for use in estimating the cost of capital for a natural gas utility since it is comprised of only natural gas utility companies. In financial literature, the terms "barometer group", "comparable group", "peer group" and "proxy group" are used interchangeably and they are defined as:

> In investment research, peer group analysis is a vital part of establishing a valuation for a particular stock. The emphasis here is on comparing "apples to apples," which means that the constituents of the peer group should be fairly **similar to the company being researched**, particularly in terms of their **main areas of business** and **market capitalization**.[5]

Q. Do investors view Mr. Gorman's Water Proxy group and Gas Proxy group substantially different from one another?

A. Yes. As shown on Schedule 1, the market values water companies differently than natural gas companies because each type of utility (water versus natural gas) has a unique business and financial profile. Schedule 1 shows recent price-earnings multiples ("P-E Multiples"), and market-to-book multiples ("Market/Book Multiples"). As shown, Mr. Gorman's Water Proxy group's P-E Multiples is currently 34.0-times while Mr. Gorman's Gas Proxy

[4] In states with gas deregulation, the utility company is responsible for maintaining the pipes that deliver gas products to customers, but customer can choose which gas supply company provides the commodity supplied, or actual natural, that the local utility then delivers.
[5] (Emphasis added), https://www.investopedia.com/terms/p/peer-group.asp .

group's P-E Multiples is 18.8-times. The difference in the P-E Multiples indicate the market values Mr. Gorman's Water Proxy companies 80% more than their valuation of Mr. Gorman's Gas Proxy companies. Similarly, the Market/Book Multiples for Mr. Gorman's Water Proxy group are 87% higher than Mr. Gorman's Gas Proxy group. The difference between Mr. Gorman's Water Proxy group Market/Book Multiples of 3.18-times indicates the market values the Mr. Gorman's Water Proxy group at **318% relative to their book value** but only values the Mr. Gorman's Gas Proxy group at **170% relative to their book value**, which proves that investors view Mr. Gorman's Water Proxy group and his Gas Proxy group substantially different from one another.

According to page 1 of Mr. Gorman's Exhibit No. 405 (Column 2), security analysts project Mr. Gorman's Water Proxy group's earnings to grow 96-basis points (6.69% - 5.73%) faster than they project for his Gas Proxy group. On page 1 of Mr. Gorman's Exhibit No. 407 Mr. Gorman's Water Proxy group's projected return on equity is shown to average 10.41% to 10.64% (columns 5 and 7), while his Gas Proxy group's projected return on equity is shown to average 9.34% to 9.66%, a difference of more than 100-basis points.[6]

These comparisons prove the difficulties in relying on Mr. Gorman's Gas Proxy group to estimate the cost of capital for a water utility since the market values water companies and natural gas companies considerably different. The evidence is clear, the market does not assess Mr. Gorman's Water Proxy and his Gas Proxy group similarly. Mr. Gorman has not provided evidence that natural gas utilities present risk comparable to regulated water

[6] A basis point is a common unit of measure for interest rates and other percentages in finance. In percentage form, ten basis points would appear as 0.10%. A measure of 100 basis points is equal to 1%.

companies generally, or VWID specifically. Investors do not evaluate water utilities by looking at natural gas utilities and neither should Mr. Gorman or the Commission.

Q. Do you have any other comments regarding Mr. Terry and Mr. Gorman's proxy groups?

A. Yes. In addition to using a comparison group (or proxy group) to estimate the cost of equity, proxy groups are used as a benchmark to satisfy the long-established guideline of providing a utility the opportunity to earn a return equal to that of similar risk enterprises. However, neither Mr. Terry nor Mr. Gorman presented any evidence regarding the similarity, or dissimilarity, of risk between their Proxy Groups and VWID. A risk analysis of VWID and my comparison companies was discussed in my Direct Testimony in the sections titled "Financial Analysis" and "Risk Analysis." A risk analysis of VWID and the Proxy Groups is essential in determining a fair rate of return because risk and return counterbalance one another. That is, the greater the risk, the higher the required return and vice versa. However, as stated, neither Mr. Terry or Mr. Gorman provided any risk analyses of their Proxy Groups and VWID. Additionally, neither Mr. Terry or Mr. Gorman provided any risk analysis of VUR and VWID. In a sense, Mr. Terry's and Mr. Gorman's common equity cost rate recommendation reflect a "one size fits all" approach since no risk reconciliation was done between their Proxy Groups and VWID. Accordingly, I do not believe the Commission can or should rely upon either Mr. Terry's or Mr. Gorman's recommendations.

RISK FACTORS

Q. Besides the aforementioned required risk comparison between VWID and the Proxy Groups, which neither Mr. Terry nor Mr. Gorman presented, is there other evidence concerning risk that they failed to consider?

A. Yes, water utilities face increased risks, which Mr. Terry and Mr. Gorman did not consider. For example, the Federal Reserve's monetary and fiscal stimulus, which included artificial and historically low interest rates, have produced some of the highest inflation rates in the last 40 years. Over the last 12 months, January 2022 through January 2023, inflation was 6.4% and was a cumulative 14.4% over the last 24 months, January 2021 through January 2023.[7] To put the latest 24 month price change (inflation) of 14.4% into perspective, the entire change in prices (inflation) over the prior 106 month period, March 2012 through January 2021, was only 14.0%. The current unusual and extremely high inflation rate has results in higher capital cost rates.

Q. What proof do you have that the current unusual and extremely high inflation rate has results in higher capital cost rates?

A. Mr. Gorman's Exhibit Nos. 414 and 415 show bond yields. According to Mr. Gorman, the current yield on long-term treasury bonds is 3.81%.[8] Looking at Mr. Gorman's Exhibit No. 414, it is apparent that the last time the yield on long-term treasury bonds exceeded 3.81% was 2011, or 12 years ago. The current yield on long-term treasury bonds is 69-basis points higher than it was in 2022, 176-basis points higher than it was in 2021, and 225-basis points higher than it was in 2020.

[7] Based on the consumer price index, or CPI for All Urban Consumers (CPI-U) found at https://www.bls.gov/cpi/data.htm.
[8] Gorman, Di 62.

Further, the current yield on A rated public utility bonds is 5.47% according to Mr. Gorman.[9] Mr. Gorman's Exhibit No. 414 shows the last time that the yield on A rated public utility bonds exceeded 5.47% was 2009, or 14 years ago. The current yield on A rated public utility bonds is 75-basis points higher than it was in 2022, 237-basis points higher than it was in 2021, and 242-basis points higher than it was in 2020.

The increased capital cost rates for long-term treasury bonds and A rated public utility bonds have similarly resulted in higher common equity cost rates today, than existed over the last several years.

Q. Does the information shown on Mr. Gorman's Exhibits Nos. 414 and 415 provide any additional evidence regarding risks which Mr. Terry and Mr. Gorman did not consider?

A. Yes. Mr. Gorman's Exhibit No. 414 shows yield spread between long-term treasury bonds and A rated public utility bonds bond yields. This difference, or spread in yield, measures the risk of default between long-term treasury bonds and A rated public utility bonds and provides direct measurement of risk. The current yield spread between long-term treasury bonds and A rated public utility bonds is 1.66% according to Mr. Gorman's Exhibit No. 415.

Mr. Gorman's Exhibit No. 414 shows the last time that the yield spread between long-term treasury bonds and A rated public utility bonds exceeded 1.66% was 2009, or 14 years ago. The current yield spread between long-term treasury bonds and A rated public utility bonds is 40-basis points higher than it has averaged over the last five years. The current widening of the yield spread between long-term treasury bonds and A rated public

[9] Gorman, Di 62.

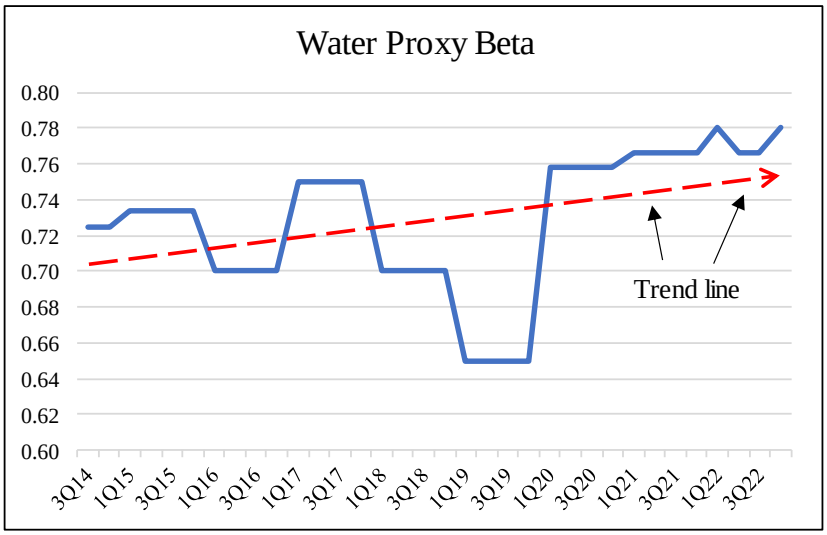
utility bonds proves VWID's investors face increased risk from what they faced over the last five years.

Q. Is there other evidence concerning risk which Mr. Terry and Mr. Gorman did not consider?

A. Yes. The beta of a security is a measure of volatility or market risk relative to the market. The beta for the market is always equal to 1.00; therefore, a company whose stock has a beta greater than 1.00 is considered riskier than the market, and a company with a beta less than 1.00 is considered less risky than the market. Changes in beta provide a measure of the change in risk. The Water Proxy currently has a beta which averages 0.78.[10] Over the last eight and half years, the Water Proxy's beta has ranged from 0.65 to 0.78 as depicted in Figure 1.[11] As is evident from the information shown in Figure 1, the Water Proxy's risk, as measure by beta, has increased and should be incorporated into VWID cost of equity.

[10] Mr. Gorman's Exhibit No. 416, page 1.
[11] Derived from Mr. Gorman's Exhibit No. 416, pages 1-3.

Figure 1



On a relative basis, the Water Proxy's current beta indicates their current level of risk is 2% to 3% higher than existed during 2020 to 2022. Further, the current level of risk is 20% higher than 2019 and 11% higher than 2018. The increased level of risk should similarly be reflected in VWID's cost of capital.

Q. Is VWID similar in size to Mr. Terry's or Mr. Gorman's Proxy Groups?

A. No. My Direct Testimony detail the large size difference between the VWID and my Comparable Group. Company size is an indicator of business risk and was discussed in my Direct Testimony (pages 23-29). The finance literature supports the fact that, as the size of a firm decreases, its risk and, hence, its required return increases.

> When scholars have tried to explain actual security returns, several anomalies (i.e., deviations from what is considered normal) have become evident. One is a *small-firm*, or *size*, *effect*. It has been found that common stocks of firms with small market capitalizations (price per share times the number of shares outstanding) provide higher returns than

> common stocks of firms with high capitalizations, holding other things constant.[12]

Further, since size is a recognized and meaningful element of risk, it is appropriate to reflect that risk in a company's cost of equity.

> Recent studies have provided strong evidence that the degree of risk and corresponding cost of capital increase with decreasing size of company. The studies show that this addition to the equity risk premium is over and above the amount that would be warranted just as a result from a company's systematic risk.[13]

> Two independent sets of empirical studies provide strong support for the proposition that cost of capital tends to increase with decreasing size. Users of cost of capital data should make themselves aware of updates of these and possibly other similar studies in order to incorporate the latest current size effect data in cost of capital estimates, whether using build-up models, CAPM, or other cost of capital models.[14]

Dr. Thomas Zepp presented research on water utilities that supports a small firm effect in the utility industry.[15] Moreover, Professor Brigham has indicated that smaller firms have higher capital costs than otherwise similar but larger firms.[16] Standard & Poors, documents that relationship between size and credit rating,

> Company size and diversification often plays [a] role. While we have no minimum size criterion for any given rating level, company size tends to be significantly correlated to rating levels. This is because larger companies often benefit from economies of scale and/or diversification, translating into a stronger competitive position. Small companies are, almost by definition, -more concentrated in terms of product, number of customers, and geography. To the extent that

[12] James C. Van Horne, John M. Wachowicz. Fundamentals of Financial Management, 13th ed. (Pearson Education Limited), 2008, at 114.
[13] Shannon P. Pratt. Cost of Capital: Estimation and Applications, (Wiley), 1998, at 64.
[14] *Id*. at 95.
[15] *See* Zepp (2002), "Utility Stocks and the Size Effect: Revisited", Economics and Finance Quarterly, 43, 578-582.
[16] *See* Fundamentals of Financial Management, 5th Edition, page 623.

> markets and regional economies change, a broader scope of business affords protection.[17]
>
> While we have no minimum size criterion for any given rating level, size and ratings do end up being correlated, given that size often provides a measure of diversification, and/or affects competitive positioning.[18]

Further, since size is a recognized and meaningful element of risk, it is appropriate to reflect that risk in a company's cost of equity. Credit rating agencies recognize that size impacts credit rating. The authors Brealey, Myers and Allen discuss the "firm size" and the size premium.[19] Additional support for the use of the size premium for utilities is also found in a 1995 article by M. Annin.[20] Because firm size plays a role in the pricing of securities in the unregulated financial markets, it is necessary to reflect this fact when determining capital cost rates for utilities. Otherwise, a smaller utility, such as VWID, is at a competitive disadvantage in the money market when competing for capital as compared to larger utilities, such as the larger Proxy Groups' companies.

Q. On pages 16 to 17 of Mr. Gorman's Direct Testimony he discusses authorized returns on equity for electric and gas utilities during the period 2010 to 2022. Do you have any comments concerning Mr. Gorman's discussion of authorized returns on equity for electric and gas utilities?

A. Yes. I believe Mr. Gorman discussed authorized returns on equity for electric and gas utilities from 2010 to 2022 to support his opinion that investors' expectation of returns is

[17] *Standard & Poor's*, Corporate Ratings Criteria 2008; pg. 22 (emphasis added).
[18] *Id.* at 23 (emphasis added).
[19] Brealey, Myers and Allen, Principles of Corporate Finance, 10th edition, page 198.
[20] *See* Annin (1995), "Equity and the Small Stock Effect", Public Utilities Fortnightly, October 15, 1995, at 42-43.

lower today.[21] However, as mentioned previously, the current yield on A rated public utility bonds is 5.47%. The last time that the yield on A rated public utility bonds exceeded 5.47% was 2009, or prior to the period discussed by Mr. Gorman. Accordingly, the required return on equity for electric and gas utilities today exceeds the returns cited by Mr. Gorman since interest rates are higher today than during the period discussed by Mr. Gorman.

According to the source of information relied upon by Mr. Gorman, Regulatory Research Associates (RRA), the average authorized returns on equity for **electric cases was 9.52% in 2022** versus 9.39% in 2021, while average authorized returns on equity for **gas utilities was 9.53% in 2022**, slightly lower than the 9.56% average observed in 2021.[22] The average authorized returns on equity for **water utilities trended upward to 9.61% in 2022**, an increase over the 9.46% authorized in 2021.[23] Since the **current yield on A rated public utility bonds** is **75-basis points higher** than it was in 2022 and **237-basis points higher** than it was in 2021, the required return on equity for water utilities today exceeds the returns authorized in 2021 and 2022.

Q. On pages 7 and 8 of Mr. Terry's Testimony, he claims VWID's small size is not an issue due to their ownership by Veolia North America. Is this opinion relevant to this case and to a fair rate of return?

A. No. Mr. Terry claims that if you included the totality of the Veolia North America's

[21] The 2022 authorized returns on equity for electric and gas utilities discussed by Mr. Gorman only include the period January through September 2022. The 2022 authorized returns on equity for the full year were higher than the returns cited by Mr. Gorman.
[22] *S&P Global Market Intelligence*, RRA Regulatory Focus, Average Authorized ROE For Electric Nudges Up But Drops For Gas In 2022, February 3, 2023.
[23] *S&P Global Market Intelligence*, RRA Regulatory Focus, Water ROEs Trend Higher on Small Dataset, February 15, 2023.

footprint, "the size and diversity issue" of VWID "becomes moot." He further states, "if you look at the next level up, Veolia Environnement S.A., where all the stock is purchased and sold, the size and diversity risk is eliminated." I believe these statements undercut Mr. Terry's recommendation. The risk of providing service to areas outside of VWID is irrelevant to the current proceeding since the Commission only has jurisdiction over the rates of service for VWID customers. Therefore, the Commission should only be interested in the risk of providing service to those customers for which it has jurisdiction. In essence, Mr. Terry advocates for cross subsidization by suggesting that VWID should be afforded something less than a fair rate of return because their customers' rates can be subsidized by non-jurisdictional customers.

Additionally, **the precepts of a fair rate of return**, including the comparable earnings standard, capital attraction standard, and the financial integrity standard **relate to business enterprises**, or VWID, not its investors. The investment risk of VWID is not dependent on who its investors are. The investment risk of a business enterprise does not change based on the geographic distribution of its investors, the wealth of its investors, or the nationality of its investors. Likewise, a fair rate of return for a business enterprise should not change based on the composition of its investors either.

Q. On page 34 of Mr. Gorman's Testimony he states, "Veolia Utility Resources, LLC ("VUR") provides all the external capital needed for VWID utility operations in the state of Idaho. Therefore, the market assessment of VWID's investment risk is described by credit rating analysts' reports for VUR." Do you agree with Mr. Gorman?

A. No. The credit rating analysts' reports for VUR only assess the credit risk of VUR, not VWID. Mr. Gorman's rationale is analogous to claiming the credit rating of a child is described by the credit rating of their parent.

Q. On page 88 of Mr. Gorman's Testimony he states, "[t]his total investment risk assessment of VWID, in comparison to a proxy group, is fully absorbed into the market's perception of the Company's risk. The use of my proxy group fully captures the investment risk of VWID." Do you agree with Mr. Gorman?

A. No. Mr. Gorman did not provide a risk assessment of VWID, nor did he provide a risk analysis between VWID and his proxy groups. Therefore, I believe his statement is incorrect, or at the very least has not been proven by Mr. Gorman.

Q. On page 88 of Mr. Gorman's Testimony he states, "[b]usiness risks, among others, include a company's size, competitive position, generation portfolio, and capital expenditure programs, as well as consideration of the regulatory environment, current state of the industry, and the economy as whole." Do you agree with Mr. Gorman?

A. Yes. In regard to VWID and my comparison group, their competitive position, regulatory environment, current state of the industry, and the economy as whole are the same for VWID and my comparison group. However, VWID's small size and their larger capital

expenditure program relative to the comparison companies indicates higher risk relative to my comparison group. These same observations apply to Mr. Gorman's Water Proxy group since his group is a subset of my comparison group.

Q. On page 7 of Mr. Terry's Testimony he states, "[i]n troubled economic times investors tend to move their money to safer investment vehicles. This would be things like treasuries, dividend producing stocks like utilities, Exchange Traded Funds, and the like." Do you agree with Mr. Terry?

A. No, not exactly. I agree investors tend to move their money to safer investment vehicles, but I do not agree that utilities and Exchange Traded Funds are their preferred choice. Further down on page 7 Mr. Terry justifies his statement and states,

> While this will not have a direct impact on the quantification of ROE, with more demand for these types of investments it will tend to support lower ROE recommendations. Some of these effects are already being seen. Some of the comparable utilities used in the analysis are at or near their 52-week high. While the Dow Jones and S&P 500 are not.[24]

Table 1 shows a comparison of the percentage difference between the current stock price and the 52-week high for Terry's Proxy Group, the Dow Jones, and the S&P 500.[25] As shown in Table 1, the Dow Jones' price is 6% below and the S&P 500's price is 13% below their 52-week high. The price changes for Terry's Proxy Group's stocks have decreased between 7% to 24%, with an average price drop of 12%, and with a median decrease of 10% below their 52-week high. Accordingly, the price drop from their 52-week high for Terry's Proxy Group, the Dow Jones, and the S&P 500 are similar, contrary to Mr. Terry's

[24] TERRY J. (Di) 7.
[25] The date of the current stock price and the 52-week high, 1/30/23, is the same date footnoted by Mr. Terry.

contention. Therefore, a lower return on equity is not justified based on Mr. Terry's rationale.

Company	1/30/2023 Last Sale Price	52 Week High Price	Percentage From The High Price
American States Water Co	92.79	100.51	-8%
American Water Works Co Inc	155.00	173.87	-11%
California Water Service Gp	59.89	66.12	-9%
Essential Utilities, Inc.	46.10	52.62	-12%
Middlesex Water Co	82.99	109.51	-24%
SJW Corp	75.95	83.88	-9%
York Water Co	44.52	47.95	-7%
Veolia Environnement	27.39	33.33	-18%
		Average	-12%
		Max	-7%
		Min	-24%
		Median	-10%
Dow Jones Industrial Average	33,717.09	35,768.06	-6%
S&P 500	4,017.77	4,631.60	-13%

Source of Information: S&P Capital IQ

Table 1

MR. TERRY'S AND MR. GORMAN'S RECOMMENDED COST OF EQUITY

Q. What methods or models did Mr. Terry and Mr. Gorman use to determine their recommended cost of common equity?

A. Mr. Terry used the comparative earnings method, the DCF model and the CAPM model to determine his recommended cost of common equity. Mr. Gorman used DCF model, Risk Premium model and the CAPM model to determine his recommended cost of common equity.

Q. What were the results of Mr. Terry's comparative earnings method?

A. Mr. Terry determined a cost of equity of 9.25% to 10.26% using the comparative earnings method. In reviewing his method, I found considerable difference between the returns on equity Mr. Terry used and the returns on common equity reported by Standard & Poor's ("S&P").[26] Schedule 2 replicates Mr. Terry's comparative earnings method but shows the returns on common equity ("ROE") reported by S&P for the same time period used by Mr. Terry.

As shown on Schedule 2, the 2021 results average 10.50%. The 2020 results average 9.54% and the 2019 results average 9.84%. The average of all the results together is a ROE of 9.96% with a median of 10.71%. When Veolia Environnement S.A. is removed from Mr. Terry's comparative earnings method, the 2021 results average 11.25%. The 2020 results average of 10.48% and the 2019 results average 9.49%. The average of all the results together is a ROE of 10.41% with a median of 11.06% as shown on Schedule 2.

Q. What market value DCF estimate do Mr. Terry and Mr. Gorman recommend for the VWID?

A. Mr. Terry recommends a market value DCF of 7.91 to 9.04% and Mr. Gorman recommends a market value DCF of 9.00%. I have numerous concerns relating to Mr. Terry's and Mr. Gorman's DCF models.

Q. What concerns do you have regarding Mr. Terry's DCF models?

A. My concerns regarding Mr. Terry's DCF models relate to his incorrect application of the DCF model and his use of historic growth rates. The DCF model is a forward looking

[26] Mr. Terry's source of information was *Yahoo Finance* while I used *S&P Capital IQ*.

model that calculates the present value (cost of equity) of discounted future dividends (cash flow). The dividend yield used in the model is based on next year's dividend, or D_1, that is determined by taking the current annualized dividend, or D_0, and multiplying it by the assumed growth, "g", in dividends (cash flow), or $D_0 \times (1+g) = D_1$, which is then divided by the current price to produce next year's dividend yield. However, Mr. Terry did not account for next year's dividend in his DCF calculation.

I believe Mr. Gorman would agree with me on this point since Mr. Gorman's testimony explained his determination of next year's dividend used in his DCF calculation as,

> I used the most recently paid quarterly dividend as reported in Value Line. This dividend was annualized (multiplied by 4) and adjusted for next year's growth to produce the D_1 factor for use in Equation 2 above. In other words, I calculate D_1 by multiplying the annualized dividend (D_0) by (1+G).[27]

To be conservative, when I calculate next year's dividend in my DCF I only use $D_{1/2}$, not the full D_1. I do so because quarterly dividends are typically increased at least one time per year, and therefore I use "one-half the assumed growth in value" to estimate the timing of the dividend increase. Use of "one-half the assumed growth" assumes the dividend rate is increased at the midpoint of the next year because it ($D_{1/2}$) falls midway between the current dividend, D_0, and the future dividend, D_1. On Schedule 3, I correct Mr. Terry's oversight, and include next year's dividend yield in his DCF model.

My second concern regarding Mr. Terry's DCF model is his use of historic growth rates. Published projected EPS growth rates are used primarily by investors. Academic

[27] Gorman, Di 42.

studies[28] verify the superiority of analysts' EPS growth forecasts over derived growth rates in predicting stock prices. The market required cost of equity represents what the market will pay for a stock based on investors' expectations of expected future growth. For this reason, analysts' projections of future growth prospects for water utilities are required because analysts' forecasts are relied upon by investors when they price utility stocks. I believe Mr. Gorman would also agree with me on this point since Mr. Gorman's testimony explains essentially the same viewpoint and even footnotes the same published study that I have,

> As predictors of future returns, securities analysts' growth estimates have been shown to be more accurate than growth rates derived from historical data. That is, assuming the market generally makes rational investment decisions, analysts' growth projections are more likely to influence investors' decisions, which are captured in observable stock prices, than growth rates derived only from historical data.[29]

Mr. Terry compounded his mistake of using historic growth rates by removing those companies with negative historical growth rates from his second DCF calculation that was based on projected growth rates. On Schedule 3, I correct Mr. Terry's removal of companies which have negative historical growth rates and recalculate his DCF model. The average of all the results is a DCF of 9.60% with a median of 9.59%. After the highest and lowest DCF results were removed, average DCF is 9.57% with a median of 9.59%, as shown on Schedule 3.[30]

[28] Gordon, David, A., Gordon, Myron, J., and Gould, Lawrence, I.A Choice Among Methods of Estimating Share Yield, The Journal of Portfolio Management, 50-55, Spring 1989.

[29] Gorman, Di 42 and 43.

[30] Besides removing companies with negative historic growth rates, Mr. Terry also removed Veolia Environnement S.A. because he thought its growth was too high. See TERRY J. (Di) 15.

Q. What DCF models did Mr. Gorman use to determine his recommendation for the VWID?

A. Mr. Gorman used three DCF models: the Constant Growth DCF Model, the Sustainable Growth DCF Model and a Multi-Stage Growth DCF Model. Mr. Gorman's Constant Growth DCF Model reflects analysts growth forecasts, and is the same model I recommended using. I previously discussed Mr. Terry's use of a constant growth model. My concerns regarding Mr. Gorman's DCF models only relate his use of the Sustainable Growth DCF Model and a Multi-Stage Growth DCF Model.

Q. What concerns do you have regarding Mr. Gorman's Sustainable Growth DCF Model?

A. My concerns regarding Mr. Gorman's Sustainable Growth DCF Model relate to his unique method of calculating the growth rate he used in his model. Instead of using analysts' growth forecasts he improperly relied upon growth rates that he calculated. That is, he subjectively ignored the investor influencing published growth rates of security analysts and instead, calculated his own growth rates. Specifically, Mr. Gorman's Sustainable Growth DCF Model relied upon internal growth rates. Internal growth measures growth in book value, not stock price. Growth in book value is meaningless given today's relatively high Market/Book Multiples and therefore, internal growth is not a good proxy for investors' growth expectations. Published projected EPS growth rates are used primarily by investors. The market-required cost of equity represents what the market will pay for a stock based on investors' expectations of expected future growth. Investors' expectations of expected future growth are not based upon Mr. Gorman's unique internal growth rate, they are based on investors' expectations of expected future growth.

For this reason, analysts' projections of future growth prospects for utilities are required. Analysts' EPS growth projections are not required because they will necessarily prove correct. Rather, analysts' EPS projections of future growth prospects are required because real investors rely on them more than any other source. It is irrelevant whether analysts growth projections are over or under optimistic or pessimistic. The analysts' forecasts are relied upon by investors when they price utility stocks.

Even if Mr. Gorman's judgments concerning future growth were superior to the analysts' forecasts, there still would be no justification for using Mr. Gorman's unique growth rate in a DCF formula because investors that price stocks are totally unaware of Mr. Gorman's analysis (even if hypothetically it were better). Instead, investors rely upon analysts' forecasts, which are widely available and used by investors.

Mr. Gorman's calculation of his unique internal growth rate is shown on page 1 of Exhibit No. 407. On page 1 of Mr. Gorman's Exhibit No. 407 Mr. Gorman's Water Proxy group's **projected return on equity** is shown to average **10.41% to 10.64%,** while his Gas Proxy group's projected return on equity is shown to average 9.34% to 9.66%. However, Mr. Gorman's Sustainable Growth DCF Model, shown on Exhibit No. 408, only determined a return on equity (cost of equity) of 7.45% to 7.50% for his Water Proxy group and a 9.08% to 9.30% return on equity (cost of equity) for his Gas Proxy group.

Comparing the results of Mr. Gorman's Sustainable Growth DCF Model to its inputs highlights the problem with Mr. Gorman's Sustainable Growth DCF Model. Specifically, Mr. Gorman's Water Proxy group's **projected return on equity** of **10.41% to 10.64%** is between **291-basis points higher** to **319-basis points higher** than Mr. Gorman's Sustainable Growth DCF Model's results of 7.45% to 7.50%, thus highlighting

the inadequacy of Mr. Gorman's Sustainable Growth DCF Model.[31]

Q. Is there a difference between earned returns, or "Accounting ROEs," and the ROE to be determined in this case?

A. No, not really. I agree there is a distinction between a market return and an accounting return. The ROE that the Commission will determine in this case will become VWID's accounting ROE benchmark by which under-earning and over-earning will be measured. If Mr. Gorman's Water Proxy group is earning an accounting return of 10.41% to 10.64% while VWID earns only 7.45% to 7.50%, it places VWID at a competitive disadvantage in the competition to attract capital.

Q. What concerns do you have regarding Mr. Gorman's Multi-Stage Growth DCF Model?

A. My concerns regarding Mr. Gorman's Multi-Stage Growth DCF Model relate to his unique method of calculating the growth rate that he used in his model. The primary measure of growth used in Mr. Gorman's Multi-Stage Growth DCF Model is based on the nominal growth in the value of the economic output ("GDP") for the overall national economy as measured by the nominal GDP growth.[32] To justify his unique selection of GDP growth Mr. Gorman compared GDP growth and electric utility sales growth since 1988. He explained,

> The U.S. Department of Energy, Energy Information Administration ("EIA") has observed utility sales growth tracks U.S. GDP growth, albeit at a lower level, as shown in Exhibit No. 409. Utility sales growth has lagged behind GDP growth for more than a decade. As a result, nominal GDP growth is a very conservative proxy for utility sales growth, rate base

[31] A similar comparison of the Gas Proxy group's results highlights the same flaws in Mr. Gorman's Sustainable Growth DCF Model, but the magnitude of the difference is smaller.

[32] Mr. Gorman explained, "[f]or the long-term growth period, I assumed each company's growth would converge to the maximum sustainable long-term growth rate, which is the projected long-term GDP growth rate." Gorman, Di 48.

> growth, and earnings growth. Therefore, the U.S. GDP nominal growth rate is a reasonable proxy for the highest sustainable long-term growth rate of a utility.[33]

However, contrary to Mr. Gorman's hypothesis, the growth in the value of GDP for the overall national economy does not provide a reasonable measure for the growth of Mr. Gorman's Water Proxy group as evidence by the information shown on Schedule 4. As shown, since 1988 nominal GDP increased by 345% while Mr. Gorman's Water Proxy group's revenues increased 748%, or 117% more than GDP. Similarly, over the past 30 years (1991-2021), the Water Proxy group's revenues increased 172% more than GDP, the Water Proxy group's revenues increased 110% more than GDP over the past 20 years (2001-2021) and increased 61% more than GDP over the past 10 years (2011-2021). As shown on Schedule 4, Mr. Gorman's Water Proxy group's revenue growth has been about 2-times higher than GDP growth.

A similar significant difference in growth between GDP and the Water Proxy group's revenues will continue to occur prospectively because of water utility industry fundamentals. At a minimum, the investor owned water industry will continue to grow faster than the overall economy for the next several decades, if not for the next century.

The Water Proxy group's growth strategy focuses on the acquisition of water and wastewater companies and operations which expands their market share. Government controlled establishments such as municipalities, public service districts and other local governmental entities dominate the water and wastewater industry. Currently, government-controlled establishments manage or own about 86% of all water supplies and 80% of all domestic wastewater systems. The percentage of all water supplies that are

[33] Gorman, Di 49.

managed or owned by larger investor owned utilities ("IOU"), and the percentage of wastewater systems managed or owned by larger IOUs, will increase over time as the cost of infrastructure replacement and regulatory compliance becomes prohibitive for Government-controlled establishments and small IOUs. Clearly, there are ample new growth opportunities available for IOUs to grow faster than the national economy through acquisition of Government controlled water/wastewater establishments and small IOUs.

The water utility industry's and wastewater utility industry's increased compliance with state and federal water purity levels and large infrastructure replacements are driving consolidation of the wastewater utility and water utility industries. Because many wastewater utility and water utility operations do not have the means to finance the significant capital expenditures needed to comply with these requirements, many have been selling their operations to larger, financially stronger IOU operations.

The larger IOUs have been following an aggressive acquisition program to expand their operations by acquiring smaller wastewater and water systems. Generally, they enter a new market by acquiring one or several wastewater or water utilities. After their initial entry into a new market, the larger investor-owned water utility companies continually seek to expand their market share and services through the acquisition of wastewater and water utility businesses and operations that can be integrated with their existing operations. Such acquisitions may allow a company to expand market share and increase asset utilization by eliminating duplicate management, administrative, and operational functions. Acquisitions of small, independent utilities can often add earning assets without necessarily

incurring the costs associated with the SDWA or CWA if such acquisitions are contiguous to the potential purchaser.[34]

Q. Do you have any other comments regarding Mr. Gorman's Multi-Stage Growth DCF Model?

A. Yes. I believe Mr. Gorman improperly relied upon a GDP growth rate. GDP growth measures growth in national economy, not water utility stock price. Mr. Gorman's Multi-Stage Growth DCF Model produces an unrealistically low result through the use of a low GDP growth estimate. For example, Mr. Gorman's Water Proxy group's projected **return on equity** is shown page 1 of Mr. Gorman's Exhibit No. 407 to average **10.41% to 10.64%,** while Mr. Mr. Gorman's Multi-Stage Growth DCF Model, shown on Exhibit No. 410, only determined a return on equity (cost of equity) of 6.23% to 6.31% for his Water Proxy group. Comparing the results of Mr. Gorman's Multi-Stage Growth DCF Model to the Water Proxy group's projected return on equity underscores the problem with Mr. Gorman's Multi-Stage Growth DCF Model. Specifically, Mr. Gorman's Water Proxy group's projected **return on equity** of **10.41% to 10.64%** is between **410-basis points higher** to **441-basis points higher** than Mr. Gorman's Multi-Stage Growth DCF Model's results of 6.23% to 6.31%, thus proving the inadequacy of Mr. Gorman's Multi-Stage Growth DCF Model. Therefore, adopting Mr. Gorman's recommended 6.23% to 6.31%

[34] The SDWA, or Safe Drinking Water Act, is the principal federal law in the United States intended to ensure safe drinking water for the public. Pursuant to the act, the EPA is required to set standards for drinking water quality and oversee all states, localities, and water suppliers who implement these standards. The CWA, or Clean Water Act, is the primary federal law in the United States governing water pollution. The CWA's objective is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands.

Multi-Stage Growth DCF Model's results would place VWID at a competitive disadvantage in the competition to attract capital.

Q. Do you have any other comments regarding Mr. Gorman's market value DCF estimates?

A. Yes. Based upon my analyses discussed above regarding Mr. Gorman's Sustainable Growth DCF Model and Multi-Stage Growth DCF Model, I believe those models should not be relied upon. If the Commission is going to consider the results of any of Mr. Gorman's DCF models, I believe Mr. Gorman's Constant Growth DCF Model is his only meaningful DCF model.

Q. Do current market conditions impact Mr. Terry's and Mr. Gorman's cost of equity methodologies more so today than in previous periods?

A. Yes. The basic proposition of financial theory regarding the economic value of a company is based on market value. That is, a company's value is based on its **market value** weighted average cost of capital.[35] The American Society of Appraisers, ASA Business Valuation Standards, 2009, and the National Association of Certified Valuation Analysts, Professional Standards, 2007, use the same definition:

> Weighted Average Cost of Capital (WACC). The cost of capital (discount rate) determined by the weighted average, **at market values**, of the cost of all financing sources in the business enterprise's capital structure. (Emphasis added)

Accordingly, the market value derived cost rate reflects the financial risk or leverage associated with **capitalization ratios based on market value**, not book value.

As shown in Schedule 5, there is a large difference in Mr. Terry's and Mr. Gorman's

[35] For other examples, see http://www.investinganswers.com/financial-dictionary/financial-statement-analysis/weighted-average-cost-capital-wacc-2905. Also see http://www.wallstreetmojo.com/weighted-average-cost-capital-wacc/ , or http://accountingexplained.com/misc/corporate-finance/wacc .

proxy groups market capitalization ratios and their recommended book capitalization ratios. This difference in market values and book values results in debt/equity ratios based on **market value of 25%/75%** (debt/equity) verses book value of 50%/50% (debt/equity) for Terry's Proxy Group and **market value of 27%/73%** (debt/equity) verses book value of 52%/48% (debt/equity) for the Water Proxy group as shown on Schedule 5. The larger the difference between market values and book values, the less reliable the models' results are because **the models provide an estimate of the cost of capital of market value**, not book value.

Financial theory concludes capital structure and firm value are related. Since capital structure and firm value are related, a leverage adjustment (Hamada adjustment) is required when a cost of common equity model is based on market value and if its results are then applied to book value. As explained previously, the market value derived cost rate reflects the financial risk or leverage associated with **capitalization ratios based on market value**, not book value. The authors Brealey, Myers and Allen provide a similar definition of the cost of capital being based on market capitalization, not book value,

> The values of debt and equity add up to overall firm value (D + E = V) and firm value V equals asset value. **These figures are all market values, not book (accounting) values**. The market value of equity is often much larger than the book value, so the market debt ratio D/V is often much lower than a debt ratio computed from the book balance sheet.[36]

The work of Modigliani and Miller concludes that the market value of any firm is independent of its capital structure, and this is precisely the reason why the leverage

[36] Brealey, Myers and Allen, Principles of Corporate Finance, 10th edition, at 216 (emphasis added).

adjustment (Hamada adjustment) is appropriate.[37] The only way for the market value of a firm to remain independent of its capital structure is if the capital cost rates change to offset changes in the capital structure. If the capital cost rates do not change to offset changes in the capital structure, then the value of the firm will change. Clearly a leverage adjustment (Hamada adjustment) is required when a cost of common equity model is based on **market value** and if its results are then applied to **book value** because the capital structure is changed from **market value** capitalization to **book value** capitalization.

Referring to Schedule 5, Mr. Terry's and Mr. Gorman's proxy groups' cost of capital is based on debt/equity ratios based on **market value of 25%/75%** (debt/equity) and **27%/73%** (debt/equity), respectively. Therefore, Mr. Terry's and Mr. Gorman's market value equity cost rates reflect an equity ratio of between 73% and 75%. That is not just my opinion, but it is a cornerstone of financial theory.[38] Mr. Terry's and Mr. Gorman's market value DCF cost rates of 7.91% to 9.04% and 9.00%, respectively, reflect a 73% to 75% equity ratio and yet they recommend their 7.91% to 9.04% and 9.00% cost of equity be applied to VWID 56% equity ratio based on book value. Even if Mr. Terry's 7.91% to 9.04% or Mr. Gorman's 9.00% cost of equity were appropriate for a 73% to 75% equity ratio, it cannot simultaneously be appropriate for VWID's 56% equity ratio without violation of Modigliani and Miller's precept.

Q. What market value Risk Premium estimate does Mr. Gorman recommend for the VWID?

A. Mr. Gorman recommends a market value Risk Premium of 9.60% based on the midpoint

[37] The Nobel Prize winning professors Franco Modigliani and Merton Miller's proposition on firm value and capital structure is well-established in academic literature and common knowledge among finance practitioners.
[38] Ibid.

of a range of 9.41% to 9.73%. I have concerns relating to Mr. Gorman's Risk Premium models.

Q. Please explain Mr. Gorman's Risk Premium models.

A. Mr. Gorman's Risk Premium model is based on two estimates of an equity risk premium. First, on Exhibit No. 412 Mr. Gorman calculated the difference (i.e., risk premium) between regulatory commission authorized returns on equity and U.S. Treasury bond yields on an annual basis from 1986 through September 2022. Second, on Exhibit No. 413 Mr. Gorman calculated the difference, or risk premium, between regulatory commission authorized returns on equity and A rated public utility bond yields on an annual basis from 1986 through September 2022. Ultimately, Mr. Gorman selected the average of his 5-year rolling average risk premium for both his Treasury bond yield and his A rated public utility bond yield analyses as being the appropriate measure.

Using information from Exhibit No. 412 Mr. Gorman derived a 5.61% risk premium based on Treasury bond yields. He added the 5.61% risk premium to his projected 30-year Treasury bond yield of 3.80% and generated a Risk Premium result of 9.41% (5.61% + 3.80%). Utilizing Exhibit No. 413 Mr. Gorman developed a 4.26% risk premium based on A rated public utility bond yields. He added the 4.26% risk premium to his A rated public utility bond yield of 5.47% and produced a Risk Premium result of 9.73% (4.26% + 5.47%).

Q. What concerns do you have regarding Mr. Gorman's Risk Premium models?

A. My concern regarding Mr. Gorman's Risk Premium models is based on the fact risk premiums are interest rate sensitive and tend to increase with lower interest rates and vice versa. Mathematically, Mr. Gorman's Risk Premium model based on Treasury bond yield

reflects a 5-year rolling average Treasury bond yield of 5.16%. However, he used a projected 3.81% Treasury bond yield in his Risk Premium model, a difference of 135-basis points in yields (5.16% - 3.81%). Similarly, Mr. Gorman's Risk Premium model based on A rated public utility bond yield reflects a 5-year rolling average A rated public utility bond yield of 6.51%. However, he used a 5.47% A rated public utility bond yield in his Risk Premium model, a difference of 104-basis points (6.51% - 5.47%).

To measure the sensitivity and accuracy of Mr. Gorman's risk premiums, I calculated two simple linear regressions to determine the relationship between a dependent variable and an independent variable. The simple linear regression equation is:

$$Y = a + bX + \epsilon$$

Where:

Y – Dependent variable
X – Independent (explanatory) variable
a – Intercept
b – Slope
ϵ – Residual (error)

I calculated two simple linear regressions separately for each Treasury bond yields and for A rated public utility bond yields.

Using the information from Exhibit No. 412 I calculated a simple linear regression using Treasury bond yields as the independent variable and authorized return on equity as the dependent variable. I also calculated a second simple linear regression using Treasury bond yields as the independent variable and risk premium as the dependent variable. The results of these equations are show in Table 2.

Equation Results Using Treasury Bond Yields			
Dependent Variable	ROE	Dependent Variable	Risk Premium
Slope	0.518367868	Slope	-0.481775827
Intercept	0.081395395	Intercept	0.081405545
R^2	**0.91**	R^2	**0.90**
Recent Yield	**3.81%**	Recent Yield	**3.81%**
Calculated ROE	**10.11%**	Calculated Risk Premium	**6.30%**
Derived Risk Premium	**6.30%**	Derived ROE	**10.11%**

Table 2

As shown in Table 2, the correct risk premium is 6.30% using Mr. Gorman's data from Exhibit No. 412. Adding the 6.30% risk premium to Mr. Gorman's projected Treasure Bond yield of 3.81% produces a cost of equity of 10.11% based on Mr. Gorman's Risk Premium model's data. I tested the results of the models shown in Table 2 compared to Mr. Gorman's recommended risk premium of 5.61% and found his model's simple prediction error (actual result minus prediction) was almost 4-times higher than produced by the models shown in Table 2.[39]

I also calculated a simple linear regression using A Rated Public Utility bond yields as the independent variable and authorized return on equity as the dependent variable using the information from Exhibit No. 413. Then, I calculated a second simple linear regression using A Rated Public Utility bond yields as the independent variable and risk premium as the dependent variable. The results of these equations are show in Table 3.

[39] The residual (error) of Mr. Gorman's method was 10-time greater than that of the models shown in Table 2.

Equation Results Using A Rated Public Utility Bond Yields			
Dependent Variable	ROE	Dependent Variable	Risk Premium
Slope	0.505957239	Slope	-0.494042761
Intercept	0.075146609	Intercept	0.075146609
R^2	**0.91**	R^2	**0.91**
Recent Yield	**5.47%**	Recent Yield	**5.47%**
Calculated ROE	**10.28%**	Calculated Risk Premium	**4.81%**
Derived Risk Premium	**4.81%**	Derived ROE	**10.28%**

Table 3

As shown in Table 3, the correct risk premium is 4.81% using Mr. Gorman's data from Exhibit No. 413. Adding the 4.81% risk premium to Mr. Gorman's A Rated Public Utility bond yield of 5.47% shows a cost of equity of 10.28% based on Mr. Gorman's Risk Premium model. I tested the results of the model shown in Table 3 compared to Mr. Gorman's recommended risk premium of 4.26% and found his model's simple prediction error (actual result minus prediction) was almost 4-times higher than produced by the model shown in Table 3.[40]

Based on the results of the Risk Premium model analysis described above, Mr. Gorman's recommended market value Risk Premium should be 10.20% based on the midpoint of a range of 10.11% to 10.28%.

Q. What market value CAPM estimate do Mr. Terry and Mr. Gorman recommend for the VWID?

A. Mr. Terry recommends a market value CAPM of 8.98% to 9.33% and Mr. Gorman recommends a market value CAPM of 9.70%. I have several concerns relating to Mr. Terry's and Mr. Gorman's CAPM models.

[40] The residual (error) of Mr. Gorman's method was 11-time greater than that of the models shown in Table 3.

Q. What concerns do you have regarding Mr. Terry's CAPM models?

A. I have three areas of concern regarding Mr. Terry's CAPM; beta, risk-free rate, and his market risk premium. First, the betas Mr. Terry used (Exhibit No. 119) are considerably lower than Mr. Gorman's current betas (Exhibit No. 416) for the same companies. As shown in Table 4, on average, Mr. Gorman's current betas are 35% higher than Mr. Terry's betas, and the median difference is 40%.[41] Substituting Mr. Gorman's current betas in place of Mr. Terry's betas produces results from Mr. Terry's CAPM that range from 8.76% to 13.11% with an average of 10.82% and a median of 10.66% as shown on Schedule 6.

Company	Mr. Terry's Beta	Mr. Gorman's / Value Line Beta	Percentage Differnce
American States Water Co	0.42	0.65	55%
American Water Works Co Inc	0.55	0.90	64%
California Water Service Gp	0.49	0.70	43%
Essential Utilities, Inc.	0.80	0.95	19%
Middlesex Water Co	0.74	0.70	-5%
SJW Corp	0.63	0.80	27%
York Water Co	0.57	0.80	40%
Veolia Envronnement	1.06	NA	-
		Average	35%
		Median	40%

Table 4

My concern with Mr. Terry's risk-free rate is his use of a short-term 1-month Treasury bill. Financial theory indicates the term matching of the risk-free rate should be based on the life of the asset, not the time horizon of the investor. In this case, water assets have a much longer life than the 1-month that results from using 1-month bills. Besides

[41] Comparison excludes Veolia Envronnement because they are not part of Mr. Gorman's proxy companies, nor are they covered by *Value Line*. Comparison includes *Value Line's* 0.80 beta reported for York Water Co.

matching the life of the asset, another mistake of using 1-month Treasury bills is that they are more sensitive to monetary policy activities taken by the Federal Open Market Committee, whereas the 30-year Treasury bonds are more of an indication of investor sentiment of their required returns.

The last area of concern I have with Mr. Terry's CAPM is he did not reflect the required CAPM size premium. The size premium reflects the risks associated with Mr. Terry's proxy group's small size and its impact on the determination of their beta. This adjustment is necessary because beta (systematic risk) does not capture or reflect the proxy group's small size. According to Brealey, Myers, and Allen, "the relationship among stock returns and firm size and book-to-market ratio has been well documented."[42] Brealey, Myers, and Allen also state, that "between 1926 and 2008 the difference between the annual returns on small and large capitalization stocks averaged 3.6%"[43] which should be included in Mr. Terry's CAPM and similarly be included in Mr. Gorman's CAPM.[44]

Investors prefer liquidity to lack of liquidity. Accordingly, a share in a business is worth more if it is easily marketable or, conversely, worth less if it is not. Privately held water utilities such as VWID are worth less than publicly traded water utilities. Further, publicly traded water utilities are not as marketable as the large companies which comprise the S&P 500. The size premium used in the CAPM accounts for some of these differences.

Q. What concerns do you have regarding Mr. Gorman's CAPM models?

A. I have two areas of concern regarding Mr. Gorman's CAPM, his beta and his market risk premium. Regarding beta, Mr. Gorman's recommended CAPM is based on "normalized"

[42] Brealey, Myers and Allen, Principles of Corporate Finance, 10th edition, page 198.
[43] *Id.* at 202.
[44] I used a small stock premium of 1.50% for the water companies included in Mr. Terry's proxy group.

betas, not actual current published betas. His "normalized" betas are an average of older and lower betas. Specifically, he averaged 33 calendar quarters of older published betas, using betas dating back to 2013. There is no academic or industry support for doing so. Instead of using current published betas he improperly relied upon his own individual preference and determined what he deemed to be "normalized." That is, he subjectively ignored the investor influencing published betas and instead, calculated his own betas. Published betas are used by investors. Under CAPM, the market-required cost of equity represents what the market will pay for a stock based, in part, on investors' evaluation of risk as measured by beta. Investors' expectations of beta are not based upon Mr. Gorman's unique "normalized" beta, they are influenced by current published betas.

For this reason, current published betas for utilities are required. Current published betas are not required because they will necessarily prove correct. Rather, current published betas are required because real investors rely on them. It is irrelevant whether current published betas are over or under stated because they are relied upon by investors at the time they price utility stocks.

Even if Mr. Gorman's judgments concerning "normalized" betas were superior to current published betas, there still would be no justification for using Mr. Gorman's unique "normalized" betas in a CAPM formula because investors that price stocks are unaware of Mr. Gorman's "normalized" betas (even if hypothetically it were better). Instead, investors rely upon current published betas, which are widely available and used by investors. By using his "normalized" betas, Mr. Gorman reduced his calculated CAPM from 10.36% to 9.71% as shown on Exhibit No. 417.

The last area of concern I have with Mr. Gorman's CAPM is he did not reflect the required CAPM size premium, which I believe should be included in his CAPM for the same reasons I articulated when I discussed Mr. Terry's failure to reflect a CAPM size premium above.

Q. Do you have any other comments regarding the market value CAPM estimates of Mr. Terry and Mr. Gorman?

A. Yes. As I previously explained regarding the market value derived DCF cost rate, similarly the market value derived CAPM cost rate reflects the financial risk or leverage associated with **capitalization ratios based on market value**, not book value. The larger the difference between market values and book values the less reliable the models' results are because **the models provide an estimate of the cost of capital of market value**, not book value.

Q. What common equity cost rates do Mr. Terry and Mr. Gorman recommend for VWID?

A. Mr. Terry recommends a common equity cost rate of 9.00% and Mr. Gorman recommends a common equity cost rate of 9.35% for VWID.

Q. Do you have any additional comments regarding either Witness Terry's recommended common equity cost rate or Witness Gorman's recommended common equity cost rate?

A. Yes. As reference previously, page 1 of Mr. Gorman's Exhibit No. 407 shows the Water Proxy group's average projected return on equity is 10.41% to 10.64%. The Water Proxy group's projected **return on equity** of **10.41% to 10.64%** is between **141-basis points higher** to **164-basis points higher** than Mr. Terry's 9.00% recommendation and is **106-**

basis points higher to **129-basis points higher** than Mr. Gorman's 9.35% recommendation. If other water utilities are earning returns of 10.41% to 10.64% while VWID earns only 9.00% or 9.35%, it places VWID at a competitive disadvantage in the competition to attract capital.

RESPONSE TO MR. TERRY'S CRITIQUE OF MR. WALKER'S TESTIMONY

Q. On pages 9 to 11 of his Direct Testimony, Mr. Terry discusses the Hamada formula. Do you agree with Mr. Terry's assessment?

A. No. The Hamada formula, the DCF and the CAPM have simplifying assumptions, just as most financial models have.[45] Despite having simplifying assumptions, financial practitioners still use these financial models because the models are the best, and often the only ones available to use. The default risk assumption mentioned by Mr. Terry is a simplifying assumption. This simplifying assumption can be revised in the Hamada formula, but doing so requires betas for debt, which are not widely available.[46] Accordingly, most practitioners accept the simplifying assumption.

It is an accepted financial premise that market value derived cost rates reflect the financial risk or leverage associated with capitalization ratios based on market value, not book value. Consequently, Mr. Terry's market value derived cost rate reflects a market value debt/equity ratio of 25%/75% (debt/equity). However, Mr. Terry recommends applying his market value derived cost rate to book value ratio of 44%/56% (debt/equity) for VWID. In doing so, Mr. Terry did not account for the risk difference between the 25%/75% (debt/equity) market value ratios used to calculate the return which he advocates

[45] For example, the DCF assumes a constant dividend payout ratio, yet dividend payout ratios change quarterly.
[46] In the Hamada formula, the debt beta is assumed to be zero.

be applied to 44%/56% (debt/equity) book value ratios. I recommend using the Hamada formula to solve Mr. Terry's quandary. Mr. Terry has offered no solutions for his predicament.

RESPONSE TO MR. GORMAN'S CRITIQUE OF MR. WALKER'S TESTIMONY

Q. On pages 86 Mr. Gorman states, "Mr. Walker has not shown that the Public Utility Index is an appropriate risk proxy for VWID." Is Mr. Gorman correct?

A. Yes. However, I never testified that the "Public Utility Index was an appropriate risk proxy for VWID." Rather, I analyzed the Public Utility Index and my comparison group on pages 20 to 26 of my Direct Testimony in order to evaluate risk differences that may exist between the Public Utility Index and my comparison group.[47] This analysis assisted me in evaluating the appropriate size of the risk premium used in my Risk Premium model.

Q. On pages 84 and 85 Mr. Gorman discusses your size premium estimate. Is Mr. Gorman correct?

A. No. I estimated the size premium based on *Kroll*'s 2021 SBBI data and their related research. This adjustment is necessary because beta (systematic risk) does not capture or reflect the proxy group's small size. Kroll advocates adding the entire size premium to the CAPM, regardless of beta. They do so because their size premia are already "beta-adjusted".

> A common characteristic of "size premia" is that they are "beta-adjusted". In other words market risk as measured by "beta" has been controlled for, or removed, leaving only the size effect's contribution to excess return.[48]

[47] Also see my Direct Testimony supporting Exhibit Schedules 4, 5, 6, 7, and 9.
[48] Duff & Phelps, LLC, Risk Premium Report 2013; pg. 102. https://www.kroll.com/-/media/assets/pdfs/publications/valuation/2013-risk-premium-report-excerpt-dp.pdf

However, instead of including the entire size premia, I added only 60% of the size premia, a very conservative approach. Additionally, Mr. Gorman criticisms of beta differences is unfounded because the betas cited by Mr. Gorman are from different sources, and were likely computed at different intervals (e.g., weeks, months) using different market indices (e.g., NYSE, S&P 500) so the precision advocated by Mr. Gorman is not possible and more important, not advocated for by Kroll. Accordingly, Mr. Gorman criticisms are unfounded.

Q. On pages 78 through 81 Mr. Gorman claims your leverage adjustment is a market-to-book ratio adjustment. Is Mr. Gorman correct?

A. No. My comparison group's market-to-book ratio was 339% when my Direct Testimony was prepared. I did not, and I do not recommend adjusting the comparison group's market value cost of equity by 339%. Mr. Gorman's testimony is false and misleading because a market-to-book ratio is a stock price metric and is not part of the leverage adjustment contrary to Mr. Gorman's testimony.

I previously explained the foundation for the required leverage adjustment in responding to Mr. Terry's critique and I will not repeat it here. However, Mr. Gorman faces a similar quandary as Mr. Terry in that Mr. Gorman did not account for the risk difference between the 27%/73% (debt/equity) market value ratios used to calculate the return which he advocates be applied to 44%/56% (debt/equity) book value ratios of VWID.

On page 83, in reference to my recommended leverage adjustment, Mr. Gorman states, "Mr. Walker has failed to show that either of these adjustments is necessary to produce a fair and reasonable return for VWID." I recommend a 10.80% fair and reasonable return for VWID, reflecting the required leverage adjustment. My

recommended return for VWID is similar to the average 10.41% to 10.64% return on equity projected for Mr. Gorman's Water Proxy group, and thus is fair and reasonable. However, Mr. Gorman has not shown how his recommended 9.35% return for VWID would be fair and reasonable when his Water Proxy group companies are earning 10.41% to 10.64%.

Q. Does that conclude your rebuttal testimony?

A. Yes, it does. However, I reserve the right to supplement my rebuttal testimony as responses to outstanding data requests become available or additional issues arise during this proceeding.