

Michael C. Creamer (ISB No. 4030)
Preston N. Carter (ISB No. 8462)
Givens Pursley LLP
601 W. Bannock St.
Boise, ID 83702
Telephone: (208) 388-1200
Facsimile: (208) 388-1300
mcc@givenspursley.com
prestoncarter@givenspursley.com

Attorneys for SUEZ Water Idaho Inc.

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IDAHO PUBLIC
UTILITIES COMMISSION

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION
OF SUEZ WATER IDAHO INC. FOR
AUTHORITY TO INCREASE ITS RATES
AND CHARGES FOR WATER SERVICE
IN THE STATE OF IDAHO

Case No. SUZ-W-20-02

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

DIRECT TESTIMONY OF HAROLD WALKER, III

SEPTEMBER 2020

SUEZ WATER IDAHO INC.
BOISE, IDAHO

RATE OF RETURN

DIRECT TESTIMONY
OF
HAROLD WALKER, III

AUGUST 2020

Prepared by:
GANNETT FLEMING
VALUATION AND RATE CONSULTANTS, LLC



Valley Forge, Pennsylvania

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OVERALL RATE OF RETURN TERMS, ABBREVIATIONS AND ACRONYMS

Terms, Abbreviations and Acronyms	Defined
CAPM	Capital Asset Pricing Model
Commission	Idaho Public Utilities Commission
Company	SUEZ Water Idaho Inc.
Comparable Companies	Water Group Followed by Analysts
Comparable Group	Water Group Followed by Analysts
Cost of Capital	Investor-required cost rate
DCF	Discounted Cash Flow
DPS	Dividend per share
EPA	U.S. Environmental Protection Agency's
EPS	Earnings per share
Financial Risk	Leverage
GICS	Global Industry Classification System
GO	General Obligation Bonds
IOU	Investor Owned Utilities
Leverage	Fixed cost capital
Long-term U.S. Treasury Securities	Base Risk-Free Rate
M/B	Market-to-Book Ratios
Moody's	Moody's Investors Service
NARUC	National Association of Regulatory Utility Commissioners
Non-Systematic Risk	Company-Specific Risk
PUC	Idaho Public Utilities Commission
ROE	Return on Equity
RP	Risk Premium
S&P	Standard & Poor's
SIC	Standard Industrial Classification
SWID	SUEZ Water Idaho Inc.
SWR	SUEZ Water Resources Inc.
Systematic Risk	Non-Diversifiable Risk
Value Line	Value Line Investment Survey
Water Group	Water Group Followed by Analysts

1 **INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is Harold Walker, III. My business mailing address is 1010 Adams
4 Avenue, Audubon, Pennsylvania 19403.

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

6 A. I am employed by Gannett Fleming Valuation and Rate Consultants, LLC as
7 Manager, Financial Studies.

8 **Q. WHAT IS YOUR EDUCATIONAL BACKGROUND AND EMPLOYMENT
9 EXPERIENCE?**

10 A. My educational background, business experience and qualifications are provided
11 in Appendix A.

12 **SCOPE OF TESTIMONY**

13 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

14 A. The purpose of my testimony is to recommend an appropriate overall rate of return
15 that SUEZ Water Idaho Inc. ("SWID" or the "Company") should be afforded an
16 opportunity to earn on its water service rate base. My testimony is supported by
17 Exhibit No.1, which is composed of 19 Schedules.

18 **SUMMARY OF RECOMMENDATION**

19 **Q. WHAT IS YOUR RECOMMENDED COST OF EQUITY?**

20 A. My recommendation is that SWID be permitted an overall rate of return of 7.46%,
21 including a 10.20% cost of common equity, based upon the Company's capital
22 structure at August 31, 2020. My recommended cost of common equity reflects
23 SWID's unique risk characteristics.

1 advisory service of which I am aware that projects earned return on equity. As a
2 check on the reasonableness of my common equity cost rate recommendation, I
3 reviewed Value Line's projected returns on common equity for comparable utilities.
4 Value Line's projected earned returns on common equity for my comparable
5 utilities range from 9.6% to 14.4%. The range of the projected returns suggests
6 that my recommendation that SWID be permitted an opportunity to earn 10.20% is
7 reasonable, if not conservative.

8 **PRINCIPLES OF RATE REGULATION AND FAIR RATE OF RETURN**

9 **Q. WHAT ARE THE PRINCIPLES GUIDING FAIR RATES OF RETURN IN THE**
10 **CONTEXT OF RATE REGULATION?**

11 A. In a capitalistic or free market system, competition determines the price for all
12 goods and services. Utilities are permitted to operate as monopolies or near
13 monopolies as a tradeoff for a ceiling on the price of service because: (1) the
14 services provided by utilities are considered necessities by society; and (2) capital-
15 intensive and long-lived facilities are necessary to provide utility service.
16 Generally, utilities are required to serve all customers in their service territory at
17 reasonable rates determined by regulators. As a result, regulators act as a
18 substitute for a competitive-free market system when they authorize prices for
19 utility service.

20 Although utilities operate in varying degrees as regulated monopolies, they
21 must compete with governmental bodies, non-regulated industries, and other
22 utilities for labor, materials, and capital. Capital is provided by investors who seek
23 the highest return commensurate with the perceived level of risk; the greater the

1 perceived risk, the higher the required return rate. In order for utilities to attract
2 the capital required to provide service, a fair rate of return should equal an investor-
3 required, market-determined rate of return.

4 **Q. WHAT CONSTITUTES A FAIR RATE OF RETURN?**

5 A. Two noted Supreme Court cases define the benchmarks of a fair rate of return.
6 In *Bluefield*¹, a fair rate of return is defined as: (1) equal to the return on
7 investments in other business undertakings with the same level of risks (the
8 comparable earnings standard); (2) sufficient to assure confidence in the financial
9 soundness of a utility (the financial integrity standard); (3) adequate to permit a
10 public utility to maintain and support its credit, enabling the utility to raise or attract
11 additional capital necessary to provide reliable service (the capital attraction
12 standard). The second case, *Hope*², determined a fair rate of return to be based
13 upon guidelines found in *Bluefield* as well as stating that: (1) allowed revenues
14 must cover capital costs including service on debt and dividends on stock; and (2)
15 the Commission was not bound to use any single formula or combination of
16 formulae in determining rates. Utilities are not entitled to a guaranteed return.
17 However, the regulatory-determined price for service must allow the utility a fair
18 opportunity to recover all costs associated with providing the service, including a
19 fair rate of return.

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

²Federal Power Commission v. Hope Natural Gas Company, 320 U.S. 591 (1944).

1 **INVESTMENT RISK**

2 **Q. PREVIOUSLY, YOU REFERRED TO RISK. PLEASE DEFINE THE TERM**
3 **RISK.**

4 A. Risk is the uncertainty associated with a particular action; the greater the
5 uncertainty of a particular outcome, the greater the risk. Investors who invest in
6 risky assets expose themselves to investment risk particular to that investment.
7 Investment risk is the sum of business risk and financial risk. Business risk is the
8 risk inherent in the operations of a business. Assuming that a Company is
9 financed with 100% common equity, business risk includes all operating factors
10 that affect the probability of receiving expected future income such as: sales
11 volatility, management actions, availability of product substitutes, technological
12 obsolescence, regulation, raw materials, labor, size and growth of the market
13 served, diversity of the customer base, economic activity of the area served, and
14 other similar factors.

15 **Q. WHAT IS FINANCIAL RISK?**

16 A. Financial risk reflects the manner in which an enterprise is financed. Financial
17 risk arises from the use of fixed cost capital (leverage) such as debt and/or
18 preferred stock, because of the contractual obligations associated with the use of
19 such capital. Because the fixed contractual obligations must be serviced before
20 earnings are available for common stockholders, the introduction of leverage
21 increases the potential volatility of the earnings available for common shareholders
22 and therefore increases common shareholder risks.

Although financial risk and business risk are separate and distinct, they are interrelated. In order for a company to maintain a given level of investment risk, business risk and financial risk should complement one another to the extent possible. For example, two firms may have similar investment risks while having different levels of business risk, if the business risk differences are compensated for by using more or less leverage (financial risk) thereby resulting in similar investment risk.

DESCRIPTION OF SWID

Q. PLEASE GIVE A BRIEF DESCRIPTION OF THE COMPANY.

A. SWID is a private or investor-owned company. SWID is a regulated public utility that provides water service to about 97,000 (12/31/19) customers located in their franchise territories in Boise, parts of Eagle, and unincorporated areas of Ada County, Idaho. The price of service of SWID is regulated by the Idaho Public Utilities Commission (“Commission” or “PUC”).

SWID is a wholly-owned subsidiary of SUEZ Water Resources Inc. (“SWR”). SWR is the sole source of SWID’s external capital. SWR owns and provides services to water and wastewater utility companies which are located throughout the United States (e.g., SWID). SWR was founded in 1869 and is based in Paramus, New Jersey. SWR is a subsidiary of SUEZ SA.

SUEZ SA is a France-based holding company engaged predominantly in the area of environmental services, transforming waste into resources. It provides services in the areas of water and waste, including drinking water and wastewater treatment services and engineering, waste collection and recovery. It operates on

1 three business lines: Water Europe; Waste Europe, and International (The United
2 States of America, Australia, and Africa).

3 **THE INDUSTRY**

4 **Q. PLEASE GIVE A BRIEF OVERVIEW OF THE INDUSTRY IN WHICH THE**
5 **COMPANY OPERATES.**

6 A. SWID operates in the water supply industry. The water supply industry has a
7 Standard Industrial Classification ("SIC") code of 4941, has water utilities, and
8 includes establishments primarily engaged in distributing water for sale for
9 residential, commercial, and industrial uses. Government controlled
10 establishments such as municipalities, public service districts and other local
11 governmental entities dominate the industry. Private companies or investor
12 owned utilities ("IOU") are active in the construction and improvement of water
13 supply facilities and infrastructure. There are currently 11,014 U.S. Businesses
14 with a SIC code of 4941.

15 A comparative industry to the water supply industry is the wastewater
16 supply industry. The wastewater utility industry has a Standard Industrial
17 Classification ("SIC") code of 4952 (Sewerage Systems), has sewer utilities, and
18 includes establishments primarily engaged in the collection and disposal of wastes
19 conducted through a sewer system, including such treatment processes as may
20 be provided. There are currently 2,154 U.S. Businesses with a SIC code of 4952.

21 The water supply industry is the most fragmented of the major utility
22 industries with more than 53,000 community water systems in the U.S. (83% of
23 which serve less than 3,300 customers). The nation's water systems range in

1 size from large municipally owned systems, such as the New York City water
2 system that serves approximately 9 million people, to small systems, where a few
3 customers share a common well.

4 According to the U.S. Environmental Protection Agency's ("EPA") most
5 recent survey of publicly-owned wastewater treatment facilities in 2008, there are
6 approximately 15,000 such facilities in the nation, serving approximately 74% of
7 the U.S. population. Eighty percent of domestic wastewater systems are
8 government owned rather than IOUs. Currently, there are no wastewater utility
9 companies that have actively traded stock.³

10 An estimated 14% of all water supplies are managed or owned by IOUs.
11 IOUs consist of companies with common stock that is either actively traded or
12 inactively traded, as well as companies that are closely held, or not publicly traded.
13 Currently, there are only about nine investor owned water utility companies with
14 publicly traded stock in the U.S.

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

³Many of the publicly traded water utility stocks also own some wastewater utilities but there are no publicly traded utility stocks which are comprised solely of wastewater utilities.

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 if such acquisitions are contiguous to the potential purchaser.

In summary, the result of increased capital spending, to meet the SDWA and CWA requirements⁴ and replace the aging infrastructure of many systems, has moved the wastewater and water industries toward consolidation. Moreover, Federal and State regulations and controls concerning water quality are still in the process of being developed and it is not possible to predict the scope or the enforceability of regulations or standards which may be established in the future,

⁴The 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.

1 or the cost and effect of existing and potential regulations and legislation upon
2 SWID. However, as a smaller water system, SWID faces the cost of compliance
3 with less financial resources when compared to larger IOU water utilities.

4 **COMPARABLE GROUP**

5 **Q. HOW DO YOU ESTIMATE THE COST OF COMMON EQUITY FOR SWID?**

6 A. SWID's common stock is not publicly traded. Accordingly, I employed a
7 comparable group of utility companies with actively traded stock, to determine a
8 market-required cost rate of common equity capital for SWID. Since no
9 companies are perfectly identical to SWID, it is reasonable to determine the
10 market-required cost rate for a comparable group of utility companies and adjust,
11 to the extent necessary, for investment risk differences between SWID and the
12 comparable group.

13 **Q. HOW DID YOU SELECT THE COMPARABLE GROUP USED TO DETERMINE**
14 **THE COST OF COMMON EQUITY FOR SWID?**

15 A. I selected a comparable group of water utilities to determine the cost of common
16 equity for SWID considering security analysts' coverage. Unlike the other utility
17 industries, only a portion of the IOU water companies with publicly traded stock in
18 the U.S. are followed by security analysts. Coverage by security analysts is
19 important when determining a market required cost of common equity.
20 Accordingly, security analysts' coverage was considered when selecting my
21 comparable group. I selected my water utility comparable group, Water Group
22 Followed by Analysts ("Water Group"), based upon a general criteria that includes:
23 (1) all U.S. water utilities that are covered by several security analysts as measured

by the existence of several sources of published projected five-year growth rates in earnings per share ("EPS"); (2) with a Standard Industrial Classification (SIC) of 4941 (i.e., Water Supply Facilities and Infrastructure); (3) with a North American Industry Classification System (NAICS) of 221310 (i.e., Water Supply and Irrigation Systems); (4) are not the announced subject of an acquisition; (5) currently pay a common dividend and have not reduced their common dividend within the past four years; (6) have market value of common stock, the product of multiplying the closing stock price by the number of common shares outstanding, greater than \$200.0 million; and (7) have a total enterprise, the sum of market value, preferred stock and total debt, greater than \$450.0 million.

It should be noted that the Water Group is also referred to as the Comparable Group and/or the Comparable Companies.⁵ The names of the utilities that comprise the Comparable Group and their bond or credit ratings are listed in Table 1.

Bond and Credit Ratings for The Water Group Followed by Analysts	
	<u>S&P Credit Rating</u>
<u>Water Group Followed by Analysts</u>	
American States Water Co	A+
American Water Works Co Inc	A
California Water Service Gp *	A+
Essential Utilities, Inc.	A
Middlesex Water Co	A
SJW Corp	A-
York Water Co	<u>A-</u>

⁵All of the Comparable Companies also provide some wastewater service.

Bond and Credit Ratings for
The Water Group Followed by Analysts

Average

A

* - The A+ bond rating is that for California Water Service, Inc.

Table 1

**Q. WHY DID YOU INCLUDE NOT BEING THE SUBJECT OF AN ACQUISITION AS
A CRITERIA FOR THE WATER GROUP?**

A. To begin with, there are only about nine investor owned water utility companies with publicly traded stock in the U.S., and some of these companies are very small. As stated previously, the IOU water industry receives only limited exposure on Wall Street.

Additionally, the merger activity in the water industry can result in abnormal or "tainted" stock prices in terms of a DCF analysis because premiums are typically paid in corporate acquisitions. That is, when a tender offer is made for the purchase of all the outstanding stock of a company, the amount of that offer usually exceeds the price at which the stock was previously traded in the market. These large premiums are often reflected in the prices of other water utilities that are not currently the announced subject of an acquisition.⁶

⁶Multiple publications mention these impacts including Research Magazine – April 2010, Barron's – March 2001, Utility Business – June 2002, and Value Line Investment Survey – April 2013.

CAPITAL STRUCTURE

Q. WHAT IS REQUIRED TO DEVELOP AN OVERALL RATE OF RETURN?

A. The first step in developing an overall rate of return is the selection of capital structure ratios to be employed. Next, the cost rate for each capital component is determined. The overall rate of return is the product of weighting each capital component by its respective capital cost rate. This procedure results in SWID's overall rate of return being weighted proportionately to the amount of capital and cost of capital of each type of capital.

Q. DOES SWID DIRECTLY RAISE OR ISSUE ITS OWN DEBT CAPITAL?

A. No, prospectively SWID will not raise its own capital; rather SWR will be the sole source of SWID's external capital.

Q. WHAT CAPITAL STRUCTURE RATIOS ARE APPROPRIATE TO BE USED TO DEVELOP SWID'S OVERALL RATE OF RETURN?

A. Consistent with settled rate setting principles, I believe it is necessary to evaluate SWID's current cost of capital based on SWR's August 31, 2020 capital structure, which includes 45.93% debt and 54.07% common equity as reflected in Schedule 1. These ratios synchronize capitalization with rate base.

Q. IS THERE A SET OF REGULATORY AND FINANCIAL PRINCIPLES USED IN DECIDING THE APPROPRIATE CAPITAL STRUCTURE TO USE FOR COST OF CAPITAL PURPOSES?

A. Yes. There is a general set of regulatory and financial principles used in deciding the capital structure issue for cost of capital purposes that are consistent with both regulatory and financial theories:

1 1) It is generally preferable to use a utility's actual capital structure in
2 developing its rate of return. However, in deciding whether a departure
3 from this general preference is warranted in a particular case, it is
4 appropriate to first look to the issue of whether the utility is a financially
5 independent entity. In determining whether a utility is a financially
6 independent entity or self-financing, it is important to look to whether the
7 utility:

- 8 • has its own bond rating;
- 9 • provides its own debt financing; and
- 10 • debt financing is not guaranteed by a parent company.

11 2) When a utility issues its own debt that is not guaranteed by the public or
12 private parent and has its own bond rating, regulatory and financial
13 principles indicate to use a utility's own capital structure, unless the utility's
14 capital structure is not representative of the utility's risk profile or where use
15 of the actual capital structure would create atypical results. Regulatory and
16 financial principles involve determining whether the actual capital structure
17 is atypical when compared with the capital structures approved by the
18 Commission for other utilities that operate in the same industry (*i.e.*, water
19 utility, gas distribution utility, etc.), as well as those of the proxy utility
20 companies that operate in the same industry.

21 3) For utility subsidiaries without publicly traded stock, the manner in which the
22 utility obtains its debt financing determines whether it does its own
23 financing. Public Utility Commissions generally determine if a subsidiary

1 has financial, operational, and managerial relationships with its parent
2 entity. However, having such ties typically has not led to use of a parent's
3 capital structure for regulatory purposes, unless the subsidiary utility issues
4 no long-term debt, issues long-term debt only to its parent, or issues long-
5 term debt to outside investors only with the guarantee of its parent.

6 4) If a utility does not provide its own financing, Public Utility Commissions
7 often look to another entity. Generally, Public Utility Commissions use the
8 actual capital structure of the entity that does the financing for the regulated
9 utility as long as it results in just and reasonable rates. This generally means
10 using a parent company.

11 5) If the parent's capital structure is used, because it finances the operation of
12 the utility, regulatory and financial principles require adjustments in the
13 utility's allowed rate of return on equity to adjust for risk differences, if any,
14 between the parent and the regulated subsidiary. If, however, the
15 financing entity's capital structure is inconsistent relative to the capital
16 structures of the publicly-traded proxy companies used in the cost of equity
17 analysis and capital structures approved for other utilities that operate in the
18 same industry (*i.e.*, water utility, gas distribution utility, etc.), Public Utility
19 Commissions employ a hypothetical capital structure.

20 Once the cost of equity for the proxy companies is determined, thereby
21 establishing a range of reasonable returns, Public Utility Commissions should
22 determine where to set the utility's return in that range based upon how the utility's
23 risk compares with that of other utilities that operate in the same industry (*i.e.*,

1 water utility, gas distribution utility, etc.). The risk analysis begins with the
2 assumption that the utility generally falls within a broad range of average risk,
3 absent highly unusual circumstances that indicate an inconsistently high or low risk
4 as compared to other utilities that operate in the same industry (*i.e.*, water utility,
5 gas distribution utility, etc.). Generally, financial risk is a function of the amount
6 of debt in an entity's capital structure used for cost of capital purposes. When
7 there is more debt, there is more risk.

8 **Q. HOW DOES YOUR RECOMMENDED CAPITAL STRUCTURE COMPARE WITH**
9 **RATIOS EMPLOYED BY OTHER INVESTOR-OWNED COMPANIES?**

10 A. The capital structure I recommend for SWID reflects a common equity ratio of
11 54.1% which falls within the range of the ratios employed by other investor-owned
12 water companies as shown on pages 1 and 2 of Schedule 2. A comparison of my
13 recommendation for SWID's capital structure ratios to those recently employed
14 and forecasted to be employed by the Comparison Group is shown in Table 2.
15

<u>Comparison of Capital Structure Ratios</u>			
	<u>SWDI</u>	<u>Water Group</u>	
	<u>At</u>	<u>At</u>	<u>Projected</u>
	<u>8/30/2020</u>	<u>3/31/2020</u>	<u>2024</u>
Debt	45.9	50.7	43.7
Preferred Stock	0.0	0.0	0.0
Common Equity	<u>54.1</u>	<u>49.3</u>	<u>56.3</u>
	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

1 **Table 2**

2 SWID's rate making capital structure ratios are reasonable based upon the
3 above information.

4 **EMBEDDED COST RATE**

5 **Q. WHAT EMBEDDED COST RATES DO YOU RECOMMEND BE USED TO**
6 **CALCULATE SWID'S OVERALL RATE OF RETURN?**

7 A. Consistent with my recommended capitals structure ratios I recommend using
8 SWR's embedded debt cost rate of 4.23% for SWID as reflected in Schedule 1.
9 This embedded debt cost rate of 4.23% is detailed on the Company's Exhibit No.
10 2, Schedule 2. The determination of an embedded cost rate is a relatively simple
11 arithmetic exercise because a company has contracted for this capital for a specific
12 period of time and at a specific cost, including issuance expenses and coupon rate.

13 **FINANCIAL ANALYSIS**

14 **Q. HAVE YOU REVIEWED HISTORICAL FINANCIAL INFORMATION OF SWID AS**
15 **PART OF YOUR ANALYSIS?**

16 A. Yes. On page 1 of Schedule 3, I developed a five-year analysis, ending in 2019,
17 detailing various financial ratios for SWID. On Schedule 4, I performed a similar
18 five-year analysis for the Water Group. Schedule 5 reveals the results of
19 operations for a large broad-based group of utilities known as the Standard &
20 Poor's ("S&P"), Utilities for the five years ending 2019. This information is useful
21 in determining relative risk differences between different types of utilities.

22 Comparing SWID, the Comparable Group and the S&P Utilities' coverage
23 of fixed charges and the various cash flow coverage proves that the Comparable

1 Group has experienced a higher level of coverage than the S&P Utilities.
2 Reviewing SWID's various cash flow coverages shows SWID has had similar but
3 higher levels of coverage than the Comparable Group.

4 **Q. WHAT DO YOU CONCLUDE FROM THE COMPARISON OF ALL THE**
5 **INFORMATION SHOWN ON SCHEDULES 3 THROUGH 5?**

6 A. Taken together, these comparisons show that SWID is exposed to risk that is
7 similar in nature but greater in degree compared with the Comparable Groups.
8 This is evident in particular when one considers the size and diversification of
9 SWID, or lack thereof, as compared to the Comparable Companies. Moreover,
10 the evidence from the various financial ratios show SWID's risks as being similar
11 to the Comparable Companies' but less than the larger S&P Utilities.
12 Prospectively, SWID's future construction expenditures will place downward
13 pressure on SWID's financial ratios as measured by interest coverage and cash
14 generation.

15 **Q. WHAT INFORMATION IS SHOWN ON SCHEDULE 6?**

16 A. Schedule 6 lists the names, issuer credit ratings, common stock rankings, betas
17 and market values of the companies contained in the Comparable Group and the
18 S&P Utilities. As is evident from the information shown on Table 3, the
19 Comparable Group and the S&P Utilities are similar to each other in risk.

	<u>S&P Issuer Credit Rating</u>	<u>S&P Quality Ranking</u>	<u>Value Line Beta</u>	<u>Recent Market Value</u> (Mill \$)	<u>Market Quartile Name</u>
Water Group	A	Above Average (A-)	0.77	2,283.225	Low-Cap
S&P Utilities	BBB+	Average (B+)	0.89	30,269.305	Large-Cap

Table 3

The Water Group's average issuer credit ratings and common stock rankings are higher than the S&P Utilities. The average beta of the Comparable Group, 0.77, is less than the average beta of the S&P Utilities, 0.89. Beta is a measure of volatility or market risk; the higher the beta, the higher the market risk. The market values provide an indication of the relative size of each group. As a generalization, the smaller the average sizes of a group, the greater the risk.

Page 2 of Schedule 7 shows that SWID has generally experienced the lowest return on equity ("ROE") when compared to the Comparable Companies. Further, SWID's dividend payout ratio is lower than the Comparable Companies' dividend payout ratio.

S&P, the predominant bond rating agency, considers profit to be a fundamental determinant of credit protection. S&P states that a firm's profit level:

Whether generated by the regulated or deregulated side of the business, profitability is critical for utilities because of the need to fund investment-generating capacity, maintain access to external debt and equity capital, and make acquisitions. Profit potential and stability is a critical determinant of credit protection. A company that generates higher operating margins and returns on capital also has a greater ability to fund growth internally, attract capital externally, and withstand business adversity. Earnings power ultimately attests to the value of the company's assets, as well. In fact, a company's

1 profit performance offers a litmus test of its fundamental health and
2 competitive position.

3
4 Accordingly, the conclusions about profitability should confirm the
5 assessment of business risk, including the degree of advantage
6 provided by the regulatory environment.⁷

7 **Q. WHAT INFORMATION IS SHOWN ON SCHEDULE 7?**

8 A. Schedule 7 reveals the capital intensity and capital recovery for SWID, the
9 Comparable Companies and the S&P Utilities. Based upon the 2019 capital
10 intensity ratio of plant to revenues, SWID (\$10.72) is more capital intensive as
11 compared to the Water Group (\$6.71) and more than the S&P Utilities (\$4.65).
12 From a purely financial point of view, based on current accounting practices, the
13 rate of capital recovery or depreciation rate is an indication of risk because it
14 represents cash flow and the return of an investment. SWID's average rate of
15 capital recovery is lower than the Comparable Group's, suggesting more risk.

16 The return on equity and depreciation expense provides the margin for
17 coverage of construction expenditures. For a utility company, depreciation
18 expense is the single largest generator of cash flow. From a financial analyst's
19 point of view, cash flow is the life blood of a utility company. Without it, a utility
20 cannot access capital markets, it cannot construct plant, and therefore, it cannot
21 provide service to its customers.

⁷Standard & Poor's Ratings Services, *Criteria, Utilities: Key Credit Factors: Business And Financial Risks In The Investor-Owned Utilities Industry*, Nov. 26, 2008, pgs. 8-9.

RISK ANALYSIS

Q. PLEASE EXPLAIN THE INFORMATION SHOWN ON SCHEDULE 8.

A. Schedule 8 details the size difference between SWID and the Comparable Group. Company size is an indicator of business risk and is summarized in Table 4.

<u>Number of Times Larger Than the SWID</u>	
	<u>Water Group</u>
Capitalization	20.3x
Revenues	19.5x
Number of Customers	8.6x

Table 4

As shown in Table 4, SWID is much smaller than the Water Group. The size of a company affects risk. A smaller company requires the employment of proportionately less financial leverage (*i.e.*, debt and preferred capital) than a larger company to balance out investment risk. If investment risk is not balanced out, then a higher cost of capital is required.

Q. WHY IS SIZE SIGNIFICANT TO YOUR ANALYSIS?

A. The size of a company can be likened to ships on the ocean, since a large ship has a much better chance of weathering a storm than a small ship. The loss of a large customer will impact a small company much more than a large company because a large customer of a small company usually accounts for a larger percentage of the small company's sales.

Moreover, a larger company is likely to have a more diverse geographic operation than a smaller company, which enables it to sustain earnings fluctuations

1 caused by abnormal weather in one portion of its service territory. A larger
2 company operating in more than one regulatory jurisdiction enjoys “regulatory
3 diversification” which makes it less susceptible to adverse regulatory
4 developments or eminent domain claims in any single jurisdiction. Further, a
5 larger company with a more diverse customer base is less susceptible to
6 downturns associated with regional economic conditions than a small company.
7 For example, on average, the average company in the Water Group provides
8 water/sewer service in multiple states for about 835,000 customers. The average
9 population of the communities served by the average company in the Water Group
10 is about 3.3 million people. These wide-ranging operations provide the Water
11 Group substantial geographic, economic, regulatory, weather and customer
12 diversification. SWID provides regulated water service to about 97,000
13 customers (2019). The concentration of SWID’s business in southwestern Idaho
14 makes it very susceptible to any adverse development in local regulatory,
15 economic, demographic, competitive and weather conditions.

16 Further, S&P, a major credit rating agency, recognizes the importance that
17 diversification and size play in credit ratings. S&P believes some of the critical
18 factors include: regional and cross-border market diversification (mitigates
19 economic, demographic, and political risk concentration); customer diversification;
20 and regulatory regime diversification.⁸

⁸Standard & Poor’s, Corporate Ratings Criteria, Utilities: Key Credit Factors: Business and Financial Risks in The Investor-Owned Utilities Industry, Nov. 26, 2008.

1 The size of a company can be a barrier to fluid access to capital markets
2 (*i.e.*, liquidity risk). Investors require compensation for the lack of marketability
3 and liquidity of their investments. If no compensation is provided, then investors,
4 or at least sophisticated investors, shy away.

5 **Q. IS THE IMPACT OF SIZE COMMONLY RECOGNIZED?**

6 A. Yes, the National Association of Regulatory Utility Commissioners ("NARUC"), as
7 well as most good financial texts, recognizes that size affects relative business
8 risk. Liquidity risk and the existence of the small firm effect relating to business
9 risk of small firms are well-documented in financial literature ⁹ Investors'
10 expectations reflect the highly-publicized existence of the small firm effect. For
11 example, many mutual funds classify their investment strategy as small
12 capitalization in an attempt to profit from the existence of the small firm effect.

13 As previously discussed, S&P recognizes that size plays a role in credit
14 ratings.

15 Standard & Poor's has no minimum size criterion for any given
16 rating level. However, size turns out to be significantly
17 correlated to ratings. The reason: size often provides a
18 measure of diversification, and/or affects competitive position.
19 . . . Small companies are, almost by definition, more
20 concentrated in terms of product, number of customers, or
21 geography. In effect, they lack some elements of
22 diversification that can benefit larger companies. To the
23 extent that markets and regional economies change, a
24 broader scope of business affords protection. This
25 consideration is balanced against the performance and
26 prospects of a given business. . . . In addition, lack of financial
27 flexibility is usually an important negative factor in the case of

⁹Banz, Rolf, W. "The Relationship Between Return and Market Value of Common Stocks," Journal of Financial Economics, 9:3-18 1981. For subsequent studies see Fama and French, etc.

1 very small companies. Adverse developments that would
2 simply be a setback for companies with greater resources
3 could spell the end for companies with limited access to
4 funds.¹⁰
5

6 As shown on Schedule 9, size plays a role in the composition of investors, and
7 hence liquidity. In 2019, about 115% of the Water Group's shares traded while
8 the larger companies comprising the S&P Utilities had a much higher trading
9 volume of 163%. Insiders¹¹ hold more than seven times more, as a percent to
10 total, of the Water Group's shares than the S&P Utilities. Currently, only about
11 68% of the Water Group shares are held by institutions¹² while the larger
12 companies comprising the S&P Utilities had much higher institutional holdings of
13 80%. Due to small size and less interest by financial institutions, fewer security
14 analysts follow the Comparable Group and none follow SWID.

15 The lack of trading activity may affect the cost of equity estimates for small
16 entities such as SWID and the Water Group. When stock prices do not change
17 because of inactive trading activity, estimates of dividend yield for use in a dividend
18 cash flow model and beta estimates for use in the capital asset pricing model are
19 affected. In a stock market that is generally up, the beta estimates for the
20 Comparable Companies may be understated due to thin trading.

¹⁰*Standard & Poor's, Corporate Ratings Criteria 2006*; pg. 22.

¹¹An insider is a director or an officer who has a policy-making role or a person who is directly or indirectly the beneficial owner of more than 10% of a certain company's stock.

¹²Institutional holders are those investment managers having a fair market value of equity assets under management of \$100 million or more. Certain banks, insurance companies, investment advisers, investment companies, foundations and pension funds are included in this category.

1 Q. DO SWID AND THE COMPARABLE COMPANIES HAVE SIMILAR
2 OPERATING RISKS?

3 A. Yes. From an operations standpoint, SWID and the Comparable Companies
4 have similar risks and are indistinguishable. Both are required to meet Clean
5 Water Acts and Safe Drinking Water Act requirements and are also required to
6 provide safe and reliable services to their customers and comply with Commission
7 regulations.

8 Q. IS THERE ANY SINGLE MEASURE THAT BEST SHOWS INVESTMENT RISK
9 FROM A COMMON STOCKHOLDER'S PERSPECTIVE?

10 A. No. However, from a creditor's viewpoint, the best measure of investment risk is
11 debt rating. The debt rating process generally provides a good measure of
12 investment risk for common stockholders because the factors considered in the
13 debt rating process are usually relevant factors that a common stock investor
14 would consider in assessing the risk of an investment. Credit rating agencies,
15 such as S&P, assess the risk of an investment into two categories based on:
16 fundamental business analysis; and financial analysis.¹³ The business risk
17 analysis includes assessing: Country risk; industry risk; competitive position; and
18 profitability/peer group comparisons. The financial risk analysis includes
19 assessing: accounting; financial governance and policies/risk tolerance; cash flow
20 adequacy; capital structure/asset protection; and liquidity/short-term factors.

¹³Standard & Poor's, Corporate Ratings Criteria, General: Criteria Methodology: Business Risk/Financial Risk Matrix Expanded, May 27, 2009 and Standard & Poor's, Criteria Corporates General: Corporate Methodology, November 19, 2013.

1 **Q. WHAT IS THE BOND RATING OF SWID AND THE COMPARABLE GROUP?**

2 A. Page 1 of Schedule 10 shows the average bond/credit rating Comparable Group.

3 The Comparable Group has an A credit profile and SWID does not have bonds
4 rated. SWR has an A credit profile. The major bond rating/credit rating agencies
5 append modifiers, such as +, - for S&P and 1, 2, and 3 for Moody's Investors
6 Service ("Moody's") to each generic rating classification. For example, an "A"
7 credit profile is comprised of three subsets such as A+, A, A- for S&P or A1, A2 or
8 A3 for Moody's. The modifier of either "+" or "1" indicates that the obligation ranks
9 in the higher end of its generic rating category; the modifier "2" indicates a
10 mid-range ranking; and the modifier of "-" or "3" indicates a ranking in the lower
11 end of that generic rating category.

12 S&P and Moody's publish financial benchmark criteria necessary to obtain
13 a bond rating for different types of utilities. As a generalization, the higher the
14 perceived business risk, the more stringent the financial criteria so the sum of the
15 two, business risk and financial criteria, remains the same.

16 **Q. WHAT ARE SOME FINANCIAL BENCHMARKS APPLIED BY CREDIT RATING**
17 **AGENCIES FOR RATING PUBLIC UTILITY DEBT?**

18 A. S&P describes their range of financial benchmarks as

19 Risk-adjusted ratio guidelines depict the role that financial ratios play
20 in Standard & Poor's rating process, since financial ratios are viewed
21 in the context of a firm's business risk. A company with a stronger
22 competitive position, more favorable business prospects, and more
23 predictable cash flows can afford to undertake added financial risk
24 while maintaining the same credit rating. The guidelines displayed in

1 the matrices make explicit the linkage between financial ratios and
2 levels of business risk.¹⁴

3 **Q. WHAT OTHER INFORMATION IS SHOWN ON SCHEDULE 10?**

4 A. Page 2 of Schedule 10 summarizes the application of S&P's and Moody's
5 measures of financial risk for SWID and the Comparable Group. S&P's and
6 Moody's measures of financial risk are broader than the traditional measure of
7 financial risk (i.e., leverage). Besides reviewing amounts of leverage employed,
8 S&P and Moody's also focuses on earnings protection and cash flow adequacy.

9 As is evident from the information shown on page 2 of Schedule 10, for the
10 five years ending in 2019 and for the year 2019, SWID's cash flow adequacy ratios
11 were generally higher than the Comparable Companies in most instances.
12 Comparing the SWID and the Water Group's measures of cash flow adequacy
13 shows that the Water Group has experienced a lower level of cash flow adequacy
14 than SWID, indicating that SWID is a lower investment risk than the Water Group.
15 Prospectively, based upon the Company's construction program, the Company's
16 ratios are likely to be strained. Based solely upon SWID's historical ratios, it is my
17 opinion that SWID's credit profile is similar to the Comparable Companies.

18 Further, based solely upon SWID's size, it is my opinion that SWID's credit
19 profile is lower than the Comparable Groups'. Based on SWID's small size, it is
20 highly likely that SWID's credit profile is below BBB (i.e., BB). An analysis of
21 corporate credit ratings, shown on page 4 of Schedule 10, indicates that there is
22 an 90% (100%-0%-0%-4%-6%=90%) chance that SWID's credit profile falls below

¹⁴Standard & Poor's Corporate Rating Criteria, 2000.

1 BBB based on their small size alone. As S&P has stated, size is significantly
2 correlated to credit ratings. An analysis of corporate credit ratings found The York
3 Water Company to be the smallest utility with a credit rating. Their credit rating is
4 only A- despite having a capitalization comprised of more than \$220 million and a
5 common equity ratio in excess of 58%.

6 **Q. HAVE YOU REVIEWED THE COMPANY'S LARGE CONSTRUCTION**
7 **PROGRAM?**

8 A. Yes, the Company estimates their construction program to total \$125.3 million from
9 2021 through 2024. At year end 2019 the Company's total capital outstanding
10 was \$193.6 million indicating the need for a 65% increase (\$125.3 million ÷ \$193.6
11 million) in capital through 2024.

12 **Q. HOW DOES THE MAGNITUDE OF THE COMPANY'S LARGE CONSTRUCTION**
13 **PROGRAM COMPARE TO THE COMPARABLE GROUP'S CONSTRUCTION**
14 **PROGRAM?**

15 A. The Company is forecasted to require 65% of additional capital to finance their
16 construction program while the Comparable Group is projected by Value Line to
17 require 45% of additional capital to finance their construction programs.
18 Accordingly, SWID's capital requirements are about 43% greater than the
19 Comparable Group's through 2024 indicating more risk for SWID.

20 In order to compete with the Comparable Group for capital, in the future, it
21 will be necessary for SWID to achieve higher returns on equity, and increased cash
22 flow just to maintain a similar credit quality.

23 S&P has stated:

1 ... low authorized returns may affect the industry's ability to attract
2 necessary capital to develop new water supplies and upgrade the
3 quality of existing supplies . . . Traditional ratemaking policy has not
4 provided sufficient credit support during the construction cycle of the
5 electric industry over the past 15 years. To avoid a repeat in the
6 water industry, regulators must be aware of the increased challenges
7 the industry faces.¹⁵

8 Investors will not provide the equity capital necessary for increasing the amount of
9 common equity in a capital structure unless the regulatory authority allows an
10 adequate rate of return on the equity.¹⁶

11 **Q. WHAT DO YOU CONCLUDE FROM THE VARIOUS MEASURES OF**
12 **INVESTMENT RISK INFORMATION YOU HAVE TESTIFIED TO?**

13 A. A summary of my conclusions regarding the risk analyses discussed
14 previously is shown in Table 5. Overall, the information summarized in Table 5
15 indicates that SWID has similar investment risk as the Water Group.

¹⁵Standard & Poor's CreditWeek, May 25, 1992 (emphasis added).

¹⁶National Association of Regulatory Utility Commissioners, loc. cit.

Summary of Risk Analyses		
	SWID	Water Group Followed by Analysts
1. Business Risk:		
2. Country Risk	Similar Risk Level	
3. Industry Risk	Similar Risk Level	
4. Competitive Position	Similar Risk Level	
5. Profitability/Peer Group Comparisons	Higher Risk Level	
6. Capitalization Ratios & Financial Risk (Leverage)*		Higher Risk Level
7. Debt Cost Rate*	Higher Risk Level	
8. Relative Size:		
9. Regulatory Diversification	Higher Risk Level	
10. Economic Diversification	Higher Risk Level	
11. Demographic Diversification	Higher Risk Level	
12. Diversification of Weather Conditions	Higher Risk Level	
13. Customer Concentration of Revenues	Higher Risk Level	
14. Capital Intensity	Higher Risk Level	
15. Capital Recovery	Higher Risk Level	
16. Lower Liquidity:		
17. Institutional Holdings	Higher Risk Level	
18. Insider Holdings	Higher Risk Level	
19. Percentage of Shares Traded	Higher Risk Level	
20. Required To Meet Clean Water Acts and Safe Drinking Water Act	Similar Risk Level	
21. Credit Market Financial Risk Metrics		Higher Risk Level
22. Cash Flow Adequacy		Higher Risk Level
23. Credit Rating / Credit Profile	Similar Risk Level	
* - Based on recommended capital structure for rate making purposes. Comment: The terms "Similar Level " indicates same amount of risk and the terms "Higher Level " indicates greater risk.		

Table 5

CAPITAL COST RATES

Q. WHAT INFORMATION IS SHOWN ON SCHEDULE 11?

A. Schedule 11 reviews long-term and short-term interest rate trends. Long-term and short-term interest rate trends are reviewed to ascertain the "sub-flooring" or "basement" upon which the Comparable Companies' common equity market capitalization rate is built. Based upon the settled yields implied in the Treasury Bond future contracts and the long-term and recent trends in spreads between

1 long-term government bonds and A-rated public utility bonds available to me at the
2 time Schedule 11 was prepared, I conclude that the market believes that if the
3 Comparable Companies issued new long-term bonds near term, they would be
4 priced to yield about 3.0% based upon a credit profile of "A." Further, it is
5 reasonable to conclude the market anticipates that long-term government bonds
6 will be priced to yield about 1.4%, near term.

7 However, prospectively, over the next couple of years, forecasters believe
8 capital costs rates may increase substantially from their current levels. Former
9 Federal Reserve Chairman Alan Greenspan warned that the bond market is on the
10 edge of a collapse that would bring much higher interest rates and may also impact
11 stock prices.

12 In a CNBC interview, the longtime central bank chief said the
13 prolonged period of low interest rates is about to end and, with it, a
14 bull market in fixed income that has lasted more than three decades.

15 "The current level of interest rates is abnormally low and there's only
16 one direction in which they can go, and when they start they will be
17 rather rapid," Greenspan said on "Squawk Box."

18 That low interest rate environment has been the product of current
19 monetary policy at the institution he helmed from 1987-2006. The
20 Fed took its benchmark rate to near zero during the financial crisis
21 and kept it there for seven years after.

22 Since December 2015, the Fed has approved four rate hikes, but
23 government bond yields remained mired near record lows.

24 Greenspan did not criticize the policies of the current Fed. But he
25 warned that the low rate environment can't last forever and will have
26 severe consequences once it ends.

27 "I have no time frame on the forecast," he said. "I have a chart which
28 goes back to the 1800s and I can tell you that this particular period
29 sticks out. But you have no way of knowing in advance when it will
30 actually trigger."

1 One point he did make about timing is it likely will be quick and take
2 the market by surprise.

3 "It looks stronger just before it isn't stronger," he said. Anyone who
4 thinks they can forecast when the bubble will break is "in for a
5 disastrous" experience."

6 In addition to his general work at the Fed, which also featured an
7 extended period of low rates though nowhere near their current
8 position, Greenspan is widely known for the "irrational exuberance"
9 speech he gave at the American Enterprise Institute in 1996. The
10 speech warned about asset prices and said it is difficult to tell when
11 a bubble is about to burst.

12 Those remarks foreshadowed the popping of the dot-com bubble,
13 and the phrase has found a permanent place in the Wall Street
14 lexicon.

15 "You can never be quite sure when irrational exuberance arises," he
16 told CNBC. "I was doing it as part of a much broader speech and
17 talking about the analysis of the markets and the like, and I wasn't
18 trying to focus short term. But the press loved that term."¹⁷

19 Since October 2008, the Federal Reserve has been monetizing US
20 Treasury debt to artificially suppress interest rates through expansionary money
21 policies. The Federal Reserve, with effectively unlimited money at its disposal,
22 intervenes at any time it wishes, in whatever volume it wishes, to make sure that
23 Treasury bond and bill prices and yields are exactly what the Federal Reserve
24 wants them to be. The US Treasury bond market, and mortgage market, has
25 become an artificial market with no connection to objective risk and interest rates.

26 In August 2011, the Federal Reserve began "Operation Twist." Under
27 "Operation Twist," the Federal Reserve began buying \$400 billion of long-dated or

¹⁷CNBC, Greenspan: Bond Bubble About to Break Because of 'Abnormally Low' Interest Rates, 8/4/17, <https://www.cnbc.com/2017/08/04/greenspan-bond-bubble-about-to-break-because-of-abnormally-low-interest-rates.html> , (8/4/17).

1 long-term US Treasury debt, financed by selling short-term US Treasury debt with
2 three years to go or less. The goal of "Operation Twist" was to try to drive long-
3 term rates lower, which the Federal Reserve thought would help the mortgage
4 market. This process has created an artificial demand for the US Treasury debt
5 themselves, and easily drives interest rates artificially lower and deceives investors
6 into believing US Treasury debt are safe with wide demand. This has resulted in
7 the entire capital system being impacted by the Federal Reserve's distortion of the
8 price of risk.

9 In the real world of economics, the borrower pays an interest rate to
10 a lender, who makes money (interest) by taking on the risk of lending
11 and deferring gratification. The lender is willing to not spend his
12 money now. In a free market economy, interest rates are essentially
13 a price put on money, and they reflect the time preference of people.
14 Higher interest rates reflect a high demand for borrowing and lower
15 savings. But the higher rates automatically correct this situation by
16 encouraging savings and discouraging borrowing. Lower interest
17 rates will work the opposite way. When the government/central
18 bank tampers with interest rates, savings and lending are distorted,
19 and resources are misallocated. This is evident in looking back on
20 the housing bubble. The artificially low interest rates signaled that
21 there was a high amount of savings. But it was a false signal. There
22 was also a signal for people to borrow more. Again, it was a false
23 signal. As these false signals were revealed, the housing boom
24 turned into a bust.¹⁸

25 **Q. HAVE YOU CONSIDERED THE IMPACT OF COVID-19 ON THE CAPITAL**
26 **MARKETS IN YOUR ANALYSIS?**

27 **A.** Yes. On March 11, 2020 the World Health Organization ("WHO") declared a
28 quickly spreading coronavirus infection a pandemic ("COVID-19"). Labeling a

¹⁸Pike, Geoffrey "The Threat of Negative Interest Rates," Wealth Daily, May 30, 2014,
<http://www.wealthdaily.com/articles/the-threat-of-negative-interest-rates/5185>, (6/03/2014)

1 disease as a pandemic indicates its spread over a wide geographic area and
2 affecting a high proportion of the population.

3 The United States Environmental Protection Agency ("EPA") is providing
4 information on drinking water and wastewater to provide clarity to the public
5 regarding COVID-19. According to EPA, the COVID-19 virus has not been
6 detected in drinking-water supplies. Based on current evidence, the risk to water
7 supplies is low.¹⁹ EPA has also stated that wastewater treatment plants treat the
8 COVID-19: "wastewater treatment plants treat viruses and other pathogens.
9 Coronavirus, which causes COVID-19, is a type of virus that is particularly
10 susceptible to disinfection. Standard treatment and disinfectant processes at
11 wastewater treatment plants are expected to be effective."²⁰ EPA sent a "letter to
12 Governors in all 50 states, territories, tribes and Washington, DC, requesting that
13 water and wastewater workers, as well as the manufacturers and suppliers who
14 provide vital services and materials to the water sector, are considered essential
15 workers and businesses by state authorities when enacting restrictions to curb the
16 spread of COVID-19."²¹

17 In response to COVID-19 the Federal Reserve has provided monetary and
18 fiscal stimulus to increase liquidity in the form of new fiscal stimulus programs and
19 rate cuts. "For context, new fiscal stimulus and total fiscal deficits in the US are
20 roughly double the levels seen in 2008-2009, and the US fiscal deficit we project

19 <https://www.epa.gov/coronavirus>, 5/27/20.

20 <https://www.epa.gov/coronavirus/do-wastewater-treatment-plants-treat-covid-19>, 7/31/20.

21 <https://www.epa.gov/coronavirus/coronavirus-and-drinking-water-and-wastewater>, 5/27/20

1 for 2020 of 15%-18% is only matched by deficits seen at the height of WWII in
2 1942-1943.”²² The combined result of these actions by the Federal Reserve and
3 investors’ flight to quality have resulted in artificial and historically low risk-free
4 rates as measured by the 30-year treasury bond yield. Public utility bond yields
5 have not fluctuated (decreased) nearly to the degree which yields of 30-year
6 treasury bonds have as is evident by the widening of the yield spread or default
7 spread shown on page 5 of Schedule 17 from pre-COVID-19 levels.

8 When there is a crisis in the markets, such as a financial meltdown, market
9 participants usually sell off and move their money to a safer place; fleeing from
10 illiquid, low quality investments to liquid, high quality investments. This flight to
11 quality reflects a collapse of confidence in the financial system and is most evident
12 in short-term interest rates. Prospectively the capital markets will be affected by
13 the upcoming unprecedented large Treasury financings. Investors provide capital
14 based upon risk and return opportunities and investors will not provide common
15 equity capital when higher risk-adjusted returns are available.

16 **Q. ARE THERE OTHER INDICATIONS THAT FORECASTERS BELIEVE CAPITAL**
17 **COSTS RATES MAY INCREASE SUBSTANTIALLY FROM THEIR CURRENT**
18 **LEVELS?**

19 A. Yes, consensus forecasts show that interest rates are expected to increase
20 substantially in the next few years. Table 6 shows the forecasted increase in
21 interest rates published in the June 1, 2020 Blue Chip Consensus Forecasts for

22 <https://www.jpmorgan.com/jmpdf/1320748588999.pdf>, 5/29/20.

the period 2021 to 2023. As shown in Table 6, consensus forecasts show interest rates are expected to increase over 75 basis points from current levels. If interest rates were to increase as predicted, investors will not provide common equity capital when higher risk-adjusted returns are available.

<u>Blue Chip Financial Forecasts Long-Range Survey (8/1/20)</u>				
	Latest Qtr (8/1/20)	Consensus Forecasts (6/1/20 Forecasts)		
	<u>2Q 2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>
<u>Interest Rates</u>				
Prime Rate	3.25	3.36	3.60	4.14
3-mo. Treasury Bills	0.14	0.24	0.53	1.06
10 Year Notes	0.69	1.17	1.54	2.08
30 Year Notes	1.38	1.80	2.22	2.73
Aaa Corporate Bond Yield	2.81	2.80	3.19	3.64
Baa Corporate Bond Yield	3.67	4.14	4.46	4.90

Table 6

COMMON EQUITY COST RATE ESTIMATE

Q. WHAT IS THE BEST METHOD OF ESTIMATING COMMON EQUITY COST RATES?

A. There is no single method (model) suitable for estimating the cost rate for common equity. While a single investor may rely solely upon one model in evaluating investment opportunities, other investors rely on different models. Most sophisticated investors who use an equity valuation model rely on many models in evaluating their common equity investment alternatives. Therefore, the average price of an equity security reflects the results of the application of many equity models used by investors in determining their investment decisions.

1 The application of any single model to estimate common equity cost rates
2 is not appropriate because the security price for which the equity cost rate is being
3 estimated reflects the application of many models used in the valuation of the
4 investment. That is, the price of any security reflects the collective application of
5 many models. Accordingly, if only one model is used to estimate common equity
6 cost rates, that cost rate will most likely be different from the collective market's
7 cost rates because the collective valuation in the market reflects more than one
8 method.

9 Noted financial texts, investor organizations and professional societies all
10 endorse the use of more than one valuation method. "We endorse the dividend
11 discount model, particularly when used for establishing companies with consistent
12 earnings power and when used along with other valuation models. It is our view
13 that, in any case, an investor should employ more than one model."²³

14 The American Association of Individual Investors state, "No one area of
15 investment is suitable for all investors and no single method of evaluating
16 investment opportunities has been proven successful all of the time."²⁴

17 In their study guide, the National Society of Rate of Return Analysts state,
18 "No cost of equity model or other concept is recommended or emphasized, nor is
19 any procedure for employing any model recommended . . . it remains important to
20 recognize that alternative methods exist and have merit in cost of capital

²³Sidney Cottle, Roger F. Murray and Frank E. Block, Graham and Dodd's Securities Analysis 5th Edition, McGraw-Hill, Inc., 1988, p. 568 (emphasis added).

²⁴Editorial Policy, AAll Journal, American Association of Individual Investors, Volume 18, No. 1, January 1996, p. 1.

1 estimation. To this end, analysts should be knowledgeable of a broad spectrum
2 of cost of capital techniques and issues.”²⁵

3 Several different models should be employed to measure accurately the
4 market-required cost of equity reflected in the price of stock. Therefore, I used
5 three recognized methods: the DCF shown on Schedule 12, the CAPM shown on
6 Schedule 17, and the RP shown on Schedule 18.

7 DISCOUNTED CASH FLOW

8 **Q. PLEASE EXPLAIN THE DISCOUNTED CASH FLOW MODEL.**

9 A. The DCF is based upon the assumption that the price of a share of stock is equal
10 to a future stream of cash flows to which the holder is entitled. The stream of cash
11 flows is discounted at the investor-required cost rate (cost of capital).

12 Although the traditional DCF assumes a stream of cash flow into perpetuity,
13 a termination, or sale price can be calculated at any point in time. Therefore, the
14 return rate to the stockholder consists of cash flow (earnings or dividends) received
15 and the change in the price of a share of stock. The cost of equity is defined as:

16 ...the minimum rate of return that must be earned on equity
17 finance and investments to keep the value of existing
18 common equity unchanged. This return rate is the rate of
19 return that investors expect to receive on the Company's
20 common stock . . . the dividend yield plus the capital gains
21 yield . . . ²⁶
22

²⁵David C. Parcell, The Cost of Capital - A Practitioners Guide, National Society of Rate of Return Analysts, 1995 Edition.

²⁶J. Fred Weston and Eugene F. Brigham, Essentials of Managerial Finance, 3rd ed. (The Dryden Press), 1974, p. 504 (emphasis added).

1 **Q. PLEASE EXPLAIN HOW YOU CALCULATED YOUR DIVIDEND YIELD IN THE**
2 **DCF SHOWN ON SCHEDULE 12.**

3 A. As shown on page 1 of Schedule 12, I used the average dividend yield of 1.7% for
4 the Water Group. The individual dividend yields are shown on page 2 of Schedule
5 12 and are based upon the most recent months' yield, July 2020, and the twelve-
6 month average yield, ending July 2020. The second input to a market DCF
7 calculation is the determination of an appropriate share price growth rate.

8 **Q. WHAT SOURCES OF GROWTH RATES DID YOU REVIEW?**

9 A. I reviewed both historical and projected growth rates. Schedule 13 shows the
10 array of projected growth rates for the Comparable Companies that are published.
11 Specific historical growth rates are shown for informational purposes because I
12 believe the meaningful historical growth rates are already considered when
13 analysts arrive at their projected growth rates. Nonetheless, some investors may
14 still rely on historical growth rates.

15 **Q. PLEASE EXPLAIN THE SOURCES OF THE PROJECTED GROWTH RATES**
16 **SHOWN ON SCHEDULE 13.**

17 A. I relied upon four sources for projected growth rates, First Call, S&P, Zacks
18 Investment Research and Value Line.²⁷

²⁷With the exception of Value Line, the earnings growth rate projections are consensus estimates five-year EPS estimates. These consensus estimates are compiled from more than 1,700 financial analysts and brokerage firms nationwide. It should be noted that none of the consensus forecasts provides projected DPS estimates. Value Line publishes projected Cash flow, EPS and DPS five-year growth projections as well.

1 **Q. DID YOU REVIEW ANY OTHER GROWTH RATES BESIDES THOSE SHOWN**
2 **ON SCHEDULE 13?**

3 A. Yes. I reviewed EPS growth rates reflecting changes in return rates on book
4 common equity (ROE) over time. I summarized recent ROEs on page 1 of
5 Schedule 14, and compared those to the Water Group's higher levels projected to
6 be achieved by Value Line, as shown on page 2 of Schedule 14. ROEs increase
7 when EPS grows at much higher/faster rates than book value.

8 I also reviewed industry specific average projected growth rates that are
9 published by Zacks for the industries in which the Comparable Companies
10 operate. According to Zacks, the Water Group's industry is projected to have EPS
11 growth rates that average 9.9% over the next five years.

12 **Q. WHAT DO YOU CONCLUDE FROM THE GROWTH RATES YOU HAVE**
13 **REVIEWED?**

14 A. Table 7 summarizes some of the various growth rates reviewed.

<u>Summary of Growth Rates</u>	
	<u>Water Group</u>
Projected 5 Year Growth in EPS	7.2
Actual 5 Year Growth in EPS	6.2
Projected 5 Year Growth in DPS	6.9
Projected 5 Year Growth in EPS for the industry	9.9

Table 7

Academic studies suggest that growth rate conclusions should be tested for reasonableness against long-term interest rate levels. Further, the minimum growth rate must at least exceed expected inflation levels. Otherwise, investors would experience decreases in the purchasing power of their investment. Finally, the combined result of adding the growth rate to the market value dividend yield must provide a sufficient margin over yields of public utility debt.

Q. WHAT METHOD DID YOU USE TO ARRIVE AT YOUR GROWTH RATE CONCLUSION?

A. No single method is necessarily the correct method of estimating share value growth. It is reasonable to assume that investors anticipate that the Water Group's current ROE will expand to higher levels. The published historical earnings growth rates for the Water Group averages 6.2%. Because there is not necessarily any single means of estimating share value growth, I considered all of this information in determining a growth rate conclusion for the Comparable Companies.

Moreover, while some rate of return practitioners would advocate that mathematical precision should be followed when selecting a growth rate, the fact

1 is that investors do not behave in the same manner when establishing the market
2 price for a stock. Rather, investors consider both company-specific variables and
3 overall market sentiment such as inflation rates, interest rates and economic
4 conditions when formulating their capital gains expectations. This is especially
5 true when one considers the relatively meaningless negative growth rates. That
6 is, use of a negative growth rate in a DCF implies that investors invest with the
7 expectation of losing money.

8 The range of growth rates previously summarized supports the
9 reasonableness of an expected 7.2% growth rate for the Water Group based
10 primarily on the projected five-year growth rates and considering the Water
11 Group's industry projected EPS growth rates of 9.9%. Like the projected growth
12 rates, this investor-expected growth rate of 7.2% is based on a survey of projected
13 and historical growth rates published by established entities, including First Call,
14 S&P, Zacks Investment Research and Value Line. Use of information from these
15 unbiased professional organizations provides an objective estimation of investor's
16 expectations of growth. Based on the aforesaid, all growth rates for the
17 Comparison Companies have been considered and have been given weight in
18 determining a 7.2% growth rate for the Water Group.

19 **Q. WHAT IS YOUR MARKET VALUE DCF ESTIMATE FOR THE COMPARABLE**
20 **COMPANIES?**

21 A. The market value DCF cost rate estimate for the Water Group is 9.0%, as detailed
22 on page 1 of Schedule 12.

1 Q. ARE THERE OTHER CONSIDERATIONS THAT SHOULD BE TAKEN INTO
2 ACCOUNT IN REVIEWING A MARKET VALUE CAPITALIZATION DCF COST
3 RATE ESTIMATE?

4 A. Yes. It should be noted that although I recommend specific dividend yields for the
5 Comparable Group, I recommend that less weight be given to the resultant market
6 value DCF cost rate due to the market's current market capitalization ratios and
7 the impact that the market-to-book ratio has on the DCF results. The Comparable
8 Companies' current market-to-book ratios of 346% and low dividend yields are
9 being affected by the aforementioned policy of the Federal Reserve that has
10 resulted in the mispricing of capital due to artificial interest rates, not DCF
11 fundamentals.

12 Although the DCF cost for common equity appears to be based upon
13 mathematical precision, the derived result does not reflect the reality of the
14 marketplace since the model proceeds from unconnected assumptions. The
15 traditional DCF derived cost rate for common equity will continuously understate
16 or overstate investors' return requirements as long as stock prices continually sell
17 above or below book value. A traditional DCF model implicitly assumes that stock
18 price will be driven to book value over time. However, such a proposition is not
19 rational when viewed in the context of an investor purchasing stock above book
20 value. It is not rational to assume that an investor would expect share price to
21 decrease 71% ($100\% + 346\% = 29\% - 100\% = 71\%$) in value to equal book value.

Utility stocks do not trade in a vacuum. Utility stock prices, whether they are above or below book value, reflect worldwide market sentiment and are not reflective of only one element.

Q. WHAT DO YOU MEAN BY YOUR STATEMENT THAT UTILITY STOCKS ARE NOT TRADED IN A VACUUM?

A. Utility stocks cannot be viewed solely by themselves. They must be viewed in the context of the market environment. Table 8 summarizes recent market-to-book ratios (“M/B”) for well-known measures of market value reported in the August 3, 2020 issue of Barron’s and the Water Group’s average M/B as shown on page 1 of Schedule 14.

	<u>M/B Ratios(%)</u>
Dow Jones Industrials	406
Dow Jones Transportation	309
Dow Jones Utilities	224
S&P 500	358
S&P Industrials	490
Vs.	
Water Group	346

Table 8

Utility stock investors view their investment decisions compared with other investment alternatives, including those of the various market measures shown in Table 8.

1 **Q. HOW DOES A TRADITIONAL DCF IMPLICITLY ASSUME THAT MARKET**
2 **PRICE WILL EQUAL BOOK VALUE?**

3 A. Under traditional DCF theory, price will equal book value ($M/B=1.00$) only when a
4 company is earning its cost of capital. Traditional DCF theory maintains that a
5 company is under-earning its cost of capital when the market price is below book
6 value ($M/B<1.00$), while a company over-earning its cost of capital will have a
7 market price above its book value ($M/B>1.00$). If this were true, it would imply that
8 the capitalistic free-market is not efficient because the overwhelming majority of
9 stocks would currently be earning more than their cost of capital. Table 8 shows
10 that most stocks sell at an M/B that is greater than 1.0.

11 **Q. PLEASE EXPLAIN WHY SUCH A PHENOMENON WOULD SHOW THAT THE**
12 **CAPITALISTIC FREE-MARKET IS NOT EFFICIENT.**

13 A. Historically, the S&P Industrials, which represented approximately 400 companies,
14 have sold at an M/B as low as 1.0 only one time out of the 53-year period 1947-
15 1999. Based upon the traditional DCF assumption, which suggests that
16 companies with M/Bs greater than 1.0 earn more than their cost of capital, this
17 data would suggest that the S&P Industrial companies have earned more than
18 their cost of capital while competing in a competitive environment over the 53-year
19 period. In a competitive market, new companies would continually enter the
20 market up to the point that the earnings rate was at least equal to their cost of
21 capital.

22 During this period the S&P Industrials sold at an average M/B of 223.7%
23 while experiencing a ROE of 15.7% over a period in which interest rates averaged

1 7.2%. It is important to note that the average ROE of 15.7% is relative to a
2 common equity ratio of more than 60% for the S&P Industrials over many years.

3 **Q. WHAT IS THE SIGNIFICANCE OF INDUSTRIAL COMPANIES' M/B AND THE**
4 **COST OF CAPITAL FOR A WATER UTILITY?**

5 A. As stated previously, utility stocks do not trade in a vacuum. They must compete
6 for capital with other firms including industrial stocks. Over time, there has been
7 a relationship between M/Bs of industrial stocks and utility stocks. Although
8 industrial stocks have sold at a higher multiple of book value than utility stocks,
9 both have tracked in similar directions. Because utility and industrial stock prices
10 relative to book values move in similar directions, it is irrational to conclude that
11 stock prices that are different from book value, either higher or lower, suggests
12 that a firm is over-or under-earning its cost of capital when competitive free-
13 markets exist.

14 **Q. DOES THE MARKET VALUE DCF PROVIDE A REASONABLE ESTIMATE OF**
15 **THE WATER GROUP'S COMMON EQUITY COST RATE?**

16 A. No, the DCF only provides a reasonable estimate of the Comparable Group's
17 common equity cost rate when their market price and book value are similar
18 (M/B=100%).²⁸ A DCF will overstate a common equity cost rate when M/Bs are
19 below 100% and understate when they are above 100%. Since the Comparable
20 Group's current M/Bs average 346%, the DCF understates their common equity
21 cost rate. Schedule 15 provides a numerical illustration of the impact of M/Bs on

²⁸Roger A Morin, Regulatory Finance - Utilities' Cost of Capital, Public Utility Reports, Inc., 1994, pp. 236-237.

1 investors' market returns and DCF returns. The reason that DCF understates or
2 overstates investors' return requirements depending upon M/B levels is because
3 a DCF-derived equity cost rate is applied to a book value rate base while investors'
4 returns are measured relative to stock price levels. Based upon this, I
5 recommend that less weight be given to the market value DCF cost rate unless the
6 increased financial risk, resulting from applying a market value cost rate to a book
7 value, is accounted for.

8 **Q. HOW DO YOU RESOLVE THE FINANCIAL RISK DIFFERENCE BETWEEN**
9 **MARKET VALUE COST RATES AND BOOK VALUE COST RATES?**

10 A. The basic proposition of financial theory regarding the economic value of a
11 company is based on market value. That is, a company's value is based on its
12 **market value** weighted average cost of capital.²⁹ The American Society of
13 Appraisers, ASA Business Valuation Standards, 2009, and the National
14 Association of Certified Valuation Analysts, Professional Standards, 2007, use the
15 same definition:

16
17 Weighted Average Cost of Capital (WACC). The cost of capital
18 (discount rate) determined by the weighted average, **at market**
19 **values**, of the cost of all financing sources in the business
20 enterprise's capital structure. (Emphasis added)
21

²⁹For 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>.

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

4 As shown on page 1 of Schedule 16, for the Water Group there is a large
5 difference in leverage as a result of the average \$4,689 million difference in market
6 value common equity and book value common equity. This difference in market
7 values and book values results in debt/equity ratios based on market value of
8 24.7%/75.3% (debt/equity) versus 50.7%/49.3% (debt/equity) based on book
9 value as shown on page 1 of Schedule 16. The larger the difference between
10 market values and book values the less reliable the models' results are because
11 **the models provide an estimate of the cost of capital of market value**, not
12 book value.

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

21
22 The values of debt and equity add up to overall firm value ($D + E =$
23 V) and firm value V equals asset value. **These figures are all**
24 **market values, not book (accounting) values.** The market value
25 of equity is often much larger than the book value, so the market debt

1 ratio D/V is often much lower than a debt ratio computed from the
2 book balance sheet.³⁰

3 The work of Modigliani and Miller concludes that the market value of any
4 firm is independent of its capital structure and this is precisely the reason why an
5 adjustment is appropriate. The only way for the market value of a firm to remain
6 independent of its capital structure is if the capital cost rates change to offset
7 changes in the capital structure. If the capital cost rates do not change to offset
8 changes in the capital structure, then the value of the firm will change. Clearly an
9 adjustment is required when a cost of common equity model is based on **market**
10 **value** and if its results are then applied to **book value** because the capital structure
11 is changed from **market value** capitalization to **book value** capitalization.

12 Differences in the amount of leverage employed can be quantified based
13 upon the Comparable Group's leveraged beta being "unleveraged" through the
14 application of the "Hamada Formula". The details of the model are shown on
15 page 2 of Schedule 16. For example, the inputs to the formula for the Water
16 Group market value capitalization consist of their leveraged beta of 0.77, debt ratio
17 of 24.7%, preferred stock ratio of 0.0%, common equity ratio of 75.3% and
18 combined tax rate of 28.00%. The group's unleveraged beta is determined to be
19 0.62 through the use of the following Hamada formula:

³⁰Brealey, Myers and Allen, Principles of Corporate Finance, 10th edition, page 216 (emphasis added).

1
$$BI = Bu (1 + (1 - t) D/E + P/E)$$

2 where:

3 BI = observed, leveraged beta

4 Bu = calculated, unleveraged beta

5 t = income tax rate

6 D = debt ratio

7 P = preferred stock ratio

8 E = common equity ratio

9 Applying the unleveraged beta of 0.62 along with the Water Group's book value
10 capitalization ratios of 50.7% long-term debt, 0.0% preferred stock and 49.3%
11 common equity and combined tax rate of 28.00% results in a leveraged beta of .84
12 applicable to the group's book value capitalization. Based upon the Water
13 Group's risk premium of 6.0% and the difference between Water Group's market
14 value leveraged beta, their book value leveraged beta of 0.31 (1.08 - 0.77)
15 indicates that the Water Group's common equity cost rate must be increased by
16 1.86 (0.31 x 6.0 = 1.86) in recognition of their book value's exposure to more
17 financial risk.

18 **Q. IS THERE ANOTHER WAY TO REFLECT THE FINANCIAL RISK DIFFERENCE**
19 **THAT EXISTS AS A RESULT OF MARKET CAPITALIZATION RATIOS BEING**
20 **SIGNIFICANTLY DIFFERENT FROM BOOK VALUE CAPITALIZATION**
21 **RATIOS?**

22 A. Yes, generally speaking. Although it is possible to know the direction of a financial
23 risk adjustment on common equity cost rate, a specific quantification of financial

1 risk differences is very difficult. Although the end result of a financial risk
2 adjustment is very subjective and specific quantification very difficult, the direction
3 of the adjustment is clearly known. However, hypothetically if the Comparable
4 Group's debt were rated based on market value debt ratios they would command
5 an Aaa rating. The Comparison Group currently has bonds rated A based upon
6 their book value debt ratios. The yield spread on a bond rated Aaa versus A rated
7 bonds averages 34 basis points or 0.34% as shown on page 3 of Schedule 16.

8 The end result of the application of the Hamada Model and the bond yield
9 spread indicates that the Water Group market value common equity cost rate
10 equity cost rate should be adjusted upward by at least 1.0% (1.8% hamada est. +
11 0.3% yield spread = 2.1% ÷ 2 = 1.0%) since it is going to be applied to a book
12 value.

13 Accounting for the increased amount of leverage between market value
14 derived DCF cost rates and book value cost rates indicates a book value DCF cost
15 rate of 10.00% for the Water Group (9.0% + 1.0% = 10.00%).

16 **CAPITAL ASSET PRICING MODEL**

17 **Q. PLEASE BRIEFLY DESCRIBE THE THEORY OF THE CAPITAL ASSET**
18 **PRICING MODEL.**

19 **A.** The CAPM is based upon the assumption that investors hold diversified portfolios
20 and that the market only recognizes or rewards non-diversifiable (or systematic)
21 risk when determining the price of a security because company-specific risk (or
22 non-systematic) is removed through diversification. Further, investors are
23 assumed to require additional or higher returns for assuming additional or higher

1 risk. This assumption is captured by using a beta that provides an incremental
2 cost of additional risk above the base risk-free rate available to investors. The
3 beta of a security reflects the market risk or systematic risk of the security relative
4 to the market. The beta for the market is always equal to 1.00; therefore, a
5 company whose stock has a beta greater than 1.00 is considered riskier than the
6 market, and a company with a beta less than 1.00 is considered less risky than the
7 market. The base risk-free rate is assumed to be a U.S. Government treasury
8 security because they are assumed to be free of default risk.

9 **Q. WHAT RISK-FREE RATE AND BETA HAVE YOU USED IN YOUR CAPM**
10 **CALCULATION?**

11 A. The risk-free rate used in CAPM should have approximately the same maturity as
12 the life of the asset for which the cost rate is being determined. Because utility
13 assets are long-lived, a long-term Treasury Bond yield serves as an appropriate
14 proxy. Previously, I estimated an appropriate risk-free rate of 1.4% based upon
15 the recent and forward long-term Treasury yields. I used the average beta of 0.77
16 for the Water Group as shown on page 1 of Schedule 17. However, as stated
17 previously, the Comparable Group's betas are understated due to their small size
18 which affects their stock price changes.

19 **Q. AFTER DEVELOPING AN APPROPRIATE BETA AND RISK-FREE RATE,**
20 **WHAT ELSE IS NECESSARY TO CALCULATE A CAPM DERIVED COST**
21 **RATE?**

22 A. A market premium is necessary to determine a traditional CAPM derived cost rate.
23 The market return rate is the return expected for the entire market. The market

1 premium is then multiplied by the company specific beta to capture the incremental
2 cost of additional risk (market premium) above the base risk-free rate (long-term
3 treasury securities) to develop a risk adjusted market premium. For example, if
4 you conclude that the expected return on the market as a whole is 15% and further
5 assume that the risk-free rate is 8%, then the market premium is shown to be 7%
6 ($15\% - 8\% = 7\%$).

7 Further, assume there are two companies, one of which is considered less
8 risky than the market, and therefore has a beta of less than 1.00 or 0.80. The
9 second company has a beta that is greater than 1.00 or 1.20, and is therefore
10 considered riskier than the market. By multiplying the hypothetical 7.0% market
11 premium by the respective betas of 0.80 and 1.20, risk adjusted market premiums
12 of 5.6% ($7.0\% \times 0.80$) and 8.4% ($7.0\% \times 1.20$) are shown for the company
13 considered less risky than the market and for the company considered riskier than
14 the market, respectively.

15 Adding the assumed risk-free rate of 8% to the risk adjusted market
16 premiums results in the CAPM derived cost rates of 13.6% ($5.6\% + 8.0\%$) for the
17 less risky company and 16.4% ($8.4\% + 8.0\%$) for the company considered of
18 greater risk than the market. In fact, the result of this hypothetical CAPM
19 calculation shows that: (1) the least risky company, with the beta of 0.80, has a
20 cost rate of 13.6%; (2) the market, with the beta of 1.00, has a cost rate of 15.0%;
21 and (3) that the higher risk company, with a beta of 1.20, has a cost rate of 16.4%.

1 **Q. HOW DID YOU DEVELOP A MARKET PREMIUM FOR YOUR CAPM?**

2 A. The average projected market premium of 15.1% is developed on page 2 of
3 Schedule 17. It is based upon Value Line's average projected total market return
4 for the next three to five years of 16.5% less the risk free rate of 1.4%. I also
5 reviewed market premiums derived from Ibbotson Associates' most recent
6 publication concerning asset returns that show a market premium of 6.9%. The
7 Ibbotson Associates' market premium may be on the low side reflective of the
8 higher interest rate environment found during their study (*i.e.*, 5.0%). The Value
9 Line market premium reflects the Federal Reserve's current artificial interest rate
10 levels while the Ibbotson Associates' market premiums reflect a higher interest rate
11 environment.

12 **Q. HOW DID YOU ADJUST FOR THE IMPACT THAT SIZE HAS ON THE**
13 **COMPARABLE GROUP'S BETA?**

14 A. The adjustment is reflected in the CAPM size premium. The CAPM size premium
15 is developed on page 4 of Schedule 17. The size premium reflects the risks
16 associated with the Comparable Group's small size and its impact on the
17 determination of their beta. This adjustment is necessary because beta
18 (systematic risk) does not capture or reflect the Comparable Group's small size.
19 I reduced the size premium by the ratio of the Comparison Group's beta to their
20 respective market quartile's beta.

21 **Q. WHAT IS THE COVID-19 DEFAULT ADJUSTMENT?**

22 A. As explained previously, the combined result of these actions by the Federal
23 Reserve and investors' flight to quality have resulted in artificial and historically low

1 risk-free rates as measured by the 30-year treasury bond yield. Public utility bond
2 yields have not fluctuated (decreased) nearly to the degree which yields of 30-year
3 treasury bonds have as is evident by the widening of the yield spread or default
4 spread shown on page 5 of Schedule 17 from pre-COVID-19 levels. The COVID-
5 19 default adjustment normalizes the default spread between treasury bond yields
6 and public utility bond yields to account for current artificial interest rates.

7 **Q. WHAT IS THE COMPARISON GROUP'S MARKET COST OF EQUITY BASED**
8 **UPON YOUR CAPM CALCULATION?**

9 A. The CAPM based on Ibbotson Associates' historical market returns shows a
10 market cost rate of 8.0% for the Water Group. The CAPM based on Value Line's
11 projected market returns shows an 14.3% for the Water Group, as shown on page
12 1 of Schedule 17. The Comparable Group's average market value CAPM of 9.6%
13 is based 75% on the results of the historical market returns and 25% on the
14 projected market returns. Adjusting the market value CAPM based upon the end
15 result of the application of the Hamada Model and the bond yield spread to account
16 for the difference in leverage between market value capitalization ratios and book
17 value ratios discussed previously indicates a cost rate of 10.6% for the Water
18 Group applicable to book value ($9.6\% + 1.0\% = 10.6\%$).

19 **RISK PREMIUM**

20 **Q. WHAT IS A RISK PREMIUM?**

21 A. A risk premium is the common equity investors' required premium over the long-
22 term debt cost rate for the same company, in recognition of the added risk to which
23 the common stockholder is exposed versus long-term debtholders. Long-term

1 debtholders have a stated contract concerning the receipt of dividend and principal
2 repayment whereas common stock investors do not. Further, long-term
3 debtholders have the first claim on assets in case of bankruptcy. A risk premium
4 recognizes the higher risk to which a common stock investor is exposed. The risk
5 premium-derived cost rate for common equity is the simplest form of deriving the
6 cost rate for common equity because it is nothing more than a premium above the
7 prospective level of long-term corporate debt.

8 **Q. WHAT IS THE APPROPRIATE ESTIMATED FUTURE LONG-TERM**
9 **BORROWING RATE FOR THE COMPARABLE COMPANIES?**

10 A. The estimated near term long-term borrowing rate for the Comparable Companies
11 is 3.0% based upon their credit profile that supports an A bond rating.

12 **Q. WHAT IS THE APPROPRIATE RISK PREMIUM TO BE ADDED TO THE**
13 **FUTURE LONG-TERM BORROWING RATE?**

14 A. To determine a common equity cost rate, it is necessary to estimate a risk premium
15 to be added to the Comparable Group's prospective long-term debt rate.
16 Investors may rely upon published projected premiums; they also rely upon their
17 experiences of investing in ultimately determining a probabilistic forecasted risk
18 premium.

19 Projections of total market returns are shown on page 2 of Schedule 18. A
20 projected risk premium for the market can be derived by subtracting the debt cost
21 rate from the projected market return as shown on page 2 of Schedule 18.
22 However, the derived risk premium for the market is not directly applicable to the
23 Comparable Companies because they are less risky than the market. The use of

1 85% of the market's risk is a conservative estimation of their level of risk as
2 compared to the market.

3 The midpoint of the risk premium range is 11.7% and the average for the
4 most recent quarter is 11.4% as shown on page 2 of Schedule 18. Based on this,
5 a reasonable estimate of a longer term projected risk premium is 11.4%.

6 **Q. HOW DO INVESTORS' EXPERIENCES AFFECT THEIR DETERMINATION OF**
7 **A RISK PREMIUM?**

8 A. Returns on various assets are studied to determine a probabilistic risk premium.
9 The most noted asset return studies and resultant risk premium studies are those
10 performed by Ibbotson Associates. However, Ibbotson Associates has not
11 performed asset return studies concerning public utility common stocks. Based
12 upon Ibbotson Associates' methodology of computing asset returns, I calculated
13 annual returns for the S&P utilities and bonds for the period 1928-2019. The
14 resultant annual returns were then compared to determine a recent risk premium
15 from a recent 20-year period, 2000-2019 and subsequent periods that were each
16 increased by ten years until the entire study period was reviewed (pages 3 and 4
17 of Schedule 18).

18 A long-term analysis of rates of return is necessary because it assumes that
19 investors' expectations are, on average, equal to realized long-run rates of return
20 and resultant risk premium. Observing a single year's risk premium, either high or
21 low, may not be consistent with investors' requirements. Further, studies show a
22 mean reversion in risk premiums. In other words, over time, risk premiums revert
23 to a longer-term average premium. Moreover, since the expected rate of return

1 is defined as "the rate of return expected to be realized from an investment; the
2 mean value of the probability distribution of possible results,"³¹ a long-term
3 analysis of annual returns is appropriate.

4 **Q. WHAT DO YOU CONCLUDE FROM THE INFORMATION SHOWN ON PAGES 3**
5 **AND 4 OF SCHEDULE 18?**

6 A. The average of the absolute range of the S&P Utilities' appropriate average risk
7 premium (i.e., bonds rated AAA to A) was 3.7% during the seven periods studied,
8 as calculated from page 3 of Schedule 18. The credit adjusted longer term risk
9 premiums (i.e., bonds rated A), 1928-2019, and averages 4.3%. The appropriate
10 average (i.e., bonds rated AAA to A) longer term risk premiums, 1928-2019, have
11 an absolute range of 4.3% to 5.3%, and averages 4.7%.

12 The aforementioned premiums are based on total returns for bonds; and
13 reflect their price risk. A bond's price risk is not related to its credit quality and is
14 eliminated when a bond is held to maturity from time of purchase. Using the
15 income returns, page 4 of Schedule 18, for bonds eliminates price risk and better
16 measures an investor's required return based on credit quality. The appropriate
17 average risk premium (i.e., bonds rated AAA to A) based on income returns was
18 5.2% during the seven periods studied. The credit adjusted longer term risk
19 premiums (i.e., bonds rated A), 1928-2019, and averages 4.9%. The appropriate
20 average (i.e., bonds rated AAA to A) longer term risk premiums, 1928-2019, have
21 an absolute range of 4.9% to 5.2%, and averages 5.1%.

³¹Eugene F. Brigham, Fundamentals of Financial Management, Fifth Edition, The Dryden Press, 1989, p. 106.

1 **Q. WHAT INFORMATION IS SHOWN ON PAGE 5 OF SCHEDULE 18?**

2 A. Page 5 of Schedule 18 proves and measures the negative relationship between
3 interest rate levels and the resulting risk premium. That is, risk premiums are
4 generally higher when interest rates are low and risk premiums are generally lower
5 when interest rates are high. This was proven by sorting the 92-year period, 1928
6 to 2019, annual returns based on interest rate level from lowest interest rate to
7 highest interest rate and distributing the results into two equal groups, a 46-year
8 low interest rate environment group and a 46-year high interest rate environment
9 group.

10 During the period 1928-2019, the 46 years with the lowest interest rates had
11 an average interest rate of 2.9% and reflected a range of interest rates from 2.0%
12 to 4.1%. This period resembles the current interest rate environment of 1.4%
13 discussed previously regarding the CAPM's risk free rate. The risk premium
14 based on total returns during this low interest rate environment produced the
15 appropriate average (i.e., bonds rated AAA to A) longer term risk premium of 6.6%
16 and a credit adjusted longer term risk premium (i.e., bonds rated A) of 5.8%. The
17 annual income return based risk premium during this low interest rate environment
18 produced the appropriate average (i.e., bonds rated AAA to A) longer term risk
19 premium of 7.5% and a credit adjusted longer term risk premium (i.e., bonds rated
20 A) of 7.2%.

21 However, during the period 1928-2019, the 46 years with the highest
22 interest rates had an average interest rate of 7.2% and reflected a range of interest
23 rates from 4.1% to 13.5%. This period is far different from the current interest rate

1 environment of 1.4%. The risk premium based on total returns during the highest
2 interest rate environment produced an average longer term risk premium of 2.8%
3 over bonds rated AAA to A and a credit adjusted longer term risk premium (i.e.,
4 bonds rated A) of only 2.8%. The annual income return based risk premium
5 during the highest interest rate environment produced an average longer term risk
6 premium of 2.8% over bonds rated AAA to A and a credit adjusted longer term risk
7 premium (i.e., bonds rated A) of only 2.6%.

8 Over time, risk premiums are mean reverting. They constantly move
9 toward a long-term average reflecting a long-term level of interest rates. That is,
10 an above-average risk premium will decrease toward a long-term average while a
11 below-average risk premium will increase toward a long-term average. In any
12 single year, of course, investor-required rates of return may not be realized and in
13 certain instances, a single year's risk premiums may be negative. Negative risk
14 premiums are not indicative of investors' expectations and violate the basic
15 premise of finance concerning risk and return. Negative risk premiums usually
16 occur only in the stock market's down years (i.e., the years in which the stock
17 markets' return was negative).

18 When interest rate levels are not considered the credit adjusted longer term
19 risk premium (i.e., bonds rated A), 1928-2019, averages 4.9%, discussed
20 previously regarding page 4 of Schedule 18. However, the annual income return
21 based risk premium during the low interest rate environment produced a credit
22 adjusted longer term risk premium (i.e., bonds rated A) of 7.2%. Since this period
23 resembles the current interest rate environment of 1.4%, a reasonable estimate of

1 investors risk premium based on historical returns is based on a 50% weighting on
2 the results of the entire 1928-2019 historical market returns and a 50% weighting
3 on the results of the low interest rate environment to produce a 6.0% historical risk
4 premium.

5 Adding the risk premium of 6.0% for the Comparable Group to the
6 prospective cost of newly-issued long-term debt of 3.0% results in a market value
7 risk premium derived cost rate for common equity of 9.0% as reflected on page 1
8 of Schedule 18. Adjusting the market value risk premium based upon the end
9 result of the application of the Hamada Model and the bond yield spread to account
10 for the difference in leverage between market value capitalization and book value
11 ratios discussed previously indicates a cost rate of 10.4% applicable to book value
12 (9.0% + 1.0% = 10.0%).

13 **SUMMARY OF COMMON EQUITY COST RATE**

14 **Q. WHAT IS YOUR COMPARABLE GROUP'S COMMON EQUITY COST RATE?**

15 A. Based upon the results of the models employed, the Water Group's common
16 equity cost rate is in the range of 10.0% to 10.6% as reflected on Schedule 19.
17 Based upon this data, the common equity cost rate for the Water Group is at least
18 10.20%. My recommendation is based upon the Water Group's 10.20% common
19 equity cost rate.

1 Q. DO YOU RECOMMEND A COST OF COMMON EQUITY OF 10.10% FOR
2 SWID?

3 A. Yes. Based upon the financial analysis and risk analysis, I conclude that SWID is
4 exposed to overall similar investment risk as the Comparable Group. This is
5 evidenced by the factors summarized in Table 5 discussed previously.

6 The results of the three models employed for the Water Group shows a
7 current range of common equity cost applicable to book value of SWID of 10.00%
8 (DCF), 10.60% (CAPM), and 10.00% (RP) as shown in Table 9.

Summary of the SWID's Equity Cost Rates	
DCF	10.00
CAPM	10.60
RP	10.00

9 **Table 9**

10 Q. WHAT IS YOUR COMMON EQUITY COST RATE RECOMMENDATION FOR
11 SWID?

12 A. As discussed above and as shown in Schedule 19, I recommend a 10.20%
13 common equity cost rate for SWID.

14 Q. HAVE YOU CHECKED THE REASONABLENESS OF YOUR RECOMMENDED
15 COMMON EQUITY RATE FOR SWID?

16 A. Yes. Page 2 of Schedule 14 reflects the average projected earned return on
17 average book common equity for the companies in the Comparable Group for the
18 period 2023-2025, which is shown to range from 9.6% to 14.4%. Given the large
19 degree to which regulatory lag and attrition impacts water utilities earning, the

1 range of the comparable utilities' projected earned returns suggests that my
2 recommendation that SWID be permitted an opportunity to earn 10.20% is
3 reasonable, if not conservative.

4 **OVERALL RATE OF RETURN RECOMMENDATION**

5 **Q. WHAT IS YOUR OVERALL FAIR RATE OF RETURN RECOMMENDATION FOR**
6 **THE SWID?**

7 A. Based upon the recommended capital structure and my estimate of the SWID's
8 common equity cost rate, I recommend an overall fair rate of return of 7.46%. The
9 details of my recommendation are shown on Schedule 1.

10 **Q. HAVE YOU TESTED THE REASONABLENESS OF YOUR OVERALL FAIR**
11 **RATE OF RETURN RECOMMENDATION?**

12 A. Yes. If my recommended overall rate of return is actually earned, it will give SWID
13 ratios that will allow SWID to present a financial profile that will enable it to attract
14 capital necessary to provide safe and reliable water service, at reasonable terms.

15 **Q. DOES THAT CONCLUDE YOUR DIRECT TESTIMONY?**

16 A. Yes, it does.

APPENDIX A

Professional Qualifications
of
Harold Walker, III
Manager, Financial Studies
Gannett Fleming Valuation and Rate Consultants, LLC.

EDUCATION

Mr. Walker graduated from Pennsylvania State University in 1984 with a Bachelor of Science Degree in Finance. His studies concentrated on securities analysis and portfolio management with an emphasis on economics and quantitative business analysis. He has also completed the regulation and the rate-making process courses presented by the College of Business Administration and Economics Center for Public Utilities at New Mexico State University. Additionally, he has attended programs presented by The Institute of Chartered Financial Analysts (CFA).

Mr. Walker was awarded the professional designation "Certified Rate of Return Analyst" (CRRRA) by the Society of Utility and Regulatory Financial Analysts. This designation is based upon education, experience and the successful completion of a comprehensive examination. He is also a member of the Society of Utility and Regulatory Financial Analysts (SURFA) and has attended numerous financial forums sponsored by the Society. The SURFA forums are recognized by the Association for Investment Management and Research (AIMR) and the National Association of State Boards of Accountancy for continuing education credits.

Mr. Walker is also a licensed Municipal Advisor Representative (Series 50) by Municipal Securities Rulemaking Board (MSRB) and Financial Industry Regulatory Authority (FINRA).

BUSINESS EXPERIENCE

Prior to joining Gannett Fleming Valuation and Rate Consultants, LLC., Mr. Walker was employed by AUS Consultants - Utility Services. He held various positions during his eleven years with AUS, concluding his employment there as a Vice President. His duties included providing and supervising financial and economic studies on behalf of investor owned and municipally owned water, wastewater, electric, natural gas distribution and transmission, oil pipeline and telephone utilities as well as resource recovery companies.

In 1996, Mr. Walker joined Gannett Fleming Valuation and Rate Consultants, LLC. In his capacity as Manager, Financial Studies and for the past twenty years, he has continuously studied rates of return requirements for regulated firms. In this regard, he supervised the preparation of rate of return studies in connection with his testimony and in the past, for other individuals. He also assisted and/or developed dividend policy studies, nuclear prudence studies, calculated fixed charge rates for avoided costs involving cogeneration projects, financial decision studies for capital budgeting purposes and developed financial models for determining future capital requirements and the effect of those requirements on investors and ratepayers, valued utility property and common stock for acquisition and divestiture, and assisted in the private placement of fixed capital securities for public utilities.

Head, Gannett Fleming GASB 34 Task Force responsible for developing Governmental Accounting Standards Board (GASB) 34 services, and educating Gannett Fleming personnel and Gannett Fleming clients on GASB 34 and how it may affect them. The GASB 34 related services include inventory of assets, valuation of assets, salvage estimation, annual depreciation rate determination, estimation of depreciation reserve, asset service life determination, asset condition assessment, condition assessment documentation, maintenance estimate for asset preservation, establishment of condition level index, geographic information system (GIS) and data management services, management discussion and analysis (MD&A) reporting, required supplemental information (RSI) reporting, auditor interface, and GASB 34 compliance review.

Mr. Walker was also the Publisher of C.A. Turner Utility Reports from 1988 to 1996. C.A. Turner Utility Reports is a financial publication which provides financial data and related ratios and forecasts covering the utility industry. From 1993 to 1994, he became a contributing author for the Fortnightly, a utility trade journal. His column was the Financial News column and focused mainly on the natural gas industry.

In 2004, Mr. Walker was elected to serve on the Board of Directors of SURFA. Previously, he served as an ex-officio directors as an advisor to SURFA's existing President. In 2000, Mr. Walker was elected President of SURFA for the 2001-2002 term. Prior to that, he was elected to serve on the Board of Directors of SURFA during the period 1997-1998 and 1999-2000. Currently, he also serves on the Pennsylvania Municipal Authorities Association, Electric Deregulation Committee.

EXPERT TESTIMONY

Mr. Walker has submitted testimony or been deposed on various topics before regulatory commissions and courts in 25 states including: Arizona, California, Colorado, Connecticut, Delaware, Hawaii, Illinois, Indiana, Kentucky, Maryland, Massachusetts, Michigan, Missouri, New Hampshire, Nevada, New Jersey, New York, North Carolina, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia, and West Virginia. His testimonies covered various subjects including: fair market value, the taking of natural resources, benchmarking, appropriate capital structure and fixed capital cost

rates, depreciation, fair rate of return, purchased water adjustments, synchronization of interest charges for income tax purposes, valuation, cash working capital, lead-lag studies, financial analyses of investment alternatives, and fair value. The following tabulation provides a listing of the electric power, natural gas distribution, telephone, wastewater, and water service utility cases in which he has been involved as a witness. Additionally, he has been involved in a number of rate proceedings involving small public utilities which were resolved by Option Orders and therefore, are not listed below.

<u>Client</u>	<u>Docket No.</u>
Alpena Power Company	U-10020
Armstrong Telephone Company - Northern Division	92-0884-T-42T
Armstrong Telephone Company - Northern Division	95-0571-T-42T
Artesian Water Company, Inc.	90 10
Artesian Water Company, Inc.	06 158
Aqua Illinois Consolidated Water Divisions and Consolidated Sewer Divisions	11-0436
Aqua Illinois Hawthorn Woods Wastewater Division	07 0620/07 0621/08 0067 07 0620/07 0621/08
Aqua Illinois Hawthorn Woods Water Division	0067
Aqua Illinois Kankakee Water Division	10-0194
Aqua Illinois Kankakee Water Division	14-0419 07 0620/07 0621/08
Aqua Illinois Vermilion Division	0067 07 0620/07 0621/08
Aqua Illinois Willowbrook Wastewater Division	0067
Aqua Illinois Willowbrook Water Division	07 0620/07 0621/08 0067
Aqua Pennsylvania Wastewater Inc	A-2016-2580061
Aqua Pennsylvania Wastewater Inc	A-2017-2605434
Aqua Pennsylvania Wastewater Inc	A-2018-3001582
Aqua Pennsylvania Wastewater Inc	A-2019-3008491
Aqua Pennsylvania Wastewater Inc	A-2019-3009052
Aqua Pennsylvania Wastewater Inc	A-2019-3015173
Aqua Virginia - Alpha Water Corporation	Pue-2009-00059

Aqua Virginia - Blue Ridge Utility Company, Inc.	Pue-2009-00059
Aqua Virginia - Caroline Utilities, Inc. (Wastewater)	Pue-2009-00059
Aqua Virginia - Caroline Utilities, Inc. (Water)	Pue-2009-00059
Aqua Virginia - Earlysville Forest Water Company	Pue-2009-00059
Aqua Virginia - Heritage Homes of Virginia	Pue-2009-00059
Aqua Virginia - Indian River Water Company	Pue-2009-00059
Aqua Virginia - James River Service Corp.	Pue-2009-00059
Aqua Virginia - Lake Holiday Utilities, Inc. (Wastewater)	Pue-2009-00059
Aqua Virginia - Lake Holiday Utilities, Inc. (Water)	Pue-2009-00059
Aqua Virginia - Lake Monticello Services Co. (Wastewater)	Pue-2009-00059
Aqua Virginia - Lake Monticello Services Co. (Water)	Pue-2009-00059
Aqua Virginia - Lake Shawnee	Pue-2009-00059
Aqua Virginia - Land'or Utility Company (Wastewater)	Pue-2009-00059
Aqua Virginia - Land'or Utility Company (Water)	Pue-2009-00059
Aqua Virginia - Mountainview Water Company, Inc.	Pue-2009-00059
Aqua Virginia - Powhatan Water Works, Inc.	Pue-2009-00059
Aqua Virginia - Rainbow Forest Water Corporation	Pue-2009-00059
Aqua Virginia - Shawnee Land	Pue-2009-00059
Aqua Virginia - Sydnor Water Corporation	Pue-2009-00059
Aqua Virginia - Water Distributors, Inc.	Pue-2009-00059
Berkshire Gas Company	18-40
Borough of Hanover	R-2009-2106908
Borough of Hanover	R-2012-2311725
Borough of Hanover	R-2014-242830
Borough of Royersford	A-2020-3019634
Chaparral City Water Company	W 02113a 04 0616
California-American Water Company	CIVCV156413
Connecticut-American Water Company	99-08-32
Connecticut Water Company	06 07 08
Citizens Utilities Company	
Colorado Gas Division	-

Citizens Utilities Company	5426
Vermont Electric Division	R 901664
Citizens Utilities Home Water Company	
Citizens Utilities Water Company	
of Pennsylvania	R 901663
City of Bethlehem - Bureau of Water	R-00984375
City of Bethlehem - Bureau of Water	R 00072492
City of Bethlehem - Bureau of Water	R-2013-2390244
City of Dubois – Bureau of Water	R-2013-2350509
City of Dubois – Bureau of Water	R-2016-2554150
City of Lancaster Sewer Fund	R-00005109
City of Lancaster Sewer Fund	R-00049862
City of Lancaster Sewer Fund	R-2012-2310366
City of Lancaster Sewer Fund	R-2019-3010955
City of Lancaster Sewer Fund	R-2019-3010955
City of Lancaster Water Fund	R-00984567
City of Lancaster Water Fund	R-00016114
City of Lancaster Water Fund	R 00051167
City of Lancaster Water Fund	R-2010-2179103
City of Lancaster Water Fund	R-2014-2418872
Coastland Corporation	15-cvs-216
Consumers Pennsylvania Water Company	
Roaring Creek Division	R-00973869
Consumers Pennsylvania Water Company	
Shenango Valley Division	R-00973972
Country Knolls Water Works, Inc.	90 W 0458
East Resources, Inc. - West Virginia Utility	06 0445 G 42T
Elizabethtown Water Company	WR06030257
	19-W-0168 & 19-W-
	0269
Forest Park, Inc.	DW 99-057
Hampton Water Works Company	R-2018-3001306
Hidden Valley Utility Services, LP	R-2018-3001307
Hidden Valley Utility Services, LP	16-0093
Illinois American Water Company	R-911971
Indian Rock Water Company	38891
Indiana Natural Gas Corporation	-
Jamaica Water Supply Company	A-2019-3014248
Kane Borough Authority	

Kentucky American Water Company, Inc.	2007 00134
Middlesex Water Company	WR 89030266J
Millcreek Township Water Authority	55 198 Y 00021 11
Missouri-American Water Company	WR 2000-281
Missouri-American Water Company	SR 2000-282
Mount Holly Water Company	WR06030257
New Jersey American Water Company	WR 89080702J
New Jersey American Water Company	WR 90090950J
New Jersey American Water Company	WR 03070511
New Jersey American Water Company	WR-06030257
New Jersey American Water Company	WR08010020
New Jersey American Water Company	WR10040260
New Jersey American Water Company	WR11070460
New Jersey American Water Company	WR15010035
New Jersey American Water Company	WR17090985
New Jersey American Water Company	WR19121516
New Jersey Natural Gas Company	GR19030420
Newtown Artesian Water Company	R-911977
Newtown Artesian Water Company	R-00943157
Newtown Artesian Water Company	R-2009-2117550
Newtown Artesian Water Company	R-2011-2230259
Newtown Artesian Water Company	R-2017-2624240
Newtown Artesian Water Company	R-2019-3006904
North Maine Utilities	14-0396
Northern Indiana Fuel & Light Company	38770
Oklahoma Natural Gas Company	PUD-940000477
Palmetto Wastewater Reclamation, LLC	2018-82-S
Pennichuck Water Works, Inc.	DW 04 048
Pennichuck Water Works, Inc.	DW 06 073
Pennichuck Water Works, Inc.	DW 08 073
Pennsylvania Gas & Water Company (Gas)	R-891261
Pennsylvania Gas & Water Co. (Water)	R 901726
Pennsylvania Gas & Water Co. (Water)	R-911966
Pennsylvania Gas & Water Co. (Water)	R-22404
Pennsylvania Gas & Water Co. (Water)	R-00922482
Pennsylvania Gas & Water Co. (Water)	R-00932667
Philadelphia Gas Works	R-2020-3017206

Public Service Company of North Carolina, Inc.	G-5, Sub 565
Public Service Electric and Gas Company	ER181010029
Public Service Electric and Gas Company	GR18010030
Presque Isle Harbor Water Company	U-9702
Sierra Pacific Power Company d/b/a NV Energy	19-06002
St. Louis County Water Company	WR-2000-844
SUEZ Water Delaware, Inc.	19-0615
SUEZ Water New Jersey, Inc.	WR18050593
SUEZ Water Owego-Nichols, Inc.	17-W-0528
SUEZ Water Pennsylvania, Inc.	R-2018-3000834
SUEZ Water Pennsylvania, Inc.	A-2018-3003519
SUEZ Water Pennsylvania, Inc.	A-2018-3003517
SUEZ Water Rhode Island, Inc.	Docket No. 4800
	19-W-0168 & 19-W-
SUEZ Water Owego-Nichols, Inc.	0269
	19-W-0168 & 19-W-
SUEZ Water New York, Inc.	0269
	19-W-0168 & 19-W-
SUEZ Westchester, Inc.	0269
Town of North East Water Fund	9190
Township of Exeter	A-2018-3004933
United Water New Rochelle	W-95-W-1168
United Water Toms River	WR-95050219
Valley Township (water)	A-2020-3019859
Valley Township (wastewater)	A-2020-3020178
Valley Water Systems, Inc.	06 10 07
Virginia American Water Company	PUR-2018-00175
West Virginia-American Water Company	15-0676-W-42T
West Virginia-American Water Company	15-0675-S-42T
Wilmington Suburban Water Corporation	94-149
York Water Company	R-901813
York Water Company	R-922168
York Water Company	R-943053
York Water Company	R-963619
York Water Company	R-994605
York Water Company	R-00016236
Young Brothers, LLC	2019-0117

Michael C. Creamer (ISB No. 4030)
Preston N. Carter (ISB No. 8462)
Givens Pursley LLP
601 W. Bannock St.
Boise, ID 83702
Telephone: (208) 388-1200
Facsimile: (208) 388-1300
mcc@givenspursley.com
prestoncarter@givenspursley.com

Attorneys for SUEZ Water Idaho Inc.

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION
OF SUEZ WATER IDAHO INC. FOR
AUTHORITY TO INCREASE ITS RATES
AND CHARGES FOR WATER SERVICE
IN THE STATE OF IDAHO

Case No. SUZ-W-20-02

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT 1 TO ACCOMPANY THE

DIRECT TESTIMONY OF HAROLD WALKER, III

SUEZ WATER IDAHO INC.
BOISE, IDAHO

RATE OF RETURN

EXHIBIT

TO ACCOMPANY THE
DIRECT TESTIMONY

SEPTEMBER 2020

Prepared by:
GANNETT FLEMING
VALUATION AND RATE CONSULTANTS, LLC



Valley Forge, Pennsylvania

SUEZ Water Idaho Inc.
 Cost of Capital and Fair Rate of Return
At August 30, 2020

<u>Type of Capital</u>	<u>Ratios*</u>	<u>Cost Rate*</u> (%)	<u>Weighted Cost Rate</u> (%)
Debt	45.93%	4.23	1.94%
Preferred Stock	0.00	0.00	0.00
Common Equity	<u>54.07</u>	10.20	<u>5.52</u>
Overall Cost of Capital	<u>100.00%</u>		<u>7.46%</u>
Before Income Tax Interest Coverage (x) (Based on effective income tax rate of 26.47%.)		4.9x	

* Ratios and embedded cost rates are from Exhibit _____. The capital structure ratios are those of SUEZ Water Resources, Inc.

Capital Structure Ratios for
The Water Group Followed by Analysts
At 3/31/2020 and Estimated for 2024

	<u>3/31/2020</u>	Est.(1) <u>2024</u>
<u>Water Group Followed by Analysts</u>		
Long-term Debt	50.7 %	43.7 %
Preferred Stock	0.0	0.0
Common Equity	<u>49.3</u>	<u>56.3</u>
Total	<u>100.0</u> %	<u>100.0</u> %

Notes: (1) Project by Value Line for the period 2023 to 2025.

Source of Information: Value Line Investment Survey, 7/10/20, and S&P Capital IQ

Capital Structure Ratios for
The Water Group Followed by Analysts
At 3/31/2020 and Estimated for 2024

	Actual at 3/31/20		
	Long-term Debt	Preferred Stock	Common Equity
<u>Water Group Followed by Analysts</u>			
American States Water Co	46.5	0.0	53.5
American Water Works Co Inc	58.4	0.0	41.6
California Water Service Gp	51.7	0.0	48.3
Essential Utilities, Inc.	51.5	0.0	48.5
Middlesex Water Co	43.0	0.4	56.6
SJW Corp	60.3	0.0	39.7
York Water Co	<u>43.3</u>	<u>0.0</u>	<u>56.7</u>
Average	<u>50.7</u>	<u>0.0</u>	<u>49.3</u>

	Estimated at 2024		
	Long-term Debt	Preferred Stock	Common Equity
<u>Water Group Followed by Analysts</u>			
American States Water Co	49.5	-1.0	51.5
American Water Works Co Inc	59.0	0.0	41.0
California Water Service Gp	43.5	0.0	56.5
Essential Utilities, Inc.	40.5	0.0	59.5
Middlesex Water Co	39.0	0.5	60.5
SJW Corp	39.0	0.0	61.0
York Water Co	<u>36.0</u>	<u>0.0</u>	<u>64.0</u>
Average	<u>43.7</u>	<u>0.0</u>	<u>56.3</u>

Source of Information: Value Line Investment Survey, 7/10/20, and S&P Capital IQ

SUEZ Water Idaho Inc.
Five Year Analysis
2015 - 2019 (1)

<u>Ln #</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>Average Ann. Chg(%)</u>	
	(Millions of \$)						
	Investor Provided Capital(\$)						
1	Permanent Capital	193.554	180.331	168.639	163.820	166.177	3.9
2	Short-Term Debt	<u>0.000</u>	<u>0.000</u>	<u>0.000</u>	<u>0.000</u>	<u>0.000</u>	
3	Total Capital	<u>193.554</u>	<u>180.331</u>	<u>168.639</u>	<u>163.820</u>	<u>166.177</u>	3.9
4	Total Revenue(\$)	46.062	48.406	48.899	49.822	46.512	(0.2)
5	Construction(\$)	23.877	19.303	25.430	19.196	16.485	12.1
						<u>Five Year Average</u>	<u>Average Central Values(9)</u>
6	Effective Income Tax Rate(%)	30.9	28.7	41.6	25.1	39.7	33.2
	Capitalization Ratios(%)						
7	Long-Term Debt	0.0	0.0	0.0	0.0	0.0	0.0
8	Preferred Stock	0.0	0.0	0.0	0.0	0.0	0.0
9	Common Equity	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	100.0
	Total	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	
10	Total Debt	0.0	0.0	0.0	0.0	0.0	0.0
11	Preferred Stock	0.0	0.0	0.0	0.0	0.0	0.0
12	Common Equity	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	100.0
	Total	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	
	Rates on Average Capital(2)(%)						
13	Total Debt	NA	NA	NA	NA	NA	NA
14	Long-Term Debt	NA	NA	NA	NA	NA	NA
15	Preferred Stock	0.0	0.0	0.0	0.0	0.0	0.0
	Coverage - Including AFC(3)(x)						
16	PreTax Interest	5.3	5.2	4.6	4.5	4.2	4.8
17	PreTax Interest + Pref. Div	5.3	5.2	4.6	4.5	4.2	4.8
18	PostTax Interest + Pref. Div	4.0	4.0	3.1	3.7	2.9	3.5
	Coverage - Excluding AFC(3)(x)						
19	PreTax Interest	5.0	5.0	4.5	4.5	4.1	4.6
20	PreTax Interest + Pref. Div	5.0	5.0	4.5	4.5	4.1	4.6
21	PostTax Interest + Pref. Div	3.7	3.8	3.0	3.6	2.9	3.4
22	GCF / Interest Coverage(4)(x)	6.7	6.2	5.1	5.3	4.7	5.6
23	Coverage of Common Dividends(5)(x)	0.0	17.3	13.0	1.2	2.2	6.7
24	Construction / Avg. Tot. Capital(%)	12.8	11.1	15.3	11.6	10.1	12.2
25	NCF / Construction(6)(%)	93.0	101.4	65.1	15.9	53.7	65.8
26	AFC / Income for Common Stock	9.7	5.2	2.3	2.0	2.5	4.3
27	GCF / Avg. Tot. Debt(7)(%)	NA	NA	NA	NA	NA	NA
28	GCF / Permanent Capital(8)(%)	11.5	11.5	10.6	11.9	9.7	11.0

See page 3 of this Schedule for notes.

SUEZ Water Idaho Inc.
Five Year Analysis
2015-2019

Notes:

- (1) Based upon the achieved results for each individual company based upon the financials as originally reported.
- (2) Computed by relating total debt interest, long-term debt interest and preferred dividend expense to average of beginning and ending balance of the respective capital outstanding.
- (3) The coverage calculations, both including and excluding AFC, represent the number of times available earnings cover the various fixed charges.
- (4) GCF or gross cash flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less AFC), plus interest charges, divided by interest charges.
- (5) GCF (see note 4) less all preferred dividends which cover common dividends.
- (6) The percent of GCF (see note 4) less all cash dividends which cover gross construction expenditures.
- (7) GCF (see note 4) as a percentage of Permanent Capital (long-term debt, current maturities and preferred, preference and common equity).
- (8) GCF (see note 4) as a percentage of average total debt.
- (9) Average of the second, third and fourth quintile values.

Source of Information: Annual Reports filed with the ID PUC

Water Group Followed by Analysts
Five Year Analysis
2015 - 2019 (1)

<u>Ln #</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	Average <u>Ann. Chg(%)</u>	
	(Millions of \$)						
	Investor Provided Capital(\$)						
1	Permanent Capital	3,934.479	3,230.128	2,836.135	2,677.151	2,530.244	11.9
2	Short-Term Debt	<u>162.140</u>	<u>171.857</u>	<u>188.340</u>	<u>154.493</u>	<u>106.277</u>	
3	Total Capital	4,096.619	3,401.985	3,024.475	2,831.644	2,636.521	11.8
4	Total Revenue(\$)	899.254	856.759	835.976	812.504	785.487	3.5
5	Construction(\$)	414.853	386.422	357.285	320.360	274.975	10.9
6	Effective Income Tax Rate(%)	13.4	14.4	32.2	32.0	31.5	
	Book Capitalization Ratios(%)						
7	Long-Term Debt	49.4	46.2	45.6	46.2	46.3	46.7
8	Preferred Stock	0.1	0.1	0.1	0.1	0.1	0.1
9	Common Equity	<u>50.6</u>	<u>53.7</u>	<u>54.3</u>	<u>53.7</u>	<u>53.6</u>	53.2
	Total	100.0	100.0	100.0	100.0	100.0	53.7
10	Total Debt	50.9	48.5	49.0	48.5	47.5	48.9
11	Preferred Stock	0.1	0.1	0.1	0.1	0.1	0.1
12	Common Equity	<u>49.0</u>	<u>51.4</u>	<u>50.9</u>	<u>51.4</u>	<u>52.4</u>	51.0
	Total	100.0	100.0	100.0	100.0	100.0	51.4
	Rates on Average Capital(2)(%)						
13	Total Debt	4.4	5.1	4.9	5.1	5.2	5.0
14	Long-Term Debt	3.9	4.5	5.1	5.1	5.3	4.8
15	Preferred Stock	5.8	5.9	5.9	5.9	5.9	5.9
	Coverage - Including AFC(3)(x)						
16	PreTax Interest	3.6	3.7	4.8	4.7	4.4	4.2
17	PreTax Interest + Pref. Div	3.6	3.6	4.8	4.6	4.4	4.2
18	PostTax Interest + Pref. Div	3.3	3.3	3.6	3.5	3.3	3.4
	Coverage - Excluding AFC(3)(x)						
19	PreTax Interest	3.5	3.6	4.7	4.6	4.4	4.2
20	PreTax Interest + Pref. Div	3.5	3.6	4.7	4.6	4.3	4.1
21	PostTax Interest + Pref. Div	3.2	3.2	3.5	3.4	3.2	3.3
22	GCF / Interest Coverage(4)(x)	5.1	5.0	6.1	5.8	6.2	5.6
23	Coverage of Common Dividends(5)(x)	3.0	3.2	4.0	3.9	4.0	3.6
24	Construction / Avg. Tot. Capital(%)	12.8	13.6	14.4	13.4	10.8	13.0
25	NCF / Construction(6)(%)	46.7	49.2	62.0	66.2	90.4	62.9
26	AFC / Income for Common Stock	6.5	3.6	3.7	2.8	2.2	3.8
27	GCF / Avg. Tot. Debt(7)(%)	17.7	19.3	23.9	23.9	25.8	22.1
28	GCF / Permanent Capital(8)(%)	8.3	9.1	11.9	11.4	12.1	10.6

See page 2 of this Schedule for notes.

Water Group Followed by Analysts
Five Year Analysis
2015-2019

Notes:

- (1) Average of the achieved results for each individual company based upon the financials as originally reported.
- (2) Computed by relating total debt interest, long-term debt interest and preferred dividend expense to average of beginning and ending balance of the respective capital outstanding.
- (3) The coverage calculations, both including and excluding AFC, represent the number of times available earnings cover the various fixed charges.
- (4) GCF or gross cash flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less AFC), plus interest charges, divided by interest charges.
- (5) GCF (see note 4) less all preferred dividends which cover common dividends.
- (6) The percent of GCF (see note 4) less all cash dividends which cover gross construction expenditures.
- (7) GCF (see note 4) as a percentage of Permanent Capital (long-term debt, current maturities and preferred, preference and common equity).
- (8) GCF (see note 4) as a percentage of average total debt.
- (9) Average of the second, third and fourth quintile values.

Source of Information: Standard & Poor's and Annual Reports

S&P Utilities
Five Year Analysis
2015 - 2019 (1)

<u>Ln #</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>Average Ann. Chg(%)</u>	
	(Millions of \$)						
	Investor Provided Capital(\$)						
1	Permanent Capital	51,186.799	45,049.028	42,898.567	40,656.671	35,858.814	9.4
2	Short-Term Debt	<u>1,626.323</u>	<u>2,223.236</u>	<u>1,461.341</u>	<u>1,349.417</u>	<u>1,276.707</u>	
3	Total Capital	52,813.123	47,272.264	44,359.908	42,006.088	37,135.521	9.3
4	Total Revenue(\$)	14,806.863	14,513.493	14,075.305	13,371.010	13,421.140	2.5
5	Construction(\$)	6,259.336	5,465.970	5,017.795	4,948.510	4,358.889	9.6
6	Effective Income Tax Rate(%)	15.8	29.8	20.0	27.2	33.6	
	Book Capitalization Ratios(%)						
7	Long-Term Debt	56.1	55.8	57.2	56.6	54.7	56.1
8	Preferred Stock	0.9	0.5	0.0	0.0	0.0	0.6
9	Common Equity	<u>43.1</u>	<u>43.6</u>	<u>42.8</u>	<u>43.4</u>	<u>45.3</u>	43.4
	Total	100.0	100.0	100.0	100.0	100.0	
10	Total Debt	57.5	58.0	58.8	58.2	56.2	57.7
11	Preferred Stock	0.8	0.5	0.0	0.0	0.0	0.4
12	Common Equity	<u>41.6</u>	<u>41.5</u>	<u>41.2</u>	<u>41.8</u>	<u>43.8</u>	41.6
	Total	100.0	100.0	100.0	100.0	100.0	
	Rates on Average Capital(2)(%)						
13	Total Debt	4.4	4.2	4.1	4.2	4.2	4.2
14	Long-Term Debt	NA	NA	NA	NA	NA	0.0
15	Preferred Stock	6.4	5.3	NA	NA	NA	0.0
	Coverage - Including AFC(3)(x)						
16	PreTax Interest	3.1	3.2	3.3	3.2	3.7	3.2
17	PreTax Interest + Pref. Div	3.1	3.2	3.3	3.2	3.7	3.2
18	PostTax Interest + Pref. Div	2.8	2.9	2.8	2.5	2.8	2.8
	Coverage - Excluding AFC(3)(x)						
19	PreTax Interest	3.0	3.2	3.2	3.1	3.6	3.2
20	PreTax Interest + Pref. Div	3.0	3.2	3.2	3.1	3.6	3.2
21	PostTax Interest + Pref. Div	2.8	2.8	2.7	2.4	2.7	2.7
22	GCF / Interest Coverage(4)(x)	5.0	5.3	5.2	5.2	5.8	5.2
23	Coverage of Common Dividends(5)(x)	4.1	3.9	3.2	3.3	3.9	3.9
24	Construction / Avg. Tot. Capital(%)	12.6	12.6	12.4	13.2	12.8	12.6
25	NCF / Construction(6)(%)	67.7	61.4	53.3	50.4	60.1	60.1
26	AFC / Income for Common Stock	4.6	3.4	4.5	(2.9)	3.4	3.4
27	GCF / Avg. Tot. Debt(7)(%)	17.0	17.6	17.3	16.9	19.7	17.3
28	GCF / Permanent Capital(8)(%)	9.5	10.1	9.8	9.1	10.6	9.8

See page 2 of this Schedule for notes.

S&P Public Utilities
Five Year Analysis
2015-2019

Notes:

- (1) Market value weighted achieved results for each individual company based upon the financials as originally reported.
- (2) Computed by relating total debt interest, long-term debt interest and preferred dividend expense to average of beginning and ending balance of the respective capital outstanding.
- (3) The coverage calculations, both including and excluding AFC, represent the number of times available earnings cover the various fixed charges.
- (4) GCF or gross cash flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less AFC), plus interest charges, divided by interest charges.
- (5) GCF (see note 4) less all preferred dividends which cover common dividends.
- (6) The percent of GCF (see note 4) less all cash dividends which cover gross construction expenditures.
- (7) GCF (see note 4) as a percentage of Permanent Capital (long-term debt, current maturities and preferred, preference and common equity).
- (8) GCF (see note 4) as a percentage of average total debt.
- (9) Average of the second, third and fourth quintile values.

Source of Information: Standard & Poor's, Moody's and Annual Reports

Risk Measures for the Common Stock of
The Water Group Followed by Analysts and the S&P Utilities

	Recent S&P Issuer Credit Rating	Stock Exchange	Recent S&P Quality Ranking	Value Line Beta	Recent Market Value (Mill \$)	Market Quartile	Market Quartile Name
<u>Water Group Followed by Analysts</u>							
American States Water Co	A+	NYSE	High (A)	0.65	2,835.624	3	Low-Cap
American Water Works Co Inc	A	NYSE	Above Average (A-)	0.85	26,659.246	1	Large-Cap
California Water Service Gp	A+	NYSE	Above Average (A-)	0.65	2,283.225	3	Low-Cap
Essential Utilities, Inc.	A	NYSE	High (A)	0.90	11,112.622	2	Mid-Cap
Middlesex Water Co	A	NasdaqGS	High (A)	0.75	1,117.192	3	Low-Cap
SJW Corp	A-	NYSE	Average (B+)	0.80	1,780.573	3	Low-Cap
York Water Co	A-	NasdaqGS	High (A)	0.80	603.203	4	Mid-Cap
Average	A		Above Average (A-)	0.77	2,283.225	3	Low-Cap
<u>S&P Public Utilities</u>							
AES Corporation (The)	BB+	NYSE	Lower (B-)	1.05	10,126.541	2	Mid-Cap
Alliant Energy Corporation	A-	NasdaqGS	High (A)	0.80	13,435.777	2	Mid-Cap
Ameren Corporation	BBB+	NYSE	Above Average (A-)	0.80	19,810.536	1	Large-Cap
American Electric Power Company, Inc	A-	NYSE	Average (B+)	0.75	43,056.263	1	Large-Cap
American Water Works Company, Inc.	A	NYSE	Above Average (A-)	0.85	26,659.246	1	Large-Cap
Atmos Energy Corporation	A	NYSE	Above Average (A-)	0.80	12,963.797	2	Mid-Cap
CenterPoint Energy, Inc.	BBB+	NYSE	Average (B+)	1.15	10,354.603	2	Mid-Cap
CMS Energy Corporation	BBB+	NYSE	Above Average (A-)	0.80	18,368.903	1	Large-Cap
Consolidated Edison, Inc.	A-	NYSE	Average (B+)	0.75	25,669.060	1	Large-Cap
Dominion Energy, Inc.	BBB+	NYSE	Below Average (B)	0.80	68,004.509	1	Large-Cap
DTE Energy Company	BBB+	NYSE	Above Average (A-)	0.90	22,276.205	1	Large-Cap
Duke Energy Corporation	A-	NYSE	Above Average (A-)	0.85	62,271.404	1	Large-Cap
Edison International	BBB	NYSE	Below Average (B)	0.90	21,055.562	1	Large-Cap
Entergy Corporation	BBB+	NYSE	Below Average (B)	0.95	21,048.117	1	Large-Cap
Eversource Energy	A-	NYSE	Above Average (A-)	1.05	14,699.585	1	Large-Cap
Exelon Corporation	A-	NYSE	High (A)	0.90	30,853.001	1	Large-Cap
FirstEnergy Corp.	BBB+	NasdaqGS	Below Average (B)	0.90	37,621.887	1	Large-Cap
NextEra Energy, Inc.	BBB	NYSE	In Reorganization (D)	0.85	15,710.857	1	Large-Cap
NextEra Energy, Inc.	A-	NYSE	High (A)	0.85	137,444.127	1	Large-Cap
NiSource Inc.	BBB+	NYSE	Below Average (B)	0.85	9,359.447	2	Mid-Cap
NRG Energy, Inc.	BB+	NYSE	Below Average (B)	1.25	8,252.584	2	Mid-Cap
Pinnacle West Capital Corporation	A-	NYSE	High (A)	0.85	9,345.956	2	Mid-Cap
PPL Corporation	A-	NYSE	Average (B+)	1.05	20,464.484	1	Large-Cap
Public Service Enterprise Group Incorp	BBB+	NYSE	Average (B+)	0.90	28,284.681	1	Large-Cap
Sempra Energy	BBB+	NYSE	Average (B+)	0.95	36,410.188	1	Large-Cap
Southern Co (The)	A-	NYSE	Average (B+)	0.90	57,675.300	1	Large-Cap
WEC Energy Group, Inc.	A-	NYSE	High (A)	0.80	30,048.293	1	Large-Cap
Xcel Energy Inc.	A-	NasdaqGS	High (A)	0.75	36,269.633	1	Large-Cap
Average	BBB+		Average (B+)	0.89	30,269.305	1	Large-Cap

Comparative Ratios
For SUEZ Water Idaho Inc.,
the Water Group Followed by Analysts,
S&P Utilities, and S&P 500
For the Years 2015-2019(1)

	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>Five Year Average</u>
<u>Return on Common Equity(2)</u>						
SUEZ Water Idaho Inc.	6.3	6.7	5.5	7.4	5.2	6.2
Water Group Followed by Analysts	9.5	10.1	11.4	10.9	10.4	10.5
S&P Utilities	9.8	10.2	10.3	9.1	9.3	9.7
S&P 500	15.8	15.9	14.0	12.6	12.1	14.1
<u>Market/Book Multiple(3)</u>						
Water Group Followed by Analysts	3.4	3.1	3.1	2.8	2.3	2.9
S&P Utilities	2.6	1.8	2.2	2.0	1.9	2.1
S&P 500	3.2	3.2	3.1	2.7	2.7	2.8
<u>Earnings/Price Ratio(4)</u>						
Water Group Followed by Analysts	2.7	3.3	3.7	4.0	4.6	3.7
S&P Utilities	5.3	5.2	4.8	4.4	4.0	4.7
S&P 500	4.9	5.1	4.5	4.6	4.4	4.7
<u>Dividend Payout Ratio(5)</u>						
SUEZ Water Idaho Inc.	0.0	10.2	14.9	135.3	87.0	49.5
Water Group Followed by Analysts	73.2	60.5	54.7	56.2	57.5	60.4
S&P Utilities	77.1	58.7	84.1	55.4	55.0	66.1
S&P 500	41.9	40.4	43.8	47.6	48.7	44.5
<u>Dividend Yield(6)</u>						
Water Group Followed by Analysts	1.8	2.0	1.9	2.1	2.6	2.1
S&P Utilities	3.4	3.7	3.5	3.6	3.7	3.6
S&P 500	2.1	2.0	2.0	2.2	2.2	2.1

See next page for Notes.

Comparative Ratios For
SUEZ Water Idaho Inc.,
The Water Group Followed by Analysts,
The S&P Utilities, and the S&P 500
For the Years 2015-2019 (1)

Notes:

- (1) The average of achieved results for the companies in each group. The information for the S&P Public Utilities is market weighted. The information for the S&P 500 is based upon per share information adjusted to price index level.
- (2) Rate of Return on Average Book Common Equity - income available for common equity divided by average beginning and ending year's balance of book common equity.
- (3) Market/Book Ratio - average of yearly high-low market price divided by the average of beginning and ending year's book value per share.
- (4) Earnings/Price Ratio - reported earnings per share yearly divided by the average of yearly high-low market price.
- (5) Dividend Payout Ratio is computed by dividing the yearly reported dividends paid by the yearly income available for common equity.
- (6) Dividend Yield - yearly dividend per share divided by the average yearly high-low market price.

Source of Information: Standard & Poor's and Annual Reports

Capital Intensity and Capital Recovery
 SUEZ Water Idaho Inc.
 The Water Group Followed by Analysts, and S&P Utilities
For the Year 2019

	<u>Capital Intensity</u>	<u>Rate of Capital Recovery</u>	<u>Capital Recovery Years</u>
SUEZ Water Idaho Inc.	<u>\$10.72</u>	<u>1.94%</u>	<u>51.6</u>
Water Group Followed by Analysts	<u>\$6.71</u>	<u>2.07%</u>	<u>49.0</u>
S&P Utilities	<u>\$4.65</u>	<u>3.21%</u>	<u>32.8</u>

Relative Size of
SUEZ Water Idaho Inc.
Versus the Water Group Followed by Analysts
For the Year 2019

	SUEZ Water Idaho Inc.	Water Group Followed by Analysts	Water Group Followed by Analysts Vs. SUEZ Water Idaho Inc.
Total Capitalization (000's)	\$193,554	\$3,934,000	20.3 x
Total Operating Revenues (000's)	\$46,062	\$899,000	19.5 x
Number of Customers	97,029	834,921	8.6 x

Institutional Holdings, Insider Holdings and Percentage of Shares Traded Annually for
The Water Group Followed by Analysts, and the S&P Utilities

	Water Group Followed by <u>Analysts</u>	S&P <u>Public Utilities</u>
Percentage of common shares held by insiders (1)	2.3%	0.3%
Percentage of common shares held by institutions (2)	68%	80%
Percentage of Common Shares Traded in 2018	135%	193%
Percentage of Common Shares Traded in 2019	115%	163%
Average Number of Months For All Common Shares to Turnover (3)	12.9	7.4

- Notes: (1) An insider is a director or an officer who has a policy-making role or a person who is directly or indirectly the beneficial owner of more than 10% of a certain company's stock. An insider may be either an individual or a corporation. Insiders are required to disclose their purchase/sale transactions to the SEC in which a change in beneficial ownership has occurred. The filings must be submitted before the end of the second business day following the day on which the transaction had been executed.
- (2) Institutional holders are those investment managers having a fair market value of equity assets under management of \$100 million or more. Certain banks, insurance companies, investment advisers, investment companies, foundations and pension funds are included in this category.
- (3) Based on average turnover (shares traded) over the past five years.

Bond and Credit Ratings for
SUEZ Water Idaho Inc., SUEZ Water Resources Inc. and
The Water Group Followed by Analysts

	S&P Credit <u>Rating</u>
SUEZ Water Idaho	<u>NA</u>
SUEZ Water Resources Inc.	<u>A</u>
<u>Water Group Followed by Analysts</u>	
American States Water Co	A+
American Water Works Co Inc	A
California Water Service Gp *	A+
Essential Utilities, Inc.	A
Middlesex Water Co	A
SJW Corp	A-
York Water Co	A-
Average	<u>A</u>

* - The A+ bond rating is that for California Water Service, Inc.

Comparison of Credit Measures of Financial Risk
SUEZ Water Idaho Inc. and
For the Water Group Followed by Analysts(1)

	Spot in Credit Measures of Financial Risk (For the Year 2019)			Trend in Credit Measures of Financial Risk (Five-Year Average 2015-19)		
	Credit Implication	Subject Company	Water Group Followed by Analysts	Credit Implication	Subject Company	Water Group Followed by Analysts
1. <u>Base Credit Metrics</u>						
2. PreTax Interest Coverage(2)(x)	Higher	5.0x	3.5x	Higher	4.6x	4.2x
3. Total Debt/Total Capital(%)	NA	NA	50.9%	NA	NA	48.9%
4. GCF / Interest Coverage(3)(x)	Higher	6.7x	5.1x	Lower	5.6x	5.6x
5. GCF / Average Total Debt(4)(%)	NA	NA	17.7%	NA	NA	22.1%
6. NCF / Construction(5)(%)	Higher	93.0%	46.7%	Higher	65.8%	62.9%
7. Construction / Average Total Capital(6)(%)	Lower	12.8%	12.3%	Higher	12.2%	12.4%
8. <u>Standard & Poor's Credit Metrics</u>						
9. Funds from Operation / Average Total Debt(7)(%)	NA	NA	18.0%	NA	NA	21.9%
10. Average Total Debt / EBITDA(8)(x)	NA	NA	4.8x	NA	NA	3.7x
11. FFO / Interest Coverage(9)(x)	Higher	6.7x	5.1x	Higher	5.6x	5.6x
12. EBITDA / Interest(10)(x)	Higher	7.8x	5.2x	Higher	6.9x	5.9x
13. CFO / Average Total Debt(11)(%)	NA	NA	17.7%	NA	NA	22.1%
14. FOCF / Average Total Debt(12)(%)	NA	NA	-7.2%	NA	NA	-3.7%
15. DCF / Average Total Debt(13)(%)	NA	NA	-13.4%	NA	NA	-10.3%
16. <u>Moody's Credit Metrics</u>						
17. Cash Flow Interest Coverage(3) (x)	Higher	6.7x	5.1x	Lower	5.6x	5.6x
18. Cash Flow / Average Total Debt(4)(%)	NA	NA	17.7%	NA	NA	22.1%
19. Retained Cash Flow / Average Total Debt(14)(%)	NA	NA	11.6%	NA	NA	15.6%
20. Average Total Debt / Average Adjusted Total Capital(15)(%)	NA	NA	44.6%	NA	NA	41.2%
21. <u>Capital Credit Metrics</u>						
22. <u>Standard & Poor's Credit Metrics - Adjusted to Total Capital</u>						
23. Funds from Operation / Average Total Capital(16)(%)	Higher	11.9%	8.8%	Higher	11.3%	10.4%
24. Average Total Capital / EBITDA(17)(x)	Higher	6.1x	9.5x	Higher	5.8x	7.6x
25. CFO / Average Total Capital(18)(%)	Higher	11.9%	8.7%	Higher	11.3%	10.5%
26. FOCF / Average Total Capital(19)(%)	Higher	-0.9%	-3.6%	Higher	-0.9%	-1.9%
27. DCF / Average Total Capital(20)(%)	Higher	-0.9%	-6.6%	Higher	-4.1%	-5.0%
28. <u>Moody's Credit Metrics - Adjusted to Total Capital</u>						
29. Cash Flow / Average Total Capital(21)(%)	Higher	11.9%	8.7%	Higher	11.3%	10.5%
30. Retained Cash Flow / Average Total Capital(22)(%)	Higher	11.9%	5.7%	Higher	8.1%	7.4%

See the next page for notes.

Comparison of Credit Market Financial Risk Metrics
For SUEZ Water Idaho Inc. and
The Water Group Followed by Analysts
2015 - 2019

Notes:

- (1) Average of the achieved results for each individual company based upon the financials as originally reported.
- (2) Represents the number of times available pretax earnings ("EBIT"), excluding AFC, cover all interest charges.
- (3) GCF or gross cash flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less AFC), plus interest charges, divided by interest charges.
- (4) GCF (see note 3) as a percentage of average total debt.
- (5) The percent of GCF (see note 3) less all cash dividends which cover gross construction expenditures.
- (6) Construction expenditures as a percentage of average total capital.
- (7) Funds from operations ("FFO"), revenue minus operating expenses, plus depreciation and amortization expenses ("EBITDA") less net interest expense less current tax expense, as a percentage of average total debt.
- (8) Average total debt divided by EBITDA (see note 7).
- (9) FFO (see note 7) plus interest charges, divided by interest charges.
- (10) EBITDA (see note 7) divided by interest charges.
- (11) Cash flow from operations ("CFO"), GCF (see note 3) plus changes in operating assets and liabilities (working capital), as a percentage of average total debt.
- (12) Free operating cash flow ("FOCF"), CFO (see note 11) minus capital expenditures, as a percentage of average total debt.
- (13) Discretionary cash flow ("DCF"), FOCF (see note 12) minus cash dividends as a percentage of average total debt.
- (14) The percent of GCF (see note 3) less all cash dividends as a percentage of average total debt.
- (15) Average total debt divided by average of total capital plus deferred taxes (balance sheet).
- (16) Funds from operations ("FFO"), revenue minus operating expenses, plus depreciation and amortization expenses ("EBITDA") less net interest expense less current tax expense, as a percentage of average total capital.
- (17) Average total capital divided by EBITDA (see note 7).
- (18) Cash flow from operations ("CFO"), GCF (see note 3) plus changes in operating assets and liabilities (working capital), as a percentage of average total capital.
- (19) Free operating cash flow ("FOCF"), CFO (see note 11) minus capital expenditures, as a percentage of average total capital.
- (20) Discretionary cash flow ("DCF"), FOCF (see note 12) minus cash dividends as a percentage of average total capital.
- (21) GCF (see note 3) as a percentage of average total capital.
- (22) The percent of GCF (see note 3) less all cash dividends as a percentage of average total capital.

Source of Information: Standard & Poor's, Moody's and Annual Reports

Distribution of Bond and Credit Ratings for
All Companies Contained in S&P's *Compustat* Database (1)

Number of Companies In Each Grouping	S&P Bond and Credit Ratings				Range of Reported Permanent Capital By Groupings (Million \$)		
	Average	Median	Maximum	Minimum	Smallest	Median	Largest
100	B	B	A	Default	-2,813.000	481.268	659.429
100	BB-	BB-	AA-	CCC	666.479	845.776	1,064.303
100	BB-	BB-	A+	CCC	1,069.648	1,262.592	1,500.252
100	BB	BB	A-	CC	1,505.676	1,704.365	1,904.804
100	BB+	BB+	A	CCC	1,908.991	2,194.582	2,516.000
100	BB+	BB+	A+	CCC+	2,517.100	2,861.849	3,295.586
100	BB+	BB+	A+	CC	3,300.651	3,596.752	3,996.000
100	BBB-	BBB-	A+	B-	4,000.800	4,450.659	5,004.700
100	BBB-	BBB-	AA	CCC+	5,019.600	5,663.956	6,323.582
100	BBB-	BBB	A+	B	6,325.000	6,984.000	7,867.057
100	BBB	BBB	AA-	Default	7,885.887	8,957.652	10,529.894
100	BBB	BBB	A+	Default	10,608.073	12,166.560	13,998.000
100	BBB	BBB	A+	CCC	14,025.354	16,263.500	18,976.100
100	BBB+	BBB+	AA+	B	18,977.000	22,870.770	27,540.000
100	BBB+	A-	AA+	BB-	27,545.000	37,567.385	61,000.000
100	A-	A-	AAA	B	61,394.000	94,340.963	327,780.000
8	A-	A-	AA	BBB	350,339.000	429,595.500	538,546.000
Total	1,608						

[illegible]

Note: (1) Includes all companies contained in S&P's *Compustat* North American Database that have a S&P bond or credit ratings and reported permanent capital for the year 2018 (as of 8/8/19). Companies were sorted based on amount of reported permanent capital and then separated into groups of 100 companies from smallest to largest.

Interest Rate Trends for
Investor-Owned Public Utility Bonds
Yearly for 2014-2018, Monthly for the Years 2019 and 2020

<u>Years</u>	<u>Aaa Rated</u>	<u>Aa Rated</u>	<u>A Rated</u>	<u>Baa Rated</u>
2014	NA	4.18	4.28	4.80
2015	NA	4.00	4.12	5.03
2016	NA	3.73	3.93	4.68
2017	NA	3.82	4.00	4.38
2018	NA	4.09	4.25	4.67
Average	NA	3.96	4.11	4.71
Jan 2019	NA	4.18	4.35	4.91
Feb 2019	NA	4.05	4.25	4.76
Mar 2019	NA	3.98	4.16	4.65
Apr 2019	NA	3.91	4.08	4.55
May 2019	NA	3.84	3.98	4.47
Jun 2019	NA	3.65	3.82	4.31
Jul 2019	NA	3.53	3.69	4.13
Aug 2019	NA	3.17	3.29	3.63
Sep 2019	NA	3.24	3.37	3.71
Oct 2019	NA	3.24	3.39	3.72
Nov 2019	NA	3.25	3.43	3.76
Dec 2019	NA	3.22	3.40	3.73
Avg 2019	NA	3.61	3.77	4.19
Jan 2020	NA	3.12	3.29	3.60
Feb 2020	NA	2.96	3.11	3.42
Mar 2020	NA	3.30	3.50	3.96
Apr 2020	NA	2.93	3.19	3.82
May 2020	NA	2.89	3.14	3.63
Jun 2020	NA	2.80	3.07	3.44
Jul 2020	NA	2.46	2.74	3.09

Source of Information: MERGENT BOND RECORD

Credit Risk Spreads of
Investor-Owned Public Utility Bonds
Yearly for 2014-2018, Monthly for the Years 2019 and 2020

<u>Years</u>		Aa Over <u>Aaa</u>	A Over <u>Aa</u>	Baa Over <u>A</u>	Baa Over <u>Aaa</u>
2014		NA	0.10	0.52	NA
2015		NA	0.12	0.91	NA
2016		NA	0.20	0.74	NA
2017		NA	0.18	0.38	NA
2018		NA	0.16	0.42	NA
Average		NA	0.15	0.60	NA
Jan	2019	NA	0.17	0.56	NA
Feb	2019	NA	0.20	0.51	NA
Mar	2019	NA	0.18	0.49	NA
Apr	2019	NA	0.17	0.47	NA
May	2019	NA	0.14	0.49	NA
Jun	2019	NA	0.17	0.49	NA
Jul	2019	NA	0.16	0.44	NA
Aug	2019	NA	0.12	0.34	NA
Sep	2019	NA	0.13	0.34	NA
Oct	2019	NA	0.15	0.33	NA
Nov	2019	NA	0.18	0.33	NA
Dec	2019	NA	0.18	0.33	NA
Avg	2019	NA	0.16	0.42	NA
Jan	2020	NA	0.17	0.31	NA
Feb	2020	NA	0.15	0.31	NA
Mar	2020	NA	0.20	0.46	NA
Apr	2020	NA	0.26	0.63	NA
May	2020	NA	0.25	0.49	NA
Jun	2020	NA	0.27	0.37	NA
Jul	2020	NA	0.28	0.35	NA

Source of Information: MERGENT BOND RECORD

Interest Rate Trends
Of Long-Term Treasury Constant
Yearly for 2014-2018, Monthly for the Years 2019 and 2020

<u>Years</u>	<u>10-Year T-Bond</u>	<u>20-Year T-Bond</u>	<u>30-Year T-Bond</u>	<u>Long-term T-Bond Yield</u>
2014	2.54	3.07	3.34	2.98
2015	2.14	2.55	2.84	2.51
2016	1.84	2.23	2.60	2.22
2017	2.33	2.65	2.90	2.63
2018	2.91	3.02	3.11	3.02
Average	2.35	2.70	2.96	2.67
Jan 2019	2.71	2.89	3.04	2.97
Feb 2019	2.68	2.87	3.02	2.95
Mar 2019	2.57	2.80	2.98	2.89
Apr 2019	2.53	2.76	2.94	2.85
May 2019	2.40	2.63	2.82	2.73
Jun 2019	2.07	2.36	2.57	2.47
Jul 2019	2.06	2.36	2.57	2.47
Aug 2019	1.63	1.91	2.12	2.02
Sep 2019	1.70	1.97	2.16	2.07
Oct 2019	1.71	2.00	2.19	2.10
Nov 2019	1.81	2.13	2.28	2.21
Dec 2019	1.86	2.16	2.30	2.23
Avg 2019	2.14	2.40	2.58	2.49
Jan 2020	1.76	2.07	2.22	2.15
Feb 2020	1.50	1.81	1.97	1.89
Mar 2020	0.87	1.26	1.46	1.36
Apr 2020	0.66	1.06	1.27	1.17
May 2020	0.67	1.12	1.38	1.25
Jun 2020	0.73	1.27	1.49	1.38
Jul 2020	0.62	1.09	1.31	1.20

Source of Information: Federal Reserve Bulletin

Spread in Average Long-Term Bond Yields
Versus Public Utility Bond Yields
Yearly for 2014-2018, Monthly for the Years 2019 and 2020

<u>Spread in Average Long-Term T-Bond Yields Versus Public Utility Bonds:</u>					
<u>Years</u>		<u>Aaa Rated</u>	<u>Aa Rated</u>	<u>A Rated</u>	<u>Baa Rated</u>
2014		NA	1.19	1.29	1.82
2015		NA	1.49	1.61	2.52
2016		NA	1.51	1.71	2.45
2017		NA	1.19	1.37	1.75
2018		NA	1.07	1.23	1.65
Average		NA	1.29	1.44	2.04
Jan	2019	NA	1.22	1.39	1.95
Feb	2019	NA	1.11	1.31	1.82
Mar	2019	NA	1.09	1.27	1.76
Apr	2019	NA	1.06	1.23	1.70
May	2019	NA	1.12	1.26	1.75
Jun	2019	NA	1.19	1.36	1.85
Jul	2019	NA	1.07	1.23	1.67
Aug	2019	NA	1.16	1.28	1.62
Sep	2019	NA	1.18	1.31	1.65
Oct	2019	NA	1.15	1.30	1.63
Nov	2019	NA	1.05	1.23	1.56
Dec	2019	NA	0.99	1.17	1.50
Avg	2019	NA	1.12	1.28	1.71
Jan	2020	NA	0.98	1.15	1.46
Feb	2020	NA	1.07	1.22	1.53
Mar	2020	NA	1.94	2.14	2.60
Apr	2020	NA	1.77	2.03	2.66
May	2020	NA	1.64	1.89	2.38
Jun	2020	NA	1.42	1.69	2.06
Jul	2020	NA	1.26	1.54	1.89

Comment: Derived from the information on pages 1 and 3 of this Schedule.

Interest Rate Trends for
Federal Funds Rate and Prime Rate
Yearly for 2014-2018, Monthly for the Years 2019 and 2020

<u>Years</u>		<u>Fed Funds Rate</u>	<u>Prime Rate</u>
2014		0.09	3.25
2015		0.13	3.26
2016		0.40	3.51
2017		1.00	4.10
2018		1.83	4.90
Average		0.69	3.80
Jan	2019	2.40	5.50
Feb	2019	2.40	5.50
Mar	2019	2.41	5.50
Apr	2019	2.42	5.50
May	2019	2.39	5.50
Jun	2019	2.38	5.50
Jul	2019	2.40	5.50
Aug	2019	2.13	5.25
Sep	2019	2.04	5.15
Oct	2019	1.83	4.99
Nov	2019	1.55	4.75
Dec	2019	1.55	4.75
Avg	2019	2.16	5.28
Jan	2020	1.55	4.75
Feb	2020	1.58	4.75
Mar	2020	0.65	3.78
Apr	2020	0.05	3.25
May	2020	0.05	3.25
Jun	2020	0.08	3.25
Jul	2020	0.09	3.25

Source of Information: Federal Reserve Bulletin

Blue Chip Financial Forecasts - August 1, 2020

	Third Quarter <u>2020</u>	Fourth Quarter <u>2020</u>	First Quarter <u>2020</u>	Second Quarter <u>2020</u>	Third Quarter <u>2021</u>	Five Quarter Average
<u>Prime Rate</u>						
Top Ten Average	3.3 %	3.3 %	3.3 %	3.3 %	3.3 %	3.3 %
Group Average	3.3	3.3	3.3	3.3	3.3	3.3
Bottom Ten Average	3.3	3.2	3.2	3.2	3.2	3.2
<u>Three-Month Treasury Bills</u>						
Top Ten Average	0.2	0.2	0.3	0.3	0.3	0.3
Group Average	0.1	0.2	0.2	0.2	0.2	0.2
Bottom Ten Average	0.1	0.1	0.1	0.1	0.1	0.1
<u>Ten Year Treasury Notes</u>						
Top Ten Average	0.8	1.0	1.2	1.4	1.6	1.2
Group Average	0.7	0.8	0.9	1.0	1.1	0.9
Bottom Ten Average	0.6	0.7	0.7	0.7	0.7	0.7
<u>Thirty Year Treasury Bonds</u>						
Top Ten Average	1.6	1.8	2.0	2.2	2.3	2.0
Group Average	1.4	1.5	1.6	1.7	1.8	1.6
Bottom Ten Average	1.3	1.3	1.3	1.3	1.4	1.3
<u>Aaa-Rated Corporate Bonds</u>						
Top Ten Average	2.7	2.8	3.0	3.1	3.2	2.9
Group Average	2.4	2.5	2.6	2.7	2.7	2.6
Bottom Ten Average	2.1	2.1	2.2	2.3	2.3	2.2
<u>Baa-Rated Corporate Bonds</u>						
Top Ten Average	5.1	5.1	5.1	5.1	5.1	5.1
Group Average	3.6	3.7	3.8	3.8	3.9	3.8
Bottom Ten Average	4.6	4.6	4.6	4.6	4.6	4.6

Derived Public Utility Bond Yield Forecasts Based on Aaa and Baa Corporate Yields

Aa-Rated Public Utility Bonds

Top Ten Average	3.6	3.7	3.8	3.8	3.9	3.8
Group Average	2.7	2.8	2.9	3.0	3.0	2.9
Bottom Ten Average	3.1	3.1	3.2	3.2	3.2	3.2

A-Rated Public Utility Bonds

Top Ten Average	3.8	3.9	4.0	4.0	4.1	4.0
Group Average	2.9	3.0	3.1	3.2	3.2	3.1
Bottom Ten Average	3.3	3.3	3.3	3.4	3.4	3.3

Baa-Rated Public Utility Bonds

Top Ten Average	4.2	4.3	4.3	4.4	4.5	4.3
Group Average	3.3	3.4	3.5	3.6	3.6	3.5
Bottom Ten Average	3.7	3.7	3.7	3.8	3.8	3.7

Settled Yields on Treasury Bond
Future Contracts
Traded on the Chicago Board of Trade
at the Close of August 06, 2020

<u>Delivery Date</u>	<u>Treasury Bonds (CBOT)</u>	
Sep-20	2.227	%
Dec-20	2.277	
Mar-21	<u>2.277</u>	
Average	<u><u>2.260</u></u>	%

Source of Information: Chicago Board of Trade

Market Value Discounted Cash Flow for
The Water Group Followed by Analysts

	Water Group Followed by <u>Analysts</u>
Dividend Yield(1)	1.7 %
Growth in Dividends(2)	<u>0.1</u>
Adjusted Dividend Yield	1.8
Stock Appreciation(3)	<u>7.2</u>
Market Value DCF Cost Rate	<u><u>9.0 %</u></u>

Notes: (1) Developed on page 2 of this Schedule.

(2) Equal to one-half the assumed growth in value.

(3) As explained in the direct testimony, the growth in value
is supported by the information shown on Schedules 13 and 14.

Market Value Dividend Yield for
the Water Group Followed by Analysts
For the Twelve Months Ended July 2020

	Recent Dividend <u>Yields(1)</u>	Longer Term Dividend <u>Yields(2)</u>	Average <u>Yields</u>
<u>Water Group Followed by Analysts</u>			
American States Water Co	1.6 %	1.5 %	
American Water Works Co Inc	1.6	1.7	
California Water Service Gp	1.8	1.6	
Essential Utilities, Inc.	2.1	2.1	
Middlesex Water Co	1.6	1.6	
SJW Corp	2.0	1.9	
York Water Co	<u>1.5</u>	<u>1.7</u>	
Average	<u>1.7 %</u>	<u>1.7 %</u>	<u>1.7 %</u>

Notes: (1) Average of the high and the low dividend yield for the month of July 2020.

(2) Average of the high and the low dividend yield for each of the twelve months ended July 2020.

Source of Information: S&P Capital IQ

Development of Long Term Projected Growth in Value
Based Upon Growth Over The Next Five Years
For the Water Group Followed by Analysts

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>
	<u>Analysts' Projected Growth in EPS</u>				<u>Other Projected Growth</u>			
	First Call EPS <u>Growth</u>	S&P EPS <u>Growth</u>	ZACK's EPS <u>Growth</u>	Value Line EPS <u>Growth</u>	Value Line DPS <u>Growth</u>	Value Line Cash Flow <u>Growth</u>	Average EPS <u>Growth</u>	Average All <u>Growth</u>
<u>Water Group Followed by Analysts</u>								
American States Water Co	6.0 %	5.7 %	4.9 %	6.5 %	9.5 %	7.0 %	5.8 %	6.6 %
American Water Works Co Inc	8.3	8.3	8.1	8.5	8.5	6.5	8.3	8.0
California Water Service Gp	9.8	9.0	NA	6.5	5.5	2.0	8.4	6.6
Essential Utilities, Inc.	6.4	7.0	6.0	7.0	7.5	5.5	6.6	6.6
Middlesex Water Co	2.7	NA	NA	6.0	5.5	4.5	4.4	4.7
SJW Corp	14.0	6.0	14.0	10.5	6.0	4.5	11.1	9.2
York Water Co	4.9	NA	NA	7.0	6.0	7.0	6.0	6.2
Average	<u>7.4 %</u>	<u>7.2 %</u>	<u>8.3 %</u>	<u>7.4 %</u>	<u>6.9 %</u>	<u>5.3 %</u>	<u>7.2 %</u>	<u>6.8 %</u>

	<u>Historical 5-Year Growth in EPS</u>			
	First Call EPS <u>Growth</u>	ZACK's EPS <u>Growth</u>	Value Line EPS <u>Growth</u>	Average EPS <u>Growth</u>
<u>Water Group Followed by Analysts</u>				
American States Water Co	5.5 %	5.9 %	5.0 %	5.5 %
American Water Works Co Inc	8.7	8.3	6.5	7.8
California Water Service Gp	21.1	4.8	4.5	10.1
Essential Utilities, Inc.	3.9	4.0	1.5	3.1
Middlesex Water Co	13.5	12.2	12.0	12.6
SJW Corp	-5.8	-0.6	4.5	-0.6
York Water Co	4.2	5.0	6.0	5.1
Average	<u>7.3 %</u>	<u>5.7 %</u>	<u>5.7 %</u>	<u>6.2 %</u>

Source of Information: Value Line Investment Survey, 7/10/20; S&P Capital IQ 7/31/20;
FirstCall 7/31/20; and
Zacks Investment Research 7/31/20

Recent Payout Ratios,
ROEs, P-E Multiples, Market/Book Multiples, and Market Value
For the Water Group Followed by Analysts

	Current Dividend <u>Payout</u>	Current Return on <u>Equity</u>	PE <u>Mult</u>	Market to Book <u>Mult</u>	Current Market <u>Value</u> (Mill \$)
<u>Water Group Followed by Analysts</u>					
American States Water Co	51	14.6	33.2	4.69	2,835.624
American Water Works Co Inc	57	10.4	42.2	4.27	26,659.246
California Water Service Gp	77	6.9	44.9	3.02	2,283.225
Essential Utilities, Inc.	82	7.5	40.2	2.41	11,112.622
Middlesex Water Co	48	12.0	31.1	3.41	1,117.192
SJW Corp	174	2.3	89.1	2.01	1,780.573
York Water Co	<u>59</u>	<u>11.8</u>	<u>38.6</u>	<u>4.43</u>	<u>603.203</u>
Average	<u>78</u>	<u>9.4</u>	<u>45.6</u>	<u>3.46</u>	<u>6,627.384</u>

Source of Information: S&P Capital IQ

Value Line Projected ROE Based on Year-End and Average,
Dividend Payout Ratio, and Common Equity Ratio for
The Water Group Followed by Analysts for 2023 - 2025

	Value Line Projected ROE	Projected Average ROE (1)	Value Line Projected Dividend Payout	Value Line Projected Common Equity Ratio
<u>Water Group Followed by Analysts</u>				
American States Water Co	14.0 %	14.4 %	63.8 %	51.5 %
American Water Works Co Inc	11.5	11.8	59.2	41.0
California Water Service Gp	12.5	12.6	52.5	56.5
Essential Utilities, Inc.	9.0	9.6	74.3	59.5
Middlesex Water Co	14.5	14.4	50.0	60.5
SJW Corp	9.5	9.8	43.3	61.0
York Water Co	<u>13.0</u>	<u>13.2</u>	<u>59.4</u>	<u>64.0</u>
Average	<u>12.0 %</u>	<u>12.3 %</u>	<u>57.5 %</u>	<u>56.3 %</u>

Notes: (1) Value Line ROE, which is a year-end ROE, is converted to average ROE by the factor derived from the following formula: $2((1+g)/(2+g))$, where "g" is the rate of growth in common equity.

Source of Information: Value Line Investment Survey, 7/10/20

Illustration of the
Effect of Market-To-Book Ratio on Market Return

<u>Ln #</u>	<u>Situation 1</u>	<u>Situation 2</u>	<u>Situation 3</u>
1 M/B Ratio	50%	100%	200%
2 Market Purchase Price	\$25.00	\$50.00	\$100.00
3 Book Value	\$50.00	\$50.00	\$50.00
4 DCF Return	10.0%	10.0%	10.0%
5 DCF Dollar Return	\$5.00	\$5.00	\$5.00
6 Dividend Yield	5.0%	5.0%	5.0%
7 DPS	\$1.25	\$2.50	\$5.00
8 Dollar Growth in Value	\$3.75	\$2.50	\$0.00
9 Market Sale Price	\$28.75	\$52.50	\$100.00
10 Total Market Return	20.0%	10.0%	5.0%

"The simple numerical illustration....demonstrates the impact of market-to-book ratios on the DCF market return....The DCF cost rate of 10%, made up of a 5% dividend yield and a 5% growth rate, is applied to the book value rate base of \$50 to produce \$5.00 of earnings. Of the \$5.00 of earnings, the full \$5.00 are required for dividends to produce a dividend yield of 5.0% on a stock price of \$100.00, and no dollars are available for growth. The investor's return is therefore only 5% versus his required return of 10%. A DCF cost rate of 10%, which implies \$10.00 of earnings, translates to only \$5.00 of earnings on book value, or a 5% return.....Therefore, the DCF cost rate understates the investor's required return when stock prices are well above book, as is the case presently."

The above illustration is taken from Roger A Morin, Regulatory Finance - Utilities' Cost of Capital, Public Utility Reports, Inc., 1994, pp. 236-237.

Differences in Book Value and Market Values for the
Water Group Followed by Analysts

	Recent Book Value Capitalization Ratios <u>(3/31/20)</u>	Recent Market Value Capitalization Ratios <u></u>	Average Book Value of Common Equity <u>(Millions)</u>	Average Market Value of Common Equity <u>(Millions)</u>	Difference in Market Value and Book Value Common Equity <u></u>
<u>Water Group Followed by Analysts:</u>					
Long Term Debt	50.7 %	24.7 %			
Preferred Stock	0.0	0.0			
Common Equity	<u>49.3</u>	<u>75.3</u>	<u>\$1,937.588</u>	<u>\$6,627.384</u>	<u>\$4,689.796</u>
Total	<u>100.0 %</u>	<u>100.0 %</u>			

Financial Risk Adjustment Using the "Hamada Model"

Water Group Followed by Analysts

Line No.	<u>Market Value @ (3/31/20)</u>				
	<u>DEBT</u> (D)	<u>PREF</u> (P)	<u>CE</u> (E)	<u>TAX</u> (t)	<u>BETA</u> (BI)
1 .					
2 .	24.7%	0.0%	75.3%	28.000%	0.77
3 .	$BI = Bu (1+(1-t)D/E+P/E)$				
4 .	1-t =	0.7200			
5 .	D/E =	0.3280			
6 .	P/E =	0.0000			
7 .	BI =	Bu *	1.2362		
8 .	Bu =	0.62			

Water Group Followed by Analysts

	<u>Book Value @ (3/31/20)</u>			
	<u>DEBT</u> (D)	<u>PREF</u> (P)	<u>CE</u> (E)	<u>TAX</u> (t)
9 .				
10 .				
11 .	50.70%	0.00%	49.30%	28.000%
12 .	$BI = Bu (1+(1-t)D/E+P/E)$			
13 .	1-t =	0.7200		
14 .	D/E =	1.0284		
15 .	P/E =	0.0000		
16 .	BI =	Bu *	1.7404	
17 .	BI =	1.08		

Cost Adjustment Based on Risk Premium

18 .	Barometer Group's Beta	=	<u>0.77</u>
19 .	Beta difference	=	0.31
20 .	Risk premium	=	<u>6.0</u>
21 .	Risk adjustment	=	<u>1.86</u>

Default Spread for
Aaa Rated Corporate Bonds and A Rated Investor-Owned Public Utility Bonds
Yearly for 2014-2018, Monthly for the Years 2019 and 2020

<u>Years</u>		<u>Corporate Aaa Rated</u>	<u>Public Utility A Rated</u>	<u>A Over Aaa</u>
2014		4.16	4.28	0.11
2015		3.89	4.12	0.23
2016		3.67	3.93	0.27
2017		3.74	4.00	0.25
2018		3.93	4.25	0.32
Average		3.88	4.11	0.24
Jan	2019	3.93	4.35	0.42
Feb	2019	3.79	4.25	0.46
Mar	2019	3.77	4.16	0.39
Apr	2019	3.69	4.08	0.39
May	2019	3.67	3.98	0.31
Jun	2019	3.42	3.82	0.40
Jul	2019	3.29	3.69	0.40
Aug	2019	2.98	3.29	0.31
Sep	2019	3.03	3.37	0.34
Oct	2019	3.01	3.39	0.38
Nov	2019	3.06	3.43	0.37
Dec	2019	3.01	3.40	0.39
Avg	2019	3.39	3.77	0.38
Jan	2020	2.94	3.29	0.35
Feb	2020	2.78	3.11	0.33
Mar	2020	3.02	3.50	0.48
Apr	2020	2.43	3.19	0.76
May	2020	2.50	3.14	0.64
Jun	2020	2.44	3.07	0.63
Jul	2020	2.14	2.74	0.60

Source of Information: MERGENT BOND RECORD

Market Value CAPM for
The Water Group Followed by Analysts

Water Group
Followed by
Analysts

Estimation Based Upon Historical Information

Market Premium(1)	6.9 %
x Beta(2)	<u>0.77</u>
Risk Adjusted Market Premium	5.3
Size Adjustment Premium(2)	0.9
Plus Risk Free Rate(1)	1.4
COVID-19 Default Adjustment(3)	<u>0.42</u>
Market Value CAPM Cost Rate	<u>8.0 %</u>

Estimation Based Upon Projected Information

Market Premium(1)	15.1 %
x Beta(2)	<u>0.77</u>
Risk Adjusted Market Premium	11.6
Size Adjustment Premium(2)	0.9
Plus Risk Free Rate(1)	1.4
COVID-19 Default Adjustment(3)	<u>0.42</u>
Market Value CAPM Cost Rate	<u>14.3 %</u>

Market Value CAPM is: 9.6%

- Notes: (1) Developed on page 2 of this Schedule.
(2) Developed on page 4 of this Schedule.
(3) Developed on page 5 of this Schedule.

Development of Market Premiums for Use in a CAPM Model

<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>
Value Line Summary & Index Month End <u>Edition</u>	Forecasted Market Dividend <u>Yield</u>	Stock Price Appreciation <u>Next 3-5 Years</u>	Annual Price Appreciation(1)	Annual Total Return(1)	Midpoint Market Return(2)	Average Market Return(3)	CAPM Projected Market Return(6)
May-20	2.6 %	80 %	15.8 %	18.4 %			
June-20	2.4	65	13.3	15.7			
July-20	2.4	60	12.5	14.9			
					<u>16.7</u> %	<u>16.3</u> %	16.5 %
					Less Risk Free Rate(4)		<u>1.4</u>
					Estimated Market Premium Based Upon Projected Information (1)		<u>15.1</u> %
					Estimated Market Premium Based Upon Historical Information (5)		<u>6.9</u> %

See next page of this Schedule for Notes.

CAPM
The Water Group Followed by Analysts

- Notes: (1) A projected market premium is based upon the projected market return rate derived from the Value Line Summary and Index for the various dates shown. For example, Value Line projects (Jul-20) that the market will appreciate in price 60% over the next three to five years. Using a four-year midpoint estimate, Value Line's appreciation potential equates to 12.5% annually ($[1.60]^{.25}$). Additionally, Value Line estimates the market will have a dividend yield of 2.4%. Combining the market dividend yield of 2.4% with the market appreciation results in a projected market return rate of 14.9% ($12.5\% + 2.4\%$).
- (2) Mid point of the month-end total market returns in Column E.
- (3) Average total market return in Column E.
- (4) As discussed in the direct testimony, the risk-free rate is 1.4%.
- (5) The historical market premium is based upon studies conducted by Ibbotson Associates concerning asset returns. Ibbotson Associates' asset return studies are the most noted asset return rate studies available today. The results are widely disseminated throughout the investment public. Ibbotson Associates' long-term common stock total market return is 11.88% which, when reduced by the long-term historic risk-free rate of 4.97% results in a market premium of 6.9% ($11.88\% - 4.97\%$).

Recent Market Values and
Beta Adjusted Ibbotson Associates Size Premiums For
The Water Group Followed by Analysts

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
	Recent Market <u>Value</u> (Mill \$)	Market Quartile <u>Name</u>	Market <u>Quartile</u>	Quartile Size <u>Premium</u>	Quartile <u>Beta</u>	Value Line <u>Beta</u>	Beta <u>Ratio</u>	Beta Adjusted Quartile Size <u>Premium</u>
<u>Water Group Followed by Analysts</u>								
American States Water Co	\$2,835.624	Low-Cap	3	1.60	1.22	0.65	53%	0.8
American Water Works Co Inc	26,659.246	Large-Cap	1	0.00	1.00	0.85	85%	0.0
California Water Service Gp	2,283.225	Low-Cap	3	1.60	1.22	0.65	53%	0.8
Essential Utilities, Inc.	11,112.622	Mid-Cap	2	0.89	1.12	0.90	80%	0.7
Middlesex Water Co	1,117.192	Low-Cap	3	1.60	1.22	0.75	61%	1.0
SJW Corp	1,780.573	Low-Cap	3	1.60	1.22	0.80	66%	1.1
York Water Co	603.203	<u>Mico-Cap</u>	<u>4</u>	<u>3.40</u>	<u>1.35</u>	<u>0.80</u>	<u>59%</u>	<u>2.0</u>
Average		<u>Low-Cap</u>	<u>3</u>	<u>1.60</u>	<u>1.22</u>	<u>0.77</u>	<u>65%</u>	<u>0.9</u>

Source of Information: 2019 SBBI Yearbook, Stocks, Bonds, Bills, and Inflation, and Value Line

COVID-19 Default Adjustment
Pre and Post COVID-19
A Rated Investor-Owned Public Utility Bonds and 30-Year Treasury Bonds

<u>Years</u>	<u>A Rated</u>	<u>30-Year T-Bond</u>	<u>Credit Spread</u>
<u>Pre COVID-19 Yields</u>			
Jan 2019	4.35	3.04	1.31
Feb 2019	4.25	3.02	1.23
Mar 2019	4.16	2.98	1.18
Apr 2019	4.08	2.94	1.14
May 2019	3.98	2.82	1.16
Jun 2019	3.82	2.57	1.25
Jul 2019	3.69	2.57	1.12
Aug 2019	3.29	2.12	1.17
Sep 2019	3.37	2.16	1.21
Oct 2019	3.39	2.19	1.20
Nov 2019	3.43	2.28	1.15
Dec 2019	3.40	2.30	1.10
Jan 2020	3.29	2.22	1.07
Feb 2020	3.11	1.97	<u>1.14</u>
Average Credit Spread (Pre COVID-19)			<u><u>1.17</u></u>
<u>Recent Post COVID-19 Yields</u>			
May 2020	3.14	1.38	1.76
Jun 2020	3.07	1.49	1.58
Jul 2020	2.74	1.31	<u>1.43</u>
Average Credit Spread (Post COVID-19)			<u><u>1.59</u></u>
Average Credit Spread (Post COVID-19)			1.59
Average Credit Spread (Pre COVID-19)			<u>1.17</u>
COVID-19 Default Adjustment			<u><u>0.42</u></u>

Market Value Risk Premium
For the Water Group Followed by Analysts

	Water Group Followed by <u>Analysts</u>
Prospective Public Utility Bond Yields(1)	3.0 %
Estimated Risk Premium(2)	<u>6.0</u>
Market Value Risk Premium Indicated Cost Rate	<u>9.0 %</u>

- Notes: (1) Based upon the current and prospective long-term debt cost rates, it is reasonable to expect that if the comparable group (i.e., Water Group) issued new long-term bonds, it would both be priced to yield about 3% based upon credit profiles of A for the Water Group.
- (2) A 6% risk premium is concluded for the Group after reviewing the tabulation of risk spreads shown on pages 2, 3, 4 and 5 of this Schedule.

Development of the Projected Risk Premium

<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>I</u>
Value Line Summary & Index Month End Edition	Forecasted Market Dividend Yield	Stock Price Appreciation Next 3-5 Years	Annual Price Appreciation	Forecasted Annual Total Return	Less: Yield of Moody's A Rated Industrial Bonds	Forecasted Equity Premium	Estimated Risk Adjustment	Forecasted Risk Premium
May-20	2.6 %	80 %	15.8 %	18.4 %	3.09 %	15.3 %	85 %	13.0 %
June-20	2.4	65	13.3	15.7	2.97	12.7	85	10.8
July-20	2.4	60	12.5	14.9	2.63	12.3	85	10.4
		Midpoint of data		16.7		13.8		11.7 %
		Quarter's Average		16.3		13.4		11.4 %

Annual Total Returns and Risk Premiums of
S&P Public Utility Stocks and Bonds
for the Years 2000-2019, 1990-2019, 1980-2019, 1970-2019, 1960-2019, 1950-2019 and 1928-2019

Annual Total Returns								
Periods	Public Utility Stock	L-Term T-Bonds	Public Utility Bonds					
			AAA	AAA & AA	AA	A	BBB	
Average Annual Rates of Return								
2000 to 2019	0.1224	0.0805	0.0905	0.0912	0.0916	0.0924	0.0976	
1990 to 2019	0.1156	0.0857	0.0971	0.0930	0.0935	0.0921	0.0977	
1980 to 2019	0.1419	0.1007	0.1200	0.1068	0.1079	0.1078	0.1145	
1970 to 2019	0.1305	0.0894	0.1004	0.0971	0.0982	0.0990	0.1052	
1960 to 2019	0.1207	0.0765	0.0790	0.0825	0.0832	0.0840	0.0896	
1950 to 2019	0.1241	0.0644	0.0638	0.0708	0.0714	0.0723	0.0779	
1928 to 2019	0.1120	0.0580	0.0594	0.0661	0.0671	0.0693	0.0761	
Average Risk Premiums								
2000 to 2019		0.0419	0.0319	0.0313	0.0309	0.0300	0.0249	
1990 to 2019		0.0299	0.0185	0.0227	0.0221	0.0236	0.0179	
1980 to 2019		0.0412	0.0219	0.0351	0.0340	0.0342	0.0274	
1970 to 2019		0.0443	0.0418	0.0382	0.0375	0.0367	0.0311	
1960 to 2019		0.0443	0.0418	0.0382	0.0375	0.0367	0.0311	
1950 to 2019		0.0597	0.0604	0.0534	0.0527	0.0519	0.0463	
1928 to 2019		0.0540	0.0526	0.0459	0.0449	0.0428	0.0359	

Annual Total Returns, Annual Income Returns and Risk Premiums of
S&P Public Utility Stocks and Bonds
for the Years 2000-2019, 1990-2019, 1980-2019, 1970-2019, 1960-2019, 1950-2019 and 1928-2019

<u>Periods</u>	Annual Total Returns Public Utility <u>Stock</u>	<u>L-Term</u> <u>T-Bonds</u>	<u>Annual Income Returns</u>				
			<u>Public Utility Bonds</u>				
			<u>AAA</u>	<u>AAA</u> <u>& AA</u>	<u>AA</u>	<u>A</u>	<u>BBB</u>
			<u>Average Rates of Return</u>				
2000 to 2019	0.1224	0.0398	0.0769	0.0533	0.0534	0.0551	0.0600
1990 to 2019	0.1156	0.0501	0.0782	0.0622	0.0623	0.0640	0.0682
1980 to 2019	0.1419	0.0641	0.0953	0.0759	0.0763	0.0786	0.0831
1970 to 2019	0.1305	0.0664	0.0916	0.0776	0.0782	0.0806	0.0850
1960 to 2019	0.1207	0.0630	0.0818	0.0732	0.0737	0.0759	0.0799
1950 to 2019	0.1241	0.0583	0.0725	0.0675	0.0680	0.0701	0.0740
1928 to 2019	0.1120	0.0508	0.0609	0.0597	0.0604	0.0629	0.0677
<u>Average Risk Premiums</u>							
2000 to 2019		0.0826	0.0456	0.0691	0.0691	0.0674	0.0625
1990 to 2019		0.0655	0.0374	0.0535	0.0533	0.0516	0.0474
1980 to 2019		0.0778	0.0467	0.0661	0.0656	0.0634	0.0589
1970 to 2019		0.0578	0.0390	0.0476	0.0470	0.0449	0.0408
1960 to 2019		0.0578	0.0390	0.0476	0.0470	0.0449	0.0408
1950 to 2019		0.0659	0.0517	0.0566	0.0561	0.0540	0.0502
1928 to 2019		0.0613	0.0511	0.0524	0.0517	0.0491	0.0443

Annual Total Returns, Annual Income Returns and Risk Premiums of
S&P Public Utility Stocks and Bonds
For the 46 Years of the Lowest Interest Rate Environment and the 46 Years of the Highest Interest Rate Environment
For The Years 1928-2019

Current Interest Rate Environment: 1.4%

Periods	Public Utility Stock	L-Term T-Bonds	Public Utility Bonds				
			AAA	AAA & AA	AA	A	BBB
			Annual Total Returns				

Low Interest Rate Environment:

46 Years of the Lowest Interest Rates, Ranging from 2.0% to 4.1% with an Average Rate of 2.9%

Average Rates of Return

0.1126	0.0313	0.0349	0.0484	0.0496	0.0547	0.0662
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Average Risk Premiums

0.0814	0.0777	0.0642	0.0630	0.0579	0.0464
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High Interest Rate Environment:

46 Years of the Highest Interest Rates, Ranging from 4.1% to 13.5% with an Average Rate of 7.2%

Average Risk Premiums

0.1114	0.0847	0.0814	0.0838	0.0847	0.0838	0.0860
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Average Risk Premiums

0.0267	0.0300	0.0276	0.0268	0.0276	0.0254
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Annual Income Returns

Low Interest Rate Environment:

46 Years of the Lowest Interest Rates, Ranging from 2.0% to 4.1% with an Average Rate of 2.9%

Average Rates of Return

0.1126	0.0293	0.0343	0.0371	0.0378	0.0407	0.0465
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Average Risk Premiums

0.0833	0.0783	0.0755	0.0749	0.0720	0.0661
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High Interest Rate Environment:

46 Years of the Highest Interest Rates, Ranging from 4.1% to 13.5% with an Average Rate of 7.2%

Average Risk Premiums

0.1114	0.0723	0.0847	0.0822	0.0830	0.0852	0.0889
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Average Risk Premiums

0.0392	0.0267	0.0292	0.0285	0.0262	0.0225
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Annual Total Returns of
S&P Public Utility Stocks and Bonds
for the Years 1928-2019

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Years	Annual Total Returns						
	Public Utility Bonds						Public Utility Stocks
	AAA	AA	A	BBB	AAA	AA	
	AAA	AA	A	BBB	AAA	AA	Public Utility Stocks
1928	0.0370	0.0388	0.0406	0.0372	0.0392	0.5431	-0.0030
1929	0.0209	0.0193	0.0178	0.0163	-0.0076	0.1376	0.0410
1930	0.0917	0.0892	0.0869	0.0820	0.0378	-0.2149	0.0509
1931	0.0058	-0.0059	-0.0171	-0.0608	-0.1089	-0.3193	-0.0782
1932	0.1073	0.1037	0.1003	0.0685	0.0570	-0.0724	0.1736
1933	0.0142	-0.0145	-0.0401	-0.0686	-0.0601	-0.2170	0.0090
1934	0.1712	0.2000	0.2272	0.3264	0.4593	-0.1743	0.0962
1935	0.1053	0.1243	0.1427	0.1760	0.2885	0.6914	0.0610
1936	0.0783	0.0916	0.1046	0.1079	0.1078	0.2357	0.0691
1937	0.0290	0.0323	0.0357	0.0272	-0.0626	-0.3337	-0.0091
1938	0.0720	0.0773	0.0825	0.0884	0.1505	0.1020	0.0662
1939	0.0435	0.0473	0.0510	0.0851	0.0923	0.1538	0.0692
1940	0.0480	0.0506	0.0532	0.0949	0.1359	-0.1643	0.0910
1941	0.0255	0.0291	0.0327	0.0428	0.0681	-0.3050	0.0234
1942	0.0261	0.0287	0.0313	0.0314	0.0590	0.1079	-0.0735
1943	0.0312	0.0346	0.0380	0.0405	0.0564	0.4750	0.0228
1944	0.0343	0.0353	0.0362	0.0303	0.0459	0.1879	0.0268
1945	0.0298	0.0349	0.0383	0.0683	0.0805	0.5665	0.1075
1946	0.0233	0.0238	0.0242	0.0267	0.0377	-0.0130	-0.0006
1947	-0.0139	-0.0187	-0.0234	-0.0213	-0.0105	-0.1236	-0.0165
1948	0.0287	0.0317	0.0347	0.0225	0.0073	0.0451	0.0202
1949	0.0718	0.0746	0.0773	0.0892	0.0757	0.3074	0.0760
1950	0.0126	0.0131	0.0135	0.0107	0.0233	0.0152	-0.0034
1951	-0.0393	-0.0393	-0.0393	-0.0468	-0.0268	0.2075	-0.0541
1952	0.0373	0.0390	0.0407	0.0442	0.0399	0.1947	0.0101
1953	0.0078	0.0063	0.0048	0.0107	0.0037	0.0918	0.0062
1954	0.0668	0.0701	0.0733	0.0745	0.0909	0.2269	0.0676
1955	-0.0107	-0.0127	-0.0147	-0.0100	0.0146	0.1357	-0.0264
1956	-0.0703	-0.0703	-0.0703	-0.0714	-0.0816	0.0416	-0.0484
1957	0.0246	0.0229	0.0213	0.0054	-0.0131	0.0541	0.0472
1958	-0.0081	-0.0032	0.0017	0.0123	0.0339	0.3827	-0.0439
1959	-0.0231	-0.0234	-0.0237	-0.0120	-0.0102	0.0958	-0.0320
1960	0.0764	0.0735	0.0705	0.0791	0.0994	0.1680	0.1106
1961	0.0432	0.0448	0.0464	0.0502	0.0442	0.3646	0.0135
1962	0.0831	0.0829	0.0828	0.0852	0.0891	-0.0519	0.0650
1963	0.0171	0.0202	0.0232	0.0294	0.0329	0.1261	-0.0022
1964	0.0394	0.0391	0.0387	0.0409	0.0396	0.1685	0.0439
1965	-0.0010	-0.0014	-0.0018	-0.0044	0.0050	0.0489	-0.0064
1966	-0.0501	-0.0509	-0.0518	-0.0602	-0.0990	-0.0504	0.0085
1967	-0.0525	-0.0539	-0.0553	-0.0592	-0.0271	-0.0216	-0.0650
1968	0.0268	0.0224	0.0181	0.0286	0.0243	0.1419	0.0149
1969	-0.0792	-0.0839	-0.0885	-0.0960	-0.0892	-0.1769	-0.0640
1970	0.0970	0.0978	0.0987	0.0952	0.0761	0.1494	0.1537
1971	0.1168	0.1241	0.1313	0.1510	0.1681	0.0050	0.0999
1972	0.0912	0.0980	0.1047	0.1103	0.1387	0.1464	0.0661
1973	0.0158	0.0138	0.0118	0.0156	0.0150	-0.2106	-0.0893
1974	-0.0315	-0.0360	-0.0405	-0.0683	-0.1033	-0.2135	0.0092
1975	0.0915	0.0863	0.0813	0.0872	0.0940	0.4364	0.0465
1976	0.1976	0.2017	0.2058	0.2475	0.2806	0.3245	0.1955
1977	0.0459	0.0545	0.0629	0.0683	0.0903	0.1076	0.0074
1978	-0.0083	-0.0055	-0.0027	-0.0026	0.0000	-0.0174	-0.0189
1979	-0.0424	-0.0509	-0.0590	-0.0655	-0.0823	0.1221	-0.0289
1980	-0.0778	-0.0773	-0.0702	-0.0649	0.0674	0.1275	-0.0804
1981	0.0616	0.0674	0.0730	0.0416	0.0674	0.1464	0.0472
1982	0.3294	0.3750	0.3942	0.3708	0.3808	0.2292	0.4323
1983	0.0721	0.0691	0.0763	0.1406	0.1347	0.2372	-0.0049
1984	0.1770	0.1796	0.1768	0.1783	0.2075	0.2219	0.1611
1985	0.3473	0.3276	0.3259	0.3143	0.3098	0.3232	0.3143
1986	0.2994	0.2720	0.2698	0.2835	0.2933	0.3575	0.3692
1987	-0.1132	-0.0637	-0.0566	-0.0435	-0.0505	-0.0544	-0.1013
1988	0.2027	0.1615	0.1594	0.1643	0.1919	0.1849	0.1026
1989	0.2176	0.1770	0.1715	0.1692	0.1781	0.4351	0.2176
1990	0.0685	0.0689	0.0722	0.0738	0.0728	0.0069	0.0482
1991	0.1813	0.1647	0.1624	0.1715	0.1878	0.0931	0.1472
1992	0.1264	0.1312	0.1324	0.1355	0.1315	0.1183	0.1093
1993	0.1926	0.2126	0.2190	0.1429	0.1590	0.1661	0.2162
1994	-0.0802	-0.0656	-0.0657	0.0065	-0.0351	-0.0825	-0.1075
1995	0.2860	0.3074	0.3089	0.2164	0.2442	0.3772	0.3268
1996	0.0279	0.0211	0.0214	0.0279	0.0415	0.0550	0.0020
1997	0.1181	0.1157	0.1169	0.1238	0.1496	0.1959	0.1454
1998	0.1431	0.0365	0.0289	0.1074	0.0981	0.1896	0.1786
1999	-0.0792	-0.0275	-0.0237	-0.0921	-0.0684	-0.0998	-0.1062
2000	0.1076	0.1150	0.1146	0.1101	0.1196	0.5475	0.1922
2001	0.0734	0.0788	0.0873	0.0780	0.0534	-0.2877	0.0596
2002	0.1851	0.1851	0.2461	0.1746	0.1746	-0.2934	0.1362
2003	0.1678	0.1678	0.1529	0.2329	0.2329	0.2509	0.0488
2004	0.1162	0.1162	0.0782	0.0919	0.0919	0.2763	0.0861
2005	0.0869	0.0869	0.0732	0.0541	0.0541	0.2151	0.0520
2006	0.0486	0.0486	0.0596	0.0759	0.0759	0.2323	0.0421
2007	0.0043	0.0043	0.0143	0.0042	0.0042	0.1434	0.0814
2008	0.0733	0.0733	0.0132	-0.1109	-0.1109	-0.3160	0.2953
2009	0.1159	0.1159	0.1662	0.3279	0.3279	0.1801	-0.1460
2010	0.0809	0.0809	0.0871	0.0893	0.0893	0.0795	0.0755
2011	0.2701	0.2701	0.2505	0.2019	0.2019	0.2051	0.3271
2012	0.0801	0.0801	0.0955	0.1287	0.1287	0.1272	0.0622
2013	-0.0850	-0.0850	-0.0758	-0.0494	-0.0494	0.1363	-0.1592
2014	0.1577	0.1577	0.1872	0.1333	0.1333	0.3017	0.2419
2015	-0.0031	-0.0031	-0.0227	-0.0682	-0.0682	-0.0629	0.0115
2016	0.0443	0.0443	0.0512	0.1625	0.1625	0.1834	-0.0224
2017	0.1224	0.1224	0.1211	0.1505	0.1505	0.1966	0.0714
2018	-0.0566	-0.0566	-0.0477	-0.0680	-0.0680	0.0644	-0.0579
2019	0.2209	0.2209	0.2098	0.2471	0.2471	0.2690	0.2127

Annual Total Returns of S&P Public Utility Stocks
And Annual Income Returns of Bonds
for the Years 1928-2019

Schedule 18
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Years	Public Utility Stocks	L-Term T-Bonds	Income Returns				
			Public Utility Bonds				
			AAA	AA & A	AA	A	BBB
1928	0.5431	0.0329	0.0451	0.0460	0.0470	0.0499	0.0541
1929	0.1376	0.0361	0.0468	0.0479	0.0490	0.0522	0.0578
1930	-0.2149	0.0332	0.0458	0.0470	0.0482	0.0514	0.0591
1931	-0.3193	0.0338	0.0434	0.0449	0.0463	0.0511	0.0635
1932	-0.0724	0.0350	0.0474	0.0504	0.0535	0.0640	0.0815
1933	-0.2170	0.0315	0.0436	0.0468	0.0499	0.0604	0.0833
1934	-0.1743	0.0306	0.0402	0.0436	0.0471	0.0559	0.0713
1935	0.6914	0.0278	0.0351	0.0376	0.0402	0.0466	0.0544
1936	0.2357	0.0273	0.0324	0.0343	0.0362	0.0415	0.0465
1937	-0.3337	0.0275	0.0320	0.0334	0.0347	0.0395	0.0486
1938	0.1020	0.0263	0.0303	0.0316	0.0329	0.0392	0.0510
1939	0.1538	0.0239	0.0286	0.0296	0.0305	0.0360	0.0448
1940	-0.1643	0.0224	0.0277	0.0285	0.0293	0.0331	0.0410
1941	-0.3050	0.0197	0.0269	0.0276	0.0283	0.0304	0.0366
1942	0.1079	0.0239	0.0272	0.0279	0.0287	0.0305	0.0358
1943	0.4750	0.0246	0.0264	0.0269	0.0273	0.0296	0.0338
1944	0.1879	0.0248	0.0265	0.0268	0.0272	0.0294	0.0333
1945	0.5665	0.0229	0.0256	0.0261	0.0266	0.0285	0.0318
1946	-0.0130	0.0208	0.0250	0.0254	0.0257	0.0268	0.0293
1947	-0.1236	0.0215	0.0257	0.0261	0.0264	0.0273	0.0297
1948	0.0451	0.0240	0.0282	0.0287	0.0292	0.0301	0.0327
1949	0.3074	0.0223	0.0270	0.0274	0.0277	0.0291	0.0324
1950	0.0152	0.0216	0.0262	0.0264	0.0267	0.0276	0.0312
1951	0.2075	0.0244	0.0285	0.0288	0.0291	0.0307	0.0334
1952	0.1947	0.0265	0.0300	0.0303	0.0305	0.0324	0.0351
1953	0.0918	0.0300	0.0325	0.0328	0.0331	0.0347	0.0371
1954	0.2269	0.0266	0.0296	0.0298	0.0301	0.0317	0.0348
1955	0.1357	0.0287	0.0307	0.0309	0.0311	0.0324	0.0341
1956	0.0416	0.0310	0.0335	0.0337	0.0340	0.0357	0.0374
1957	0.0541	0.0355	0.0397	0.0400	0.0403	0.0428	0.0452
1958	0.3827	0.0344	0.0384	0.0386	0.0389	0.0414	0.0447
1959	0.0958	0.0409	0.0445	0.0448	0.0451	0.0470	0.0494
1960	0.1680	0.0409	0.0450	0.0453	0.0455	0.0473	0.0489
1961	0.3646	0.0391	0.0442	0.0445	0.0449	0.0462	0.0476
1962	-0.0519	0.0401	0.0434	0.0437	0.0439	0.0450	0.0466
1963	0.1261	0.0403	0.0427	0.0429	0.0431	0.0437	0.0456
1964	0.1685	0.0419	0.0441	0.0442	0.0443	0.0450	0.0466
1965	0.0489	0.0424	0.0448	0.0450	0.0451	0.0458	0.0475
1966	-0.0504	0.0475	0.0513	0.0515	0.0518	0.0531	0.0552
1967	-0.0216	0.0494	0.0553	0.0556	0.0559	0.0576	0.0605
1968	0.1419	0.0543	0.0621	0.0627	0.0633	0.0651	0.0684
1969	-0.1769	0.0624	0.0706	0.0716	0.0725	0.0743	0.0778
1970	0.1494	0.0692	0.0822	0.0833	0.0844	0.0870	0.0913
1971	0.0050	0.0614	0.0766	0.0777	0.0789	0.0825	0.0868
1972	0.1464	0.0601	0.0744	0.0751	0.0758	0.0778	0.0815
1973	-0.2106	0.0701	0.0762	0.0767	0.0773	0.0789	0.0812
1974	-0.2135	0.0800	0.0849	0.0861	0.0873	0.0899	0.0929
1975	0.4364	0.0817	0.0894	0.0912	0.0929	0.0978	0.1057
1976	0.3245	0.0794	0.0864	0.0880	0.0895	0.0928	0.0987
1977	0.1076	0.0765	0.0814	0.0829	0.0845	0.0859	0.0896
1978	-0.0174	0.0840	0.0877	0.0888	0.0900	0.0917	0.0947
1979	0.1221	0.0921	0.0962	0.0978	0.0995	0.1017	0.1064
1980	0.1275	0.1115	0.1182	0.1211	0.1241	0.1271	0.1352
1981	0.1464	0.1349	0.1427	0.1458	0.1489	0.1529	0.1616
1982	0.2292	0.1309	0.1439	0.1448	0.1464	0.1532	0.1610
1983	0.2372	0.1115	0.1247	0.1229	0.1237	0.1298	0.1350
1984	0.2219	0.1247	0.1297	0.1339	0.1341	0.1374	0.1434
1985	0.3232	0.1104	0.1187	0.1179	0.1189	0.1228	0.1270
1986	0.3575	0.0802	0.0908	0.0930	0.0940	0.0973	0.1015
1987	-0.0544	0.0843	0.0934	0.0946	0.0953	0.0985	0.1027
1988	0.1849	0.0897	0.1013	0.1009	0.1014	0.1040	0.1083
1989	0.4351	0.0854	0.0938	0.0949	0.0955	0.0980	0.1001
1990	0.0069	0.0858	0.0943	0.0959	0.0964	0.0985	0.1009
1991	0.0931	0.0818	0.0891	0.0915	0.0921	0.0943	0.0961
1992	0.1183	0.0769	0.0822	0.0860	0.0869	0.0887	0.0897
1993	0.1661	0.0671	0.0737	0.0776	0.0780	0.0805	0.0816
1994	-0.0825	0.0730	0.0794	0.0799	0.0802	0.0826	0.0868
1995	0.3772	0.0708	0.0781	0.0774	0.0776	0.0813	0.0857
1996	0.0550	0.0672	0.0745	0.0742	0.0745	0.0762	0.0805
1997	0.1959	0.0670	0.0746	0.0743	0.0746	0.0747	0.0782
1998	0.1896	0.0572	0.0682	0.0674	0.0677	0.0687	0.0710
1999	-0.0998	0.0592	0.0710	0.0740	0.0748	0.0743	0.0766
2000	0.5475	0.0607	0.0790	0.0817	0.0821	0.0830	0.0839
2001	-0.2877	0.0557	0.0747	0.0777	0.0780	0.0787	0.0810
2002	-0.2934	0.0542		0.0730	0.0730	0.0754	0.0818
2003	0.2509	0.0496		0.0646	0.0646	0.0623	0.0673
2004	0.2763	0.0505		0.0608	0.0608	0.0617	0.0641
2005	0.2151	0.0465		0.0546	0.0546	0.0566	0.0592
2006	0.2323	0.0499		0.0583	0.0583	0.0607	0.0632
2007	0.1434	0.0493		0.0591	0.0591	0.0605	0.0629
2008	-0.3160	0.0448		0.0619	0.0619	0.0650	0.0711
2009	0.1801	0.0401		0.0579	0.0579	0.0610	0.0721
2010	0.0795	0.0405		0.0525	0.0525	0.0548	0.0598
2011	0.2051	0.0375		0.0489	0.0489	0.0514	0.0565
2012	0.1272	0.0256		0.0385	0.0385	0.0416	0.0490
2013	0.1363	0.0302		0.0417	0.0417	0.0441	0.0492
2014	0.3017	0.0316		0.0424	0.0424	0.0435	0.0485
2015	-0.0629	0.0254		0.0397	0.0397	0.0408	0.0496
2016	0.1834	0.0221		0.0373	0.0373	0.0394	0.0474
2017	0.1966	0.0267		0.0386	0.0386	0.0404	0.0443
2018	0.0644	0.0307		0.0404	0.0404	0.0420	0.0460
2019	0.2690	0.0248		0.0369	0.0369	0.0385	0.0429

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SUEZ Water Idaho Inc.
Common Equity Cost Rate Summary

	<u>Water Group Followed by Analysts</u>		
	<u>DCF(1)</u>	<u>CAPM(2)</u>	<u>RP(3)</u>
Common Equity Cost Rate Range	10.00 %	10.60 %	10.00 %
Investment Risk Adjustments (4)	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
SUEZ Water Idaho Inc. Adjusted Common Equity Cost Rate Range:	<u>10.00</u>	<u>10.60</u>	<u>10.00</u>
SUEZ Water Idaho Inc. Recommended Common Equity Cost Rate (5)	<u><u>10.20 %</u></u>		
Check of Reasonableness of Common Equity Cost Rate (6)	9.6 % to 14.4 %		

- Notes: (1) From Schedule 12 and explained in the Direct Testimony.
 (2) From Schedule 17 and explained in the Direct Testimony.
 (3) From Schedule 18 and explained in the Direct Testimony.
 (4) As explained in the Direct Testimony.
 (5) As explained in the Direct Testimony, the recommendation is only applicable to a rate making common equity ratio of 54%. (~54.07%)
 (6) See page 2 of Schedule 14.