1 PLACE: Dobbs Building, Raleigh, North Carolina

2 DATE: December 2, 2019

3 DOCKET NO.: W-354, Sub 364

4 TIME IN SESSION: 2:01 P.M. TO 5:34 P.M.

5 BEFORE: Commissioner ToNola D. Brown-Bland, Presiding

6 Chair Charlotte A. Mitchell

7 Commissioner Lyons Gray

8 Commissioner Daniel G. Clodfelter

9 Commissioner Kimberly W. Duffley

10 Commissioner Jeffrey A. Hughes

11

12 IN THE MATTER OF:

13 Application by

14 Carolina Water Service, Inc. of North Carolina,

15 4944 Parkway Plaza Boulevard, Suite 375,

16 Charlotte, North Carolina 28217

17 for Authority to Adjust and Increase Rates for Water

18 and Sewer Utility Service in

19 All of its Service Areas in North Carolina

20

21 VOLUME 7

22

23

24

1 A P P E A R A N C E S:

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1 A P P E A R A N C E S (Cont'd.):

2 FOR THE USING AND CONSUMING PUBLIC:

3 William E. Grantmyre, Esq.

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8 4326 Mail Service Center

9 Raleigh, North Carolina 27699-4300

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8 E X H I B I T S

9 IDENTIFIED/ADMITTED

E X H I B I T S (Cont'd.)

IDENTIFIED/ADMITTED

ITEMS ADMITTED INTO EVIDENCE

(Confidential items filed under seal.)

ITEMS ADMITTED INTO EVIDENCE

IDENTIFIED/ADMITTED

ITEMS ADMITTED INTO EVIDENCE

1 P R O C E E D I N G S

2 COMMISSIONER BROWN-BLAND: Good afternoon. Let
3 us come to order and go on the record. I am
4 Commissioner ToNola D. Brown-Bland of the North Carolina
5 Utilities Commission, the presiding commissioner for this
6 hearing. I'm joined this afternoon by Chair Charlotte A.
7 Mitchell, Commissioners Lyons Gray, Daniel G. Clodfelter,
8 Kimberly W. Duffley, and Jeffrey A. Hughes.
9 I now call for Hearing Docket Number W-354, Sub
10 364, in the Matter of Application by Carolina Water
11 Service, Inc. of North Carolina, hereinafter CWSNC or the
12 Company, for Adjustment of Rates and Charges.
13 Consolidated with this matter for hearing at this time
14 are Docket Numbers W-354, Sub 363, in the Matter of
15 Application by CWSNC for an Accounting Order to Defer
16 Incremental Storm Damage Expenses Incurred as a Result of
17 Hurricane Florence, and W-354, Sub 365, in the Matter of
18 Application by CWSNC for an Accounting Order to Defer
19 Post In-Service Depreciation and Financing Costs Related
20 to Major New Projects.
21 On June 28th, 2019, CWSNC filed an application
22 with the Commission seeking authority to increase its
23 water and sewer rates and charges for its service areas
24 in North Carolina, along with the written direct

1 testimonies and exhibits of Catherine E. Heigel, Dante M.
2 DeStefano, Gordon R. Barefoot, J. Bryce Mendenhall,
3 Anthony Gray, and Dylan W. D'Ascendis. Donald H. Denton
4 and Shawn M. Elicegui have since adopted the testimony --
5 testimonies of Witnesses Heigel and Barefoot
6 respectively.
7 On July 15th, 2019, the Commission issued an
8 Order Establishing General Rate Case and Suspending
9 Rates, and on August 2nd, 2019, the Commission issued an
10 Order Scheduling Hearings and Requiring Customer Notice.
11 That Order scheduled the evidentiary hearing for this
12 date and time, Monday, December 2nd, 2019, at 2:00 p.m.
13 On August 2nd, 2019, CWSNC filed the
14 supplemental testimony of Witness DeStefano.
15 CWSNC filed a revised NCUC Form W-1, Part III,
16 and filed the Certificate of Service of Customer Notice
17 on August 5th and August 21st respectively.
18 On August 22nd, 2019, Corolla Light Community
19 Association filed a Petition to Intervene, which was
20 granted on September 5th, 2019. The intervention and
21 participation of the Public Staff is recognized pursuant
22 to North Carolina General Statute 62-15(d) and Commission
23 Rule R1-19(e).
24 Prior to today, public hearings were held

1 across North Carolina in Charlotte, Manteo, Boone,
2 Asheville, Raleigh, and Jacksonville. In accordance with
3 the Order of the Commission, CWSNC filed reports
4 responding to customer comments.
5 On October 4th, 2019, CWSNC filed rate case
6 updates, schedules, and supporting data.
7 On November 4th, 2019, the Public Staff filed
8 the testimony and exhibits of Gina Y. Casselberry,
9 Charles M. Junis, Lindsay Q. Darden, Windley E. Henry,
10 Michelle M. Boswell, Lynn L. Feasel, and John R. Hinton.
11 The testimony of Witness Darden was later adopted by
12 Witness Junis.
13 On November 15th, 2019, the Public Staff filed
14 the supplemental testimony of Witness Casselberry and the
15 revised exhibits of Witnesses Feasel and Henry on
16 November 18th, 2019.
17 On November 19th, 2019, CWSNC filed a Notice of
18 Withdrawal from Rate Case Consideration, Proposed
19 Consumption Adjustment Mechanism, and Pilot Program.
20 On November 20th, 2019, CWSNC filed the
21 rebuttal testimony and exhibits of Witnesses D'Ascendis,
22 DeStefano, and Mendenhall.
23 On November 21st, 2019, CWSNC and the Public
24 Staff filed a Joint Motion for Order Excusing Witnesses

1 Boswell, Elicegui, and Gray from the hearing, which
2 motion was granted by the Commission.
3 On November 26, 2019, the Public Staff filed
4 the supplemental testimony and exhibit of Witness Hinton,
5 and on November 27, 2019, the Joint Partial Settlement
6 Agreement and Stipulation of CWSNC and the Public Staff
7 and exhibits in support thereof were filed. Also, on the
8 same date the Public Staff moved to excuse Witnesses
9 Casselberry, Darden, and Feasel from appearing at this
10 hearing.
11 On today, December 2nd, 2019, the Commission
12 granted the Motion to Excuse Witnesses Darden and Feasel.
13 Also, Corolla Light Community Association filed its
14 Resolution of the Association.
15 In compliance with the requirements of the
16 State Government Ethics Act, I remind all Commissioners
17 of our duty to avoid conflicts of interest, and at this
18 time inquire whether any member of Commission has a known
19 conflict of interest with regard to this docket?
20 (No response.)
21 COMMISSIONER BROWN-BLAND: The record will
22 reflect that no conflicts were identified.
23 I now call upon counsel for the parties to
24 announce their appearances, beginning with the Applicant.

1 MS. SANFORD: Thank you, Commissioner Brown-
2 Bland, and Commissioners Gray, Clodfelter, Duffley, and
3 Hughes, as well as Chair Mitchell. We appreciate your
4 time and your attention today. I'm Jo Anne Sanford,
5 counsel for Carolina Water Service, Inc. of North
6 Carolina, and I'm with Sanford Law Office. With me at
7 counsel table -- get used to our new mics here -- with me
8 at counsel table is -- are the following: Bob Bennink of
9 Bennink Law Office, and Mark Alson, who has been admitted
10 for limited practice here in North Carolina for the
11 purposes of participation in this case who is with Ice
12 Miller of Indianapolis, Indiana.
13 We are also represented in this room by -- I
14 was looking for Catherine Heigel who was going to be here
15 -- I'm not sure if she's here yet -- former State
16 President and now COO of Utilities, Inc.; Donald Denton,
17 who is the State President of Carolina Water; Dante
18 DeStefano, Director of Financial Planning and Analysis
19 who will be a witness, as will Bryce Mendenhall, Vice
20 President of Operations; Matthew Schellinger, Financial
21 Planning Manager; Dylan D'Ascendis who will be a witness
22 on ROE; and Kay Pashos of Ice Miller who is sitting with
23 us at the -- at the back table here. Thank you very
24 much.

1 COMMISSIONER BROWN-BLAND: Thank you, Ms.
2 Sanford.
3 MR. ALLEN: Good afternoon, Commissioner Brown-
4 Bland. My name is -- and Commissioners. My name is
5 Brady Allen, and I'm an attorney at The Allen Law
6 Offices, and I represent the Corolla Light Community
7 Association. Thank you.
8 COMMISSIONER BROWN-BLAND: Thank you.
9 MS. HOLT: Good afternoon. I'm Gina Holt with
10 Public Staff, here on behalf of the Using and Consuming
11 Public, and with me at counsel table are Public Staff
12 attorneys William Grantmyre and John Little.
13 COMMISSIONER BROWN-BLAND: Thank you. And I
14 say a special welcome to Mr. Alson. Glad to have you
15 with us here in North Carolina.
16 At this time are there any preliminary matters
17 other than I've already heard that Ms. Sanford wishes to
18 do a brief opening? Anything else?
19 MS. SANFORD: We are prepared to move documents
20 into evidence if this is the appropriate time.
21 COMMISSIONER BROWN-BLAND: You may do so.
22 MS. SANFORD: Okay. Thank you. Mr. Bennink
23 will do that.
24 MR. BENNINK: I have a number of things to move

1 into evidence. First, we'd like to move into evidence
2 the Application for General Rate Increase filed by
3 Carolina Water Service on June 28th, 2019, including
4 Appendices 8 -- Appendices 1 through 15.
5 Next, the NCUC Form W-1, Items W1-1 through
6 W1-26, including the confidential items. All of these
7 were filed on June 28th of this year. Plus the
8 confidential and redacted versions of Item W1-10 filed
9 August 5th, 2019.
10 COMMISSIONER BROWN-BLAND: All right. Let's
11 hold up for a minute right there. Without objection,
12 those items that Mr. Bennink just moved will be received
13 into evidence, and they will be -- the appendices will be
14 identified as they were marked when prefiled. Those
15 matters that were confidential shall remain so and
16 continue to be marked as confidential.
17 (Whereupon, Application for General Rate
18 Increase, Appendices 1-15, NCUC Form W-1,
19 Items W1-1 through W1-26, were admitted
20 into evidence. The confidential items
21 are admitted under seal.)
22 MR. BENNINK: All right. And let me ask a
23 question for clarification. I've been doing this -- I've
24 got a list that's prepared in chronological order. I'm

1 prepared to move in the testimony of the witnesses who
2 will not appear today, if you would like me to do so at
3 this point.
4 COMMISSIONER BROWN-BLAND: That's up to you,
5 but that is --
6 MR. BENNINK: All right.
7 COMMISSIONER BROWN-BLAND: -- agreeable to the
8 Commission.
9 MR. BENNINK: We would ask that the direct
10 testimony of Catherine E. Heigel, which was adopted by
11 Donald Denton, which consists of 12 (sic) pages, filed on
12 June 28th, 2019, be copied into the record as if that
13 testimony was presented orally.
14 COMMISSIONER BROWN-BLAND: All right. Without
15 objection, that motion will be allowed.
16 (Whereupon, the prefiled direct testimony
17 of Catherine E. Heigel, as adopted by
18 Donald Denton, was copied into the record
19 as if given orally from the stand.)
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STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. W-354, SUB 364

In the Matter of		
Application of Carolina Water Service, Inc.	)	DIRECT TESTIMONY OF
of North Carolina for Adjustment of Rates	)	CATHERINE E. HEIGEL ON
and Charges, Approval of a Conservation	)	BEHALF OF CAROLINA
Rate Pilot Program, and Modifications to	)	WATER SERVICE, INC. OF
Certain Terms and Conditions for the	)	NORTH CAROLINA
Provision of Water and Sewer Service.	)	

APPENDIX 8
SCHEDULE G-1

June 28, 2019

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Catherine E. Heigel and my business address is 130 South Main Street, Suite 800, Greenville, South Carolina 29601.

Q. WHERE ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am President of Carolina Water Service, Inc. of North Carolina ("CWSNC" or "Company"), President of Tennessee Water Service, Inc., and President of Blue Granite Water Company in South Carolina, all of which are subsidiaries of Utilities, Inc. ("UI").

Q. WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?

A. I hold a Bachelor of Arts degree from the University of South Carolina, a Juris Doctor degree from The Ohio State University School of Law, and an Advanced Management Program certificate from The Wharton School of Business at the University of Pennsylvania. I have over 20 years of combined legal, regulatory and executive management experience. I have spent most of my career working for utilities in various capacities, including as President of Duke Energy Corporation's South Carolina operations and as Executive Vice President and General Counsel of American Transmission Company. I also served as the chief executive of the South Carolina Department of Health and Environmental Control ("DHEC") from 2015-17 under Governor Nikki R. Haley. While at DHEC, I led the statewide provision of public health services, environmental permitting and

compliance monitoring, health facility licensing and regulation, and regulation of activities impacting critical tidal lands, waters and beaches. I began my career in 1995 as a staff attorney with the South Carolina Department of Consumer Affairs in the Office of the Consumer Advocate, handling public utility and insurance rate regulatory matters.

Q. WHAT ARE YOUR DUTIES AS PRESIDENT OF CAROLINA WATER SERVICE, INC. OF NORTH CAROLINA?

A. I am responsible for the Company's regulated water and wastewater operations in North Carolina, including facility operations, finance, business development, safety, compliance, regulatory affairs and customer service.

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

A. The purpose of my testimony is to provide an overview of CWSNC's requested rate increase in support of the Company's Application in this case. In my testimony, I summarize the requested relief and describe how the requested rate relief will allow the Company a reasonable opportunity to cover its costs of providing utility services plus earn a fair return for our investors. My testimony also outlines the primary drivers of the requested rate increase and the general impact of the rate increase on customers. I discuss our recent reorganization and the benefits of CWSNC being part of a larger corporate group of utility companies. I provide an overview of the Company's mission and performance with respect to certain important

objectives, and our continued efforts to increase customer engagement in North Carolina. Finally, I introduce the other witnesses who present testimony for the Company in this case.

Q. PLEASE DESCRIBE THE CWSNC SERVICE TERRITORY IN NORTH CAROLINA.

A. CWSNC is a public utility subject to the Commission's jurisdiction, providing water and wastewater utility service to 34,915 water customers and 21,403 sewer customers, located in 38 counties and spread across North Carolina.

Q. PLEASE EXPLAIN WHY THE COMPANY IS FILING FOR A RATE INCREASE.

A. Our need for rate relief stems primarily from the significant capital investments since the Company's last rate case, made to provide reliable and compliant water and wastewater services to our customers. Since recovery was last authorized in the W-354 Sub 360 rate case, the Company will have made over $22 million of capital investments in our water and wastewater systems in North Carolina. These investments were needed to replace and rehabilitate aging infrastructure, to modernize and increase efficiencies in the Company's systems, and to recover from Hurricane Florence. These investments are discussed in more detail in Mr. Mendenhall's testimony; they include but are not limited to: (1) Connestee Falls Wastewater Treatment Plant replacement; (2) Nags Head Wastewater

Treatment Plant; (3) Connestee Falls Lift Station replacement; (4) Mt. Carmel collection system rehabilitation; (5) Fairfield Harbour Lift Station Replacements; and (6) approximately 2500 Automatic Meter Reading ("AMR") meters installed in mountainous regions of our service territory.

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

More specifically, under present rates, CWSNC is not able to meet its operating costs and earn a reasonable return on its investments in the Company's systems. During the Test Year, CWSNC experienced an overall rate of return per its books for its combined water and wastewater operations of 3.69%. The Company's pro-forma Test Year overall returns are 0.60% for water operations and 2.85% for wastewater operations. These rates of return are well below CWSNC's currently-authorized overall rate of return on rate base of 7.75%, which is based on an authorized rate of return on common equity of 9.75%, established by the Commission in its 2019 Rate Case Order in Docket No. W-354, Sub 360.

CWSNC's current balance sheet and income statement are contained in the Company's Rate Case Application. CWSNC's balance sheet is attached to

the Application as Schedule C and the Company's income statement is attached to the Application as Schedule B. The Company's current rate base and rate of return is shown on Schedule A of the Application.

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

A. The Company proposes an increase in revenue requirements of $6,881,233, an increase of 20.62% over pro-forma present rate revenues of $33,376,449. This represents a 15.25% increase in water revenue, and a 27.51% increase in wastewater revenues.

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

A. Under the Company's proposal, a typical Uniform Water residential customer using 3,207 gallons/month would see an increase of approximately $7.86 per month beginning with the rate effective date in this case. A typical Uniform Sewer residential customer using 3,411 gallons/month would see an increase of approximately $20.80 per month. More details on the proposed rates for each Rate Division can be found in the testimony of Witness DeStefano.

Q. IS THE COMPANY PROPOSING ANY NEW RATE MECHANISMS IN THIS PROCEEDING?

A. Yes. In addition to an increase in base rates, the Company is requesting the following new rate relief:

- Authority to create a storm reserve fund for extraordinary storm restoration costs such as those experienced following Hurricane Florence; and
- Authority to implement a customer usage adjustment tracking mechanism should one be approved via pending legislation in North Carolina, or emanating from Commission Docket No. W-100, Sub 59. Absent such authorization during the pendency of this rate proceeding, the Company proposes to implement a Conservation Rate Pilot Program and Revenue Adjustment Mechanism, which would incentivize conservation of limited water resources while providing revenue stability to the Company.

Both of these proposals are discussed in greater detail by Witness DeStefano in his testimony.

Q. PLEASE DESCRIBE THE COMPANY'S RECENT REORGANIZATION.

A. Effective April 1, the management of the Atlantic Business Unit (which includes CWSNC) and the South Carolina Business Units was combined under my leadership into an expanded Atlantic Business Unit. Immediately prior to that time, I had been leading both business units. Major goals of the

reorganization are to facilitate collaboration between the leadership teams for the benefit of each business and its customers, to increase the sharing of best practices across business units, and to more efficiently and effectively share certain support functions across business units. Importantly, there were no job losses that resulted from this reorganization, other than the role of one state president. Also importantly, the states' separate and unique external brand identities will remain.

Q. PLEASE EXPLAIN CWSNC'S RELATIONSHIP WITH UTILITIES, INC., WATER SERVICE CORPORATION ("WSC"), AND CORIX INFRASTRUCTURE, INC. ("CORIX").

A. Utilities, Inc. is relatively unique within the water and wastewater industry in certain respects. From its inception 53 years ago, UI has concentrated on the purchase, formation, and expansion of smaller water and sewer utility systems. UI has grown over the years and at the present time, it has over 16 subsidiary operating companies – including CWSNC – which provide water and sewer utility service to approximately 197,732 customers in 18 states.

Corix is the ultimate parent company of CWSNC. Both Corix and WSC provide services to CWSNC and other Corix utility companies. Broadly speaking, Corix provides corporate and governance services, such as policy and strategy, financial management, corporate management, investor relations, compliance, internal audit, tax, and strategic legal, HR

management, and communications; while WSC provides day-to-day services such as engineering, construction, operating, billing, customer relations, human resources administration, health safety and environmental, IT, communications, accounting and legal. All of these services are necessary for CWSNC to operate. The costs of the Corix and WSC services are allocated to CWSNC and other Corix utility companies in accordance with the Corix Cost Allocation Manual. The testimony of Company Witness Gordon Barefoot discusses in greater detail the Corix services, the associated costs, and the benefits of such services to customers.

Q. IS THE COMPANY PROPOSING TO INCLUDE IN RATES IN THIS CASE CORPORATE AND GOVERNANCE COSTS ALLOCATED FROM ITS AFFILIATE, CORIX INFRASTRUCTURE, INC.?

A. Yes. In addition to receiving services from WSC, CWSNC also receives services from Corix, and seeks to have the allocated cost of those services reflected in our rates. Because this is the first time CWSNC is requesting that such allocated Corix costs be reflected in our revenue requirement, we have included in-depth testimony on this issue, sponsored by Mr. Barefoot.

Q. PLEASE EXPLAIN THE BENEFITS CWSNC CUSTOMERS RECEIVE FROM THE COMPANY'S RELATIONSHIP WITH UTILITIES, INC. AND CORIX INFRASTRUCTURE, INC.

A. The affiliation with UI has many benefits for CWSNC customers. One of the primary benefits is that CWSNC has access to a large pool of capabilities and expertise upon which to draw. The parent company has experts across a range of critical areas, such as construction, engineering operations, accounting, data processing, billing, regulation, and customer service. UI has a high level of combined expertise and experience, allowing it to provide service in a more cost-effective manner.

UI is focused on operating only water and wastewater systems and UI personnel can meet the challenges of the rapidly changing utility industry. Because of the UI companies' exclusive focus on the water and wastewater industries, our companies enjoy some unique advantages, one of which is that capital has been made available for improvements and expansion at a reasonable cost. With increasingly more stringent health, safety, and environmental standards, ready access to capital is vital to continued quality service in the capital-intensive water and wastewater utility business.

In addition, the UI group of companies has national purchasing power, resulting in lower costs to ratepayers. Expenditures for insurance, vehicles, and meters reflect examples of purchases where national contracts provide tangible benefits to customers.

Additionally, CWSNC benefits from receiving services from Corix and WSC because it can obtain these services at a lower cost through a cost

allocation made to all of the Corix subsidiaries than if CWSNC were to provide or outsource these important services for itself. CWSNC customers receive these services on a shared basis, without having to bear the sole, full costs of the services, including critical and often expensive investments in technology, security, safety and environmental compliance. The sharing of these service costs over a broader base of business units results in lower costs for each business unit (and their customers) compared to what they would otherwise have to pay if they were standalone businesses.

Q. CAN YOU PLEASE SUMMARIZE CWSNC'S VISION AND MISSION?

A. CWSNC's vision is to be the preferred private water and wastewater utility for our customers and communities. Our mission is to improve the quality of life for our customers and communities by providing safe, reliable, and cost-effective water and wastewater services while promoting environmental stewardship.

Q. HOW DOES CWSNC PLAN TO ACHIEVE THIS VISION AND MISSION?

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

- Operational and Service Excellence – develop our people, strengthen our processes, and invest in our technology to support a high-performance organization and a culture of continuous improvement.
- Collaboration and Engagement – communicate and engage with our team members, customers, and communities with relevant and timely

billing, service, and operational information to improve stakeholder awareness and collaboration.

- Strong Financial Performance – manage and plan business costs, pursue growth, and mitigate enterprise risks in a prudent manner to engender trust and confidence in our financial responsibility and ensure access to needed capital.
- World Class Talent – attract and retain top talent to deliver dependable, timely, courteous, and quality services to meet the needs of our customers and communities.

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

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

- Providing safe drinking water through water system compliance;
- Maintaining high water quality;
- Reducing water quality issues;
- Maintaining and improving wastewater system compliance;
- Achieving on-time and accurate meter reads;
- Completing field activities on time;
- Community participation.

I would characterize our current performance as good with room for improvement in the following areas:

- Improving driver safety;
- Reducing wastewater compliance issues; and
- Improving workplace safety (our performance with respect to lost time injuries is very good, but our performance with respect to other injuries needs improvement).

Q. HOW IS THIS RATE CASE RELATED TO CWSNC'S VISION, MISSION, AND STRATEGIC GOALS?

A. This rate request is integrally related to our ability to achieve our vision, mission and strategic goals. Capital investments, such as those we have made and seek to include in our rate base in this case, are essential to our operational integrity----they are required in order to maintain and improve our ability to provide high quality and compliant water and wastewater services to our customers and our communities. Paying competitive wages to our employees is critical to our ability to attract and retain talented employees who, in turn, provide excellent operational performance and customer service for our customers and communities.

Q. WHAT CUSTOMER EDUCATION AND OUTREACH EFFORTS HAS THE COMPANY MADE WITH ITS CUSTOMERS?

A. To enhance our customers' engagement with the Company, we have implemented multiple communication channels from Facebook, Twitter, and a newly-designed webpage, to bill inserts, phone calls, and face-to-face meetings. In addition, the Company has just launched a new customer

portal application called MyUtilityConnect for our customers. Using this new online tool, customers can (1) pay their bills on the go; (2) elect to receive service notifications through the application; and (3) monitor their water usage through the application. The Company has used social media outlets to inform customers and Homeowner Associations ("HOAs") about this new tool and will be providing more information via bill inserts. In order to initially access the application, customers can visit our website or search for MyUtilityConnect in the Apple App Store or Google Play Store.

Another customer engagement avenue led by our Communications Coordinator, Deborah Clark, includes the creation of WordPress sites (*i.e.*, free web pages) for our customers to provide updates on projects, water saving tips, and frozen pipes prevention tips. Additionally, Company employees routinely attend meetings with the HOAs. Topics discussed during the HOA meetings have included CWSNC planned capital projects, project schedules, conservation and sustainability ideas, and other issues of customer interest. HOA managers also receive articles from CWSNC for inclusion in their newsletters. These articles include stories ranging from updates on projects and services to water conservation tips. CWSNC has also increased its efforts to improve customer engagement and awareness about service protocols and rates.

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

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

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

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

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

- J. Bryce Mendenhall, Vice President of Operations, who is testifying in support of the Company's water and wastewater system operations, capital investments made in North Carolina since the last rate case, and certain technology initiatives supporting North Carolina operations. He is also testifying to the continuing impacts of the 2018 hurricanes and the Company's continued efforts to address non-revenue water.
- Dante DeStefano, Financial Planning and Analysis Manager, who is testifying in support of the Company's present rate revenues, operating expenses, customer count, rate design, Tax Cuts and Jobs Act impacts, Conservation Rate Pilot Program, Storm Reserve Fund, and general tariff changes. He is also testifying to the Company's capital structure and the effects of acquisitions since the last general rate case.
- Anthony Gray, Senior Financial Analyst, who is testifying in support of the pro-forma adjustments for salaries and wages and allocated expenses.
- Dylan D'Ascendis, Director at ScottMadden, Inc., who is testifying in support of the Company's proposed Return on Equity.
- Gordon Barefoot, CEO of Corix, who is testifying to the Company's Cost Allocation Manual and corporate service costs allocated to CWSNC from Corix.

Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A. Yes, it does. However, I reserve the right to update or amend this testimony upon receipt of additional data or other information that may become available.

MR. BENNINK: Next, we would like to ask that the direct testimony filed by Anthony Gray, consisting of 7 pages, also filed on June 28th, be copied into the record as if given orally from the stand.

COMMISSIONER BROWN-BLAND: That motion will be allowed.

(Whereupon, the prefiled direct testimony of Anthony Gray was copied into the record as if given orally from the stand.)

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. W-354, SUB 364

In the Matter of Application of Carolina Water Service, Inc. of North Carolina for Adjustment of Rates and Charges, Approval of a Conservation Rate Pilot Program, and Modifications to Certain Terms and Conditions for the Provision of Water and Sewer Service.	)))))))	DIRECT TESTIMONY OF ANTHONY GRAY ON BEHALF OF CAROLINA WATER SERVICE, INC. OF NORTH CAROLINA

APPENDIX 11
SCHEDULE G-4

June 28, 2019

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Anthony Gray and my business address is 4494 Parkway Plaza Boulevard, Suite 375, Charlotte North Carolina 28217.

Q. WHERE ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am the Senior Financial and Regulatory Analyst for Carolina Water Service, Inc. of North Carolina ("CWSNC" or "Company"), an operating subsidiary of Utilities, Inc. ("UI").

Q. WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?

A. I am a graduate of the University of Charleston with a Bachelor of Science in Accounting and Finance. I have been with the Company for four years and have held the positions of Financial Analyst I, Financial Analyst II, and my current role as Senior Financial and Regulatory Analyst. Prior to joining UI, I was an employed with Sam's Mart Inc, and the Public Service Commission of West Virginia in the capacity of Staff Accountant and Utilities Analyst I, respectively.

Q. WHAT ARE YOUR DUTIES WITH CWSNC?

A. My primary responsibilities include supporting the financial planning and regulatory processes for CWSNC.

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

A. The purpose of my testimony is to provide narrative support for the pro-forma adjustment made to Test Year salaries and wages, and allocated governance and corporate costs from Corix Infrastructure Inc. ("Corix"), the parent company to UI.

Q. PLEASE EXPLAIN THE COMPANY'S PRO-FORMA ADJUSTMENT METHODOLOGY FOR SALARIES AND WAGES.

A. The following two components comprise the adjustment to pro-forma salaries and wages: 1) direct cost and 2) allocated cost. The direct component is comprised of adjustments to reflect known and measurable changes for employees who report time directly to the Company's operations. The allocated component is comprised of adjustments to reflect known and measurable changes for employees who fall within the Water Service Corp. ("WSC") shared services group.

Direct Costs

1) In preparing the pro-forma adjustment for salaries and wages in this docket, the Company started with payroll and employee data for all active employees as of the May 15, 2019 pay period. Vacancies and new headcount expected to be filled during this proceeding were added to reflect the going-level headcount.

2) A cost of living inflationary assumption of 3% was applied to the May 15, 2019 base salary to arrive at the expected base pay at April 1, 2020 for each employee. April 1, 2020 is the expected date for this increase to

be effective; therefore, it represents the cost level the Company seeks to recover in this proceeding.

3) Overtime and holiday-worked pay for hourly employees was updated to reflect going-level expense amounts using the Test Year hours times the new hourly rate calculated in step 2, above.

4) Deferred compensation paid in April of 2019 was included as part of the pro-forma salary and wages calculations for this proceeding. Deferred compensation is paid out a year in arrears and, as such, 2019 payouts were used as the basis for expected 2020 expenses.

5) The sum of the new base salary, overtime pay, and deferred compensation was used to arrive at the annual going-level salaries and wages amount per employee.

6) Payroll taxes were updated to reflect going-level amounts based on the pro-forma salaries and wages adjustments, and changes in the both federal and state unemployment tax rates.

Water Service Corporation

The same methodology used in calculating the pro-forma amounts for the direct cost salary group was employed as of the May 15, 2019 period for all active employees who fall within the WSC support services group. The total amount of the pro-forma adjustment for this group was then allocated to the CWSNC Uniform and Bradfield Farms/Fairfield Harbor/Treasure Cove ("BF/FH/TC") water and sewer rate divisions, using the allocation

methodology utilized by UI for costs that are allocated among all operating subsidiaries.

Q. PLEASE EXPLAIN THE COMPANY'S ADJUSTMENTS FOR COSTS INCURRED FROM CORIX SUPPORT SERVICES.

A. During the Test Year, CWSNC incurred allocated governance and corporate costs for services performed by Corix, as allocated through its affiliate, WSC. The relationship structure between Corix, WSC, and CWSNC and the nature of the services and their benefits to CWSNC are laid out in detail in the testimony of Gordon Barefoot, Interim President and CEO of Corix. The purpose of my testimony in this section is to provide a narrative of the methodology used in making pro-forma adjustments for these costs for the current proceeding.

<u>Pro-Forma Methodology</u>

1) In making the pro-forma adjustment, the Company started with direct costs incurred at Corix for the quarter ended March 31, 2019.
2) The direct costs as of March 31, 2019 were then distributed to Corix affiliates---Tribus, Contract Utilities, and WSC support services---using the Tier 1 allocation methodology. The Tier 1 methodology definition and calculation is presented in the **Corix Group of Companies Cost Allocation Manual,** provided as part of this rate case filing. The specific calculation and allocation factors used in this filing are presented in

Schedule 29-Supplement to Schedule B13-a and b as part of the NCUC FORM W1 Report (Item 10)**.**

3) The Tier 2 allocation method was then applied to the WSC portion of the Tier 1 allocation amount to arrive at the quarter-ended allocated amounts for CWSNC. The Tier 2 allocation uses an Equivalent Residential Connections ("ERCs") allocator to allocate cost between the UI operating subsidiaries, which is consistent with the methodology used in past proceedings for costs allocated to CWSNC from the WSC shared services support group. CWSNC utilized the adjusted ERC allocation method as used in past CWSNC rate cases, which adjusts the value of availability account ERCs to a 0.25/1 ratio. Before calculating the CWSNC portion of the WSC allocation derived in Tier 1, certain Corix costs related to charitable contributions, business development, and community relations were removed.

4) The CWSNC allocated portion calculated in the Tier 2 allocation was then multiplied by 4 to derive an annualized amount. The annualized amount was then allocated to the four Rate Divisions in this proceeding based upon the CWSNC ERC adjusted counts.

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

A. Yes.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes. However, I reserve the right to update or amend this testimony upon receipt of additional data or other information that may become available.

1 MR. BENNINK: Next would be the direct
2 testimony of Gordon W. Barefoot. There are confidential
3 and redacted versions, and I guess for purposes of
4 transcript we'd ask that the redacted version be copied
5 into the record, it consists of 28 pages, as if it was
6 given orally from the stand, and that the confidential
7 portion of his testimony be admitted into evidence.
8 COMMISSIONER BROWN-BLAND: That, too, will be
9 allowed.
10 MR. BENNINK: He also has Exhibits GB-1 through
11 GB-3 appended to that testimony. We would ask that they
12 be marked as identified and admitted into evidence.
13 COMMISSIONER BROWN-BLAND: All right. Without
14 objection, those exhibits will be received into evidence
15 at this time.
16 (Whereupon, the prefiled direct testimony
17 of Gordon R. Barefoot was copied into the
18 record as if given orally from the stand.
19 The confidential version was filed under
20 seal.)
21 (Whereupon, Exhibits GB-1 through GB-3
22 were identified as premarked and admitted
23 into evidence. The confidential exhibits
24 were filed under seal.)

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. W-354, SUB 364

In the Matter of:

Application of Carolina Water Service, Inc. of North Carolina for Adjustment of Rates and Charges, Approval of a Conservation Rate Pilot Program, and Modifications to Certain Terms and Conditions for the Provision of Water and Sewer Service.	))))))	DIRECT TESTIMONY OF GORDON R. BAREFOOT ON BEHALF OF CAROLINA WATER SERVICE, INC. OF NORTH CAROLINA

APPENDIX 13
SCHEDULE G-6

June 28, 2019

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

A. My name is Gordon R. Barefoot and I am the President and CEO of Corix Infrastructure Inc. ("Corix"). My principal location of work is Suite 1160, 1188 W Georgia Street, Vancouver, BC Canada V6E 4A2.

Q. BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I graduated from the University of Manitoba with a Bachelor of Commerce (Hons) degree. I subsequently attained my Accounting Designation Chartered Professional Accountant CPA with Honors, and was a staff member and Partner at Ernst Young for 22 years. In the late 90's I headed the EY Utilities Consulting Group in Canada.

In 1998 I joined Terasen Inc., a large Canadian utility and oil pipeline operator in North America. I eventually became CFO of that public company and I was responsible for the predecessor company to Corix while at Terasen. In 2005 Terasen was acquired by Kinder Morgan and the water/waste water business that became Corix was acquired by a group that includes its current owner. I became Chair of the Board of Corix in 2006 and remained in that role until December 2017.

Q. BRIEFLY DESCRIBE YOUR CURRENT PROFESSIONAL EXPERIENCE.

A. In December 2017 I became President and CEO of Corix and continued as a board member, but relinquished my role as Chairman of the Board. I have overall responsibility for all of Corix's subsidiaries, including CWSNC.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE NORTH CAROLINA UTILITIES COMMISSION ("COMMISSION" OR "NCUC")?

A. No, I have not. However, I have testified on two occasions in front of the Ontario Energy Board ("OEB"), the regulator of utilities in Ontario, Canada. I have also testified several times in Canadian courts and quasi-judicial settings in valuation, business loss, and expropriation matters. I have also served as an Inquiry expert witness involving the collapse of a financial institution.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my direct testimony is to:

- describe the relationship of Corix to Carolina Water Service, Inc. of North Carolina ("CWSNC");
- describe the nature of certain corporate support shared services provided by Corix to Water Services Corporation ("WSC") which, in turn, provides a full suite of support services to CWSNC under its existing Affiliate Interest Agreement ("AIA") previously approved by this Commission;
- describe how those services are charged through to WSC and ultimately CWSNC; and
- support the associated necessity and reasonableness of costs of each of those services to CWSNC in satisfaction of the applicable statutory standards by which such expenses are reviewed by the Commission.

Q. PLEASE DESCRIBE THE RELATIONSHIP BETWEEN CORIX, WSC AND CWSNC.

A. Corix is the ultimate parent corporation of CWSNC. Corix is a privately held corporation owned by certain affiliates of British Columbia Investment Management Corporation. It is a pure play utility business engaged in the provision of water, wastewater and energy utility services and Corix is able to provide access to favorable terms in debt financing, capital markets, and geographic diversity to its operating businesses. Corix enjoys a wide spectrum of technical and industry expertise in all facets of sustainable water, wastewater, and energy systems, including innovative technologies, operating tools, and regulatory resources required to develop sustainable multi-utility services. Corix provides certain corporate support services to WSC. Both WSC and CWSNC are direct, wholly owned subsidiaries of Inland Pacific Resources Inc., which is owned by Corix Infrastructure Inc., which is in turn owned by Corix.

Safe and reliable service is a core value of Corix and across the Corix Group of Companies, including CWSNC. Collectively, we aim to maximize our resources to deliver the highest quality service at a reasonable cost to our customers.

Q. DURING THE TEST YEAR, DID CWSNC RECEIVE SERVICES FROM AN AFFILIATED SERVICE PROVIDER?

A. Yes, WSC has been providing shared support services to CWSNC for several years under the 2009 Commission-approved AIA. The 2009 Commission Order approved an AIA which stated WSC would furnish to

1 CWSNC all day-to-day services including but not limited to the following:
2 executive, engineering, operating, accounting, legal, billing, customer
3 relations, and construction. Additional services provided by WSC to
4 CWSNC under the AIA include human resource ("HR") functions, health
5 safety and environmental ("HSE"), Information Technology ("IT") services
6 including cybersecurity and governance, and corporation communications.
7 WSC retains employees and vendors as necessary to provide the shared
8 support services and has been receiving certain corporate support services
9 from Corix ("Corporate Services") to serve the operating business units,
10 including CWSNC. The Corporate Services are described in detail below.
11 The Corporate Services provided are in the public interest because they
12 allow CWSNC to access tremendous resources that improve the service
13 that CWSNC provides for a small portion of the overall expense incurred to
14 provide the Corporate Services. These centralized Corporate Services
15 allow the sharing of overhead costs and expertise across numerous Corix
16 utility businesses. Centralization of these services provides the benefits of
17 economies of scale. Procurement on a much larger scale provides greater
18 bargaining power for the combined entity, as well as other efficiencies that
19 could not be achieved on a stand-alone basis.
20 This centralization also allows for improved employee technical expertise,
21 specialization, and work performance. CWSNC and its customers benefit
22 from the deep experience and broader industry perspective that WSC
23 provides through its shared services, including the Corporate Services,

which WSC provides at a lower cost than could be provided on a stand-alone basis (assuming replication of these services on such a smaller scale could even occur). Provision of these shared Corporate Services optimizes performance by avoiding redundant services at the subsidiary level and allowing the operating units to focus on achieving operational excellence and providing safe, reliable, and responsive services to their customers. Shared expertise at the Corporate Service level results in improved service to the customers. Maintenance of enterprise-wide standards for many key functions such as IT, cybersecurity, safety, and human resources provide efficiencies and expertise across the business units and Corporate Services ensures these standards are followed by every operating utility with oversight of implementation. Moreover, certain Corporate Services, like those of the corporate executive management team and officers, cannot reasonably be outsourced to third parties given the level of understanding and experience needed within the business.

Q. HAS CWSNC INCLUDED IN THE REVENUE REQUIREMENT IN THIS CASE CERTAIN COSTS INCURRED BY WSC FOR CORIX CORPORATE SERVICES?

A. Yes. The Corporate Services provided are described in detail below. These services are provided in accordance with the AIA at cost – only actual expenses are included in the revenue requirement. There is no mark-up.

Q. ARE THE COSTS CWSNC INCURS FOR THE CORIX CORPORATE SERVICES CONSISTENT WITH NORTH CAROLINA STATUTORY MANDATES FOR AFFILIATE TRANSACTIONS?

A. Yes. As explained below, CWSNC demonstrates that (1) the Corix Corporate Services are necessary, reasonable, and proper; (2) the charges for those services provided to WSC and ultimately to CWSNC are only those actually incurred to provide the services with no mark-up; and (3) the costs are not in excess of the reasonable price for furnishing such services. CWSNC supports this conclusion based on a two-prong analysis. The reasonableness of the price for the services furnished is first demonstrated by comparing the cost of the WSC charges (including all Corporate Services) on a per regulated retail customer basis to the same charges for utility companies that must file the Federal Regulatory Commission ("FERC") Form 60 – Annual Report of Service Companies. For 2018, the average cost for comparable services was $110 per customer for service companies reporting to the FERC. Based on 2019 budget, the total WSC charges (including for Corporate Services) is approximately $75 per customer. Seventeen of the twenty-four utility service companies that filed a FERC Form 60 for 2018 had a higher per-customer cost than WSC's. See Exhibit GB-1. In addition, we evaluated the cost for each of the corporate services by reviewing the salaries of the individuals providing the services and comparing those to market salaries or hourly rates that would be charged by outside providers of equivalent services which also demonstrates the prices for those services under the AIA are at or below market as set forth in detail below.

It is also important to note that it would be difficult to find service providers with the same specialized knowledge that the WSC and Corix personnel possess, given that they spend substantially all of their time servicing operating utility companies (the majority of which are water and wastewater companies). This specialization brings with it a unique knowledge of the business that is likely unavailable from outside providers.

DESCRIPTION OF CORPORATE SERVICES

Q. WHAT CORPORATE SERVICES DOES CORIX PROVIDE WSC TO SUPPORT CWSNC FOR THE CHARGES INCLUDED IN THE CWSNC REVENUE REQUIREMENT?

A. Generally, Corix Corporate Services are strategic and focus on business oversight, enterprise-wide policies and ensuring legal and regulatory compliance which are necessary functions for the continuous and effective operation of any responsibly run corporation and, therefore, benefit customers. These Corporate Services consist of Human Resources, Health Safety and Environmental, Financial Management, Internal Audit and Tax, Corporate Legal, Corporate IT Governance, Corporate Communications, and Corporate Office of CEO.

Corix's strategic oversight and integration among its utility businesses help ensure reliable capital access to the operating Corix Group of Companies, including CWSNC. To provide capital for its businesses, Corix performs the Corporate Services and incurs costs to maintain its corporate structure and financial and corporate integrity. These activities, described in greater detail

in Exhibit GB-3, are necessary for the Corix utilities, including CWSNC, to deliver safe and reliable services to their customers.

Q. PLEASE DESCRIBE THE DIFFERING FUNCTIONS OF THE VARIOUS LEVELS OF GOVERNANCE AND MANAGEMENT WITHIN CORIX CORPORATE, AT WSC AND WITHIN THE REGIONAL MANAGEMENT GROUP FOR CWSNC.

A. The regional management team for CWSNC focuses on the administration and operations of CWSNC. The CEO of Regulated Utilities in the United States works closely with local leadership in evaluating capital investment plans and operating budgets as well as providing expertise on and leadership with addressing customer concerns, industry best practices, and setting short and long-term operating strategies. The Corix CEO and Executive Management team focus on overall corporate governance, management oversight, strategic advice, guidance and leadership, and providing capital access. The Corix CEO sets overall enterprise direction and strategy, interacts with the shareholder to source capital, and at a high-level works with corporate debt holders to provide assurance that an appropriate governance structure exists overall and in each operating unit.

Q. PLEASE DESCRIBE THE DIFFERING FUNCTIONS OF WSC EMPLOYEES AND THE CORIX CORPORATE SERVICES PROVIDED AND INCLUDED IN THE REVENUE REQUIREMENT PROPOSED IN THIS CASE.

A. The WSC employees are dedicated to the operations of the affiliate operating business units such as CWSNC and distinct from the Corix Corporate Services, whose costs are allocated among the Corix business units. The WSC workforce residing in the business units is responsible for,

among other things, ensuring water supply, safe transmission and treatment of wastewater, leak detection, community education on safe water and wastewater service, servicing and reading customer meters, installing and maintaining utility infrastructure, right-of-way activities, engineering, monthly financial variance analysis for the operating business unit, annual report preparation for local jurisdictions, state level monthly reporting, annual operating budgets, local environmental compliance and regulatory issues, local communications and community outreach and generally safe operation of the water and wastewater system on a daily basis.

WSC also directly employs individuals in shared services to provide consolidated operational functions such as customer service, billing and collections, and legal for the business units. Accounting staff directly employed by WSC shared services are dedicated to performing day-to-day accounting tasks such as processing accounts payable, payroll, preparing and supporting rate case filings, and posting general ledger entries. As discussed herein, these are clearly distinct functions from the Corix Corporate Services.

Q. ARE THE CORIX CORPORATE SERVICES THAT WSC IS RECEIVING TO SUPPORT CWSNC SIMILAR TO SERVICES PROVIDED BY OTHER SERVICE COMPANIES THAT BENEFIT REGULATED UTILITIES?

A. Yes. The services are common and necessary activities required for ongoing management of any responsibly and effectively run corporate entity and are relevant to more than any single operating entity within the Corix

Group of Companies. The related activities are performed in a centralized manner on behalf of all the operating entities, achieving economies of scale. Corix operates multiple business units in the water and wastewater sector with various operating characteristics such that these common activities can be shared, avoiding duplication within the individual operating entities and maximizing the use of resources dedicated to providing these services across many business units. In addition, the access to expertise and ability to enjoy economies of scale are critical to CWSNC's ability to continue to provide safe and reliable service and keep up with increasing needs in technology (such as cyber security) that would be cost-prohibitive on a stand-alone basis.

Q. PLEASE SUMMARIZE THE DIFFERENCES BETWEEN THE SHARED SERVICES THAT WSC PROVIDES TO CWSNC WITH WSC'S DIRECT EMPLOYEES, AND THOSE WSC PROVIDES THROUGH THE CORPORATE SERVICES.

A. As noted above, through its direct employees WSC shared services provide consolidated operational services across the business units such as customer service, billing and collections, accounting, local communications, legal, day-to-day human resources and local health environmental and safety compliance review (such as local permits and ordinances, etc.). While these shared services have similar names to certain of the Corporate Services Corix provides WSC, the nature and purpose of the shared services are different than the Corix Corporate Services. Shared services provide operational support across the business units to streamline overhead expenses and processes, reducing costs to our customers and

maximizing the efficiency of the utility service provided. Providing these services on a standalone basis would be prohibitively expensive as compared to the current corporate structure. WSC employees currently provide consolidated IT systems across the regulated utilities and, as a result, each of the business units in those jurisdictions benefits greatly from reduced costs for hardware, software, certain licensing fees, and additional IT staff to support individual IT systems. As described above, the Corporate IT services focus on distinct functions such as enterprise-wide cybersecurity and privacy support to ensure compliant and safe, reliable, and continuous operations across all of the companies supported.

WSC direct employees focus on the everyday administration and operation of the utilities while the Corix Corporate Services focus on corporate governance, executive corporate management, strategic advice, guidance and leadership including enterprise-wide policies that ensure compliant, safe and reliable business practices across the companies, and providing access to capital.

Q. ARE THE CORIX CORPORATE SERVICES NECESSARY FOR CWSNC'S PROVISION OF RELIABLE AND SAFE SERVICE TO ITS CUSTOMERS?

A. Yes. Each of the functional needs for the corporate service costs included in the revenue requirement is described above. The consolidation of the Corporate Services at Corix allows CWSNC to enjoy the benefits of cost efficiencies that cannot be achieved if CWSNC were to source these services from third parties or attempt to replicate them on its own. The

1 sharing of costs means that each business unit bears only a portion of them.
2 This includes the benefit and cost efficiency of sharing third-party costs that
3 Corix pays at arm's-length to unaffiliated third parties for services performed
4 for the benefit of all the Corix business units (such as health benefits and
5 tax services). It would cost CWSNC significantly more than its allocated
6 share of these third-party costs to source these services for just CWSNC or
7 to employ additional personnel at CWSNC and incur more overhead costs
8 to manage the additional functions. The economies of scale realized by
9 Corix's provision of the Corporate Services result in lower costs to CWSNC
10 customers and CWSNC's access to increasingly necessary technology and
11 other utility service infrastructure and expertise that would be much more
12 expensive and potentially cost-prohibitive on a stand-alone basis. In
13 addition to the functional needs and economic efficiencies, collectively the
14 Corporate Services that Corix provides to WSC to support CWSNC are
15 necessary to maintain Corix's corporate status and financial and business
16 integrity to support its continual access to capital funding and markets.

17 **Q. CAN YOU PLEASE PROVIDE A FEW SPECIFIC EXAMPLES**
18 **DEMONSTRATING WHY THESE SERVICES ARE NECESSARY FOR**
19 **CWSNC?**
20
21 **A.** Yes, the following are examples of the necessity of these services, with
22 additional examples found in Exhibit GB-3.
23 With regard to Human Resources Services, the attraction of qualified
24 employees and the retention of these employees is integral to providing
25 reliable, safe, and sustainable service to customers. The Corporate HR

1 Services that WSC receives to support CWSNC are necessary to ensure
2 CWSNC maximizes the knowledge, expertise, and resources available
3 across the Corix family to operate efficiently and prudently, resulting in
4 significant savings and avoided costs for North Carolina customers.
5 With regard to Health Safety and Environmental Services, in fulfilling these
6 activities, this group works with individuals in the business units and
7 engages consultants or commissions studies to facilitate these programs
8 and best practices that benefit all units. It would be impractical and
9 expensive for CWSNC to develop its own HSE policies, procedures, and
10 training manuals.
11 With regard to Financial Management Services, without these services,
12 CWSNC's focus would become split between investment activities
13 necessary to ensure ready access to capital and providing water and
14 wastewater service. Therefore, in addition to the cost savings CWSNC
15 enjoys from the receipt of the Corporate Services, there is also an important
16 streamlining of operations allowing CWSNC to focus on water and
17 wastewater operations.
18 With regard to Internal Audit and Tax Services, to carry out these
19 responsibilities, the Corix tax group assists the Corix business units in their
20 annual planning and budget cycle and ensures that business unit forecasts
21 are incorporated in corporate strategic planning – functions CWSNC could
22 not perform given the consolidated organizational structure of Corix. The
23 Corix tax group also creates and maintains the framework for strong internal

1 tax controls and procedures necessary for any responsibly run and
2 reputable corporation.
3 With regard to Corporate Legal Services, this group has general oversight
4 over litigation and strategic consultation and reports to the board on major
5 litigation. This assists in the determination of whether outside counsel is
6 needed to assist in local matters to ensure litigation is managed to the
7 benefit of the ratepayer and to streamline reporting of risk matters to reduce
8 exposure. The group also provides advice on Corix corporate matters
9 (including governance and compliance), provides corporate secretarial
10 services to Corix and certain of its subsidiaries, and coordinates
11 communications to, and the meetings of, the corporate boards of Corix and
12 certain of its affiliates.
13 With regard to Corporate IT Governance Services, with so much public
14 attention and gravity of potential risks and vulnerability of utility providers
15 (including customer information), our Corporate IT serves a critical function
16 to proactively work to ensure the security of our assets and information.
17 With regard to Corporate Communications Services, natural disasters such
18 as floods, hurricanes, earthquakes, and national and local concerns with
19 water quality issues are all present opportunities for these central staff
20 resources to assist local management in communication, both internally and
21 externally.
22 With regard to the Corporate Office of CEO, poor management at any level
23 of the organization could result in significant negative impacts to the local

community and the state. Expert corporate executive management is essential to ensuring CWSNC's economic stability.

COST ALLOCATION AND COMPETITIVESS OF COSTS

Q. HOW ARE THE COSTS OF THE CORPORATE SERVICES CHARGED TO WSC AND THE CORIX BUSINESS UNITS?

A. Costs for Corporate Services are combined into one common cost pool for allocation. This cost pool is then allocated to the Corix business units and subsidiaries using the method set forth in the Confidential Corix Cost Allocation Manual (the "Corix CAM"), attached to the W-1 Report, Item 4 in this filing. The Corix CAM was developed with the assistance of expert consultants based on commonly-used, routinely-accepted regulatory practices for shared cost allocation. The Corix CAM was developed to maintain allocation consistency across the Corix Group of Companies and avoid subsidization of one group or unit by another.

Under the Corix CAM, direct costs are identified up front and directly assigned to the business unit(s) receiving the exclusive benefit of the service. Corporate costs are subject to a Tier 1 allocation between the business units receiving services. The Tier 1 allocation for corporate costs is based on the composite allocator factoring 33.3% for each of the factors of gross revenue, headcount, and gross property, plant and equipment to best represent the size, scope and complexity of operating business units.

Q. DO THE COSTS INCLUDED IN THE REVENUE REQUIREMENT FOR CWSNC HAVE ANY MARK-UP OR PROFIT OF ANY KIND ON THE COST WSC OR CORIX INCURS TO PROVIDE THESE CORPORATE SERVICES?

A. No. The charges included in the CWSNC revenue requirement reflect the Corporate Services provided at Corix's cost with no mark-up or profit.

Q. HAS CORIX IMPLEMENTED MECHANISMS TO CONTROL COSTS ASSOCIATED WITH CORPORATE SERVICES?

A. Yes. Budgets are reviewed with the expectation that all costs incurred must be necessary, prudent and reasonable which leads to benefits to the customer. Management is held accountable for expenses incurred within their budget and a portion of employee compensation is linked to responsible cost management. Headcount mapping is conducted in the Corix budget process on an annual basis and requires a demonstration of need. The budgeting process begins in August and ends in December with budgets undergoing rigorous internal review by the budget owners and vice presidents with multiple levels of review at the business unit level and at corporate, along with presentations and question-and-answer sessions to test proposed costs including headcount for each business unit and department including in WSC shared and corporate services. Following thorough review by the business units and corporate teams, the budgets are then carefully reviewed and sometimes further modified as appropriate by the CFO, then the CEO, then the Executive Management Team before then going to the audit committee and the Corix board of directors. At each level, costs are heavily scrutinized to evaluate efficiency of operations at all levels.

Q. HAS CORIX INCURRED ANY COSTS FOR SERVICES THAT ARE NOT ALLOCATED TO WSC FOR ITS SUPPORT PROVIDED TO CWSNC?

1 **A**. Yes. By way of example, Corix incurs costs for business development,
2 continuous improvement and certain other expenses that have not been
3 included in the revenue requirement proposed in this case. Corix incurs
4 costs to provide certain services to its business units that have not been
5 included here in recognition of the impact to CWSNC ratepayers. Corix
6 continues to work with CWSNC on integrating certain functions and
7 identifying cost savings and further efficiencies.

8 **Q. HAVE YOU ANALYZED WHETHER THE COSTS WSC CHARGES**
9 **CWSNC FOR THE CORPORATE SERVICES ARE REASONABLE?**
10
11 **A**. Yes. First, it is important to note that in many instances, such as tax and
12 internal audit, for example, CWSNC could not carry out the shared service
13 functions for itself without a fundamental change in the organizational
14 structure and reporting and functional changes in the flow and work of
15 people.
16 In addition, we considered the cost of all of the WSC services per customer
17 compared to other utilities with similar structures and we also evaluated the
18 reasonableness of the costs by reviewing the salaries of the corporate
19 service providers compared to market salaries. Confidential Exhibit GB-2
20 provides the corporate service provider titles and salaries as well as market
21 range salaries for these positions. As noted, our Corporate HR identifies
22 and evaluates market salary ranges for non-executive positions relying on
23 a number of resources including two large national cross border survey
24 firms – Mercer and Willis Towers Watson. With respect to water-specific
25 jobs we also look to American Water Works Association ("AWWA"). Our

1 corporate HR group pulls the market information together from these
2 various sources and evaluates the role of the position, the level of the role,
3 and how they compare to our corporate positions. Under our contracts and
4 upon the condition that we maintain the information as confidential, we
5 access their proprietary survey data for market salary ranges as well as
6 merit increases and accounting for geography. The information included in
7 Confidential Exhibit GB-2 includes both the market range for the corporate
8 positions in Canada converted to US dollars as well as the market range for
9 those same corporate positions (where available to us) in the United States.
10 We generally take the midpoint of salary range (P50) to be competitive in
11 the labor markets and adjust for experience, expertise, demand for
12 particular skills and performance. This analysis demonstrates that the
13 salary costs are at or below market and, therefore, reasonable.

14 **Q. PLEASE DESCRIBE YOUR ANALYSIS OF THE REASONABLENESS**
15 **OF THE COST FOR CORPORATE SERVICES PROVIDED TO WSC TO**
16 **SUPPORT CWSNC.**
17
18 **A**. I will address each of the Corporate Services for which charges have been
19 included in the CWSNC revenue requirement in this case.
20 Internal Audit: The internal audit services are described above and are
21 provided by the Director of Audit Services and an internal auditor. As
22 demonstrated in Confidential Exhibit GB-2, the salaries for these individuals
23 are at or below the market average. Alternatively, if WSC were to purchase
24 the internal audit function from a third party at a market rate of $310-440
25 per hour (according to current standard pricing rates provided to us by an

1 outside consultant in May 2019), the cost would significantly exceed the
2 average hourly rate of the corporate service providers which is **[BEGIN**
3 **HIGHLY CONFIDENTIAL]** [redacted] **[END HIGHLY CONFIDENTIAL]**.
4 Therefore, the internal audit cost allocation is competitively and reasonably
5 priced, and CWSNC enjoys benefits received from economies of scale.
6 Findings of any internal audit within the organization are shared with all
7 business units, including CWSNC, which would provide recommendations
8 on improved processes and internal controls and identify areas of potential
9 risk that have not been addressed. The centralized expertise and learnings
10 from around the organization are a benefit to customers, as it would reduce
11 operational, compliance and financial risk. Mitigation or reduction of these
12 risks would lead to lower rates and increased reliability and safety to
13 customers.
14 Taxation: The corporate tax services are described above and are provided
15 by the Vice President of Tax and Special Projects and a Senior Tax
16 Manager. The salary rates for these individuals are at or below the market
17 average. See Confidential Exhibit GB-2. Alternatively, if WSC were to
18 outsource the Corporate Services portion related to taxation, the bill out rate
19 (as quoted to Corix by Ernst & Young) would be $675/hour for a Senior
20 Manager to review the work of the incumbent provider compared to the
21 average hourly internal rate of **[BEGIN HIGHLY CONFIDENTIAL]**
22 [redacted] **[END HIGHLY CONFIDENTIAL]**. These corporate tax
23 services are, therefore, competitively priced compared to a third-party

1 service. Another benefit of undertaking this function in-house is the
2 thorough understanding and expertise of the business, economies of scale
3 in negotiating rates with third parties due to aggregating multiple
4 engagements across the organization, and the response and management
5 of audits.
6 Treasury: The corporate treasury services as described in detail above are
7 necessary and in the public interest and would be very difficult to outsource
8 due to the requirement for it to be embedded in the business. These
9 services are provided by a Senior Manager of Treasury Operations and an
10 Assistant Treasurer whose salaries are at or below market. See
11 Confidential Exhibit GB-2.
12 Finance and Accounting: The corporate finance and accounting services
13 as described above in detail are necessary and in the public interest and
14 would be very difficult to impossible to outsource due to the requirement for
15 specialized and detailed knowledge of the business. These services are
16 provided by the CFO, a Financial Reporting Analyst, a Corporate
17 Development Analyst, a Business Intelligence Analyst, a Financial
18 Accounting Analyst, a Vice President of Financial Planning & Analysis, a
19 Corporate Controller, and Director of Corporate Development. The salary
20 rates for each of these positions is at or below the market average. See
21 Confidential Exhibit GB-2.
22 Information Technology: The corporate IT services are described above
23 and are provided by the Vice President of IT Infrastructure, a Senior IT

1 Security Analyst, and a Security Analyst. All of the salaries for these
2 positions are at or below market. See Confidential Exhibit GB-2. As
3 discussed above, CWSNC customers benefit from the corporate IT services
4 WSC is receiving from Corix as they provide security breach protection,
5 protocol and response support and expertise on network, security strategy
6 and data center management---all of which are necessary and in the public
7 interest. For example, corporate IT constantly monitors for changes in
8 legislation in data privacy, various security requirements for contracts, and
9 provides security awareness training. As part of its enterprise function, the
10 corporate IT group works with representatives of the business units served,
11 including CWSNC, to share best practices, trends in security management
12 and review organizational Key Performance Indicators ("KPIs"). These
13 functions support cybersecurity and data protection that benefit the
14 customer. In addition to the data provided in Confidential Exhibit GB-2,
15 according to the U.S. Bureau of Labor Statistics, U.S. Department of Labor,
16 Occupational I Outlook Handbook, information security analysts had a
17 median pay of $98,350 per year in 2018. See www.bls.gov/ooh/computer-
18 and-information-technology/information-security-analysts.htm (last visited
19 May 29, 2019). A more recent estimate based on 4,043 salaries submitted
20 to Indeed.com indicates the average salary for IT security specialists in the
21 United States as of May 26, 2019, is $117,643. See
22 https://www.indeed.com/salaries/IT-Seecurity-Specialist-Salaries (last
23 visited May 29, 2019). The corporate security specialist salaries are within

1 market range. The Mercer analysis Corix commissioned for executive
2 salaries indicated the Vice President of IT Infrastructure's salary was
3 **[BEGIN HIGHLY CONFIDENTIAL]** [redacted] **[END HIGHLY**
4 **CONFIDENTIAL]**.
5 In addition, given economies of scale, CWSNC could not purchase these
6 services at a less expensive cost or in a manner consistent with enterprise-
7 wide policies. Therefore, the cost of the IT corporate services is competitive
8 and reasonable.
9 Human Resources: As discussed above, a centralized corporate HR
10 function is necessary and provides significant benefits to the business units
11 serviced and the ultimate customers. The corporate HR services are
12 provided by a Chief Human Resource Officer, Director of Compensation
13 and Benefits, and a Total Rewards Analyst. The salary rates for each of
14 these positions is at or below market. See Confidential Exhibit GB-2. In
15 addition to the internal analysis for market salary ranges for non-executives,
16 further support that the cost is competitive to market is provided by the
17 Mercer study commissioned by Corix to provide compensation surveys for
18 corporate executives. The Mercer report indicates that the salary for the
19 Chief HR Officer at Corix is **[BEGIN HIGHLY CONFIDENTIAL]** [redacted]
20 [redacted]**[END HIGHLY CONFIDENTIAL]**.
21 The cost of the corporate HR services is competitive and reasonable based
22 on available market salary information, the Mercer compensation survey
23 indicating the Chief HRO salary is **[BEGIN HIGHLY CONFIDENTIAL]**[redacted]

1 [redacted] **[END HIGHLY CONFIDENTIAL]**. The attraction of qualified
2 employees and the retention of these employees is integral to providing
3 reliable and sustainable service to customers and, therefore, necessary and
4 in the public interest.
5 Health Safety & Environment ("HSE"): The corporate HSE services are
6 described above and are provided by the Director of HSE and an HSE
7 Specialist. The salary rates allocated to WSC for these individuals are
8 within the market average range. See Confidential Exhibit GB-2. The
9 remaining corporate HSE costs are comprised of third-party licensing.
10 CWSNC gets the benefit of a full HSE corporate team for only a fraction of
11 the cost given the allocation among the Corix Group of Companies. As
12 discussed in detail above, these services are both necessary and in the
13 public interest to ensure environmental compliance and safety in the
14 workplace, both of which we consider to be critical components of our
15 business operations.
16 The third-party services are, by definition, at market and are necessary to
17 carry out a prudent HSE program and, therefore, in the public interest.
18 CWSNC would be required to pay for these services at 100% compared to
19 receiving a fraction of the costs through a centralized provider. This cost
20 allocation is competitive and demonstrates a significant benefit to CWSNC
21 through economies of scale. Additionally, customers benefit from a
22 coordinated HSE effort as findings and outcomes of investigations in other
23 parts of the organization would be shared and leveraged at CWSNC. This

1 results in more sustainable, reliable, and cost-effective service to
2 customers.
3 Corporate Legal: The corporate legal services are described above and
4 are provided by the General Counsel (Canada) and a Paralegal. The salary
5 rates for these individuals (see Confidential Exhibit GB-2) are **[BEGIN**
6 **HIGHLY CONFIDENTIAL]** [redacted] **[END HIGHLY**
7 **CONFIDENTIAL]** according to executive compensation information
8 prepared by Mercer and the internal analysis on market salary ranges. The
9 salaries of the professionals providing the corporate services are
10 competitive to market, the services provided are necessary to the business
11 operations, and, therefore, the charges are reasonable. See Confidential
12 Exhibit GB-2.
13 Corporate Communications: The corporate communications services are
14 described above and are provided by the Director of Marketing and
15 Communications and the Communications and Public Relations Manager.
16 The salary rates for these individuals (see Confidential Exhibit GB-2) are
17 within the market average, the services provided are necessary to the
18 business operations, and, therefore, the charges are reasonable.
19 Executive Management: A market study was undertaken to ensure that
20 executive management fees were consistent with market rates. Corix
21 commissioned a compensation study to review executive compensation.
22 As part of that review, Mercer compiled information from Corix to identify
23 comparator companies. The results of the Mercer study reflect that Corix

Executive Management costs are **[BEGIN HIGHLY CONFIDENTIAL]** [redacted] **[END HIGHLY CONFIDENTIAL]**. The Corix CFO compensation was **[BEGIN HIGHLY CONFIDENTIAL]** [redacted] **[END HIGHLY CONFIDENTIAL]** and the Corix CEO compensation was **[BEGIN HIGHLY CONFIDENTIAL]** [redacted] **[END HIGHLY CONFIDENTIAL]**. It would also be very difficult if not impossible to outsource the Executive Management functions to a third party due to the company expertise required to formulate strategy and execute on those plans. The analysis supports that the allocated expense for the executive management function is competitive, this function could not be provided by a third-party at a lower cost, and, therefore, the charges are reasonable.

Q. BASED ON YOUR DETAILED ANALYSIS ABOVE, WHAT IS YOUR CONCLUSION REGARDING WHETHER THE CORIX CORPORATE CHARGES ARE REASONABLE?

A. Considering market data discussed above and CWSNC and Corix practices relative to employee benefits and compensation, enterprise policies to ensure prudent business practices, access to capital, and safe, compliant and efficient operations company wide, the charges for the Corporate Services are reasonable.

Q. ARE THE CHARGES INCLUDED IN THE REVENUE REQUIREMENT FOR THE CORIX CORPORATE SERVICES PROVIDED TO CWSNC COMPETITIVE?

A. Yes. As described in detail above, the charges for the Corix Corporate Services are competitive. The Corix corporate philosophy is to keep all costs for its entire corporate enterprise at a competitive level with its

competitors and peers. Corix continuously evaluates cost management and the affordability of its rates compared to its peers in the water and wastewater and utility market.

For example, as described above, all costs for Corporate Services are subject to strict budgeting and cost controls. Corix's hiring practices are designed to compete in the market place, offering competitive salary and compensation at approximately the median among its peer groups. In addition, as discussed above, some of the allocated costs are for services performed by third parties who are, by definition, competitive in their charges as they work in a competitive marketplace and are retained at arm's length. CWSNC, like the other Corix business units, gets a significant benefit from bearing only a portion of allocated costs from these third-party providers. Finally, with respect to the internal Corporate Services Corix provides WSC in order to support CWSNC, any such services provided by a third-party would include profit margins that are not assessed by Corix. Thus, the cost at which CWSNC receives the Corix Corporate Services are competitive with the cost at which CWSNC could receive such services from a third party, if they were even available from a third-party.

CONCLUSION

Q. ARE THE COSTS ALLOCATED TO CWSNC ASSOCIATED WITH CORPORATE SERVICE AND INCLUDED IN THE REVENUE REQUIREMENT REASONABLE?

A. Yes. The costs allocated to CWSNC for the Corix Corporate services are reasonable. The costs are for services necessary to CWSNC's operation,

reflect a reasonable cost allocation methodology based on widely used and accepted regulatory principles, are less than they would be if CWSNC provided the services itself, and are competitive with what the costs would be if the same services were available from and provided by an unaffiliated third-party. The Corix Corporate Service costs included in the revenue requirement are necessary, beneficial to customers, and are in the public interest.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

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

1 MR. BENNINK: Next, we would ask that the
2 Report on Customer Comments from Public Hearings held in
3 Charlotte and Manteo, filed on September 5th -- or
4 hearings held on September 5th and 10th, they were filed
5 on September 25th, be admitted into evidence.
6 COMMISSIONER BROWN-BLAND: All right. They
7 will be received and admitted into evidence.
8 (Whereupon, the Report on Customer
9 Comments from Public Hearings Held in
10 Charlotte and Manteo, North Carolina,
11 on September 8 and 10, 2019, were
12 admitted into evidence.)
13 MR. BENNINK: On August 2nd, 2019, the Company
14 filed Rate Case Update Schedules and Supported Data --
15 Supporting Data, as required by decretal paragraphs of
16 the Commission's Scheduling Order. That was the date of
17 the Order. These updated Rate Schedules were filed on
18 October 4th. We'd ask that they be admitted into
19 evidence.
20 COMMISSIONER BROWN-BLAND: Are they -- will
21 they be sponsored by witnesses remaining or --
22 MR. BENNINK: No. I don't think so.
23 COMMISSIONER BROWN-BLAND: All right. They
24 will be admitted and received into evidence at this time.

(Whereupon, Rate Case Update Schedules and Supporting Data were admitted into evidence.)

MR. BENNINK: Next, filed on August 23rd was an Amended Supplemental Exhibit Number 1 to the direct testimony of Dante DeStefano -- DeStefano. We would ask that they just be identified for purposes of the record at this point.

COMMISSIONER BROWN-BLAND: All right. They will be so identified.

(Whereupon, DeStefano Amended Supplemental Exhibit Number 1 was identified as premarked.)

MR. BENNINK: On October 24th the Company filed the Report on Customer Comments from the Public Hearings held in Boone and Asheville. We would ask that that be admitted into evidence.

COMMISSIONER BROWN-BLAND: All right. Without objection, the reports from Boone and Asheville will be received into evidence.

(Whereupon, the Report on Customer Comments from Public Hearings Held in Boone and Asheville, North Carolina, on October 8 and 9, 2019, were admitted

1 into evidence.)
2 MR. BENNINK: The same request for the Report
3 on Customer Comments from the Public Hearing held in
4 Raleigh, which was filed on October 30th.
5 COMMISSIONER BROWN-BLAND: All right. That
6 will be allowed and received into evidence.
7 (Whereupon, the Report on Customer
8 Comments from Public Hearing Held in
9 Raleigh, North Carolina, on October
10 14, 2019, was admitted into evidence.)
11 MR. BENNINK: On November 7th the Company filed
12 a Supplemental Response from the Charlotte Public Hearing
13 that dealt with the examination of the drinking glass
14 which was offered into evidence at that hearing. We ask
15 that that be admitted into evidence.
16 COMMISSIONER BROWN-BLAND: There being no
17 objection, that's admitted and received into evidence.
18 (Whereupon, the Supplemental Response
19 from Charlotte Public Hearing,
20 Examination of Drinking Glass, was
21 admitted into evidence.)
22 MR. BENNINK: We also ask that the Report on
23 Customer Comments from the Public Hearing held in
24 Jacksonville, which was filed on November 8th, be

1 admitted into evidence.

2 COMMISSIONER BROWN-BLAND: That will be

3 allowed. It's received into evidence.

4 (Whereupon, the Report on Customer

5 Comments from Public Hearing Held in

6 Jacksonville, North Carolina, October

7 22, 2019, was admitted into evidence.)

8 MR. BENNINK: We ask that the Notice of

9 Withdrawal from Rate Case Consideration of the Proposed

10 Consumption Adjustment Mechanism and Pilot Program which

11 was filed in the three dockets which have been

12 consolidated in this hearing, which was filed on November

13 18th, be admitted into evidence.

14 COMMISSIONER BROWN-BLAND: Is that just a

15 procedural matter or do you need that in the evidence,

16 Mr. Bennink?

17 MR. BENNINK: It's a procedural matter. If we

18 can -- that's fine, if we can --

19 COMMISSIONER BROWN-BLAND: All right. The

20 Commission takes notice of that filing.

21 MR. BENNINK: We ask that the Joint Partial

22 Settlement Agreement and Stipulation, including the

23 exhibits and supporting schedules filed separately by

24 CWSNC and the Public Staff on November 27th, be admitted

1 into evidence.

2 COMMISSIONER BROWN-BLAND: That motion will be

3 allowed.

4 (Whereupon, the Joint Partial Settlement

5 Agreement and Stipulation and Stipulation

6 Exhibits I and II were admitted into

7 evidence.)

8 MR. BENNINK: From the Sub 363 docket we ask

9 that the Company's Petition for an Accounting Order that

10 was filed on January 17th, 2019, be admitted into

11 evidence.

12 COMMISSIONER BROWN-BLAND: So allowed.

13 (Whereupon, the Petition for an Accounting

14 Order to Defer Incremental Hurricane

15 Florence Storm Damage Expenses, Capital

16 Investments, and Revenue Loss, W-354, Sub

17 363, was admitted into evidence.)

18 MR. BENNINK: The same motion for the Reply

19 Comments filed by the Company on May 6th.

20 COMMISSIONER BROWN-BLAND: Those will be

21 received into evidence as well.

22 (Whereupon, the Reply Comments of

23 Carolina Water Service, Inc. of North

24 Carolina, W-354, Sub 363, were admitted

1 into evidence.)
2 MR. BENNINK: From the Sub 365 docket we
3 request that the Petition for an Accounting Order that
4 was filed on June 28th of this year be admitted into
5 evidence.
6 COMMISSIONER BROWN-BLAND: That will be
7 allowed.
8 (Whereupon, the Petition for an Accounting
9 Order to Defer Post In-Service
10 Depreciation and Financing Costs Relating
11 to Major New Projects, W-354, Sub 365,
12 was admitted into evidence.)
13 MR. BENNINK: And we make the same motion for
14 the Reply Comments filed in that same docket on October
15 21st.
16 COMMISSIONER BROWN-BLAND: And that will be
17 allowed as well.
18 (Whereupon, the Reply Comments Regarding
19 Petition for an Accounting Order to Defer
20 Post In-Service Depreciation and Financing
21 Costs Relating to Major New Projects was
22 admitted into evidence.)
23 MR. BENNINK: That's it for the Company. Thank
24 you.

1 COMMISSIONER BROWN-BLAND: That's quite a bit
2 of work, Mr. Bennink. Mr. Bennink, I was looking because
3 with regard to Catherine Heigel's testimony, later
4 adopted by Donald Denton, we have that as 17 pages of
5 testimony, and just to be clear for the record, and I
6 believe you indicated 12.
7 MR. BENNINK: You're correct. It is 17.
8 COMMISSIONER BROWN-BLAND: All right.
9 MR. BENNINK: Thank you.
10 COMMISSIONER BROWN-BLAND: All right. Ms.
11 Sanford, I believe you requested to give a brief opening,
12 if you'd like to do so at this time.
13 MS. SANFORD: Good afternoon, and thank you
14 again to all the -- the Commissioners, Chair Mitchell.
15 We much appreciate your time, and we're also here to very
16 quickly acknowledge the hard work of and to thank the
17 Public Staff for their part of the work that the parties
18 have done in this case.
19 To bring us here today, much work has been done
20 in the investigation, response, and negotiation of the
21 matters that were initially in interest in this case. We
22 have resolved all of the issues except two. We're before
23 you today and we have submitted a Partial Joint
24 Settlement. So we're before you today to talk about

1 these two issues, the first of which is ROE, which will
2 be represented from the -- addressed from the Company's
3 side by Dylan D'Ascendis, and the second issue has to do
4 with the eligibility for deferred accounting treatment of
5 the cost of certain AMR meters installed in two mountain
6 systems.
7 We -- the Public Staff will address that, I
8 believe, through a panel that will include Mr. Henley
9 (sic) -- I mean Mr. Henry -- conjoining the names here --
10 Mr. Henry, and the Company will do that through a panel
11 that consists of Dante DeStefano as well as Bryce
12 Mendenhall.
13 Additionally, in response to the inquiry that
14 we received today from the Commission about a customer
15 matter, we will present Bryce Mendenhall after the ROE
16 case is closed to address that from the Company's
17 perspective. Thank you very much.
18 COMMISSIONER BROWN-BLAND: All right. No other
19 preliminary matters?
20 (No response.)
21 COMMISSIONER BROWN-BLAND: Then I think by
22 agreement we start with a Public Staff witness.
23 MR. GRANTMYRE: The Public Staff calls Bob
24 Hinton.

1 COMMISSIONER BROWN-BLAND: Mr. Hinton, get
2 comfortable with our new -- after all your years here, we
3 now have a new witness stand for you.
4 JOHN R. HINTON; Having first been duly sworn,
5 Testified as follows:
6 DIRECT EXAMINATION BY MR. GRANTMYRE:
7 Q Could you please state your name and by whom
8 you're employed.
9 A My name is John Robert -- my name is John
10 Robert Hinton. I'm employed as Economic Research
11 Director of the Public Staff.
12 Q And did you cause to be prefiled in this case
13 on November 4, 2019, direct testimony consisting of 51
14 pages with Appendixes A and B and Exhibits 1 through 10?
15 A Yes.
16 Q If I were to ask you those same questions again
17 today, would your answers be the same?
18 A There are several changes.
19 Q Okay.
20 A On page 5 on line 11 --
21 COMMISSIONER GRAY: Mr. Hinton, I'm going to
22 ask you to move that microphone a little closer to you.
23 THE WITNESS: Even closer.
24 COMMISSIONER GRAY: Please, sir.

1 THE WITNESS: Yes, sir.

2 COMMISSIONER GRAY: Thank you.

3 A These changes are largely -- now we're going

4 from 7.2 to 7. -- 7.15 to 7.2 and for 9 percent going to

5 9.1 percent. Again --

6 Q Okay, but that is addressed in your --

7 A Yeah. That --

8 Q -- supplemental testimony?

9 A Correct, but I -- do I need to make changes

10 from the stand on the --

11 Q Did you make that change in your supplemental?

12 I believe you did.

13 A Yes.

14 Q Okay. I would prefer you just leave -- if it's

15 in your supplemental testimony, we don't have to go ahead

16 and amend your direct testimony.

17 A Except -- okay. In that case I have no other

18 changes.

19 Q Did you cause to be prefiled on November 26,

20 2019, supplemental testimony consisting of four pages and

21 one exhibit?

22 A Yes.

23 Q And if I were to ask you those same questions

24 again, would your answers be the same?

A Yes, they would.

Q Okay. Do you have a summary of your testimony?

A Yes, I do.

Q Please proceed with your summary.

A The purpose of my testimony in this proceeding is to present to the Commission my findings as to the reasonable cost of capital to be used as a basis for adjusting Carolina Water Service of North Carolina's rates. As a result of my study, I conclude that the overall cost of capital to CWSNC is 7.2 percent.

My review of current financial conditions show significant declines in Moody's Public Utility long-term bond yields over the last four rate cases since March 10th, 2014, in Docket Number W-354, Sub 336, when Moody's A-rated utility bond yields average 4.51 percent. Relative to the 2018 rate case in Docket W-354, Sub 360, my Exhibit 1 and page 2 of my Exhibit 5 show decreases of approximately 100 basis points from the time of filing of the Partial Settlement and when the Commission approved CWSNC's last rate increase. I maintain that decreases in long-term yields parallels decreases in investor-required rates return on common equity.

My recommended capital structure ratio consists of 49.1 percent common equity and 50.90 percent long-term

1 debt with an embedded cost of debt of 5.36 percent. In
2 analyzing the investor return requirement for common
3 equity, I employed the discounted cash flow method on a
4 group of comparable water and natural gas distribution
5 utilities. Secondly, I employed the risk premium method
6 that quantifies the historical relationship of the Public
7 Utility Commission's allowed returns on equity for water
8 companies and Moody's A-Rated Public Utility Bond Yields
9 to establish a current cost of equity. My summary
10 exhibit shows the cost of equity estimates based on my
11 DCF analysis of one -- 8.48 percent and 8.80 percent, and
12 my 9.57 with my risk premium analysis. Based on the
13 results of these two analyses, I conclude that 9.1 is the
14 single best estimate of CWSNC's cost of common equity.
15 I also employed the Comparable Earning Analysis
16 and CAPM, or Capital Asset Pricing Model, as a check
17 method and I calculated the pretax interest coverage
18 ratio of 3.1 times, which I believe is supportive of an
19 A-rated -- A rating. This concludes my summary.
20 MR. GRANTMYRE: The witness is available for
21 cross examination.
22 CROSS EXAMINATION BY MR. BENNINK:
23 Q Mr. Hinton, in your direct testimony you
24 addressed a recommendation which involved an adjustment

1 of 10 basis points to your recommended rate of return
2 based upon the Company's application for a consumption
3 adjustment mechanism; is that correct?
4 A Yes, I did.
5 Q Now, we understand that the record reflects and
6 your supplement testimony reflects that the fact that the
7 Company did withdraw that request, so you're not making
8 that specific adjustment at this point or recommending
9 that specific adjustment, are you?
10 A No, I'm not.
11 Q All right. I do have some questions for you,
12 though, about your testimony generally concerning --
13 COMMISSIONER BROWN-BLAND: Mr. Bennink, before
14 you go further, Mr. Hinton, could you swap one of the
15 mics and then make sure that you're close to the mic?
16 THE WITNESS: Okay.
17 COMMISSIONER BROWN-BLAND: I think swap,
18 because we seem to have done this before and it worked a
19 little better. All right. We'll give that a try. Go
20 ahead, Mr. Bennink.
21 Q As we begin the questions, can you give us a
22 simple definition of what a decoupling mechanism is?
23 A My experience largely is with the gas industry,
24 and in that case their revenues they receive from

1 customers were decoupled from their actual consumption in
2 the sense of that they received a revenue adjustment that
3 wasn't directly tied to the amount of gas therms they
4 consumed, so there's a decoupling or separation between
5 actual consumption of utility service and the revenues or
6 rates they are charged.
7 Q And so the CAM that the Carolina Water Service
8 initially proposed would be -- would fall within that
9 definition; is that correct?
10 A In that narrow sense of the word, yes, because
11 their consumption of gallons of water and our sewer
12 services, water in this case, would not directly be --
13 that would not be the only linkage when the rates are
14 charged. There would be an adjustment that would be
15 ongoing in -- with that mechanism.
16 Q And within the electric utility industry and
17 the natural gas utility industry there are a number of
18 adjustment mechanisms in place, aren't they -- aren't
19 there?
20 A Yes, there are.
21 Q And would they all generally fall within the
22 definition of what -- of a decoupling mechanism?
23 A In that narrow sense of my definition, yes.
24 Q All right.

1 A In the sense of where there's adjustment
2 mechanisms involved which impact revenues or rates
3 charged to customers.
4 Q And so you said in your testimony that you
5 believe implementation of even one decoupling mechanism,
6 in this case for Carolina Water Service, would reduce the
7 Company's risk?
8 A Yes. It's my opinion that -- that the use of a
9 revenue enhancement decoupling mechanism, which would
10 stabilize earnings, would lead to an ultimate decrease in
11 the required return on equity for a water utility. And
12 as I note in my testimony, one of the problems with
13 making adjustments with the customer utilization tracker,
14 or the MRT now called, is that those devices were
15 commonly used in the gas industry when Piedmont came to
16 the Commission with that proposal.
17 This -- as witness -- your witness testifies,
18 there's very little of these mechanisms around -- in
19 fact, I know of only two and largely in California, where
20 the state has those mechanisms in place.
21 Q You mentioned the MRT. Tell the Commission,
22 that is a natural gas mechanism, is that correct --
23 A Correct. And --
24 Q -- for Piedmont?

A Yes. And, again, it trues up the margins that they were approved to receive in the rate case with -- over time, so the Company gets its margins, its gas margins --

Q All right.

A -- which is -- but stabilized revenues for a water company is comparable to a margin stabilizing mechanism that we have with the gas industry. The bottom line is it all works to stabilize earnings that investors see as having a protection. There's a natural protection in the monopoly industry, which we're all familiar with, but then when you add these revenues protections which protects the Company's revenues, which is the source of its earnings, then you inherently decrease the amount of risk on the business side of the equation, business risk, that is. You inherently decrease that, and that is a notable change that I think investors will be cognizant of.

Q And you say you're more familiar with the natural gas industry in terms of their surcharge mechanisms?

A Yes. When Piedmont came to the Commission many years ago with a customer utilization tracker, I did an extensive amount of analyses where I looked at what we

1 believed to be the test year impacts of a CUT and saw how
2 it impacted earnings and revenues -- well, revenues
3 particularly -- and it was a significant impact to what
4 the Company would experience. And I believe that's the
5 reason why -- one of the reasons why the gas companies
6 haven't been filing cases on a frequent basis as they
7 have in the past, which was an intended result of that, I
8 believe.
9 Q And so if we can agree that from your
10 standpoint, a decoupling mechanism reduces risk, would it
11 also be true that you would believe that because of that
12 lower risk, the authorized rate of return should be
13 lower?
14 A Correct. If -- the risk return tradeoff is
15 allowed in all investing, so if we decrease the business
16 risk or we anticipate decreasing the business risk for a
17 water utility, then the investor would naturally see less
18 of a risk profile associated with their dollars, invest
19 in that company, and they'll say we rationally require a
20 lower rate of return.
21 Q Can you give the Commission, just briefly, an
22 idea of the type of additional decoupling mechanisms that
23 are in effect for the natural gas industry?
24 A Again, the only ones I'm -- on a decoupling

1 level that I'm familiar with are the MRT that Piedmont --
2 and I forgot the proper name for it -- for Public's
3 similar mechanism, but those are the two that come to
4 mind that would call -- fall into -- and they didn't
5 decouple everything. I mean, the industrial revenues --
6 the industrial rates are still set on the normal
7 ratemaking process that we all are familiar with.
8 Q But didn't we previously agree that all
9 adjustment mechanisms generally fall into the narrow
10 definition of a -- of decoupling?
11 A From, again, my perspective, which is mainly
12 how these adjustment mechanism impact earnings narrowly.
13 Q What other natural gas adjustment mechanisms
14 are there?
15 A There's a lot of purchased gas adjustments.
16 They don't go to earnings. They go to just -- gas is
17 largely a pass-through, like electricity generates -- the
18 fuel used to generate electricity is a pass-through. But
19 when you change the margins and you send it back to the
20 rate case level, you have a lot of protections. You have
21 protections from weather, you have protections from
22 decrease in the consumption, which is one of the
23 arguments that the water industry has been making for
24 several years now, is that customers are using less

1 water. And so by giving you this mechanism, you'll give
2 them the investor again. We're -- all we're talking
3 about, the investor required rate of return, you will see
4 a lower level of risk that he expects over the near term
5 and as long as this mechanism is in place.
6 Q Do the natural gas companies have a gas cost
7 adjustment mechanism?
8 A Yes. They have PGA, purchased adjustment --
9 gas adjustment rider.
10 Q And that basically ensures that they collect
11 100 percent of their gas cost, correct?
12 A Correct. It's largely a pass-through, as I
13 understand how the mechanism works.
14 Q And the same thing is true for the electric
15 utility industry?
16 A Largely so, yes. I mean, these adjustment
17 mechanisms came out in inflationary days of the '70s, and
18 these high inflation of fuel cost would drive companies
19 in for a rate case on a too frequent basis, so this was
20 an inherent mechanism to stem that issue and to keep the
21 gas -- the electric utilities whole from the cost of
22 fuel, especially during, again, the '70s, the oil crisis
23 days of the '70s.
24 Q Are there any other mechanisms that you can

1 think of for the natural gas industry?
2 A There are. The IMR.
3 Q Let's discuss it. Tell the Commission what the
4 IMR is.
5 A It's a proper name I'm a little shallow on.
6 Q Integrity Management --
7 A Rider.
8 Q -- Rider.
9 A Thank you. But what it allows the Company to
10 do is to invest capital into replacement of plant and
11 earn a return on that plant. And that is -- it's my
12 understanding that's -- and from my point of view, that's
13 a very significant enhancement to their risk profile in
14 that it lowers risk profile, it reduces regulatory lag,
15 which is a commonly argued issue to investors, and thus
16 the Company is made more or less on a -- made whole as if
17 they had a rate case in between rate cases for that
18 particular narrow item.
19 Q Basically, all -- basically, it's a true-up so
20 that the Company is 100 percent protected absence --
21 absent any imprudence from recovering its full cost of
22 service; is that a fair statement?
23 A That is a fair statement. And these
24 enhancements to the natural gas industry that you speak

1 of, and they're common within the industry, that in my
2 opinion has lowered the risk -- the investment-related
3 risk of natural gas utilities.
4 When I first came to work here many years ago,
5 35 years ago, you know, electric utilities building
6 nuclear plants were considered the highest risk utility
7 service available or companies of that realm. And then
8 you had nuclear -- electric utilities who were not
9 building nuclear power plants, and then you had gas
10 utilities and you had intrastate gas utilities,
11 diversified companies. Going down the risk profile you
12 had local distribution utilities like Piedmont is. Below
13 that was the water utility. And that was the spectrum of
14 risk to the -- to, I think, the majority of investors who
15 want to invest in utility stocks saw. That was their
16 view of the utility world.
17 Now we see all these risk enhancements that are
18 mechanisms applied in the gas industry have done what?
19 They've lowered the gas, the cost, the investment-related
20 return requirement to invest in natural gas utilities.
21 One of the reasons why I believe that a natural gas
22 utility is more comparable to a water utility than it
23 ever has been in the past, and part of the reason is
24 exactly what you're getting at, all these risk -- these

1 adjustment mechanisms which inherently decrease the risk
2 to the investors who choose to invest in gas utilities.
3 Q And would it be a fair statement to say that
4 they almost totally wipe out any regulatory lag for those
5 companies --
6 A Yeah. I --
7 Q -- in large part?
8 A I won't --
9 Q Significantly?
10 A I can't even go that far, because I -- I'd have
11 to study their capital expenditures in between rate
12 cases --
13 Q I agree. I'll --
14 A -- because we're talking about just piping it
15 out.
16 Q Just absent capital investment.
17 A It's capital investment related to mains, I
18 believe, but there's a lot of other capital investment
19 rate base for a natural gas utility as opposed to main
20 replacement, so I can't accept that.
21 Q But you would concede that their risk of
22 regulatory lag is significantly mitigated by all of these
23 surcharge mechanisms?
24 A I'll say it's decreased, yes. And --

1 Q Well, you would say only decreased --
2 A I would say it's decreased and maybe
3 significantly, but it's going to take some more -- some
4 more investigation to look at the capital expenditures
5 dedicated to main replacements prior to the mechanism,
6 but it definitely reduces risk. I'll accept that.
7 Q And the IR -- was it I --
8 MS. SANFORD: IMR.
9 A IMR.
10 Q -- IMR mechanism, I mean, would you say -- what
11 would you say the impact of that has been? Has that been
12 -- brought significant cost to ratepayers?
13 A There's a point in my testimony where I say
14 that the -- I was involved in those cases with the CUT,
15 and it has probably brought down the risk to utiliti---
16 to ratepayers. It's extremely hard to quantify that,
17 because that's when you look at the whole risk profile of
18 the companies and the market and, you know, the company
19 that we're looking at in North Carolina versus the rest
20 of the utility industry. And if they're all moving in
21 tandem, then it's probably brought it down from what it
22 otherwise would be the case, so I will agree with that,
23 that those -- but in North Carolina, as my testimony
24 noted, I was involved in the rate cases that implemented

1 the customer utilization tracker, the CUT, and there was
2 no explicit recognition for the decrease in risk in that
3 case. That was a stipulated rate case. And it was --
4 you know, there was no -- that's why my testimony says
5 there was no explicit benefit -- customer benefit to that
6 program, to that -- and effectively led to reduction in
7 the required cost of capital for Piedmont.
8 Q And while we're on that subject, can you point
9 to any Commission Order which has ever said that because
10 of a decoupling mechanism or a surcharge mechanism, that
11 the Company -- that the Commission has reduced their
12 required return on equity?
13 A I can only point to the one in my testimony
14 regarding California Orders.
15 Q I'm talking about the North Carolina
16 Commission.
17 A The North Carolina, no, because, again, during
18 those times we stipulated almost all those cases. I
19 don't believe the voice of the Commission was -- it was
20 heard, obviously, in approving the Stipulation, but it's
21 a muted voice, if you know what I mean. There's not a
22 whole lot to discuss because there's not a whole lot --
23 or decisions to analyze. It's just the acceptance and a
24 reasonable standard I imagine the Commission adopts.

1 Q Well, let's talk about settlements. The
2 Piedmont rate case, I think, was decided on October 31st
3 of this year; is that correct? Somewhere in there?
4 A The most recent one, yes, correct.
5 Q And in that case was it a 100 percent settled
6 case between the Public Staff and the Company?
7 A I'm drawing a little bit of a blank, sir.
8 Q Well, let's say on rate of return, capital
9 structure --
10 A Yes.
11 Q -- it was settled. And what was the
12 recommended return on equity for Piedmont?
13 A The -- on the settlement I think it was 9.7
14 percent.
15 Q It was 9.7 percent and --
16 A I believe that's correct.
17 Q -- and that's the Commission authorized for
18 Piedmont on October 31st of this year; is that correct?
19 A I believe that's correct, yes, it is.
20 Q And do you remember what the capital structure
21 was in that case for Piedmont, the equity -- the equity
22 portion?
23 A I believe it was 52 percent, but I can only say
24 that subject to check.

1 Q And was that an actual capital structure? Do
2 you remember?
3 A No, it was not.
4 Q Was that a pro forma capital structure?
5 A Hypothetical.
6 Q Hypothetical. Was their equity portion of
7 their capital structure, their actual equity portion,
8 less than 52 percent?
9 A It depends how you cut up the numbers, if you
10 don't mind accepting --
11 Q Go ahead.
12 A -- that as an answer.
13 Q And what does that mean?
14 A That means it depends on if you include current
15 maturities or not. And if you -- whether you take a 13-
16 month average or you pick a particular month in time.
17 That's what I'm getting at.
18 Q Would it --
19 A But it was -- it was in that ballpark.
20 Q Did --
21 A Assuming that you did not include current
22 maturities and you looked at the last couple capital
23 structures which reflected an equity infusion from Duke
24 Energy Corporation which impacted the balance sheet

1 significantly.
2 Q So are you saying that their capital structure
3 on that basis was higher than 52 percent?
4 A I believe in those certain months it probably
5 was higher. I'll have to go back to my worksheets and
6 testify to that, but subject to check, there were several
7 months when it was higher, yes.
8 Q But at any rate you -- they did get a 52
9 percent in --
10 A Right, because in that test -- what I prefiled
11 in that case was the use of a 13-month average, so you
12 ask me to remember those 13 months, and I'm afraid I
13 can't do it.
14 Q All right. Do you remember if it was higher or
15 lower than 52?
16 A The average was lower, yes. I -- my prefiled
17 testimony was somewhat lower than that.
18 Q On the equity portion of the capital structure?
19 A Correct.
20 Q So they got a higher portion than your 13-month
21 average, got a higher percentage?
22 A It was a settled decision and, yes, the
23 settlement reflected a higher ratio of common equity in
24 the balance sheet.

1 Q And going back to both the natural gas industry
2 and electric industry, is the cost of -- is the cost of
3 gas for the natural gas and the cost of fuel for the
4 electrics, is that a very high proportion of their
5 operating expenses?
6 A Yes. Yes, it is.
7 Q And, again, they get a 100 percent true-up on
8 that, don't they?
9 A Yes. Those companies do. And -- yes.
10 Q One other question. In terms of these
11 adjustment mechanisms which are in place, it's my
12 understanding, and from looking at some of the Commission
13 rules, that many, if not all, of those adjustment
14 mechanisms include deferral accounting as part of the
15 mechanism?
16 A Yes -- yeah. That is correct. There is
17 undoubtedly a deferral part because they would have to
18 have a true-up on a constant basis without that ability.
19 Q Right. So the deferral is an integral part of
20 a 100 percent true-up, basically, assuming prudence in
21 all their actions?
22 A I'll accept that.
23 Q All right. So before we got into that line of
24 questioning, I was asking you if you believe that

1 decoupling mechanisms like the CAM reduce risk, and I
2 think that's pretty obvious from your testimony that it
3 does. Then the opposite -- I'll ask you about the
4 opposite. Then does it follow that you would think that
5 the absence of a decoupling mechanism such as a CAM would
6 increase risk?
7 A No. I can't say that.
8 Q And why is that?
9 A The reason is being the risk, and when you're
10 getting at the investor required rate of return on common
11 equity or what you say, the risk, I mean, that's what
12 you're getting to. No, because the market right now, how
13 investors look at water utilities, they don't look at it
14 as if everyone has a CAM. If everyone had a CAM, then
15 that -- the impact of the CAM that lowers the operating
16 risk and business risk of a company we reflect in the
17 stock prices, water utilities, and would naturally
18 reflect in our recommendations. But right now, as I
19 earlier mentioned, there's very -- there's only a couple
20 companies in California that have CAM mechanisms, so
21 they're relatively new to the industry, so they're not
22 factored in the -- the market prices of the water utility
23 stocks outside of those two companies, and those
24 companies have lots of subsidiaries, so it's a small

1 fraction of water utility operations that actually have
2 CAM mechanisms.
3 So in that, right now you can't say having a
4 CAM will -- the absence of a CAM would increase the risk.
5 It's just what is. So in other words, the reason -- the
6 core reason why I entertain the idea of having a 10 basis
7 point reduction was because this was a new mechanism that
8 wasn't very popular, not commonly seen in the industry,
9 so I can reasonably expect the impact of the CAM is not
10 reflected in the stock prices of my water utility group,
11 thus, an adjustment was necessary because it wasn't in
12 the pricing structure the investors were seeing. That's
13 the reason for my adjustment. So I can't agree with the
14 converse.
15 Q So are you saying that an investor that would
16 look at the stock -- I know Carolina Water Service is not
17 publicly traded, but in making an investment in
18 Utilities, Inc. would take into account whether or not
19 there are adjustment mechanisms like the CAM?
20 A They take into account the steadiness of its
21 earnings, and if they knew that this Company had a large
22 amount of revenue decreases, it would compare those
23 revenue decreases of Carolina Water with the rest of the
24 utility industry, because no investor makes an investment

1 in Carolina Water Utilities without knowing what the
2 alternative investment would be. So we're imagining an
3 investor who's decided to invest in water utilities, so
4 he can invest in American Waterworks and all these other
5 companies, Aqua, and he compares the revenue stream and
6 the earnings protection of Carolina Water versus those
7 other companies, and that's where the difference lies.
8 Investor must look -- looks at those and makes a
9 comparison. And he'll -- he may see -- he may think
10 about reductions, but if he has no alternative, then he's
11 not giving that any issue. That's not a concern. His
12 concern is the risk in return of that stock versus the
13 other stocks. And, again, going back to none of the
14 other stocks have a CAM, then it's just -- it's like a
15 tree falling in the woods, so to speak. The investor is
16 unaware of what a CAM could do because he hasn't seen it
17 yet. He doesn't know about it yet on a large part.
18 Q Do you think that Carolina Water Service bears
19 more risk than electric and natural gas utilities because
20 of the absence of decoupling mechanisms?
21 A I cannot testify to that. My -- I cannot say
22 that. I would largely think that the utilities of
23 Carolina Water are less risky than electric and gas.
24 And, again, going back to my earlier discussion about the

1 spectrum of risk back when I first came to work here 30
2 years ago, 35 years ago, it started with the electric
3 utilities having nuclear power plants, then gas, then
4 long -- boiled -- (sic) water. I think that structure
5 still exists today. It's not as great as it once was. I
6 will give you that. Back in the day, the nuclear
7 industry was highly risky and the investors were very
8 leery of investing in a utility that was building a
9 nuclear power plant.
10 But the idea that water is more risky or as
11 risky as gas and -- or higher than electric and a lot of
12 gas companies I think is not true. I think they're more
13 comparable to some -- the local gas distribution
14 utilities, but I would not say they're comparable to
15 diversified gas industry. Those are definitely more
16 risk. There's more competition -- a diversified gas
17 company has pipeline operations and they have to -- they
18 have to compete for pipeline service, just like Transco
19 competes, and for shipping services, so that business is
20 much more risky and much of an area of competition.
21 The electrical industry has competition. I
22 mean, solar, avoided costs have come down, and solar --
23 the competition from solar and energy efficiency is an
24 issue that you've got, the less utilities have to deal

1 with. What competition does the water industry have?
2 Well, there's bottled water. Yes, there is. But for a
3 large part there's no substance for water utility
4 service, and that's the core reason why that spectrum
5 existed 35 years ago, and that's the core reason it
6 exists today, because there's no easy substitute for
7 having water utility service. It's a necessity. There
8 -- and within that I'll go one more step further.
9 There's discretionary use and there's required use. And,
10 yes, people will cut their usage down if it's
11 discretionary, such as irrigating their yard or washing
12 their cars on a more frequent basis, but in large part
13 the revenues generated from a water utility are largely
14 very stable relative to the electric and gas industry
15 that you speak of and, thus, they are lower investment
16 related risk.
17 Q You know, I guess I'm in some ways approaching
18 this from actually realizing the allowed returns that the
19 Commission authorizes and who, in your opinion, has a
20 better chance of realizing the return on equity that the
21 Commission authorizes, the electric industry, the natural
22 gas industry versus the water industry?
23 A It's hard for me to answer that question
24 because I haven't kept up with the earnings of all the

1 water companies, but in looking at your company in the
2 past, I've -- I will say that you have not kept your
3 earnings rate of return the last couple of years as much
4 as natural gas companies and electric utilities have, but
5 they all have suffered. I mean, that's why we have rate
6 cases, Bob. I mean --
7 Q That's all right. That's all right.
8 A That's why we have rate cases. And the reason
9 we have frequent rate cases is because they invest
10 capital and they need to get their -- keep their earnings
11 up. They, of course, can keep their earnings up through
12 growth. That's a source of earnings protection for all
13 the companies. But I would say in large part your
14 company, Carolina Water Service, because I --
15 occasionally I'll look at the earned returns, the
16 accounting reports, and the last couple years your earned
17 returns have been less than your allowed returns.
18 Q Would you accept, subject to check, that in the
19 12-month test year for this case which ended March 31st
20 of this year, the Company's per books return on equity
21 was 1.63 percent?
22 A I'll accept that, subject to check, but I want
23 to go back to this -- the reason why we're sitting here
24 at this desk and you're cross examining, it's to

1 recommend a required rate of return that you have the
2 opportunity to earn. The fact that you haven't earned
3 your required return is a reflection of several avenues,
4 not just the ROE granted in this rate case. Obviously,
5 it goes to management. It goes to growth of your system.
6 Those two factors themselves could easily impact your
7 required -- your actual earned return. So, you know,
8 that --
9 Q Would you say -- would it be a fair statement
10 that regulatory lag would be a bigger concern for the
11 water and sewer industry and Carolina Water Service than
12 it is for the electric and natural gas companies?
13 A I cannot say that. I would say that I think
14 all utilities have a concern with regulatory lag.
15 Q All right. You're familiar with the
16 Commission's surveillance report, aren't you? I mean,
17 the --
18 A Yes.
19 Q -- Public Staff is very aware of that. You
20 look at that. I mean, isn't it a fact that the electric
21 and natural gas companies frequently earn more than their
22 allowed returns?
23 A There have been times. I cannot say
24 frequently.

1 Q Have you looked at the most recent reports?
2 A I would say over time they tend to earn less.
3 Q Have you looked at the most recent reports?
4 A I did --
5 Q For the electric industry in particular?
6 A -- but I -- but to be honest -- well, it's --
7 they don't report on water, so it's electric and gas.
8 And so I haven't -- I can't recall the last -- I know I
9 looked at it recently, but I cannot recall the numbers I
10 saw, but --
11 Q Well, I would encourage you to look at them.
12 A I'm sure they're -- I see Duke Energy's numbers
13 and Duke Energy Progress and Carolinas, and their earned
14 returns are close to their allowed returns. I'll accept
15 that.
16 Q Close or in excess?
17 A I'm not going to go any further than that,
18 close.
19 Q All right. Would you take a look at Mr.
20 D'Ascendis' Rebuttal Exhibit Number 1, Schedule DWD-12R?
21 Let me know when you have it.
22 MR. GRANTMYRE: Could you repeat what schedule
23 it is?
24 MR. BENNINK: DWD-12R.

A Okay. I have it in front of me.

Q And are these members of your water quality -- water utility proxy group? Are they shown there?

A Yes.

Q And how many of those seven proxy companies have a decoupling mechanism in at least one of their jurisdictions?

A They all seem to have at least -- some -- well, let's see. No. Middlesex Water does not seem to have a decoupling mechanism within its group of companies, but these could be smaller systems, larger systems, but I can't say, but I will agree that all but Middlesex has a decoupling mechanism.

Q So is that five of them? How many are in your group?

A Yeah. I think six. So yeah.

Q I was thinking that five of the seven had --

A Okay.

Q -- CAM type mechanisms.

A Okay. I accept that, subject to check.

Q And how many of your gas proxy groups have CAM type mechanisms?

A I'm sure all of them do.

Q But Carolina Water Service does not, right, at

1 yet -- at least at this point?
2 A Again, I'll say, yes, you're right, but the CAM
3 is not the soul determinant of investment-related risk.
4 Like I said, one of the key determinants is can the
5 customer go to an alternative service. He can with
6 electricity to an extent. He can with natural gas. He
7 can use propane or whatever services. Water is required
8 for customers, and if you're on a utility system, then
9 your only alternative is bottled water.
10 Q Well, that's not the only risk that the water
11 and sewer utility industry faces, is it?
12 A No, of course not, but it's a key
13 differentiating factor when you look at how the investor
14 looks at things like investing in electric utilities or
15 natural gas utilities and water utilities. They see
16 water utilities as a lower risk utility service relative
17 to the other two.
18 Q How many -- do you know how many utility
19 systems Carolina Water Service operates?
20 A Systems, I know they have a lot of systems,
21 but, no, I do not know.
22 Q And I can't give you an answer, either, but --
23 but it's a lot, isn't it?
24 A Correct.

1 Q We can agree it's many spread across the entire
2 state, right?
3 A Correct.
4 Q Now, are the electric and natural gas
5 industries in that situation or do they -- do they serve
6 highly concentrated areas for the most part, where
7 they've got a customer base that's concentrated and not
8 dispersed?
9 A Some are; some are not. Look at Piedmont
10 Natural Gas. One of the reasons --
11 Q What cities does Piedmont serve?
12 A When you look at the eastern part of Piedmont
13 in particular. In the western part, the Legacy Piedmont
14 Company serves Charlotte, Gastonia, Greensboro, and those
15 large metro areas along I-85. But when you look in the
16 eastern part of the state where the old North Carolina
17 natural gas territory originally was, it's very sparsely
18 populated, and that's one of the reasons their customer
19 growth has diminished in the last couple years, because
20 it's harder to extend gas to rural areas of eastern North
21 Carolina with sparse population densities. So it's not
22 always the case. Not everybody operates in Raleigh and
23 Charlotte.
24 Q What would happen if the natural gas industry

1 was required to build lines to serve every possible
2 customer in the state?
3 A It would be an extremely expensive capital
4 endeavor.
5 Q And do you think it's expensive for the water
6 and sewer industry to serve, you know, one subdivision
7 with isolated wells?
8 A Could you repeat the question? Do I think it's
9 inexpensive?
10 Q No. Is it -- isn't there some expense involved
11 there to serve, you know, on a subdivision-by-subdivision
12 basis basically through wells?
13 A Of course, it's capital expenses, but, of
14 course, a lot of these systems are contributive, but
15 nonetheless there's capital involved, and that's why we
16 have regulations that protect your rates so that you, a
17 water utility, is able to recover its capital investment.
18 So just because it's sparsely populated in this far away
19 neighborhood is -- has little to do with investment risk
20 related, because he -- the investor can get to the money,
21 the capital the company invested in that well system in
22 eastern North Carolina just as well as he can get it if
23 he invests in -- outside Greensboro.
24 Q One question about the recent Dominion

1 settlement. That was a settled case as well, right?
2 A Yes, it was.
3 Q And it has not been ruled upon by the
4 Commission at this point, I believe?
5 A I believe you're correct, but I did not work on
6 that case, so I can't --
7 Q Do you know what the recommended settled rate
8 of return on equity was for Dominion?
9 A 9.75, I believe, subject to check. Again, I
10 didn't work on that case. I mean, I worked on minor
11 issues, but not the cost of capital.
12 Q In consideration of your initial proposal for a
13 10 basis point adjustment, if Carolina Water Service were
14 to have a CAM, do you consider a 10 basis point
15 adjustment to be material?
16 A Yes.
17 Q Thank you.
18 MR. BENNINK: That's all.
19 REDIRECT EXAMINATION BY MR. GRANTMYRE:
20 Q You were asked a series of questions about
21 decoupling. And with regard to the electrics in North
22 Carolina, they have no rider or adjustment for
23 consumption adjustment, do they, customer consumption?
24 A No. There's no adjustment for that stream of

1 revenues based on the consumption.
2 Q They have other riders, but not customer
3 consumption and revenues?
4 A They have adjustment riders for cost,
5 primarily, but not for a decrease in consumption of
6 electricity.
7 Q Now, the gas companies in North Carolina, they
8 have riders for the purchased gas; is that correct?
9 A Yes.
10 Q And they also have the CUT which adjust their
11 revenues based on margins; is that correct?
12 A Yes, yes. That’s correct.
13 Q And they have the Integrity Management Rider
14 for infrastructure replacements and upgrades; is that
15 correct?
16 A Correct. It’s for main replacements, as I
17 understand it.
18 Q Now, isn’t that similar in a way to the WSIC
19 and SSIC that the water utilities, particularly Carolina
20 Water and Aqua North Carolina, utilize for their system
21 infrastructure improvements?
22 A Yes, it is.
23 Q Now, you were asked a question about do these
24 riders true-up everything, and isn’t it true that the

1 riders do not true-up all operating expenses of the
2 Company?
3 A No riders do that.
4 Q So group medical, general liability insurance,
5 transportation, salaries, none of those are trued up?
6 A They are not trued up with any industry, to my
7 knowledge.
8 Q And you would agree that those are costs that
9 could affect the bottom line or return on equity?
10 A Yes. And that -- one of my answers earlier
11 was, you know, you can't look at earned returns because
12 you don't know and just in a narrow vision say, well,
13 they didn't earn their allowed return, thus, their return
14 was set too low. You can't say that, because there are
15 so many other factors going on in the operation of a
16 company. There's customer growth. That's one. That's a
17 very big factor. And secondly, there's also management
18 decisions.
19 Q Now, you were asked about the capital structure
20 recently for Piedmont, and you said there was a capital
21 infusion right before the end -- the cutoff date in the
22 rate case which lifted the actual capital structure
23 equity above 52 percent; is that what you said?
24 A That's -- that is correct. I just can't

1 remember precisely the number. I would guess it's 53
2 plus, but I can't say for sure.
3 Q So if we had used the end of test year updated
4 actual, it would have been 53 or plus, whatever you
5 remember it at?
6 A I think it will be higher than the 52. I will
7 say that.
8 Q Now, have you observed to what extent Carolina
9 Water has utilized the WSIC/SSIC in comparison to Aqua?
10 A I think they've used it very extensively, I
11 thought.
12 Q Okay. Would you -- okay. But you would -- if
13 you would go back and look at the Commission's records
14 and Orders, you haven't really done that --
15 A No.
16 Q -- to see to what extent?
17 A To be honest with you, I haven't.
18 Q And would you be surprised to learn that they
19 used it much, much, much less than Aqua has?
20 A No. Then I -- then, no, I'll accept that. I'm
21 sorry if I was wrong a moment ago.
22 Q Now, you -- in your testimony Bob Bennink said
23 that the test year per book ROE was 1.63 percent; is that
24 correct?

1 A Ask me that question one more time, please.
2 Q Do you remember Bob Bennink saying that
3 Carolina Water's test year ROE per book was 1.63 percent?
4 A Yes, I do.
5 Q And you know there's a difference between per
6 book and pro forma; is that correct?
7 A Very big difference.
8 Q And you notice he used the word per book rather
9 than pro forma?
10 A Yes. And that's what -- that's the art of
11 accounting, to come in there and then make reasonable
12 adjustments to make the books reflect a form that's
13 appropriate.
14 Q Now, Carolina Water has filed, and it's been
15 consolidated with this case, for deferrals on two large
16 wastewater plants. The total amount would be in the
17 neighborhood of $12 million. Are you aware of that?
18 A Yes. I think I've heard some discussion about
19 the deferral issues.
20 Q Now, on per book --
21 COMMISSIONER BROWN-BLAND: Mr. Hinton, you've
22 turned to face your counsel. Will you move that mic over
23 so that you stay in front of the mic? Thank you.
24 MR. GRANTMYRE: Yeah. Move the mic so -- okay.

1 Q Okay. So if that $12 million is still on the
2 books, that would depress your ROE, wouldn't it?
3 A Yes, I believe so.
4 Q Now, the deferral really removes it from the
5 books and defers it so they get the money later on and
6 the pro forma would have it no longer on the books,
7 correct?
8 A That's the standard way of looking at
9 deferrals. I'll accept that.
10 Q Now, let me turn you to Mr. D'Ascendis' DWD-
11 12R.
12 A Yes.
13 Q Do you have that -- do you have that in front
14 of you?
15 A Yes, I do.
16 Q Now, at the top is American States Water
17 Company, and that has it -- that has the CAM, is that
18 correct, or a similar consumption adjustment?
19 A Right. It's a utility in California. As noted
20 in my testimony, I talked about a California decision.
21 So these companies -- several of these companies are
22 California based companies that have a CAM.
23 Q And the next company down is American Water; is
24 that correct?

1 A Yes.
2 Q And you notice they have the CAM for California
3 American Water and Illinois American Water and New York
4 American Water, but they do not have the CAM for any of
5 the other listed American Water companies; is that
6 correct?
7 A That's correct. And the same would apply for
8 the other companies, I believe.
9 Q Well, Aqua America is the next. Now, these
10 were your proxy companies, not Mr. D'Ascendis'; is that
11 correct?
12 A Correct.
13 Q Now, with respect to Aqua America, isn't the
14 only company listed the Illinois company, the first one
15 at the top?
16 A Yes. And I would suspect that that's a
17 relatively small water utility because the largest state
18 with Aqua America is out of Pennsylvania, the old
19 Philadelphia Suburban company.
20 Q But none of Aqua's other states or companies
21 listed have the CAM; is that correct?
22 A That is correct.
23 Q Now, with regard to California Water Service,
24 that, again, is in California, and California Water

1 Service does have the CAM; is that correct?
2 A That is correct.
3 Q But none of the other companies listed, New
4 Mexico Water, Washington Water, and Hawaii Water, none of
5 those have the CAM?
6 A Correct.
7 Q And would you be correct to assume that New
8 Mexico Water is probably located in New Mexico?
9 A Yes, I would.
10 Q And Washington Water in Washington?
11 A Yes. That -- yes.
12 Q And Hawaii Water is probably in Hawaii?
13 A Yes, it is. That --
14 Q Now, Middlesex, none of its companies have a
15 CAM; is that correct?
16 A Correct.
17 Q And SJW has three listed, and all three of
18 those are in the state of Connecticut?
19 A That's correct.
20 Q And even though it has San Jose Water Company
21 in California, that's not listed for the CAM?
22 A I was surprised by that, to be honest with you,
23 because the only states I was familiar with originally
24 were California and Illinois and New York.

1 Q And now Connecticut is listed.
2 A Uh-huh.
3 Q So your research shows, to the extent you've
4 done the research, only three states other than North
5 Carolina have the CAM -- or four now with Connecticut; is
6 that correct?
7 A I'll accept that, subject to check.
8 Q Now, you were asked about system
9 concentrations. Carolina Water, as you understand it,
10 operates subdivisions and areas; is that correct?
11 A Yeah. All over the state, I've heard that, but
12 I also recall lots of their divisions -- systems are
13 located around the Charlotte area, and they've sold a lot
14 to CMUD and other places.
15 Q But from what you've learned over the years or
16 what you've observed driving through the country,
17 sometimes when you drive through the country, you'll see
18 one house every mile out in the country served by
19 electric; is that correct?
20 A That is correct.
21 Q And does Carolina Water, to your knowledge,
22 have sometimes a mile in between customers or are they
23 condensed in various subdivisions?
24 A No. They're not going to extend water service

1 out a mile to one single customer. The Company has --
2 applies for a franchise area, and that franchise area is
3 a relatively small, dense area where they expect to
4 extend ga--- I mean, extend water service in the
5 relatively near future. So the characteristics of those
6 systems are typically in dense neighborhoods or
7 subdivisions that a developer has built, and then install
8 the water company (sic), then sells the system to
9 Carolina Water.
10 Q So it's your experience, in being at the Public
11 Staff a long time, Carolina Water acquires water systems
12 from developers; is that correct?
13 A That is correct. That's common within the
14 industry.
15 Q Okay. Thank you.
16 MR. GRANTMYRE: I have no further redirect.
17 MR. BENNINK: Commissioner Brown-Bland, I've
18 got a question for clarification that I would like to
19 ask. I can put it on the record to see if it's okay with
20 you.
21 MR. GRANTMYRE: I would object.
22 MR. BENNINK: It goes to a question that Mr.
23 Grantmyre asked that --
24 MR. GRANTMYRE: Well, he doesn't have the --

1 COMMISSIONER BROWN-BLAND: Well, now we'll go
2 -- move now to questions on Commission questions, and if
3 it comes up --
4 MR. BENNINK: Can I say -- just say one more
5 thing? It goes to the impact of deferral accounting
6 based on the $12 million number that was used.
7 MR. GRANTMYRE: We still object.
8 COMMISSIONER BROWN-BLAND: I'll sustain the
9 objection. All right. Are there questions from the
10 Commission? Chair Mitchell?
11 EXAMINATION BY CHAIR MITCHELL:
12 Q Good afternoon, Mr. Hinton. A few questions
13 for you, first, just a very general one. If you can at
14 high level, help me understand the differences in the
15 approaches that you and Mr. D'Ascendis take in analyzing
16 a fair rate of return. Specifically interested in your
17 use of current yields and his use of forecasted risk.
18 Help me understand the difference and why you think your
19 approach is the better approach.
20 A As noted in my testimony, there is -- interest
21 rate forecasts tend to be higher. I think in the
22 forecasting there's a risk element there, and it's
23 evident in the forward market. Over the years I've seen
24 -- there's Witness Andrews for NCG, and numerous gas

1 companies would use forward interest rates as a predictor
2 of interest rates, and if they were going up, then he'd
3 have a reason to raise his required return on equity.
4 And in doing those forward markets, there's an
5 inherent risk premium and -- when calculating a forward
6 price, as you can imagine. That bias, I think, is there.
7 I've seen it more recently going back to the old CWS case
8 of -- CWSS case noted in my testimony with Ms. Ahern.
9 She used interest rate forecasts. And Mr. D'Ascendis is
10 -- has worked with Ms. Ahern and that group for years,
11 and his methods of using the empirical CAPM and other
12 methods are quite similar to what was used in the early
13 docket. I think it was W-778, Sub 31.
14 Interest rate forecasts, I think, are not --
15 the track record has not been stable enough for me to use
16 as a tool. As I may have noted before, I worked in the
17 forecasting business with IRP, and when I came here to
18 work, my original job here was forecasting the demand for
19 electricity, so I have a healthy respect for forecasting
20 -- or forecasting. But when it comes to forecasting
21 particular levels of interest rates, I overly see a bias
22 upward that is disconcerting for proceedings such as this
23 when we need to have evidence.
24 Now, I know we all kind of say, well, there's

1 no evidence in cost of capital, but there is. There's
2 ample evidence, in my opinion, just as much evidence as
3 it is to say that pipe in the ground has got two more
4 years of life in it, you know.
5 So I think -- but when I look at the evidence
6 and the principles of natural -- of interest rate
7 forecasting, I find, as I note in my testimony, there's
8 an inherent upward bias, so I think that that's -- that's
9 a -- that's not appropriate for ratemaking.
10 Q I have a few questions about your critique of
11 the Company's debt financing arrangements. Just walk us
12 through your -- I know you provide testimony on the
13 issue, but walk us through your critique of the Company's
14 debt financing arrangements or placements.
15 A I mean, Carolina Water, typically they've got a
16 long -- a big issue and it's a 6 percent debt, and
17 they're combining that with some other more shorter term
18 financing which is effectively bringing down the embedded
19 cost of debt, which I welcome that. There's an old
20 longstanding kind of an issue with Carolina Water that
21 they do private placements, and their rate -- the
22 interest rate they receive on private placements are
23 going to be higher than a public placement of debt, and
24 that makes -- stands to reason there's a bigger market to

1 pull from, institutional investors. They tend to invest
2 with State Employee -- unions -- Credit Unions or employ
3 with -- I'm sorry, the words are missing -- Teachers'
4 Unions, yeah. I think that type of small placements they
5 have placed their debt in the past before. They have had
6 a history of having high cost debt, to be honest with
7 you. And when I say that, it's relative to the industry
8 at the time.
9 Right now Aqua has got the lowest cost debt.
10 Part of the reason is they have low cost debt because
11 they -- they're publicly rated for years with Aqua
12 Pennsylvania and they have also availed themselves to a
13 lot of revolving state loan money. They've got some very
14 low interest rate loans available to them.
15 And I've asked Carolina Water why they haven't
16 gone to state revolving funds that's operated through the
17 North Carolina Department of Environment. And I've
18 talked to the administrator of that fund money. They
19 largely provide capital to public municipalities, but
20 years ago the door was open to provide money for systems
21 -- for privately owned systems, and I was on that task
22 force, and that was approved and it was implemented. But
23 Aqua is the only company to do that to date. So one of
24 my notes in my testimony was that I urge them to seek out

1 as lower cost financing as possible.
2 The second avenue is Utilities, Inc., you know,
3 historically was -- it was a large water utility, but it
4 was not a large capital based utility relative to Aqua
5 Pennsylvania or the Aqua companies, and so they didn't
6 have the capital available to it, and that's one of the
7 reasons they went through private placements. Now
8 they're owned by Corix, which is even a larger utility,
9 but then Corix is owned by the British BMI. That's noted
10 in my testimony. So there's capital available now to
11 that company, so I'm urging -- I've had some discussions
12 with the Company about refinancing that 6 percent loan,
13 and it appears to be out of money to do that at this
14 point in time, and I've accepted that because we
15 researched that issue years ago and it was -- in other
16 words, to refinance, it would not save you enough capital
17 to make it worthwhile.
18 So I'm anxiously awaiting that 6 percent debt
19 to be paid off and for the ratepayer to reap hopefully
20 lower cost rates for capital, for debt capital.
21 Q Did I hear you correctly testify that you've
22 accepted the current -- the --
23 A Debt.
24 Q -- yeah -- the debt that has been issued that

1 you take issue with the interest rate, even -- so
2 notwithstanding the make-whole provision, you've accepted
3 that arrangement as reasonable?
4 A Yes, I have.
5 Q Okay.
6 A And I welcome the fact the rate is coming down
7 over time. It was at 6 percent two years ago or three
8 years ago when they had these rate cases, and it's slowly
9 coming down because they're borrowing more money for like
10 three- and five-year notes.
11 Q Okay. And in your discussions with Carolina
12 Water about utilizing debt mechanisms that other
13 companies like Aqua have used, what have you learned?
14 A It's a little cumbersome to go with that
15 process. I think that was their answer, just wasn't
16 advantageous for the Company. And I'll have to go back
17 and look at my data responses to be more accurate, but I
18 believe it was some of the caveats with it did not make
19 it attractive to them. And they weren't entirely that
20 specific on what particular issues, but, you know, I
21 assume to borrow money from the federal -- from state
22 government, there's going to be some strings attached.
23 But obviously Aqua, I mean, Aqua has gone through that
24 effort and has reaped -- and has reaped some lower-cost

1 loans.

2 Q Okay. And what are the potential savings of

3 alternate forms of debt, in your opinion?

4 A I believe the rate, it's a municipal bond rate

5 it's pegged to. It's one of these bond rates that's in

6 unique publications. So it would be in the 2 to 3

7 percent range right now.

8 Q Okay.

9 CHAIR MITCHELL: Nothing further.

10 COMMISSIONER BROWN-BLAND: Questions from the

11 Commission? Commissioner Clodfelter?

12 EXAMINATION BY COMMISSIONER CLODFELTER:

13 Q Mr. Hinton, you were asked a whole series of

14 questions about mechanisms that affect the risk that a

15 company will or will not achieve some specified target

16 level of revenues. I want to ask you about one that

17 wasn't brought up in those discussions. Does the portion

18 of a Company's revenue that come from fixed charges as

19 opposed to charges based upon levels of sales or

20 consumption, does that affect the risk that the Company

21 will or will not achieve a specified target level of

22 revenues?

23 A Yes, without a doubt. You know, the more fixed

24 from the investor's perspective, the better.

1 Q Right.
2 A From the customer's perspective, it may not
3 take it quite that way, but from the investment --
4 investor's perspective, he wants certainty.
5 Q So a company that gets 100 percent of its
6 revenues from fixed charges is less risky than a company
7 that gets none of its revenues from fixed charges?
8 A And I can say that in theory.
9 Q For the same target level of revenue, the same
10 company, if they convert from one form of generating
11 revenue to another, it changes the risk profile?
12 A Yes. And, you know --
13 Q So when you formulated your recommendation in
14 this case, it was the Public Staff's position that the
15 level of fixed charges, a portion of revenue from fixed
16 charges to variable charges be 45 percent fixed and 55
17 percent variable, correct?
18 A I'm going to have to defer that question --
19 Q Subject to check.
20 A I'll accept that, subject to check.
21 Q Well, now we have a Stipulation between the
22 Public Staff and the Company in which the agreed
23 percentage of fixed charge revenue is 50 percent, 50
24 percent variable. If, subject to check, the original

1 position when you formulated your recommendation was 45
2 percent fixed and it's now 50 percent fixed, would that
3 affect your recommendation in any way?
4 A To be honest with you, probably not.
5 Q Because?
6 A Well, you're only talking about 5 percentage
7 points.
8 Q Okay.
9 A It would have to be a very dramatic change in
10 rate design that would be noticeable, and if it was, then
11 I think the investor and the customer should be-- or the
12 investor would require a lower rate of return and the
13 customer would be entitled to possibly some benefit of
14 that.
15 Q But it's your testimony here that a 5 percent
16 shift is not substantial?
17 A I hate to say subject to check again. I
18 haven't done enough investigation on that particular
19 issue, but my opinion at this point in time, with those
20 caveats, would be it would not be that noticeable.
21 Q All right. Let me ask you this question. Do
22 you know what percentage of the targeted revenues for a
23 local gas -- natural gas distribution company comes from
24 fixed charges? What percentage of their revenue comes

1 from fixed charges?
2 A I can't --
3 Q Do you know what percentage of the target
4 revenues for electric public utilities comes from fixed
5 charges as opposed to variable charges?
6 A No, I don't. I know it's -- I know I've spoken
7 many times with rate design folks of the Electric
8 Division, Jack Floyd in particular, and I know he
9 struggles with that issue. But it's a complicated
10 argument on both sides of the equation.
11 Q Do you know whether the percentages of revenue
12 for local gas distribution companies or electric
13 utilities that is derived from fixed charges is anywhere
14 near 50 percent of the total revenue?
15 A I would say, no, it's not anywhere near that.
16 It's considerably lower.
17 Q That's all I have. Thank you.
18 EXAMINATION BY COMMISSIONER BROWN-BLAND:
19 Q Mr. Hinton, I'll just ask you, Mr. Bennink was
20 asking you about the materiality of a differential of 10
21 basis points. You agreed with him that that would be
22 material. How do you determine what's material to CWSNC?
23 A You would basically -- materiality would be
24 like an accounting -- I mean, to answer that question

1 truthfully I would go to like an -- go to talk to the
2 accountants and find out how much of a dollar amount are
3 they seeing would impact rates, you know. Accounting
4 always has a degree of materiality, where if it's an
5 adjustment of "x" and it's below that level, then they're
6 not going to -- that's not going to be -- unless it's
7 adjustment based on principal -- speaking as someone from
8 outside of the accounting industry, but this is what I've
9 observed over the years. So I would apply that same sort
10 of thinking to that, and I think 10 basis points is a
11 significant degree on the cost of capital. So I would
12 assume that that -- basically, 10 basis points is $79,500
13 in revenue requirements based on, I think, my latest --
14 my understanding of the rate base in this case. So
15 $79,000 to me is material in revenue requirement.
16 Q So you relate the basis point materiality to
17 the amount of dollars that that equates to?
18 A Right. That's how -- whenever we've done
19 Stipulations in the past, one of the first questions that
20 I look at, and accounting, we do it in tandem, is how
21 many -- what's the ultimate revenue requirement impact of
22 10 basis points on ROE and similar changes in the capital
23 structure, because at the end of the day it's the revenue
24 requirement that directs rates or sets rates that

1 customers pay.
2 Q All right.
3 COMMISSIONER BROWN-BLAND: Any more questions
4 from the Commission?
5 (No response.)
6 COMMISSIONER BROWN-BLAND: All right.
7 Questions on Commission's questions?
8 MR. BENNINK: I have just two, I think.
9 EXAMINATION BY MR. BENNINK:
10 Q In the Stipulation between the Company and the
11 Public Staff, the parties did agree on the capital
12 structure and the cost of debt for this proceeding,
13 correct? I mean, not capital structure -- just capital
14 structure --
15 A Correct.
16 Q -- and the cost of debt? Yeah.
17 A Yes. That was non-contested issues, though.
18 Q That's right. And the cost of debt is lower
19 than it was when the Company filed its rate case; is that
20 correct?
21 A Correct. We asked for updates, and those were
22 -- they're reflected in my testimony.
23 Q Do you remember what the difference in the
24 initial filing was versus what we settled on?

A To be honest with you, no, I don't.

Q All right. But it is in the record that it --

A It's lower, yes.

Q -- it is less than it was when the Company filed its case?

A I can look that up. I have Mr. Dylan D'Ascendis' testimony.

Q Go ahead and do it, if you would.

A Okay. Originally, Mr. D'Ascendis filed a cost rate of 5.59 percent as compared to our accepted position of 5.36 percent.

Q So that's a reduction of 23 basis points?

A Yes.

Q And, again, based on your previous answer, that is material?

A Yes. I believe that is material.

Q You were asked questions about rate design in this case. I'll ask you, subject to check, do you understand that what the Company and Public Staff agreed to in terms of water rate design in this case, based on a 50/50 split, is -- differs from what Carolina Water Service's current rate -- water rate design percentages are?

A I have to accept that, subject to check. It's

not something that I ever -- that I actually am --

Q I understand.

A -- completely familiar with.

Q Would you accept, subject to check, that current water rates are 52 percent fixed and 48 percent variable?

A Again --

Q And if that's true, it does indicate a slight reduction in the fixed charge percentage for water rates?

A Again, I accept that --

Q If you accept it --

A -- subject to check. Those rate design issues which I have -- I mean, I've only heard -- I've only listened to conversations over time. I have a general conceptual understanding, but how that transfers to the cost of equity is a big leap of faith.

Q Right.

A Because, you know, you're looking at one company and you're saying its rate design is this, it has a CAM or it doesn't have a CAM, but you also have to know what's going on in the marketplace at the same time. What are bond rates doing? I mean, utility investments are a substitute for bond investment, you know. We're in later years now, and I'm looking to invest in utilities

1 in my later years more so than I ever did in my younger
2 years because I want that stability. What's the next
3 best thing to a bond yield? It's a utility investment.
4 So there's all -- you have to follow the rest of the
5 market to know how things impact everything on a
6 contemporaneous basis, and that's what investor advisors
7 and investors do all the time. So to look at one
8 particular issue, like rate design in isolation, is a
9 dangerous thing.
10 MR. BENNINK: That's all.
11 MR. GRANTMYRE: I have several question---
12 COMMISSIONER BROWN-BLAND: Mr. Grantmyre?
13 MR. GRANTMYRE: -- questions on the
14 Commissioners' questions.
15 EXAMINATION BY MR. GRANTMYRE:
16 Q You were asked by Chairperson Mitchell about
17 Carolina Water's debt arrangements. Isn't it true that
18 all the Carolina Water's debt is obtained through
19 Utilities, Inc.?
20 A Yes, or Corix now.
21 Q And the -- when you said 6 percent debt rate,
22 that was the composite debt rate approximately several
23 cases ago; is that correct?
24 A Correct. It was. And it was 6.6, I remember

1 that, probably in 2013, but yes.
2 Q 6.6 is the rate that they obtained about 10 or
3 15 years ago on a 30-year note; is that correct?
4 A That is correct.
5 Q And that has what we call make-whole provisions
6 where they can't prepay it?
7 A Right.
8 Q Okay. So that's the main reason that their
9 debt costs are so high, is they have that old -- older
10 long-term loan with the make-whole provisions?
11 A I would say that is correct. And it's because,
12 again, they make private placements, and this was a --
13 like I say, I forget if it was a Teachers' Union or
14 whatever. It was an organization. They issued the money
15 to or lent the money to Carolina Water, and they had high
16 rates and they haven't been able to refinance that all
17 this time, and it's been an issue to the Public Staff for
18 many years.
19 Q But they obtained that debt prior to the
20 purchase of Utilities, Inc. by Corix which was
21 approximately 2012. That debt predates Corix ownership;
22 is that correct?
23 A That's entirely correct.
24 Q And are you aware that in the data request that

1 they provided, they showed that Utilities, Inc. got $100
2 million loan within the last year or so at a much lower
3 rate than the 5.36 percent?
4 A Yes. Earlier I testified to three- to five-
5 year terms on some shorter term notes and -- or notes,
6 and that's the source of those lower -- the source of
7 capital and effectively lowering the embedded cost of
8 interest of debt down to this -- to our recommended
9 level.
10 Q Now, you're familiar with the state revolving
11 funds in North Carolina; is that correct?
12 A Yes, I am.
13 Q And you were asked questions on that. Isn't it
14 true that Aqua North Carolina borrowed money back around
15 2012 at zero interest rate for 20 years; is that correct?
16 A I believe that is correct. It's been a while
17 since I looked at those rate schedules, but, you know,
18 Aqua is good in my book because they have availed
19 themselves to those low-cost capital, or free in this
20 case. But, you know, often you see 2 percent debt, 3
21 percent debt when the market was much higher. And that
22 money is still available to them.
23 Q And isn't this the second Carolina Water rate
24 case in a row that you've suggested to Carolina Water

1 that they should avail themselves of the State revolving
2 funds, but they've had -- they've not done so?
3 A Correct. It was years ago the State
4 Legislature had to pass a law to allow private utilities
5 to access those capital funds, and they did pass that law
6 and I watched that closely, and I was pleased when Aqua
7 acquired capital through the State revolving fund monies,
8 and I've been slightly disappointed that Carolina Water
9 has not. And this is very apparent if you look at the
10 books of Aqua, Aqua America, that is, not Aqua North
11 Carolina. But if you look at the books -- when we do
12 rate cases, I look at the consolidated debt structure as
13 well as the subsidiary debt structures, and they have a
14 lot of state systems that avail themselves to those
15 funds. It's not just North Carolina for Aqua. It's all
16 over the country. And most of your -- most of the debt
17 is not arrived through those means, but they still have
18 several series -- bond series in numerous states that are
19 very low attractive interest rates because of the state
20 revolving loan program.
21 Q Now, Commissioner Clodfelter was asking about
22 the fixed portion of revenues versus the variable
23 commodity charges. Now -- and you responded that if they
24 were all fixed, that would give investors greater

1 security; is that correct?
2 A Yes, but that's only in -- that's like just a
3 directional --
4 Q But you agree once the CAM -- the Commission
5 approves the rule structure for CAMs and CAMs are
6 approved for Carolina Water, that will very well
7 stabilize the revenues or materially stabilize the
8 revenues they have somewhat similar to a fixed?
9 A It will have a -- anything that can stabilize
10 revenues will have the effect of stabilizing earnings,
11 and that inherently will lower the risk of the Company.
12 And the art, of course, is trying to quantify the value
13 of that. And like I said in my testimony, I found that
14 California made an Order years ago, and they ruled that
15 20 basis points was the effect of a CAM. Water utilities
16 having a CAM was the equivalent to 20 basis point
17 adjustment. And that was part of my reason for going for
18 10. You know, I just want to be conservative in my
19 estimation.
20 Q Now, you were asked questions by Commissioner
21 Clodfelter about the 45/55 or 50/50 water, fixed to
22 variable; is that correct?
23 A Yes.
24 Q And isn't it true that no one asked you when

1 they were negotiating what you thought the correct
2 percentage should be? You were not involved in that part
3 of the --
4 A Not at all. I cannot offer any --
5 Q Will you accept --
6 A -- opinions on that.
7 Q Will you accept, subject to check, that Chuck
8 Junis, the Public Staff utilities engineer, is the
9 witness that addressed rate structure in his prefiled
10 testimony in this proceeding?
11 A I'll accept that, yes. I can only -- when I
12 spoke about the risk reduction, it's only in the absolute
13 or holding all else constant time setting.
14 MR. GRANTMYRE: I have no further questions.
15 COMMISSIONER BROWN-BLAND: All right. Then Mr.
16 Hinton, I believe we are done with your testimony. Mr.
17 Grantmyre?
18 MR. GRANTMYRE: Yes. We would ask that his
19 testimony be copied into record as if given orally and
20 that the -- his -- as is the exhibits, and that the
21 testimony and including supplemental testimony and the
22 exhibits be entered into evidence.
23 COMMISSIONER BROWN-BLAND: All right. There
24 being no objection, that motion will be allowed, and Mr.

Hinton's prefiled direct and supplemental testimonies will be received into evidence and treated as if given orally from the witness stand. The appendices will be identified as they were when prefiled, and the exhibits that were filed with his direct and supplemental will be received into evidence at this time and identified as they were when prefiled.

(Whereupon, the prefiled testimony and Appendices A and B, and the supplemental testimony of John R. Hinton were copied into the record as if given orally from the stand.)

(Whereupon, Public Staff Hinton Exhibits 1 to 10 and Public Staff Supplemental Hinton Exhibit 10 were identified as premarked and admitted into evidence.)

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. W-354, SUB 364

In the Matter of: Application by Carolina Water Service, Inc., of North Carolina, 4944 Parkway Plaza Boulevard, Suite 375, Charlotte, North Carolina 28217, for Authority to Adjust and Increase Rates for Water and Sewer Utility Service in All Service Areas in North Carolina	)))))	TESTIMONY OF JOHN R. HINTON PUBLIC STAFF – NORTH CAROLINA UTILITIES COMMISSION

CAROLINA WATER SERVICE, INC. OF NORTH CAROLINA
DOCKET NO. W-354, SUB 364

TESTIMONY OF JOHN R. HINTON
ON BEHALF OF THE PUBLIC STAFF
NORTH CAROLINA UTILITIES COMMISSION

NOVEMBER 4, 2019

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

A. My name is John R. Hinton and my business address is 430 North Salisbury Street, Raleigh, North Carolina. I am the Director of the Economic Research Division of the Public Staff. My qualifications and experience are provided in Appendix A.

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

A. The purpose of my testimony is to present to the North Carolina Utilities Commission (Commission) the results of my analysis and my recommendations as to the fair rate of return to be used in establishing rates for water and sewer utility service provided by Carolina Water Service, Inc. of North Carolina (CWSNC or Company).

Q. WHAT IS THE CURRENTLY APPROVED COST OF CAPITAL FOR CWSNC?

A. In the last CWSNC general rate case, Docket No. W-354, Sub 360, the Commission approved a capital structure of 49.09% long-term debt, 50.910% common equity, a cost rate of long-term debt of 5.68%, and a cost rate of common equity of 9.75% for an overall weighted cost of capital of 7.75%.

Q. WHAT IS THE COST OF CAPITAL REQUESTED BY CWSNC IN THIS PROCEEDING?

A. CWSNC has requested an overall weighted cost of capital of 8.07%. This applied for rate of return is based on a capital structure as of March 31, 2019, that is comprised of 52.04% long-term debt, 47.96% common equity. The Company has requested a cost rate of long-term debt of 5.59%, and a cost rate for common equity of 10.75%.

Q. HOW DOES CWSNC WITNESS D'ASCENDIS DEVELOP HIS RECOMMENDATION?

A. CWSNC witness D'Ascendis utilizes three cost of equity methods: (1) Discounted Cash Flow (DCF); (2) the Risk Premium Model which relies on the Predictive Risk Premium method (PRPM) and the Total Market Approach RPM; and (3) Capital Asset Pricing Model (CAPM).

He applies these methodologies to a proxy group of six publically traded water companies. D'Ascendis' first method relies on the DCF model which produces an 8.70% estimated cost of equity.

Mr. D'Ascendis' second method yielded a 10.62% estimated cost of equity, which is an average of his 11.20% PRPM result and the 10.03% risk premium result using An Adjusted Market Approach.

His third method incorporates the mean and medium results of his traditional and empirical capital asset pricing model (CAPM) applications that result in a 10.21% cost rate for common equity. The model incorporates a risk-free rate of return, beta coefficient, and the expected return on the market. To derive the expected return on the market, the witness relies on a historical arithmetic return on the S&P 500 of 11.89% and two forecasted based returns on the S&P 500 of 13.82.% and 16.03%. With these and other inputs, he estimated the cost of equity by averaging the traditional CAPM results of 9.85% and 9.75% with the empirical CAPM results of 10.65% and 10.58% that ultimately produced his 10.21% estimated cost of equity.

His fourth approach applies the above three methods to a group of non-price regulated companies that he selected with the use of Value Line's beta coefficients along with the residual standard errors that resulted with a 11.78% estimated cost of equity.

His conclusion for the cost of equity using his three methods as applied to his utility and non-utility groups of companies is 10.35%. Given that the witness believes that CWSNC small size relative to his proxy groups is more risky, he increases the baseline cost of equity by 0.40%, which raises his recommended cost rate of common equity to 10.75%, as compared to 11.90%, which represents a 15 basis point reduction in his recommended ROE filed approximately 9 months prior in Docket No. W-354, Sub 360.

Q. WHAT IS THE OVERALL RATE OF RETURN RECOMMENDED BY THE PUBLIC STAFF?

A. The Public Staff recommends an overall rate of return of 7.15%, based on the updated capital structure consisting of 50.90% long-term debt and 49.10% common equity. The recommended overall cost of capital incorporates the above capital structure along with a recommended debt cost rate of 5.36% and a 9.00% cost rate for common equity. Relative to the Company's last rate case, the reduction in the Public Staff's recommended ROE represents a 20 basis point reduction from 9.20% cost rate for common equity. Based on the Public Staff's proposed rate base, capital structure, and cost of debt, the differences in the Company's 10.75% return on common equity (ROE) and the Public Staff's 9.0% ROE lead to

an approximate $ 1.5 million increase in CWSNC's revenue requirements.

Q. HOW IS THE REMAINDER OF YOUR TESTIMONY STRUCTURED?

A. The remainder of my testimony is presented in the following six sections:

I. Legal and Economic Guidelines for Fair Rate of Return

II. Present Financial Market Conditions

III. Appropriate Capital Structure and Cost of Long-Term Debt

IV. The Cost of Common Equity Capital

V. Concerns with Company Witness D'Ascendis' Testimony

VI. Summary and Recommendations

I. LEGAL AND ECONOMIC GUIDELINES FOR FAIR RATE OF RETURN

Q. PLEASE BRIEFLY DESCRIBE THE ECONOMIC AND LEGAL FRAMEWORK OF YOUR ANALYSIS.

A. Public utilities possess certain characteristics of natural monopolies. For instance, it is more efficient for a single firm to provide a service such as water production and distribution or wastewater collection and treatment than for two or more firms

offering the same service in the same area to do so. Therefore, regulatory bodies have assigned franchised territories to public utilities to provide services more efficiently and at a lower cost to consumers.

Q. WHAT IS THE ECONOMIC RELATIONSHIP BETWEEN RISK AND THE COST OF CAPITAL?

A. The cost of equity capital to a firm is equal to the rate of return investors expect to earn on the firm's securities given the securities' level of risk. An investment with a greater risk will require a higher expected return by investors. In Federal Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591, 603 (1944) (Hope), the United States Supreme Court stated:

> [T]he return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.

In Bluefield Waterworks & Impr. Co. v. Public Service Comm'n, 262 U.S. 679, 692-93 (1923) (Bluefield) the United States Supreme Court stated: A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at

the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties, but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties. A rate of return may be reasonable at one time and become too high or too low by changes affecting opportunities for investment, the money market, and business conditions.

These two decisions recognize that utilities are competing for the capital of investors and provide legal guidelines as to how the allowed rate of return should be set. The decisions specifically speak to the standards or criteria of capital attraction, financial integrity, and comparable earnings. The Hope decision, in particular, recognizes that the cost of common equity is commensurate with risk relative to investments in other enterprises. In competitive capital markets, the required return on common equity will be the expected return foregone by not investing in

alternative stocks of comparable risk. Thus, in order for the utility to attract capital, possess financial integrity, and exhibit comparable earnings, the return allowed on a utility's common equity should be that return required by investors for stocks with comparable risk. As such, the return requirements of debt and equity investors, which is shaped by expected risk and return, is paramount in attracting capital.

It is widely recognized that a public utility should be allowed a rate of return on capital, which will allow the utility, under prudent management, to attract capital under the criteria or standards referenced by the Hope and Bluefield decisions. If the allowed rate of return is set too high, consumers are burdened with excessive costs, current investors receive a windfall, and the utility has an incentive to overinvest. Likewise, customers will be charged prices that are greater than the true economic costs of providing these services. Consumers will consume too few of these services from a point of view of efficient resource allocation. If the return is set too low, then the utility stockholders would suffer because a declining value of the underlying property will be reflected in a declining value of the utility's equity shares. This could happen because the utility would not be earning enough to maintain and

expand its facilities to meet customer demand for service, cover its operating costs, and attract capital on reasonable terms. Lenders will shy away from the company because of the increased risk that the utility will default on its debt obligations. Because a public utility is capital intensive, the cost of capital is a very large part of its overall revenue requirement and is a crucial issue for a company and its ratepayers.

The Hope and Bluefield standards are embodied in N.C. Gen. Stat. § 62-133(b)(4), which requires that the allowed rate of return be sufficient to enable a utility by sound management:

> "…to produce a fair return for its shareholders, considering changing economic conditions and other factors, . . . to maintain its facilities and services in accordance with the reasonable requirements of its customers in the territory covered by its franchise, and to compete in the market for capital funds on terms that are reasonable and are fair to its customers and to its existing investors."

N.C. Gen. Stat. § 62-133(b)(4) (2017).

On April 12, 2013, the North Carolina Supreme Court decided State ex rel. Utils. Comm'n v. Cooper, 366 N.C. 484, 739 S.E. 2d 541 (2013) (Cooper). In that decision, the Supreme Court reversed and remanded the Commission's January 27, 2012, Order in Docket No. E-7, Sub 989, approving a stipulated return on equity of

10.50% for Duke Energy Carolinas, LLC. In its decision, the Supreme Court held (1) that the 10.50% return on equity was not supported by the Commission's own independent findings and analysis as required by State ex rel. Utils. Comm'n v. Carolina Util. Customers Ass'n, 348 N.C. 452, 500 S.E.2d 693 (1998) (CUCA I), in cases involving nonunanimous stipulations, and (2) that the Commission must make findings of fact regarding the impact of changing economic conditions on consumers when determining the proper return on equity for a public utility. In Cooper, the Court's holding introduced a new factor to be considered by the Commission regardless of whether there is a stipulation.

In considering this new element, the Commission is guided by ratemaking principles laid down by statute and interpreted by a body of North Carolina case law developed over many years. According to these principles, the test of a fair rate of return is a return on equity that will provide a utility, by sound management, the opportunity to (1) produce a fair profit for its shareholders in view of current economic conditions, (2) maintain its facilities and service, and (3) compete in the marketplace for capital. State ex rel. Utils. Comm'n v. General Tel. Co., 281 N.C. 318, 370, 189 S.E.2d 705, 738 (1972). Rates should be set as low as reasonably

possible consistent with constitutional constraints. State ex rel. Utils. Comm'n v. Pub. Staff-N. Carolina Utils. Comm'n, 323 N.C. 481, 490, 374 S.E.2d 361, 366 (1988). The exercise of subjective judgment is a necessary part of setting an appropriate return on equity. Id. Thus, in a particular case, the Commission must strike a balance that (1) avoids setting a return so low that it impairs the utility's ability to attract capital, (2) avoids setting a return any higher than needed to raise capital on reasonable terms, and (3) considers the impact of changing economic conditions on consumers.

Q. WHAT IS A FAIR RATE OF RETURN?

A. The fair rate of return is simply a percentage, which, when multiplied by a utility's rate base investment will yield the dollars of net operating income, a utility should reasonably have the opportunity to earn. This dollar amount of net operating income is available to pay the interest cost on a utility's debt capital and a return to the common equity investor. The fair rate of return multiplied by the utility's rate base yields the dollars a utility needs to recover in order to earn the investors' required return on capital.

Q. HOW DID YOU DETERMINE THE FAIR RATE OF RETURN THAT

YOU RECOMMEND IN THIS PROCEEDING?

A. To determine the fair rate of return, I performed a cost of capital study consisting of three steps. First, I determined the appropriate capital structure for ratemaking purposes, i.e., the proper proportions of each form of capital. Utilities normally finance assets with debt and common equity. Because each of these forms of capital have different costs, especially after income tax considerations, the relative amounts of each form employed to finance the assets can have a significant influence on the overall cost of capital, revenue requirements, and rates. Thus, the determination of the appropriate capital structure for ratemaking purposes is important to the utility and to ratepayers. Second, I determined the cost rate of each form of capital. The individual debt issues have contractual agreements explicitly stating the cost of each issue. The embedded annual cost rate of debt is generally calculated with the annual interest cost divided by the debt outstanding. The cost of common equity is more difficult to determine because it is based on the investor's opportunity cost of capital. Third, by combining the appropriate capital structure ratios for ratemaking purposes with the associated cost rates, I calculate an overall weighted cost of capital or fair rate of return.

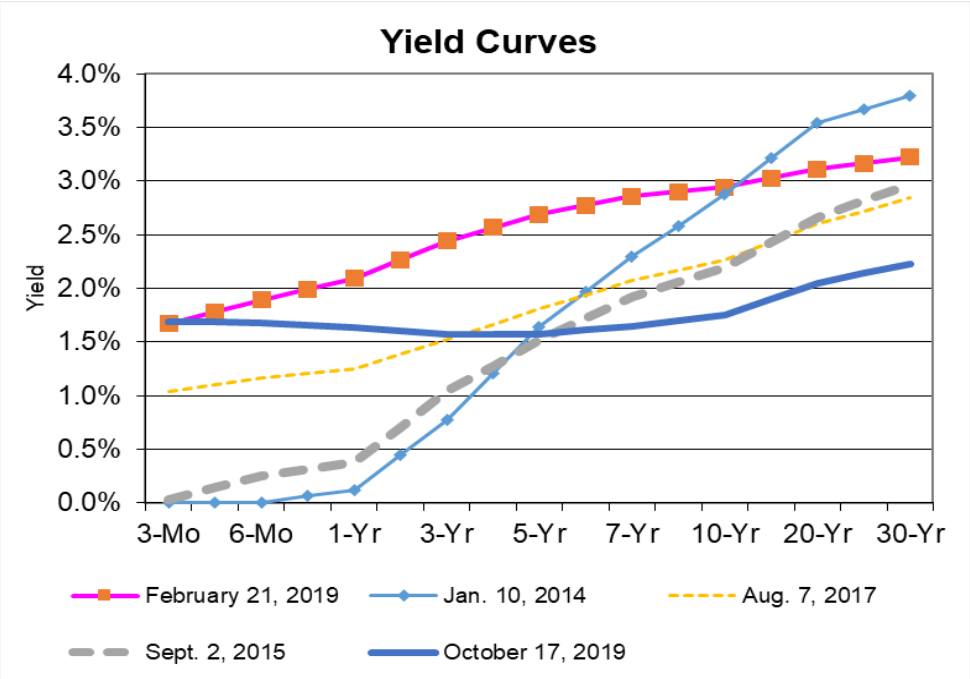
II. PRESENT FINANCIAL MARKET CONDITIONS

Q. CAN YOU BRIEFLY DESCRIBE CURRENT FINANCIAL MARKET CONDITIONS?

A. Yes. The cost of financing is much lower today than in the more inflationary period of the 1990s. More recently, the continued low rates of inflation and expectations of future low inflation rates have contributed to even lower interest rates. According to Moody's Bond Survey, yields on long-term "A" rated public utility bonds have fallen 88 basis points from 4.25% at the time, February 21, 2019, as of the Order in Docket No. W-354, Sub 360, as compared to 3.37% for September 2019. By the close of this proceeding, the Company will have received five rate increases over the last six years (Docket Nos. W-354, Sub 360, Sub 356, Sub 344, and Sub 336). Relative to the filing of the cost of capital settlement in January 2014 rate case in Docket No. W-354, Sub 336, yields on Moody's A-rated utility bonds are 126 basis points lower than the average 4.63% yield observed during January 2014, as illustrated my by Exhibit 1.

Q. HOW HAVE INTEREST RATES CHANGED SINCE THE COMPANY'S LAST RATE CASE?

A. Interest rates on various loans have fallen as the yields on treasury securities have fallen since the Commission issued its Order on February 21, 2019. The below graph shows the lower yields that on average, are over 100 basis points lower for all durations except for a minor increase in 90-day treasury bills. The average decrease in treasury bonds of 5-,7-,10-,20-, and 30-years bonds is 111 basis points. While Utilities, Inc., Corix Utilities, and its ultimate parent, the British Columbia Investment Management Corporation (BCIMC) generally cannot obtain capital at these interest rates, the falling yields are indicators of the declining cost of debt capital.



Q. HOW DO INTEREST RATES AFFECT THE FINANCING COSTS OF A COMPANY?

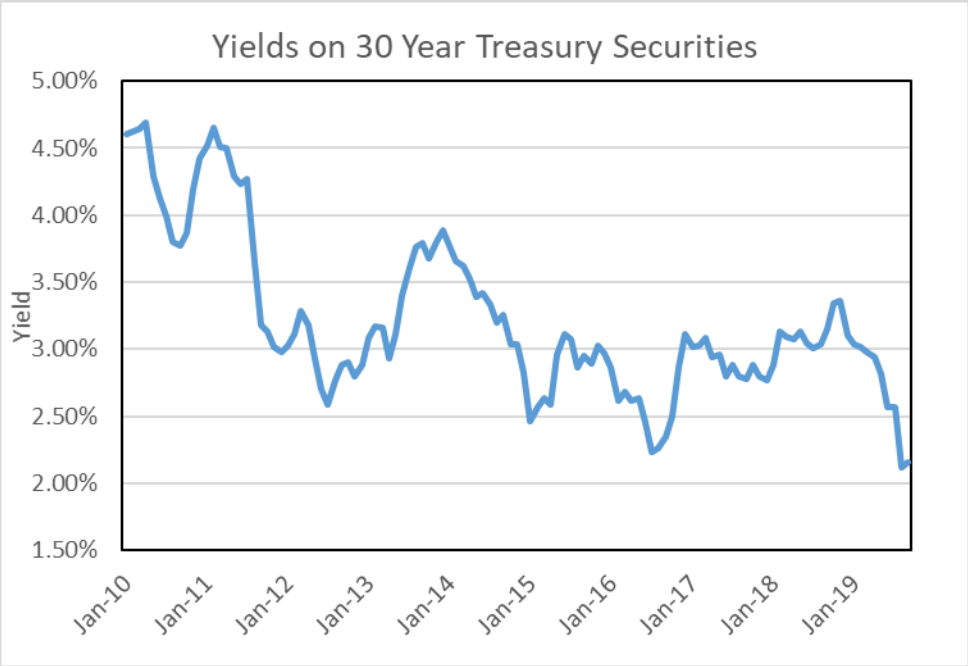
A. The lower interest rates, especially for longer-term securities, and the stable inflationary environment of today indicate that borrowers are paying less for the time value of money. This is significant since utility stocks and utility capital costs are highly interest rate-sensitive relative to most industries within the securities markets. Furthermore, given that investors often view purchases of the common stocks of utilities as substitutes for fixed income investments, the reductions in interest rates observed over the past ten or more years has generally followed the decreases in investor required rates of return on common equity.

Q. WITH THE DECREASES IN INTEREST RATES, DO YOU RELY ON INTEREST RATE PREDICTIONS IN YOUR INVESTIGATION?

A. No. I do not rely on interest rate forecasts to determine the cost of equity. Rather, I believe that relying on current interest rates, especially in relation to yields on long-term bonds, is more appropriate for ratemaking. In that, it is reasonable to expect that as investors are pricing bonds in the marketplace that are based on expectations on the domestic and international demand and supply of capital, future interest rates, future inflation rates, etc. While I

have a healthy respect for forecasting, I am aware of the risk of relying on predictions of rising interest rates to determine utility rates. A case can be observed in the testimony of Company witness Ahern in the 2013 Aqua rate case, Docket W-218, Sub 363. In that proceeding, she identified several interest rate forecasts by Blue Chip Financial Forecasts of 30-year Treasury Bonds yields that were predicted to rise to 4.3% in 2015, 4.7% in 2016, 5.2% in 2017, and 5.5% for 2020 – 2024[1]. As illustrated in the graph below, these forecasts significantly over-estimated actual interest rates for 30-year Treasury Bonds. Similar over-estimated forecasts can be identified in witness D'Ascendis' Exhibit DWD-4 in the Company's 2018 rate case where the Blue Chip Consensus Forecasts predicted the 30-year Treasury Bonds would rise to 3.8% by the third quarter of 2019. According to the Federal Reserve, the highest observed yield on 30-year Treasury Bonds for the third quarter of 2019 is 2.65%, and the average for the quarter was 2.29%, a forecast error between 115 to 151 basis points. In my opinion, these types of errors that make these forecasts inappropriate for ratemaking. As such, I tend to place more weight with current market determined interest rates.

[1] Docket W-218 Sub 363, T. Vol. 2, page 171, lines 8-9.



III. APPROPRIATE CAPITAL STRUCTURE AND COST OF LONG-TERM DEBT

Q. WHY IS THE APPROPRIATE CAPITAL STRUCTURE IMPORTANT FOR RATEMAKING PURPOSES?

A. For companies that do not have monopoly power, the price that an individual company charges for its products or services is set in a competitive market, and that price is generally not influenced by the company's capital structure. However, the capital structure that is determined to be appropriate for a regulated public utility has a direct bearing on the fair rate of return, revenue requirement, and,

therefore, the prices charged to captive ratepayers.

Q. PLEASE EXPLAIN THE TERM CAPITAL STRUCTURE AND HOW THE CAPITAL STRUCTURE APPROVED FOR RATEMAKING PURPOSES AFFECTS RATES.

A. The capital structure is simply a representation of how a utility's assets are financed. It is the relative proportions or ratios of debt and common equity to the total of these forms of capital, which have different costs. Common equity is far more expensive than debt for ratemaking purposes for two reasons. First, as mentioned earlier, there are income tax considerations. Interest on debt is deductible for purposes of calculating income taxes. The cost of common equity, on the other hand, must be "grossed up" to allow the utility sufficient revenue to pay income taxes and to earn its cost of common equity on a net or after-tax basis. Therefore, the amount of revenue the utility must collect from ratepayers to meet income tax obligations is directly related to both the common equity ratio in the capital structure and the cost of common equity. A second reason for this cost difference is that the cost of common equity must be set at a marginal or current cost rate. Conversely, the cost of debt is set at an embedded rate because the utility is incurring costs that are previously established in contracts with

security holders.

Because the Commission has the duty to promote economic utility service, it must decide whether or not a utility's requested capital structure is appropriate for ratemaking purposes. An example of the cost difference can be seen in the Company's filing. Based upon the Company's requested capital cost rates, each dollar of its common equity, and long-term debt that supports the retail rate base has the following approximate annual costs (including income tax, regulatory fee, and gross receipts tax expense) to ratepayers:

(1) Each $1 of common equity costs a ratepayer - approximately 12 cents per year.
(2) Each $1 of long-term debt costs a ratepayer less than 6 cents - per year.

Q. WHAT CAPITAL STRUCTURE HAS THE COMPANY REQUESTED IN THIS CASE?

A. The Company's application requests to use a capital structure of 52.04% long-term debt and 47.96% common equity as of March 31, 2019.

Q. DO YOU SUPPORT THE CAPITAL STRUCTURE PROPOSED BY THE COMPANY IN THIS CASE?

A. No. I recommend that the Company update its proposed capital structure as of September 30, 2019, which includes the balance of

the Company's Revolving Credit Facility of $45.5 million that was entered into on October 23, 2015. I believe that the updated capital structure that includes the credit facility of 50.90% debt and 49.10% common equity is both representative and reasonable for ratemaking. The support for the recommended balances of long-term debt and common equity in the capital structure that underlie the proposed ratios is shown in my Exhibit 2.

Q. WHAT IS YOUR RECOMMENDED COST OF LONG-TERM DEBT?

A. I recommend the use of the Company's proposed cost of debt that has been updated as of September 30, 2019, to 5.36%. The Company maintains that the make whole provisions contained in their existing Notes make it uneconomical for refinancing. CWSNC's and Utilities, Inc. has a history of making private placements of debt at relatively higher interest rates relative to public offerings by other utilities, such as seen with Aqua North Carolina. Unlike Aqua North Carolina, CWSNC does not have any loans that are associated with the rehabilitation of water infrastructure that was enabled through the State Revolving Fund Program authorized by the Safe Drinking Water Act. The Public Staff urges the Company to continue to investigate this source of

funding, which are at cost rates that are typically lower than available in the market, as well as other sources of capital that minimize the cost rate for long-term debt. My recommended capital structure and cost of debt is as follows:

CWSNC

as of September 30, 2019

	Item	Ratio	Cost Rate
Long-Term Debt	$ 286,738,052	50.90%	5.36%
Common Equity	297,299,961	49.10%	
Total	$ 584,038,013	100.00%	

IV. THE COST OF COMMON EQUITY CAPITAL

Q. HOW DID YOU DEFINE THE COST OF COMMON EQUITY?

A. The cost of equity capital for a firm is the expected rate of return on common equity that investors require in order to induce them to purchase shares of the firm's common stock. The return is expected given that when the investor buys a share of the firm's common stock, he does not know with certainty what his returns will be in the future.

A: DCF METHOD

Q. HOW DID YOU DETERMINE THE COST OF COMMON EQUITY

CAPITAL FOR THE COMPANY?

A. I used the discounted cash flow (DCF) model and the Risk Premium model to determine the cost of equity for the Company.

Q. PLEASE DESCRIBE YOUR DCF ANALYSIS.

A. The discounted cash flow model is a method of evaluating the expected cash flows from an investment by giving appropriate consideration to the time value of money. The DCF model is based on the theory that the price of the investment will equal the discounted cash flows of returns. The return to an equity investor comes in the form of expected future dividends and price appreciation. However, as the new price will again be the sum of the discounted cash flows, price appreciation is ignored, and attention focused on the expected stream of dividends. Mathematically, this relationship may be expressed as follows:

Let D_1 = expected dividends per share over the next twelve months;

g = expected growth rate of dividends;

k = cost of equity capital; and

P = price of stock or present value of the future income stream.

Then,

$$D_1 + D_1(1+g) + D_1(1+g)^2 + \ldots + D_1(1+g)^{t-1}$$

$$P = \frac{}{1+k} \quad \frac{}{(1+k)^2} \quad \frac{}{(1+k)^3} \quad \frac{}{(1+k)^t}$$

This equation represents the amount an investor would be willing to pay for a share of common stock with a dividend stream over the future periods. Using the formula for a sum of an infinite geometric series, this equation may be reduced to:

$$P = \frac{D_1}{k-g}$$

Solving for k yields the DCF equation:

$$k = \frac{D_1 + g}{P}$$

Therefore, the rate of return on equity capital required by investors is the sum of the dividend yield (D_1/P) plus the expected long-term growth rate in dividends (g)

Q. DID YOU APPLY THE DCF METHOD DIRECTLY TO CWSNC?

A. No, BCIMC's common stock is not publicly traded; rather, it is a private equity fund. Thus to estimate the investor required rate of return, I applied the DCF method to a risk-comparable investment that is comprised of a group of seven water utilities and nine natural gas local distribution utility companies (LDCs) followed by Value Line Investment Survey (Value Line). I included the group of LDCs

because they exhibit risk measures similar to the group of water companies. The standard edition of Value Line covers eight water companies and ten LDCs. From there, I excluded Consolidated Water Co. because of its significant overseas operations. I considered removing The SJW Group (SJW) from the group because the dividend pricing period included pre-merger and post-merger periods. However, I observed relatively little price changes attributed to the merger, as Value Line's expected dividend yields for SJW ranged from 1.7% to 1.9% over the 13-week period. As such, I believed that any bias in the pricing of the stock was minimal; thus, I decided to keep the Company in the group. A similar situation exists with Aqua America, Inc., who is currently involved in a merger with Peoples Natural Gas; however, like SJW, I believe any bias reflected in Value Line's pricing data appears minimal. In addition, I excluded NiSource, Inc. from the comparable group of gas utilities because of cuts in their dividends paid to shareholders.

Q. WHAT MEASURES OF RISK DID YOU REVIEW TO DETERMINE THE COMPARABILITY OF INVESTING IN WATER UTILITIES AND THE LDCS?

A. I reviewed standard risk measures that are widely available to

investors that are considered by most investors when making investment decisions. The beta coefficient is a measure of the sensitivity of a stock's price to overall fluctuations in the market. The Value Line Investment Survey beta coefficient describes the relationship of a company's stock price with the New York Stock Exchange Composite. A beta value of less than 1.0 means that the stock's price is less volatile than the movement in the market; conversely, a beta value greater than 1.0 indicates that the stock price is more volatile than the market.

I reviewed the Value Line Safety Rank, which is defined as a measure of the total risk of a stock. The Safety Rank is calculated by averaging two variables (1) the stock's index of price stability, and (2) the Financial Strength rating of the company. In addition, I reviewed the S&P Common Stock Rating. The stock rating system takes into consideration two important factors in the determination of a stock's rating: the stability and growth of earnings and dividends. However, the stock rating does not consider a company's balance sheet or other factors. The stock rating system has seven grades, with A+ being the highest rating possible.

I also reviewed Moody's and S&P's Bond Rating, which are assessments of the creditworthiness of a company. Credit rating agencies focus on the creditworthiness of the particular bond issuer, which includes a detailed and thorough review of the potentials areas of business risk and financial risk of the company. These and other risk measures for the comparable groups are shown in my Exhibit 3 and are further explained in Appendix B.

Q. HOW DID YOU DETERMINE THE DIVIDEND YIELD COMPONENT OF THE DCF?

A. I calculated the dividend yield by using the Value Line estimate of dividends to be declared over the next 12 months divided by the price of the stock as reported in the Value Line Summary and Index sections for each week of the 13-week period of July 26, 2019, through October 18, 2019. A 13-week averaging period tends to smooth out short-term variations in the stock prices. This process resulted in an average dividend yield of 1.7% for the comparable group of water utilities and 2.6% for the LDC group utilities.

Q. HOW DID YOU DETERMINE THE EXPECTED GROWTH RATE COMPONENT OF THE DCF?

A. I employed the growth rates of the comparable group in earnings per share (EPS), dividend per share (DPS), and book value per share (BPS) as reported in Value Line over the past ten and five years. I also employed the forecasts of the growth rates of the comparable groups in EPS, DPS, and BPS, as reported in Value Line. The historical and forecast growth rates are prepared by analysts of an independent advisory service that is widely available to investors, and should also provide an estimate of investor expectations. I include both historical known growth rates and forecast growth rates because it is reasonable to expect that investors consider both sets of data in deriving their expectations.

Finally, I incorporated the consensus of various analysts' forecasts of five-year EPS growth rate projections, as reported in Yahoo Finance. The dividend yields and growth rates for each of the companies and for the average for the comparable group, as shown in my Exhibit 4.

Q. WHAT IS YOUR CONCLUSION REGARDING THE COST OF COMMON EQUITY TO THE COMPANY BASED ON THE DCF METHOD?

A. Based upon the DCF analysis for the comparable group of water

utilities, I determined that a reasonable expected dividend yield is 1.7% with an expected growth rate of 6.0% to 7.0%, which yields a 7.7% to 8.7% cost of equity result.

Based upon the DCF analysis for the comparable group of LDCs, I determined that a reasonable expected dividend yield is 2.6%, with an expected growth rate of 5.7% to 6.7%, which yields a range of results of 8.3% to 9.3% for the cost of equity.

However, my ultimate DCF based cost of equity is based on the average estimates for the two groups of companies, which I will later summarize in my Exhibit 8 that quantifies an approximate range of DCF based cost of equity estimates of 8.48% to 8.80% for DCF based cost of equity of 8.64%.

B: REGRESSION ANALYSIS METHOD

Q. PLEASE DESCRIBE YOUR RISK PREMIUM ANALYSIS.

A. The equity risk premium method can be defined as the difference between the expected return on a common stock and the expected return on a debt security. The differential between the two rates of return is indicative of the return investors require in order to compensate them for the additional risk involved with an investment in the Company's common stock over an investment in the

Company's bonds that involves less risk.

In order to quantify the risk premium, I need estimates of the cost of equity and the cost of debt at contemporaneous points in time. This method relies on approved returns on common equity for water utility companies from various public utility commissions that are published by the Regulatory Research Associates, Inc. (RRA), within SNL Global Market Intelligence. In order to estimate the relationship with a representative cost of debt capital, I have regressed the average annual allowed equity returns with the average Moody's A-rated yields for Public Utility bonds from 2006 through 2019. The regression analysis, which incorporates years of historical data, is combined with recent monthly yields to provide an estimate of the current cost of common equity.

Q. WHAT ARE THE STRENGTHS OF USING ALLOWED RETURNS?

A. The use of allowed returns as the basis for the expected equity return has strengths over other approaches that involve models that subtract a cost rate of debt from the estimated equity return. One strength of my approach is that authorized returns on equity are generally arrived at through lengthy investigations by various parties with opposing views on the rate of return required by investors.

Thus, it is reasonable to conclude that the approved allowed returns are good estimates for the cost of equity.

Q. WHAT WERE THE RESULTS OF YOUR RISK PREMIUM ANALYSIS?

A. The summary data of risk premiums shown on my Exhibit 5, page 1 of 2 indicates that the average risk premium is 5.00%, with a maximum premium of 5.78% and minimum premium of 3.73%, which when combined with the average of the last six months of A-rated bond yields produces yields with an average cost of equity of 8.70%, a maximum cost of equity of 9.48%, and a minimum cost of equity of 7.44%. However, to better estimate the current cost of equity, I employ a statistical regression in order to quantify the relationship of allowed equity returns and bond costs. My Exhibit 5, page 2 of 2, displays a regression analysis of the data that indicates a significant statistical relationship of the allowed equity returns and bond costs, such that a one percent decrease in the bond cost corresponds to an increase of approximately 26 basis points in the equity risk premium.[2.] While various studies on the cost of equity capital have differed on the level of the negative relationship of

[2] The regression indicated a significant statistical relationship of ROE=0.08599 + 0.26148, with an adjusted R^2=0.7732.

interest rates and risk premiums, there has been agreement that as interest rates fall, there is an increase in the premium.[3] Applying this relationship to the current utility bond cost of 3.71%[4] resulted in a current estimate of the cost of equity of 9.57%.

C. COMPARABLE EARNINGS METHOD

Q. PLEASE DESCRIBE YOUR COMPARABLE EARNINGS ANALYSIS.

A. I included the comparable earnings method, which incorporates reviewing earned returns on common equity for my comparable group of water and natural gas utilities. This approach is based upon the Hope case cited earlier in my testimony that maintains that an investor should be able to earn a return comparable to the returns available on alternative investments with similar risks.

Q. WHAT ARE SOME OF THE STRENGTHS AND WEAKNESSES INHERENT IN THE COMPARABLE EARNINGS METHOD?

A. A strength of this method is that information on earned returns on common equity is widely available to investors, and it is believed that investors use actual earned returns as a guide in determining their

[3] Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, "The Risk Premium Approach to Measuring a Utility's Cost of Equity." Financial Management, Spring 1985, pp. 33-45.

[4] The 3.71% current bond yield was determined using the most recent ten-month average yield-to-maturity rate of Moody's A-rated Utility Bond Yields.

expected return on an investment. A weakness is that actual earned rates of return can be impacted by factors outside the company's control, such as weather, inflation, and tax changes, including accelerated deferred income taxes. These unforeseen developments can cause a company's earned rate of return to exceed or fall short of its cost of capital during any certain period making this method somewhat less reliable than other cost of capital methods, and it suffers from circular reasoning. In addition, earned rates of return on equity may often include non-regulated income. Thus, I consider the results of this method only as a check on the results from my DCF analysis and Regression Method.

Q. HOW DID YOU APPLY THE COMPARABLE EARNING METHOD?

A. I examined the five years of historical earned returns of my comparable group of LDCs as reported in Value Line, as shown in my Exhibit 6.

Q. WHAT DID YOU CONCLUDE FROM YOUR COMPARABLE EARNINGS ANALYSIS OF THE GROUP OF COMPARABLE WATER UTILITIES?

A. Based on the earned rates of return, I conclude that the cost of equity using the comparable earnings analysis provides a

reasonable check on my results using the DCF model and the Regression Analysis of Approved ROEs. In that, some of the results for the water and gas utility groups are reasonably within or close to the results identified in the Summary analysis shown in my Exhibit 8.

D: CAPM

Q. PLEASE DESCRIBE HOW YOU USED THE CAPM.

A. The CAPM is another version of the risk premium method. As with the Comparable Earnings method, I consider the results as a check on the results of my DCF and Regression Analysis methods. The CAPM incorporates the relationship between a security's investment risk and its market rate of return. The Beta is an indicator of the relative volatility of the stock in question to the volatility of the market. The equation used to estimate the cost of equity is:

$$K = R_f + \beta(R_m - R_f)$$

Where, K = the cost of equity

R_f = the risk free rate

β = the beta coefficient

R_m = the expected return on the market.

Q. WHAT ASSUMPTIONS DID YOU USE IN YOUR CAPM

ANALYSIS?

A. The CAPM estimate was derived with the following inputs: the most recent six-month average 30-year treasury yield of 2.53% and the Value Line Betas for the comparable groups of seven water companies and nine LDCs. For the expected return on the market, I relied on historical returns on the S&P500 published by Duff and Phelps, LLC., which have continued with the original data series by Ibbottson and Associates. The annual data of large company stock returns from 1926 through 2018 generated a 10.0% return using the geometric average and 11.9% using the arithmetic return producing the following cost of equity results of 7.65%, 7.68%, 8.93%, and 8.96% as shown in my Exhibit 7.

Q. WHAT DID YOU CONCLUDE FROM YOUR CAPM?

A. I conclude that the cost of equity using the CAPM provides a reasonable check on my results using the DCF model and the Regression Analysis of Approved ROEs. However, I believe the use of the geometric return, which measures the annualized rate of return compounded over time, is the more appropriate measure of investor expectations. This position is in step with the Security and Exchange Commission's requirements for publishing earned rates of

return for mutual funds. However, I believe the 7.65% and 7.68 estimates are at the low end of CWSNC's cost of equity. As such, these results provide a limited check on my recommended cost of equity.

Q. GIVEN YOUR STUDY ON THE COST OF EQUITY, WHAT IS YOUR RECOMMENDED COST OF EQUITY?

A. Based on all of the results of my DCF model that indicate a cost of equity from 8.48% to 8.80% with a central estimate of 8.64% and Risk Premium model that indicates a cost of equity of 9.57%, I determined that the investor required rate of return for CWSNC is 9.11%, which I have rounded to 9.10%, as shown in my Exhibit 8.

Q. TO WHAT EXTENT DOES YOUR RECOMMENDED RATE OF RETURN ON COMMON EQUITY TAKE INTO CONSIDERATION THE IMPACT OF A WATER/SEWER SYSTEM IMPROVEMENT MECHANISM PURSUANT TO N.C. GEN. STAT. § 62-133.12 ON THE COMPANY'S FINANCIAL RISK?

A. In my opinion, the water and sewer improvement charge mechanism (WSIC and SSIC) provides the ability for enhanced cost recovery of the eligible capital improvements reducing regulatory lag through incremental and timely rate increases. I

believe this mechanism is seen by debt and equity investors as supportive regulation that mitigates business and regulatory risk. As such, I believe that this mechanism is noteworthy and is supportive of my recommendation.

Q. DO YOU BELIEVE THAT THE COMMISSION SHOULD RECOGNIZE THE REDUCTION IN INVESTMENT RISK FROM THE CONSUMPTION ADJUSTMENT MECHANISM (CAM)?

A. Yes. I believe that the enhanced protection from decreasing customer revenue will stabilize earnings, which should contribute to a reduction in perceived business risk and investment risk. Consumption adjustment mechanisms are relatively new to the water utility industry; however, similar mechanisms have been employed in the natural gas industry. In North Carolina, Piedmont Natural Gas, Inc.'s Consumption Utilization Tracker program was first approved in Docket No. G-9, Sub 499, and later renamed Margin Decoupling Tracker (MDT), and Public Service of North Carolina has a similar program which has worked to help stabilize the Company's earnings.

However, in those rate case proceedings where the trackers were approved, there was no explicit recognition of the decrease in the

Company's business risk in those proceedings and subsequent proceedings, indicating that any direct benefit to customers was lost. This was, in part, due to the fact that similar trackers were in operation with various other LDCs, and an argument could be made the risk reduction was somewhat captured in the market prices of the Company's common stock. However, according to a data response from Mr. D'Ascendis, only two companies in his group of water utilities, California Water Service Company and American Water Works, and of those two corporate holding companies, there are only four operating water utility subsidiaries companies with a CAM.

I believe that some recognition of the reduction in business risk introduced through the mechanism is reasonable to be enacted in this proceeding. However, quantifying this benefit is difficult. In a prior California PUC Order, 91-10-042, the PUC equated the mechanism with having the effect of a 20 basis point reduction in ROE due to reduced business risk relating to the request of certain small and medium sized (Class C and D) water utilities. In recognition of the subjective nature involved, I believe that a 10 basis point reduction in the cost rate for common equity provides a minimal degree of sharing in the benefits of the CAM. Assuming a

CAM is approved by the Commission, my recommended cost of common equity for CWSNC would be reduced by 10 basis points to 9.00%.

Q. WHAT OTHER EVIDENCE DID YOU CONSIDER IN YOUR ASSESSMENT OF THE REASONABLENESS OF YOUR RECOMMENDED RETURN?

A. In regard to reasonableness assessment with financial risk, I considered the pre-tax interest coverage ratio produced by my cost of capital recommendation. Based on the recommended capital structure, cost of debt, and equity return of 9.00%, the pre-tax interest coverage ratio is approximately 3.1 times, and the funds flow to debt ratio of 17.8%. This level of pre-tax interest coverage and funds flow coverage should allow CWSNC to qualify for a single “A” bond rating.

Q. TO WHAT EXTENT DOES YOUR RECOMMENDED RATE OF RETURN ON EQUITY TAKE INTO CONSIDERATION THE IMPACT OF CHANGING ECONOMIC CONDITIONS ON CWSNC’S CUSTOMERS?

A. I am aware of no clear numerical basis for quantifying the impact of changing economic conditions on customers in determining an

appropriate return on equity in setting rates for a public utility. Rather, the impact of changing economic conditions nationwide is inherent in the methods and data used in my study to determine the cost of equity for utilities that are comparable to CWSNC. I have reviewed certain information on the economic conditions in the areas served by CWSNC, specifically, the 2016 and 2017 data on total personal income from the Bureau of Economic Analysis (BEA) and the 2019 Development Tier Designations published by the North Carolina Department of Commerce for the counties in which CWSNC's systems are located. The BEA data indicates that total personal income weighted by the number of water customers by county grew at a compound annual growth rate (CAGR) of approximately 3.1%.

The North Carolina Department of Commerce annually ranks the state's 100 counties based on economic well-being and assigns each a Tier designation. The most distressed counties are rated a "1," and the most prosperous counties are rated a "3." The rankings examine several economic measures such as household income, poverty rates, unemployment rates, population growth, and per capita property tax base. For 2017, the average Tier ranking that has been weighted by the number of water customers by

county is 2.5. Both of these economic measures indicate that there have been improvements in the economic conditions for CWSNC's service area relative to the three previous rate increases in Docket Nos. W-354, Subs 360, 356, and 344 that were approved in 2018, 2017, and 2015, respectively.

As discussed above, it is the Commission's duty to set rates as low as reasonably possible consistent within constitutional constraints. This duty exists regardless of the customers' ability to pay. Moreover, the rate of return on common equity is only one component of the rate established by the Commission. N.C. Gen. Stat. § 62-133 sets out an intricate formula for the Commission to follow in determining a utility's overall revenue requirement. It is the combination of rate base, expenses, capital structure, cost rates for debt and equity capital, and capital structure that determines how much customers pay for utility service and how much investors receive in return for their investment. The Commission must exercise its best judgment in balancing the interests of both groups. My analysis indicates that my recommended rate of return on equity will allow the Company to properly maintain its facilities, provide adequate service to its customers, attract capital on terms that are fair and reasonable to its customers and investors, and will

result in rates that are just and reasonable.

V. CONCERNS WITH COMPANY WITNESS D'ASCENDIS' TESTIMONY

Q. DO YOU HAVE CONCERNS ABOUT COMPANY WITNESS D'ASCENDIS' TESTIMONY?

A. Yes. I have identified several areas of concern with his testimony.

Interest Rate Forecasts for Ratemaking

As noted, I have concerns with forecast errors associated with the use of interest rate forecasts to determine the cost of equity. In this proceeding, Mr. D'Ascendis relies on the Blue Chip Consensus Forecasts of 30-year treasury yields of 3.33% in his CAPM analysis, as shown in his Exhibit 1, Schedule DWD-5. However, it is worth noting that the witness relied on a similar average of forecasts for 30-year yields in his predictive CAPM analysis in the 2018 rate case. The calculation of the 3.69% risk free rate is derived from eight individual points in time forecasts from the second quarter 2018 through 2028; however, six of the eight point forecasts, which cover the period through the third quarter 2019, have already transpired which allow one to review the accuracy of these forecasts. Since the filing of his 2018 rate case testimony,

the highest yield observed over the third quarter of 2019 is 2.65%, the average was 2.29%, and the lowest yield was 1.94%. As observed in prior rate cases, interest rate forecasts have a tendency to over-estimate the future level of interest rates by a significant degree, which I maintain are inappropriate for ratemaking.

Risk Adjustment for Small Size

Another concern with his testimony is his 40 basis point adjustment for the size of CWSNC. I do not believe that it is appropriate to add a risk premium to the cost of equity due to the size of a regulated utility. CWSNC is owned by the Corix Utilities, Inc., which is owned by the British Columbia Investment Management Corporation (BCIMC). Corix Utilities has a significant influence over the balances of common equity and long-term debt of Utilities, Inc. and CWSNC. Corix determines the amounts of dividend payments to BCIMC and the frequency of those payments. My reasons are as follows: first, from a regulatory policy perspective, ratepayers should not be required to pay higher rates because they are located in the franchise area of a utility of a size which is arbitrarily considered to be small. Further, if such adjustments were routinely allowed, an incentive would exist for large existing utilities to form

subsidiaries when merging or even to form subsidiaries as to obtain higher allowed returns. Lastly, CWSNC operates in a franchise environment that insulates the Company from competition, and it operates with procedures in place that allow for rate adjustments for eligible capital improvements, cost increases, and other unusual circumstances that impact its earnings.

CWSNC operates in the water and sewer industry, where expensive bottled water provides the only alternative to utility service. It is factually correct that rating agencies and investors add a risk factor for small companies with relatively limited capital resources; however, the inherent protection from competition removes this risk that would otherwise be a concern to investors.

I testified to these same concerns in the last CWSNC rate case, Docket No. W-354, Sub 360, where the Commission found that a size adjustment was not warranted. Similar arguments have been made in a 1997 CWS System, Inc., rate case, Docket No. W-778, Sub 31, where witness Hanley of AUS Consultants, who relied on similar cost of capital methods as witness D'Ascendis, as noted on pages 824-825 in its Eighty-Seventh Report of Orders and Decisions. In a 1994 CWSNC rate case where in both cases the

Commission was not persuaded to accept an adjustment for small size and its elevated risk, as noted in on page 520 in its Eighty-Fourth Report of Orders and Decisions. The explicit consideration of the small size of a regulated utility has been argued before this Commission in a rate case involving North Carolina Natural Gas, Inc. (NCNG), Docket No. G-21, Sub 293. In an Order dated December 6, 1991, the Commission disagreed with the Company witness who testified that the Company's small size warranted the selection of other small sized companies in his proxy group. The Commission stated on page 563 in its Eighty-First Report of Orders and Decisions:

> "Dr. Andrews selected a group of 16 companies, including NCNG, in his DCF model (and his CAPM) because they are all publicly traded, they are all small in size, and they are all principally in the local gas distribution business. He testified that these companies were the "best available* in terms of being comparable to NCNG. In contrasting his comparable group to those of witness Hinton, Dr. Andrews stated that it was better to have some similarity in size among the companies even if this meant some dissimilarity in financial attributes. The Commission disagrees. If a group of companies is to be screened for comparability in terms of investor expectations, financial attributes are far more relevant than size."

While there are published studies that address how the small size of a company relates to higher risks, I am aware of only one study

by Dr. Annie Wong[5] that focuses on the size of regulated utilities and risk. Whereas published journal articles generally rely on company size and return data for a multitude of privately held companies covered by the Center for Research in Security Prices[6] (CRSP); any correlation with the smaller size of a company and higher stock returns is dominated by industrial firms as Dr. Wong notes in her published article. Dr. Wong has tested the data for a size premium in utilities and concluded that "unlike industrial stocks, utility stocks do not exhibit a significant size premium. As explained, there are several reasons why such a size premium would not be attributable to utilities because they are regulated closely by state and federal agencies and commissions, and hence, their financial performance is monitored on an ongoing basis by both the state and federal governments."

Lastly, after reviewing Mr. D'Ascendis' study where he performed a statistical analysis known as the coefficient of variation (CoV) and divided the standard deviation of the annual net profits of Value Line's utility groups companies from 2009 through 2018 and the market capitalizations. With this data, he performed a regression

[5] Annie Wong, "Utility Stocks and the Size Effect: An Empirical Analysis," Journal of the Midwest Finance Association, pp. 95-101, (1993).
[6] Center for Research in Security Prices, University of Chicago, Booth School of Business, Chicago, IL.

on the Company's CoV of net profits with its market capitalization, which generated his R-Squared values. I reviewed his analysis and was not persuaded that his analysis adequately supports his conclusion that a 40 basis point adjustment is warranted. His review of the variation of a company's net profits as a proxy for the riskiness of a company may be reasonable; however, it would seem logical to rely on other better known measures of risk; such as market to book ratio, bond ratings, safety rank, or others identified in my Exhibit 3. Adequate time has not allowed me to repeat this study with alternate measures of risk and thoroughly review his findings. Furthermore, it is a lot to ask of this Commission to change from its previous findings on this issue of whether small-sized regulated utilities should receive a risk premium, especially with a non-peer reviewed study.

CAPITAL STRUCTURE OF A PARENT CORPORATION AS COMPARED TO THAT OF A REGULATED UTILITY

I have concerns with Mr. D'Ascendis's comparison of the ratemaking capital structure of Utilities, Inc. and that of his water utility proxy group. Page 2 of his Schedule DWD-2 displays the 55.57% average equity ratio for his six corporate parent or holding companies. He opines that the proposed capital structure with a

47.96% equity ratio contains a conservative level of equity as compared to his average capital structure ratios. While he is correct that the Company proposed an equity ratio of 47.96% is significantly less than 55.57% average ratio and my recommended 49.10% equity ratio is also less than his 5-year average equity ratio. However, I offer that this comparison is deficient, in that, it is better to contrast recently Commission approved common equity ratios for regulated water and wastewater utilities than to make comparisons with equity ratios of a corporate parent or a holding company. Often, parent corporations are invested in other non-regulated businesses that involve higher risks and higher rates of returns, as compared to the regulated operations of a water and wastewater utility. Secondly, the acquisition policies of large corporate utilities may result in equity ratios that may not be comparable to CWSNC or Utilities, Inc. As such, I believe a better comparison of financial risk in connection with an equity ratio is demonstrated in my Exhibit 9 which has the average annual approved common equity ratios for water and wastewater utilities of 50.81% for the years 2014 through 2018 and the first six months of 2019 as compiled by the Regulatory Research Associates of S&P Global Market Intelligence. Similarly, the average all of the individual rate case decisions is

51.04%. The data indicates that the average approved equity ratios of water and wastewater utilities are significantly less than the 5-year average equity ratio identified on page 2 of Schedule DWD-2, and it is relatively close to the Public Staff's recommended equity ratio.

Q. DO YOU AGREE WITH CONCERNS TO ADD BASIS POINTS TO THE DCF BASED COST OF EQUITY TO ACCOUNT FOR MARKET TO BOOK RATIOS SIGNIFICANTLY GREATER THAN 1.0?

A. No. Witness D'Ascendis Rebuttal Testimony filed in Docket No. W-354, Sub 360, argued that the fact that the market to book ratios of the water utility proxy group was approximately 2.25 times and that the high ratio was causing inaccuracies in the DCF model. Furthermore, one needed to de-leverage the implied cost of equity with the use of the Modigliani/Miller equation, which would increase his 8.70% cost of equity to 9.91% cost of equity[7]. This argument presumes that the value of assets prescribed by regulated accounting methods and market valuation is in some degree of lock-step, which I do not accept. Secondly, FERC and the FCC have ruled in prior cost of capital investigations that claims that market-to-book valuations being greater than 1.0 leads to the DCF

model understatement of the cost of equity[7]. FERC found that during periods of falling interest rates, the cost of equity falls; however, the result is a tendency for utilities to earn more than their shareholders require and market values will exceed book values. FERC went on to say there is a similar tendency with rising interest rates and rising costs of equity. In that, utilities will file frequent rate cases in order to protect their shareholders, and the result will be to maintain its market-to-book ratio during periods of rising equity costs. Furthermore, in 1988, the FERC noted that this argument "is an old one, and the problem of circularity inherent in that approach has been long and widely recognized."

VI. SUMMARY AND RECOMMENDATIONS

Q. WOULD YOU PLEASE SUMMARIZE YOUR RECOMMENDATIONS CONCERNING THE COST OF CAPITAL?

A. Based upon the results of this study, it is my recommendation that the appropriate capital structure to employ for ratemaking purposes in this proceeding consists of 50.90% long-term debt and 49.10% common equity. The appropriate embedded cost of long-term debt associated with this capital structure is 5.36%, and the

[7] Federal Communications Commission Record 91-389, p. 7196 and Federal Register, Vol 53, No. 24, pages 3,347 and 3,348.

recommended cost of common equity of 9.00%. My recommended overall weighted cost of capital produced is 7.15%, as shown in my Exhibit 10.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

QUALIFICATIONS AND EXPERIENCE

JOHN ROBERT HINTON

I received a Bachelor of Science degree in Economics from the University of North Carolina at Wilmington in 1980 and a Master of Economics degree from North Carolina State University in 1983. I joined the Public Staff in May of 1985. I filed testimony on the long-range electrical forecast in Docket No. E-100, Sub 50. In 1986, 1989, and 1992, I developed the long-range forecasts of peak demand for electricity in North Carolina. I filed testimony on electricity weather normalization in Docket Nos. E-7, Sub 620, E-2, Sub 833, and E-7, Sub 989. I filed testimony on customer growth and the level of funding for nuclear decommissioning costs in Docket No. E-2, Sub 1023. I filed testimony on the level of funding for nuclear decommissioning costs in Docket Nos. E-7, Sub 1026 and E-7, Sub 1146. I have filed testimony on the Integrated Resource Plans (IRPs) filed in Docket No. E-100, Subs 114 and 125, and I have reviewed numerous peak demand and energy sales forecasts and the resource expansion plans filed in electric utilities' annual IRPs and IRP updates.

I have been the lead analyst for the Public Staff in numerous avoided cost proceedings, filing testimony in Docket No. E-100, Subs 106, 136, 140, 148, and Sub 158. I have filed a Statement of Position in the arbitration

case involving EPCOR and Progress Energy Carolinas in Docket No. E-2, Sub 966. I have filed testimony in avoided cost related to the cost recovery of energy efficiency programs and demand side management programs in Dockets Nos. E-7, Sub 1032, E-7, Sub 1130, E-2, Sub 1145, and E-2, Sub 1174.

I have filed testimony on the issuance of certificates of public convenience and necessity (CPCN) in Docket Nos. E-2, Sub 669, SP-132, Sub 0, E-7, Sub 790, E-7, Sub 791, and E-7, Sub 1134.

I filed testimony on the merger of Dominion Energy, Inc. and SCANA Corp. in Docket Nos. E-22, Sub 551, and G-5, Sub 585.

I have filed testimony on the issue of fair rate of return in Docket Nos. E-22, Sub 333; E-22, Sub 412; P-26, Sub 93; P-12, Sub 89; G-21, Sub 293;P-31, Sub 125; G-5, Sub 327; G-5, Sub 386; G-9, Sub 351; P-100, Sub 133b; P-100, Sub 133d (1997 and 2002); G-21, Sub 442; W-778, Sub 31; W-218, Sub 319, E-22, Sub 532, and W-218, Sub 497, W-354, Sub 360; G-9, Sub 743, and in several smaller water utility rate cases. I have filed testimony on credit metrics and the risk of a downgrade in Docket No. E-7, Sub 1146.

I have filed testimony on the hedging of natural gas prices in Docket No. E-2, Subs 1001 and 1018. I have filed testimony on the expansion of natural gas in Docket No. G-5, Subs 337 and 372. I performed the financial analysis in the two audit reports on Mid-South Water Systems, Inc., Docket No. W-100, Sub 21. I testified in the application to transfer of the CPCN from North Topsail Water and Sewer, Inc. to Utilities, Inc., in Docket No. W-1000, Sub 5. I have filed testimony on rainfall normalization with respect of water sales in Docket No. W-274, Sub 160.

With regard to the 1996 Safe Drinking Water Act, I was a member of the Small Systems Working Group that reported to the National Drinking Water Advisory Council of the U.S. Environmental Protection Agency. I have published an article in the National Regulatory Research Institute's Quarterly Bulletin entitled Evaluating Water Utility Financial Capacity.

RISK MEASURES

VALUE LINE SAFETY RANK

The Safety Rank is a measure of the total risk of a stock. It includes factors unique to the company's business such as its financial condition, management competence, etc. The Safety Rank is derived by averaging two variables: the stock's Price Stability Index, and the Financial Strength Rating of the company. The Safety Rank ranges from 1 (Highest) to 5 (Lowest).

VALUE LINE BETA (ß)

The Beta is derived from a regression analysis between weekly percent changes in the price of a stock and weekly percent price changes in the New York Stock Exchange Composite Index over a period of five years.

There has been a tendency over the years for high Beta stocks to become lower and for low Beta stocks to become higher. This tendency can be measured by studying Betas of stocks in five consecutive intervals. The Betas published in the Value Line Investment Survey are adjusted for this tendency and hence are likely to be better predictors of future Betas than those based exclusively on the experience of the past five years.

The New York Stock Exchange Composite Index is used as the basis for calculating the Beta because this index is a good proxy for the complete equity portfolio. Since Beta's significance derives primarily from its usefulness in portfolios rather than individual stocks, it is best constructed by relating to an overall market portfolio. The Value Line Index, because it weights all stocks equally, would not serve as well.

The security's return is regressed against the return on the New York Stock Exchange Composite Index over the past five years so that 259 observations of weekly price changes are used. Value Line adjusts its estimate of Beta ($ß_i$) for regression described by Blume (1971). The estimated Beta is adjusted as follows:

$$\text{Adjusted } ß_i = 0.35 + 0.67ß$$

VALUE LINE FINANCIAL STRENGTH RATING

The Financial Strength Ratings are primarily a measure of the relative financial strength of a company. The rating considers key variables such as coverage of debt, variability of return, stock price stability, and company size. The Financial Strength Ratings range from the highest at A++ to the lowest at C.

VALUE LINE PRICE STABILITY INDEX

The Price Stability Index is based upon a ranking of the standard deviation of weekly percent changes in the price of a stock over the last five years. The top 5% carry a Price Stability Index of 100; the next 5%, 95; and so on down to an Index of 5.

VALUE LINE EARNINGS PREDICTABILITY INDEX

The Earnings Predictability Index is a measure of the reliability of an earnings forecast. The most reliable forecasts tend to be those with the highest rating (100), the least reliable (5).

S&P BETA (ß)

The Beta is derived from a regression analysis between 60 months of price changes in a company's stock price (plus corresponding dividend yield) and the monthly price changes in the S&P 500 Index (plus corresponding dividend yield). Prices and dividends are adjusted for all subsequent stock splits and stock dividends.

S&P BOND RATING

The S&P Bond Ratings is an appraisal of the credit quality based on relevant risk factors. S&P reviews both the company's financial and business profiles. Shown below are the rankings:

AAA An extremely strong capacity to pay interest and repay principal.

AA+ A very strong capacity to pay interest and repay principal.
AA There is only a small degree of difference between "AAA" or "AA."
AA- debt issues.

A+ A strong capacity to pay interest and repay principal. These
A these ratings indicate the obligor is more susceptible to
A- changes in economic conditions than AAA" or "AA" debt issues.
BBB+ An adequate capacity to pay interest and repay principal.
BBB economic conditions or changing circumstances are more likely to
BBB- lead to a weakened capacity to pay interest and repay principal.

BB+ "BB" indicates less near-term vulnerability to default than other
BB speculative issues. However, these bonds face major ongoing
BB- uncertainties or exposure to adverse conditions that could lead to
inadequate capacity to meet timely interest and principal payments.

S&P STOCK RANKING

The S&P Stock Rankings is an appraisal of the growth and stability of the company's earnings and dividends over the past 10 years. The final score for each stock is measured against a scoring matrix determined by an analysis of the scores of a large and representative sample of stocks. Shown below are the rankings:

A+	Highest
A	High
A-	Above average
B+	Average
B	Below Average
B-	Lower
C	Lowest
D	In Reorganization
NR	Not rated

MOODY'S BOND RATING

Moody's Bond Ratings assign a rating on the creditworthiness of an obligor. Such ratings reflect both the likelihood of default and any financial loss suffered in the event of a default. Shown below are the rankings:

Aaa Obligations rated Aaa are judged to be of the highest quality with minimal risk.

Aa Obligations rated Aa are judged to be of the high quality and are subject to low credit risk.

A Obligations rated A are considered upper-medium-grade and are subject to low credit risk.

Baa Obligations rated Baa are subject to moderate credit-risk. They are considered medium-grade and are subject to substantial credit risk.

Ba Obligations rated Baa are subject to have speculative and are subject to substantial credit risk.

B Obligations rated B are considered speculative and are subject to high credit risk.

Caa Obligations rated Caa are judged to be of poor standing and are subject to very high credit risk.

Ca Obligations rated Ca are highly speculative and are likely in, or very near default with some prospect of recovery in principle and interest.

C Obligations rated C are the lowest-grade class of bonds and are typically in default, with little prospect of recovery in principle and interest.

Sources:

1. Value Line Investment Analyzer, Version 3.0.15a, New York, NY.
2. Standard & Poor's, Utility Compustat II, September 15, 1993, New York, NY.

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. W-354, SUB 364

In the Matter of Application by Carolina Water Service, Inc. of North Carolina, 4944 Parkway Plaza Boulevard, Suite 375, Charlotte, North Carolina, 28217, for Authority to Adjust and Increase Rates for Water and Sewer Utility Service in All of its Service Areas in North Carolina	))))))	SUPPLEMENTAL TESTIMONY OF JOHN R. HINTON PUBLIC STAFF – NORTH CAROLINA UTILITIES COMMISSION

CAROLINA WATER SERVICE, INC. OF NORTH CAROLINA
DOCKET NO. W-354, SUB 364

SUPPLEMENTAL TESTIMONY OF JOHN R. HINTON
ON BEHALF OF THE PUBLIC STAFF
NORTH CAROLINA UTILITIES COMMISSION

NOVEMBER 26, 2019

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

A. My name is John R. Hinton, and my business address is 430 North Salisbury Street, Raleigh, North Carolina. I am the Director of the Economic Research Division of the Public Staff.

Q. ARE YOU THE SAME JOHN R. HINTON WHOSE DIRECT TESTIMONY WAS FILED IN THIS DOCKET ON NOVEMBER 4, 2019?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL DIRECT TESTIMONY?

A. The purpose of my testimony is to revise my recommended cost rate of common equity. On November 18, 2019, the Company withdrew its proposed Consumption Adjustment Mechanism (CAM). In my November 4, 2019, filed testimony, I reduced my recommended

return on equity by 10 basis points from 9.10% to 9.00%. As such, I feel it is appropriate to increase my recommended cost rate to 9.10%. However, I maintain that it is reasonable that investors view the recently approved legislation to allow CAMs as a significant step in demonstrating the supportive regulatory environment in North Carolina, which, when enacted, will reduce the operating risk of the utility and contribute to a lower investor required rate of return. Therefore, I believe it is best to address the full impact of a CAM in the Company's next rate case.

Q. HOW DOES THE 9.10% RECOMMENDED COST RATE FOR COMMON EQUITY IMPACT YOUR RECOMMENDED OVERALL COST OF CAPITAL?

A. The use of the 9.10% recommended cost of common equity with the recommended cost of long term debt and capital structure ratios increased the overall cost of capital by five basis points to 7.20%, as shown in my Supplemental Hinton Exhibit 10.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

1 COMMISSIONER BROWN-BLAND: Mr. Hinton, you may
2 be excused.
3 (Witness excused.)
4 COMMISSIONER BROWN-BLAND: We will take a break
5 at this time and come back at 3:55.
6 (Recess taken from 3:37 p.m. to 3:55 p.m.)
7 COMMISSIONER BROWN-BLAND: We'll come back to
8 order now and go back on the record. Company?
9 MR. BENNINK: The Company calls Dylan W.
10 D'Ascendis, please.
11 DYLAN W. D'ASCENDIS; Having first been duly sworn,
12 Testified as follows:
13 DIRECT EXAMINATION BY MR. BENNINK:
14 Q Mr. D'Ascendis, would you state your name and
15 business address for the record, please?
16 A Sure. My name is Dylan W. D'Ascendis. I work
17 in -- I'm a Director at ScottMadden, and my business
18 address is 3000 Atrium Way, Mount Laurel, New Jersey,
19 08054.
20 Q And are you appearing here today on behalf
21 Carolina Water Service?
22 A I am.
23 Q Did you prefile testimony on June 28th --
24 direct testimony consisting of 54 pages on June 28th?

A Yes.

Q And attached to that you had an Appendix A which are your Professional Qualifications, correct?

A That's right.

Q And then you had an Exhibit Number 1, Schedules DWD-1 through DWD-8; is that correct?

A That's right.

Q If I were to ask you the same questions that appear in you testimony, would your answers be the same today?

A They would.

Q Do you have any corrections or additions to make?

A I don't.

MR. BENNINK: Commissioner Brown-Bland, we would ask that Mr. D'Ascendis' direct testimony be copied into the record as if given orally from the stand and that his three (sic) exhibits be identified as marked.

COMMISSIONER BROWN-BLAND: Without objection, that motion will be allowed.

(Whereupon, the prefiled direct testimony of Dylan W. D'Ascendis was copied into the record as if given orally from the stand.)

(Whereupon, D'Ascendis Exhibit Number 1, Schedules DWA-1 through DWA-8, was identified as premarked.)

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. W-354, SUB 364

In the Matter of Application of Carolina Water Service, Inc. of North Carolina for Adjustment of Rates and Charges, Approval of a Conservation Rate Pilot Program, and Modifications to Certain Terms and Conditions for the Provision of Water and Sewer Service.	))))))	DIRECT TESTIMONY OF DYLAN W. D'ASCENDIS ON BEHALF OF CAROLINA WATER SERVICE, INC. OF NORTH CAROLINA

APPENDIX 12
SCHEDULE G-5

June 28, 2019

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I. INTRODUCTION

A. Witness Identification

Q. Please state your name and business address.

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

Q. By whom are you employed and in what capacity?

A. I am a Director at ScottMadden, Inc.

B. Background and Qualifications

Q. Please summarize your professional experience and educational background.

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

II. PURPOSE OF TESTIMONY

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony is to present evidence on behalf of Carolina Water Service, Inc. of North Carolina. ("CWSNC" or the "Company") about the appropriate capital structure and corresponding cost rates the Company should be given the opportunity to earn on its jurisdictional rate base.

Q. Have you prepared an exhibit in support of your recommendation?

A. Yes. I have prepared D'Ascendis Exhibit No. 1, which consists of Schedules DWD-1 through DWD-8.

Q. What is your recommended cost of capital for CWSNC?

A. I recommend the North Carolina Utilities Commission (the "Commission") authorize the Company the opportunity to earn an overall rate of return of 8.07% based on a test year ending March 31, 2019. The ratemaking capital structure consists of 52.04% long-term debt at an embedded debt cost rate of 5.59%, and 47.96% common equity at my recommended common equity cost rate of 10.75%. The overall rate of return is summarized on page 1 of Schedule DWD-1 and in Table 1 below:

Table 1: Summary of Overall Rate of Return

Type of Capital	Ratios	Cost Rate	Weighted Cost Rate
Long-Term Debt	52.04%	5.59%	2.91%
Common Equity	47.96%	10.75%	5.16%
Total	100.00%		8.07%

III. SUMMARY

Q. Please summarize your recommended common equity cost rate.

A. My recommended common equity cost rate of 10.75% is summarized on page 2 of Schedule DWD-1. I have assessed the market-based common equity cost rates of companies of relatively similar, but not necessarily identical, risk to CWSNC. Using companies of relatively comparable risk as proxies is consistent with the principles of fair rate of return established in the *Hope*[1] and *Bluefield*[2] cases. No proxy group can be identical in risk to any single company, so there must be an evaluation of relative risk between the company and the proxy group to see if it is appropriate to make adjustments to the proxy group's indicated rate of return.

My recommendation results from the application of several cost of common equity models, specifically the Discounted Cash Flow ("DCF") model, the Risk Premium Model ("RPM"), and the Capital Asset Pricing Model ("CAPM"), to the market data of a proxy group of six water companies ("Utility Proxy Group") whose selection criteria will be discussed below. In addition, I also applied the DCF, RPM, and CAPM to a proxy group of domestic, non-price regulated companies comparable in total risk to the six water companies ("Non-Price Regulated Proxy Group").

The results derived from each are as follows:

---

1 *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).
2 *Bluefield Water Works Improvement Co. v. Public Serv. Comm'n*, 262 U.S. 679 (1922).

Table 2: Summary of Common Equity Cost Rate

	Utility Proxy Group
Discounted Cash Flow Model	8.70%
Risk Premium Model	10.62
Capital Asset Pricing Model	10.21
Cost of Equity Models Applied to Comparable Risk, Non-Price Regulated Companies	11.78
Indicated Common Equity Cost Rate Before Adjustment	10.35%
Size Adjustment	0.40
Recommended Common Equity Cost Rate After Adjustment	10.75%

After analyzing the indicated common equity cost rates derived through these models, I conclude that a common equity cost rate of 10.35% for the Company is indicated before any Company-specific adjustments. The indicated common equity cost rate was then adjusted upward by 0.40% to reflect CWSNC's smaller relative size as compared with the members of the Utility Proxy Group, resulting in a size-adjusted indicated common equity cost rate of 10.75%, which is my recommendation.

IV. GENERAL PRINCIPLES

Q. What general principles have you considered in arriving at your recommended common equity cost rate of 10.75%?

A. In unregulated industries, the competition of the marketplace is the principal determinant of the price of products or services. For regulated public utilities, regulation must act as a substitute for marketplace competition. Assuring that the utility can fulfill its obligations to the public, while providing

safe and reliable service at all times, requires a level of earnings sufficient to maintain the integrity of presently invested capital. Sufficient earnings also permit the attraction of needed new capital at a reasonable cost, for which the utility must compete with other firms of comparable risk, consistent with the fair rate of return standards established by the U.S. Supreme Court in the previously cited *Hope* and *Bluefield* decisions. Consequently, marketplace data must be relied on in assessing a common equity cost rate appropriate for ratemaking purposes. Just as the use of the market data for the proxy group adds reliability to the informed expert's judgment used in arriving at a recommended common equity cost rate, the use of multiple generally accepted common equity cost rate models also adds reliability and accuracy when arriving at a recommended common equity cost rate.

A. <u>Business Risk</u>

Q. Please define business risk and explain why it is important to the determination of a fair rate of return.

A. Business risk is the riskiness of a company's common stock without the use of debt and/or preferred capital. Examples of such <u>general</u> business risks faced by all utilities (*i.e.*, electric, natural gas distribution, and water) include size, the quality of management, the regulatory environment in which utilities operate, customer mix and concentration of customers, service territory growth, and capital intensity. All of these have a direct bearing on earnings.

Consistent with the basic financial principle of risk and return, business risk is important to the determination of a fair rate of return, because the higher the level of risk, the higher the rate of return investors demand.

Q. What business risks do the water and wastewater industries face in general?

A. Water and wastewater utilities have an ever-increasing responsibility to be stewards of the environment from which water supplies are drawn in order to preserve and protect essential natural resources of the United States. This increased environmental stewardship is a direct result of compliance with the Safe Water Drinking Act and response to continuous monitoring by the Environmental Protection Agency ("EPA") and state and local governments of the water supply for potential contaminants and their resultant regulations. This, plus aging infrastructure, necessitate additional capital investment in the distribution and treatment of water, exacerbating the pressure on free cash flows arising from increased capital expenditures for infrastructure repair and replacement. The significant amount of capital investment and, hence, high capital intensity, is a major risk factor for the water and wastewater utility industry.

Value Line Investment Survey ("*Value Line*") observes the following about the water utility industry:

> Following years of neglect, water utilities have been spending heavily to upgrade the nation's deteriorating pipelines over the past decade. According to the American Society of Civil Engineers ("ACSE"), most

> pipes in America were laid early to mid-20th century, with an average lifespan of between 75 and 100 years. Many of these assets are currently in great need of repair or replacement. Indeed, the ASCE estimates that almost six billion gallons of water are lost per day as a result of leaky pipes. In other terms, this is 14%-18% of the amount of water treated daily.
>
> State regulatory commissions are extremely important because they literally set the rate of return that a utility is allowed to earn on its investment. <u>No matter how well run a company is, harsh treatment by authorities is nearly impossible to overcome.</u> Fortunately, regulators have [sic] utilities have been successfully working together. They realize that many [sic] of the water infrastructure in the U.S. need to be upgraded and that the task will require a lot of money. Thus, states are permitting the utilities to make a decent return on their assets. [3] (emphasis added)

The water and wastewater industry also experiences low depreciation rates. Depreciation rates are one of the principal sources of internal cash flows for all utilities (through a utility's depreciation expense), and are vital for a company to fund ongoing replacements and repairs of water and wastewater systems. Water / wastewater utility assets have long lives, and therefore have long capital recovery periods. As such, they face greater risk due to inflation, which results in a higher replacement cost per dollar of net plant.

Substantial capital expenditures, as noted by *Value Line,* will require significant financing. The three sources of financing typically used are debt, equity (common and preferred), and cash flow. All three are intricately linked to the opportunity to earn a sufficient rate of return as well as the

[3] *Value Line Investment Survey*, April 12, 2019.

ability to achieve that return. Consistent with *Hope* and *Bluefield*, the return must be sufficient to maintain credit quality as well as enable the attraction of necessary new capital, be it debt or equity capital. If unable to raise debt or equity capital, the utility must turn to either retained earnings or free cash flow,[4] both of which are directly linked to earning a sufficient rate of return. The level of free cash flow represents a utility's ability to meet the needs of its debt and equity holders. If either retained earnings or free cash flow is inadequate, it will be nearly impossible for the utility to attract the needed capital for new infrastructure investment necessary to ensure quality service to its customers. An insufficient rate of return can be financially devastating for utilities as well as a public safety issue for their customers.

The water and wastewater utility industry's high degree of capital intensity and low depreciation rates, coupled with the need for substantial infrastructure capital spending, require regulatory support in the form of adequate and timely rate relief, particularly a sufficient authorized return on common equity, so that the industry can successfully meet the challenges it faces.

[4] Free Cash Flow = Operating Cash Flow (Funds From Operations) minus Capital Expenditures.

B. Financial Risk

Q. Please define financial risk and explain why it is important to the determination of a fair rate of return.

A. Financial risk is the additional risk created by the introduction of debt and preferred stock into the capital structure. The higher the proportion of debt and preferred stock in the capital structure, the higher the financial risk (*i.e.* likelihood of default). Therefore, consistent with the basic financial principle of risk and return, investors demand a higher common equity return as compensation for bearing higher default risk.

Q. Can bond and credit ratings be a proxy for the combined business and financial risk (*i.e.*, investment risk of an enterprise)?

A. Yes, similar bond ratings/issuer credit ratings reflect, and are representative of, similar combined business and financial risks (*i.e.*, total risk) faced by bond investors.[5] Although specific business or financial risks may differ between companies, the same bond/credit rating indicates that the combined risks are roughly similar, albeit not necessarily equal, as the purpose of the bond/credit rating process is to assess credit quality or credit risk and not common equity risk.

[5] Risk distinctions within S&P's bond rating categories are recognized by a plus or minus, i.e., within the A category, an S&P rating can be at A+, A, or A-. Similarly, risk distinctions for Moody's ratings are distinguished by numerical rating gradations, i.e., within the A category, a Moody's rating can be A1, A2 and A3.

Q. That being said, do rating agencies reflect company size in their bond ratings?

A. No. Neither S&P nor Moody's have minimum company size requirements for any given rating level. This means, all else equal, a relative size analysis needs to be conducted for companies with similar bond ratings.

V. CAPITAL STRUCTURE

Q. What capital structure ratios do you recommend be employed in developing an overall fair rate of return appropriate for the Company?

A. I recommend the use of a ratemaking capital structure consisting of 52.04% long-term debt and 47.96% common equity as shown on page 1 of Schedule DWD-1. This capital structure is based on a test year capital structure for CWSNC, ending March 31, 2019.

Q. How does your proposed ratemaking common equity ratio of 47.96% for CWSNC compare with the total equity ratios maintained by the companies in your Utility Proxy Group?

A. My proposed ratemaking common equity ratio of 47.96% for CWSNC is reasonable and consistent with the range of common equity ratios maintained, on average, by the companies in the Utility Proxy Group on which I base my recommended common equity cost rate. As shown on page 2 of Schedule DWD-2, the common equity ratios of the Utility Proxy Group range from 43.40% to 63.46%, with a midpoint of 53.43% and an average of 54.75% in 2018. The equity ratio, on average, maintained by

the Utility Proxy Group is higher than the equity ratio requested by the Company.

In my opinion, a capital structure consisting of 52.04% long-term debt and 47.96% common equity is appropriate for ratemaking purposes for CWSNC in the current proceeding because it is comparable, but conservative, to the average capital structure ratios (based on total permanent capital) maintained by the water companies in the Utility Proxy Group on whose market data I base my recommended common equity cost rate.

Q. What cost rate for long-term debt is most appropriate for use in a cost of capital determination for CWSNC?

A. A long-term debt cost rate of 5.59% is reasonable and appropriate as it is based on a test year of the Company's long-term debt outstanding ending March 31, 2019.

VI. CWSNC AND THE UTILITY PROXY GROUP

Q. Are you familiar with the operations of CWSNC?

A. Yes. CWSNC is headquartered in Charlotte, North Carolina, and its operations span the state from Bear Paw to Corolla. CWSNC serves approximately 35,000 water customers and 15,000 sewer customers. CWSNC is not publicly-traded.

Q. Please explain how you chose your proxy group of six water companies.

A. The basis of selection for the Utility Proxy Group was to select those companies which meet the following criteria:

(i) They are included in the Water Utility Group of *Value Line's Standard or Small and Midcap Editions* (April 12, 2019);

(ii) They have 70% or greater of 2018 total operating income and 70% or greater of 2018 total assets attributable to regulated water operations;

(iii) At the time of preparation of this testimony, they had not publicly announced that they were involved in any major merger or acquisition activity (*i.e.*, one publicly-traded utility merging with or acquiring another);

(iv) They have not cut or omitted their common dividends during the five years ending 2018 or through the time of the preparation of this testimony;

(v) They have *Value Line* and Bloomberg adjusted betas;

(vi) They have a positive *Value Line* five-year dividends per share ("DPS") growth rate projection; and

(vii) They have *Value Line*, Reuters, Zacks, or Yahoo! Finance consensus five-year earnings per share ("EPS") growth rate projections.

The following six companies met these criteria: American States Water Co., American Water Works Co., Inc., Artesian Resources, Inc., California Water Service Group, Middlesex Water Co., and York Water Co.

Q. Please describe schedule DWD-2, page 1.

A. Page 1 of Schedule DWD-2 contains comparative capitalization and financial statistics for the six water companies identified above for the years 2014 to 2018.

During the five-year period ending 2018, the historically achieved average earnings rate on book common equity for the group averaged 10.17%. The average common equity ratio based on total permanent capital (excluding short-term debt) was 55.57%, and the average dividend payout ratio was 60.28%.

Total debt to earnings before interest, taxes, depreciation, and amortization ("EBITDA") for the years 2014 to 2018 ranges between 3.42 and 3.98, with an average of 3.56. Funds from operations to total debt range from 23.84% to 26.23%, with an average of 25.11%.

VII. <u>COMMON EQUITY COST RATE MODELS</u>

Q. Are your cost of common equity models market-based models?

A. Yes. The DCF model is market-based because market prices are used in developing the dividend yield component of the model. The RPM is market-based because the bond ratings and expected bond yields used in the application of the RPM reflect the market's assessment of bond/credit risk. In addition, the use of beta coefficients (β) to determine the equity risk

premium reflects the market's assessment of market/systematic risk, since beta coefficients are derived from regression analyses of market prices. The Predictive Risk Premium Model ("PRPM") uses monthly market returns in addition to expectations of the risk-free rate. The CAPM is market-based for many of the same reasons that the RPM is market-based (*i.e.*, the use of expected bond yields and beta coefficients). Selection of the comparable risk non-price regulated companies is market-based because it is based on statistics which result from regression analyses of market prices and reflect the market's assessment of total risk.

A. <u>Discounted Cash Flow Model</u>

Q. What is the theoretical basis of the DCF model?

A. The theory underlying the DCF model is that the present value of an expected future stream of net cash flows during the investment holding period can be determined by discounting those cash flows at the cost of capital, or the investors' capitalization rate. DCF theory indicates that an investor buys a stock for an expected total return rate, which is derived from cash flows received in the form of dividends plus appreciation in market price (the expected growth rate). Mathematically, the dividend yield on market price plus a growth rate equals the capitalization rate, *i.e.*, the total common equity return rate expected by investors.

Q. Which version of the DCF model do you use?

A. I use the single-stage constant growth DCF model.

Q. Please describe the dividend yield you used in your application of the DCF model.

A. The unadjusted dividend yields are based on the proxy companies' dividends as of April 30, 2019, divided by the average of closing market prices for the 60 trading days ending April 30, 2019.[6]

Q. Please explain your adjustment to the dividend yield.

A. Because dividends are paid periodically (quarterly), as opposed to continuously (daily), an adjustment must be made to the dividend yield. This is often referred to as the discrete, or the Gordon Periodic, version of the DCF model.

DCF theory calls for the use of the full growth rate, or D_1, in calculating the dividend yield component of the model. Since the various companies in the Utility Proxy Group increase their quarterly dividend at various times during the year, a reasonable assumption is to reflect one-half the annual dividend growth rate in the dividend yield component, or $D_{1/2}$. Because the dividend should be representative of the next twelve-month period, my adjustment is a conservative approach that does not overstate the dividend yield. Therefore, the actual average dividend yields in Column 1 on page 1 of Schedule DWD-3 have been adjusted upward to reflect one-half the average projected growth rate shown in Column 6.

[6] See Schedule DWD-3, page 1, Column 1.

Q. Please explain the basis of the growth rates you apply to the Utility Proxy Group in your DCF model.

A. Investors with more limited resources than institutional investors are likely to rely on widely available financial information services, such as *Value Line*, Reuters, Zacks, and Yahoo! Finance. Investors realize that analysts have significant insight into the dynamics of the industries and individual companies they analyze, as well as companies' abilities to effectively manage the effects of changing laws and regulations, and ever-changing economic and market conditions. For these reasons, I use analysts' five-year forecasts of EPS growth in my DCF analysis.

Over the long run, there can be no growth in DPS without growth in EPS. Security analysts' earnings expectations have a more significant influence on market prices than dividend expectations. Thus, the use of earnings growth rates in a DCF analysis provides a better match between investors' market price appreciation expectations and the growth rate component of the DCF.

Q. Please summarize the DCF model results.

A. As shown on page 1 of Schedule DWD-3, the mean result of the application of the single-stage DCF model is 8.68%, the median result is 8.71%, and the average of the two is 8.70% for the Utility Proxy Group. In arriving at a conclusion for the DCF-indicated common equity cost rate for the Utility Proxy Group, I have relied on an average of the mean and the median results of the DCF. This approach takes into consideration all the proxy

companies' results, while mitigating the high and low outliers of those individual results.

B. <u>The Risk Premium Model</u>

Q. Please describe the theoretical basis of the RPM.

A. The RPM is based on the fundamental financial principle of risk and return, namely, that investors require greater returns for bearing greater risk. The RPM recognizes that common equity capital has greater investment risk than debt capital, as common equity shareholders are behind debt holders in any claim on a company's assets and earnings. As a result, investors require higher returns from common stocks than from investment in bonds, to compensate them for bearing the additional risk.

While it is possible to directly observe bond returns and yields, investors' required common equity return cannot be directly determined or observed. According to RPM theory, one can estimate a common equity risk premium over bonds (either historically or prospectively), and use that premium to derive a cost rate of common equity. The cost of common equity equals the expected cost rate for long-term debt capital plus a risk premium over that cost rate to compensate common shareholders for the added risk of being unsecured and last-in-line for any claim on the corporation's assets and earnings in the event of a liquidation.

Q. Please explain how you derived your indicated cost of common equity based on the RPM.

A. I relied on the results of the application of two risk premium methods. The first method is the PRPM, while the second method is a risk premium model using a total market approach.

Q. Please explain the PRPM.

A. The PRPM, published in the *Journal of Regulatory Economics,*[7] was developed from the work of Robert F. Engle, who shared the Nobel Prize in Economics in 2003 "for methods of analyzing economic time series with time-varying volatility ("ARCH")".[8] Engle found that volatility changes over time and is related from one period to the next, especially in financial markets. Engle discovered that the volatility in prices and returns clusters over time and is therefore highly predictable and can be used to predict future levels of risk and risk premiums.

The PRPM estimates the risk / return relationship directly, as the predicted equity risk premium is generated by the prediction of volatility or risk. The PRPM is not based on an estimate of investor behavior, but rather on the evaluation of the results of that behavior (*i.e.*, the variance of historical equity risk premiums).

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7 Autoregressive conditional heteroscedasticity. See "A New Approach for Estimating the Equity Risk Premium for Public Utilities", Pauline M. Ahern, Frank J. Hanley and Richard A. Michelfelder, Ph.D. The Journal of Regulatory Economics (December 2011), 40:261-278.

8 www.nobelprize.org.

The inputs to the model are the historical returns on the common shares of each company in the Utility Proxy Group minus the historical monthly yield on long-term U.S. Treasury securities through April 2019. Using a generalized form of ARCH, known as GARCH, I calculated each Utility Proxy Group company's projected equity risk premium using Eviews© statistical software. When the GARCH Model is applied to the historical return data, it produces a predicted GARCH variance series[9] and a GARCH coefficient[10]. Multiplying the predicted monthly variance by the GARCH coefficient, then annualizing it[11] produces the predicted annual equity risk premium. I then added the forecasted 30-year U.S. Treasury Bond yield, 3.33%[12], to each company's PRPM-derived equity risk premium to arrive at an indicated cost of common equity. The 30-year Treasury yield is a consensus forecast derived from the *Blue Chip Financial Forecasts ("Blue Chip")*[13]. The mean PRPM indicated common equity cost rate for the Utility Proxy Group is 11.15%, the median is 11.25%, and the average of the two is 11.20%. Consistent with my reliance on the average of the median and mean results of the DCF, I will rely on the average of the mean and median results of the Utility Proxy Group PRPM to calculate a cost of common equity rate of 11.20%.

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9 Illustrated on Columns 1 and 2 of page 2 of Schedule DWD-4. In this instance, I have selected the lower predicted variance in order to be conservative.

10 Illustrated on Column 4 of page 2 of Schedule DWD-4.

11 Annualized Return = (1+Monthly Return)^12 - 1

12 *See*, Column 6 of page 2 of Schedule DWD-4.

13 *Blue Chip Financial Forecasts*, December 1, 2018 at p. 14 and May 1, 2019 at p. 2.

Q. Have you reviewed the Commission's Order[14] regarding the PRPM in the Company's last rate case?

A. I have. The Commission expressed a concern regarding the use of a specific statistical package to produce the results of the PRPM and were skeptical that investors would place significant weight on the model given that assumption. To clarify, the GARCH methodology, which has been in the public domain since the 1980's as discussed above, is available in various statistical packages such as EViews®, SAS, RATS, S-Plus and JMulti, which are not cost-prohibitive and provide instructions for using the various statistical methodologies in their software. The software that I used in this proceeding currently costs approximately $1,500 for a single user commercial license. In fact, JMulti is a free downloadable software with GARCH estimation applications. In providing this additional information, it is my hope that the Commission will revisit this concern in its Order in this rate case.

Q. Please explain the total market approach RPM.

A. The total market approach RPM adds a prospective public utility bond yield to an average of 1) an equity risk premium that is derived from a beta-adjusted total market equity risk premium, and 2) an equity risk premium based on the S&P Utilities Index.

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14 State of North Carolina Utilities Commission, Docket No. W-354, Sub 360, Order approving joint settlement agreement and stipulation, granting partial rate increase, and requiring customer notice, February 23, 2019, at 84-85.

Q. Please explain the basis of the expected bond yield of 4.74% applicable to the Utility Proxy Group.

A. The first step in the total market approach RPM analysis is to determine the expected bond yield. Because both ratemaking and the cost of capital, including common equity cost rate, are prospective in nature, a prospective yield on similarly-rated long-term debt is essential. I rely on a consensus forecast of about 50 economists of the expected yield on Aaa-rated corporate bonds for the six calendar quarters ending with the third calendar quarter of 2020 and the long-term projections for 2020 to 2024, and 2025 to 2029 from Blue Chip. As shown on Line No. 1 of page 3 of Schedule DWD-4, the average expected yield on Moody's Aaa-rated corporate bonds is 4.25%. In order to derive an expected yield on A2 rated-public utility bonds, I make an upward adjustment of 0.41%, which represents a recent spread between Aaa corporate bonds and A2-rated public utility bonds, in order to adjust the expected Aaa corporate bond yield to an equivalent Moody's A2-rated public utility bond.[15] Adding that recent 0.41% spread to the expected Aaa corporate bond yield of 4.25% results in an expected A2 public utility bond of 4.66%.

Since the Utility Proxy Group's average Moody's long-term issuer rating is A2/A3, another adjustment to the expected A2 public utility bond yield is needed to reflect the difference in bond ratings. An upward adjustment of 0.08%, which represents one-sixth of a recent spread

[15] As shown on Line No. 2 and explained in Note 2 of page 3 of Schedule DWD-4.

between A2 and A3 public utility bond yields, is necessary to make the A2 prospective bond yield applicable to an A2/A3 public utility bond.[16] Adding the 0.08% to the 4.66% prospective A2 public utility bond yield results in a 4.74% expected bond yield for the Utility Proxy Group.

Q. Please explain how the beta-derived equity risk premium is determined.

A. The components of the beta-derived risk premium model are 1) an expected market equity risk premium over corporate bonds, and 2) the beta coefficient. The derivation of the beta-derived equity risk premium that I apply to the Utility Proxy Group is shown on lines 1 through 9 of page 8 of Schedule DWD-4. The total beta-derived equity risk premium I apply is based on an average of: 1) Ibbotson-based equity risk premiums; 2) *Value Line*-based equity risk premiums; and 3) Bloomberg-based equity risk premium. Each of these is described in turn.

Q. How did you derive a market equity risk premium based on long-term historical data?

A. To derive a historical market equity risk premium, I used the most recent holding period returns for the large company common stocks from the Stocks, Bonds, Bills, and Inflation ("SBBI") 2019 Yearbook ("SBBI – 2019")[17] less the average historical yield on Moody's Aaa/Aa-rated corporate bonds for the period 1928 to 2018. The use of holding period

[16] As shown on Line No. 4 and explained in Note 3 on page 3 of Schedule DWD-4.
[17] SBBI Appendix A Tables: Morningstar Stocks, Bonds, Bills, & Inflation 1926-2018.

returns over a very long period of time is appropriate because it is consistent with the long-term investment horizon presumed by investing in a going concern, *i.e.*, a company expected to operate in perpetuity.

SBBI's long-term arithmetic mean monthly total return rate on large company common stocks was 11.62% and the long-term arithmetic mean monthly yield on Moody's Aaa/Aa-rated corporate bonds was 6.08%.[18] As shown on line 1 of page 8 of Schedule DWD-4, subtracting the mean monthly bond yield from the total return on large company stocks results in a long-term historical equity risk premium of 5.54%.

I used the arithmetic mean monthly total return rates for the large company stocks and yields (income returns) for the Moody's Aaa/Aa corporate bonds, because they are appropriate for the purpose of estimating the cost of capital as noted in SBBI – 2019.[19] The use of the arithmetic mean return rates and yields is appropriate because historical total returns and equity risk premiums provide insight into the variance and standard deviation of returns needed by investors in estimating future risk when making a current investment. If investors relied on the geometric mean of historical equity risk premiums, they would have no insight into the potential variance of future returns because the geometric mean relates the change over many periods to a constant rate of change, thereby obviating the year-to-year fluctuations, or variance, which is critical to risk analysis.

[18] As explained in Note 1 on page 9 of Schedule DWD-4.
[19] SBBI – 2019, at 10-22.

Q. Please explain the derivation of the regression-based market equity risk premium.

A. To derive the regression analysis-derived market equity risk premium of 7.93%, shown on line 2 of page 8 of Schedule DWD-4, I used the same monthly annualized total returns on large company common stocks relative to the monthly annualized yields on Moody's Aaa/Aa corporate bonds as mentioned above. The relationship between interest rates and the market equity risk premium was modeled using the observed monthly market equity risk premium as the dependent variable, and the monthly yield on Moody's Aaa/Aa corporate bonds as the independent variable. I used a linear Ordinary Least Squares ("OLS") regression, in which the market equity risk premium is expressed as a function of the Moody's Aaa/Aa corporate bonds yield:

$$RP = \alpha + \beta\ (R_{Aaa/Aa})$$

Q. Please explain the derivation of a PRPM equity risk premium.

A. I used the same PRPM approach described previously to develop another equity risk premium estimate. The inputs to the model are the historical monthly returns on large company common stocks minus the monthly yields on Aaa/Aa corporate bonds during the period from January 1928 through April 2019.[20] Using the previously discussed generalized form of ARCH, known as GARCH, the projected equity risk premium is determined using

[20] Data from January 1926-December 2018 is from SBBI – 2019. Data from January – April 2019 is from Bloomberg Professional Services.

Eviews© statistical software. The resulting PRPM predicted market equity risk premium is 8.32%.[21]

Q. Please explain the derivation of a projected equity risk premium based on *Value Line* data for your RPM analysis.

A. As noted previously, because both ratemaking and the cost of capital are prospective, a prospective market equity risk premium is needed. The derivation of the forecasted or prospective market equity risk premium can be found in Note 4 on page 8 of Schedule DWD-4. Consistent with my calculation of the dividend yield component in my DCF analysis, this prospective market equity risk premium is derived from an average of the three- to five-year median market price appreciation potential by *Value Line* for the thirteen weeks ending May 3, 2019, plus an average of the median estimated dividend yield for the common stocks of the 1,700 firms covered in *Value Line*'s Standard Edition.[22]

The average median expected price appreciation is 55%, which translates to an 11.58% annual appreciation, and, when added to the average of *Value Line's* median expected dividend yields of 2.24%, equates to a forecasted annual total return rate on the market of 13.82%. The forecasted Aaa bond yield of 4.25% is deducted from the total market return of 13.82%, resulting in an equity risk premium of 9.57%, shown on page 8, line 4 of Schedule DWD-4.

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21 Shown on Line No. 3 on page 8 of Schedule DWD-4.
22 As explained in detail in page 2, Note 1 of Schedule DWD-5.

Q. Please explain the derivation of an equity risk premium based on the S&P 500 companies.

A. Using data from *Value Line*, I calculate an expected total return on the S&P 500 using expected dividend yields and long-term growth estimates as a proxy for capital appreciation. The expected total return for the S&P 500 is 16.03%. Subtracting the prospective yield on Aaa Corporate bonds of 4.25% results in an 11.78% projected equity risk premium.

Q. Please explain the derivation of an equity risk premium based on Bloomberg data.

A. Using data from Bloomberg Professional Services, I calculate an expected total return on the S&P 500 using expected dividend yields and long-term growth estimates as a proxy for capital appreciation, identical to the method described above. The expected total return for the S&P 500 is 13.35%. Subtracting the prospective yield on Aaa Corporate bonds of 4.25% results in a 9.10% projected equity risk premium.

Q. What is your conclusion of a beta-derived equity risk premium for use in your RPM analysis?

A. I give equal weight to the six equity risk premiums in arriving at my conclusion of 8.71%.[23]

After calculating the average market equity risk premium of 8.71%, I adjust it by beta to account for the risk of the Utility Proxy Group. As discussed below, the beta coefficient is a meaningful measure of

[23] See Line No. 7 on page 8 of Schedule DWD-4.

prospective relative risk to the market as a whole and is a logical means by which to allocate a company's, or proxy group's, share of the market's total equity risk premium relative to corporate bond yields. As shown on page 1 of Schedule DWD-5, the average of the mean and median beta coefficient for the Utility Proxy Group is 0.67. Multiplying the beta coefficient of the Utility Proxy Group of 0.67 by the market equity risk premium of 8.71% results in a beta-adjusted equity risk premium of 5.84% for the Utility Proxy Group.

Q. How did you derive the equity risk premium based on the S&P Utility Index and Moody's A-rated public utility bonds?

A. I estimated three equity risk premiums based on S&P Utility Index holding returns, and two equity risk premiums based on the expected returns of the S&P Utilities Index, using *Value Line* and Bloomberg data, respectively. Turning first to the S&P Utility Index holding period returns, I derived a long-term monthly arithmetic mean equity risk premium between the S&P Utility Index total returns of 10.56% and monthly A-rated public utility bond yields of 6.56% from 1928 to 2018 to arrive at an equity risk premium of 4.00%.[24] I then used the same historical data to derive an equity risk premium of 5.72% based on a regression of the monthly equity risk premiums. The final S&P Utility Index holding period equity risk premium involved applying the PRPM using the historical monthly equity risk premiums from January 1928

[24] As shown on Line No. 1 on page 12 of Schedule DWD-4.

to April 2019 to arrive at a PRPM-derived equity risk premium of 3.93% for the S&P Utility Index.

I then derived expected total returns on the S&P Utilities Index of 10.33% and 9.01% using data from *Value Line* and Bloomberg Professional Services, respectively, and subtracted the prospective A2-rated public utility bond yield (4.66%[25]), which results in risk premiums of 5.67% and 4.35%, respectively. As with the market equity risk premiums, I averaged each risk premium to arrive at my utility-specific equity risk premium of 4.73%.

Q. What is your conclusion of an equity risk premium for use in your total market approach RPM analysis?

A. The equity risk premium I applied to the Utility Proxy Group is 5.29%, which is the average of the beta-derived and the S&P utility equity risk premiums of 5.84% and 4.73%, respectively.[26]

Q. What is the indicated RPM common equity cost rate based on the total market approach?

A. As shown on Line No. 7 of Schedule DWD-4, page 3, I calculate a common equity cost rate of 10.03% for the Utility Proxy Group based on the total market approach of the RPM.

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[25] Derived on Line No. 3 of page 3 of Schedule DWD-4.
[26] As shown on page 7 of Schedule DWD-4.

Q. What are the results of your application of the PRPM and the total market approach RPM?

A. As shown on page 1 of Schedule DWD-4, the indicated RPM-derived common equity cost rate is 10.62%, which gives equal weight to the PRPM (11.20%) and the adjusted market approach results (10.03%).

C. <u>The Capital Asset Pricing Model</u>

Q. Please explain the theoretical basis of the CAPM.

A. CAPM theory defines risk as the co-variability of a security's returns with the market's returns as measured by the beta coefficient (β). A beta coefficient less than 1.0 indicates lower variability than the market as a whole, while a beta coefficient greater than 1.0 indicates greater variability than the market.

The CAPM assumes that all other risk (*i.e.*, all non-market or unsystematic risk) can be eliminated through diversification. The risk that cannot be eliminated through diversification is called market, or systematic, risk. In addition, the CAPM presumes that investors require compensation only for systematic risk, which is the result of macroeconomic and other events that affect the returns on all assets. The model is applied by adding a risk-free rate of return to a market risk premium, which is adjusted proportionately to reflect the systematic risk of the individual security relative to the total market as measured by the beta coefficient. The traditional CAPM model is expressed as:

$$R_s = R_f + \beta(R_m - R_f)$$

Where: R_s = Return rate on the common stock

R_f = Risk-free rate of return

R_m = Return rate on the market as a whole

β = Adjusted beta coefficient (volatility of the security relative to the market as a whole)

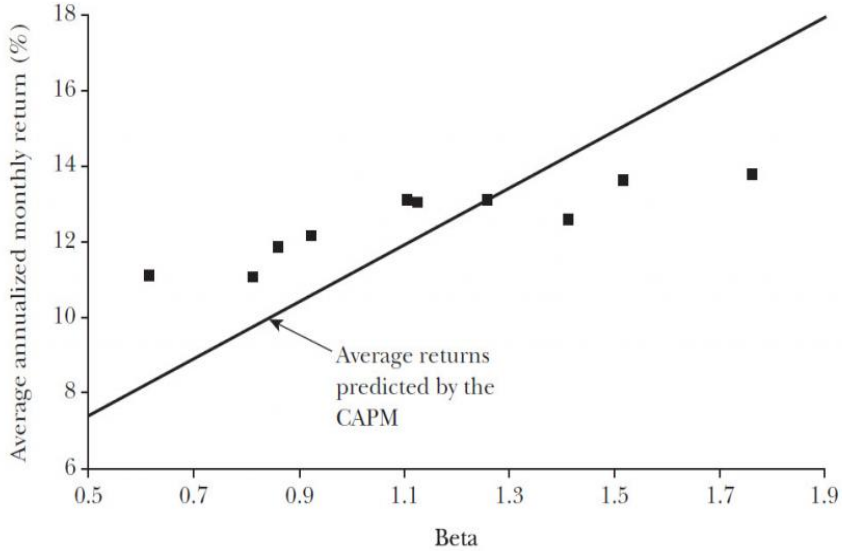
Numerous tests of the CAPM have measured the extent to which security returns and beta coefficients are related as predicted by the CAPM, confirming its validity. The empirical CAPM ("ECAPM") reflects the reality that while the results of these tests support the notion that the beta coefficient is related to security returns, the empirical Security Market Line ("SML") described by the CAPM formula is not as steeply sloped as the predicted SML.[27] The ECAPM reflects this empirical reality. Fama and French clearly state regarding Figure 2, below, that "[t]he returns on the low beta portfolios are too high, and the returns on the high beta portfolios are too low."[28]

[27] Roger A. Morin, New Regulatory Finance (Public Utility Reports, Inc., 2006), at p. 175.

[28] Eugene F. Fama and Kenneth R. French, "The Capital Asset Pricing Model: Theory and Evidence", *Journal of Economic Perspectives*, Vol. 18, No. 3, Summer 2004 at 33 "Fama & French".

Figure 2 http://pubs.aeaweb.org/doi/pdfplus/10.1257/0895330042162430

Average Annualized Monthly Return versus Beta for Value Weight Portfolios Formed on Prior Beta, 1928–2003



In addition, Morin observes that while the results of these tests support the notion that beta is related to security returns, the empirical SML described by the CAPM formula is not as steeply sloped as the predicted SML. Morin states:

> With few exceptions, the empirical studies agree that … low-beta securities earn returns somewhat higher than the CAPM would predict, and high-beta securities earn less than predicted.[29]
>
> * * *
>
> Therefore, the empirical evidence suggests that the expected return on a security is related to its risk by the following approximation:
>
> $$K = R_F + x\,\beta(R_M - R_F) + (1-x)\;\beta(R_M - R_F)$$
>
> where x is a fraction to be determined empirically. The value of x that best explains the observed relationship [is] Return =

[29] Morin, at 175.

0.0829 + 0.0520 β is between 0.25 and 0.30. If x = 0.25, the equation becomes:

$$K = R_F + 0.25(R_M - R_F) + 0.75\,\beta(R_M - R_F)$$ [30]

Fama and French provide similar support for the ECAPM when they state:

> The early tests firmly reject the Sharpe-Lintner version of the CAPM. There is a positive relation between beta and average return, but it is too 'flat.'… The regressions consistently find that the intercept is greater than the average risk-free rate… and the coefficient on beta is less than the average excess market return… This is true in the early tests… as well as in more recent cross-section regressions tests, like Fama and French (1992).[31]

Finally, Fama and French further note:

> Confirming earlier evidence, the relation between beta and average return for the ten portfolios is much flatter than the Sharpe-Linter CAPM predicts. The returns on low beta portfolios are too high, and the returns on the high beta portfolios are too low. For example, the predicted return on the portfolio with the lowest beta is 8.3 percent per year; the actual return as 11.1 percent. The predicted return on the portfolio with the t beta is 16.8 percent per year; the actual is 13.7 percent.[32]

Clearly, the justification from Morin, Fama, and French along with their reviews of other academic research on the CAPM, validate the use of the ECAPM. In view of theory and practical research, I have applied both the traditional CAPM and the ECAPM to the companies in the Utility Proxy Group and averaged the results.

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30 Morin, at 190.
31 Fama & French, at 32.
32 *Ibid.,* at 33.

Q. Have you reviewed the Commission's Order[33] regarding the ECAPM in the Company's last rate case?

A. I have. The Commission's concern regarding the ECAPM was that I did not provide enough evidence why the ECAPM was superior to the CAPM in my testimony. The additional language provided above attempts to address the Commission's concerns.

Q. What Beta coefficients did you use in your CAPM analysis?

A. With respect to the Beta coefficient, I considered two methods of calculation: the average of the Beta coefficients of the Utility Proxy Group companies reported by Bloomberg Professional Services and the average of the Beta coefficients of the Utility Proxy Group companies as reported by *Value Line*. While both of those services adjust their calculated (or "raw") Beta coefficients to reflect the tendency of the Beta coefficient to regress to the market mean of 1.00, *Value Line* calculates the Beta coefficient over a five-year period, while Bloomberg's calculation is based on two years of data.

Q. Please describe your selection of a risk-free rate of return.

A. As shown in Column 5 on page 1 of Schedule DWD-5, the risk-free rate adopted for both applications of the CAPM is 3.33%. This risk-free rate of 3.33% is based on the average of the *Blue Chip* consensus forecast of the

[33] State of North Carolina Utilities Commission, Docket No. W-354, Sub 360, Order approving joint settlement agreement and stipulation, granting partial rate increase, and requiring customer notice, February 23, 2019, at 84-85.

expected yields on 30-year U.S. Treasury bonds for the six quarters ending with the third calendar quarter of 2020 and long-term projections for the years 2020 to 2024 and 2025 to 2029.

Q. Why is the yield on long-term U.S. Treasury Bonds appropriate for use as the risk-free rate?

A. The yield on long-term U.S. Treasury Bonds is almost risk-free and its term is consistent with the long-term cost of capital to public utilities measured by the yields on A-rated public utility bonds; the long-term investment horizon inherent in utilities' common stocks; and the long-term life of the jurisdictional rate base to which the allowed fair rate of return (*i.e.*, cost of capital) will be applied. In contrast, short-term U.S. Treasury yields are more volatile and largely a function of Federal Reserve monetary policy.

Q. Please explain the estimation of the expected risk premium for the market used in your CAPM analyses.

A. The basis of the market risk premium is explained in detail in Note 1 on Schedule DWD-5. As discussed previously, the market risk premium is derived from an average of:

(i) Ibbotson-based market risk premiums;

(ii) *Value Line* data-based market risk premiums; and

(iii) Bloomberg data-based market risk premium.

The long-term income return on U.S. Government Securities of 5.12% was deducted from the SBBI - 2019 monthly historical total market return of 11.89%, which results in an historical market equity risk premium

of 6.77%.[34] I applied a linear OLS regression to the monthly annualized historical returns on the S&P 500 relative to historical yields on long-term U.S. Government Securities from SBBI - 2019. That regression analysis yielded a market equity risk premium of 9.00%. The PRPM market equity risk premium is 9.40%, and is derived using the PRPM relative to the yields on long-term U.S. Treasury securities from January 1926 through April 2019.

The *Value Line*-derived forecasted total market equity risk premium is derived by deducting the forecasted risk-free rate of 3.33%, discussed above, from the *Value Line* projected total annual market return of 13.82%, resulting in a forecasted total market equity risk premium of 10.49%. The S&P 500 projected market equity risk premium using *Value Line* data is derived by subtracting the projected risk-free rate of 3.33% from the projected total return of the S&P 500 of 16.03%. The resulting market equity risk premium is 12.70%.

The S&P 500 projected market equity risk premium using Bloomberg data is derived by subtracting the projected risk-free rate of 3.33% from the projected total return of the S&P 500 of 13.35%. The resulting market equity risk premium is 10.02%.

These six market risk premiums, when averaged, result in an average total market equity risk premium of 9.73%.

[34] SBBI – 2019, at Appendix A-1 (1) through .A-1 (3) and Appendix A-7 (19) through A-7 (21).

Q. What are the results of your application of the traditional and empirical CAPM to the Utility Proxy Group?

A. As shown on page 1 of Schedule DWD-5, the mean result of my CAPM/ECAPM analyses is 10.25%, the median is 10.17%, and the average of the two is 10.21%. Consistent with my reliance on the average of mean and median DCF results discussed above, the indicated common equity cost rate using the CAPM/ECAPM is 10.21%.

D. Common Equity Cost Rates for a Proxy Group of Domestic, Non-Price Regulated Companies Based on the DCF, RPM, and CAPM

Q. Why do you also consider a proxy group of domestic, non-price regulated companies?

A. In the *Hope* and *Bluefield* cases, the U.S. Supreme Court did not specify that comparable risk companies had to be utilities. Since the purpose of rate regulation is to be a substitute for the competition of the marketplace, non-price regulated firms operating in the competitive marketplace make an excellent proxy if they are comparable in total risk to the Utility Proxy Group being used to estimate the cost of common equity. The selection of such domestic, non-price-regulated competitive firms theoretically and empirically results in a proxy group which is comparable in total risk to the Utility Proxy Group.

Q. How did you select unregulated companies that are comparable in total risk to the regulated public Utility Proxy Group?

A. In order to select a proxy group of domestic, non-price regulated companies similar in total risk to the Utility Proxy Group, I relied on the beta coefficients and related statistics derived from *Value Line* regression analyses of weekly market prices over the most recent 260 weeks (*i.e.*, five years). Using these selection criteria resulted in a proxy group of eleven domestic, non-price regulated firms comparable in total risk to the Utility Proxy Group. Total risk is the sum of non-diversifiable market risk and diversifiable company-specific risks. The criteria used in the selection of the domestic, non-price regulated firms was:

(i) They must be covered by *Value Line Investment Survey* (Standard Edition);

(ii) They must be domestic, non-price regulated companies, *i.e.*, non-utilities;

(iii) Their beta coefficients must lie within plus or minus two standard deviations of the average unadjusted beta coefficient of the Utility Proxy Group; and

(iv) The residual standard errors of the *Value Line* regressions which gave rise to the unadjusted beta coefficients must lie within plus or minus two standard deviations of the average residual standard error of the Utility Proxy Group.

Beta coefficients are a measure of market, or systematic, risk, which is not diversifiable. The residual standard errors of the regressions were used to measure each firm's company-specific, diversifiable risk. Companies that have similar beta coefficients and similar residual standard errors resulting from the same regression analyses have similar total investment risk.

Q. Have you prepared a schedule which shows the data from which you selected the eleven domestic, non-price regulated companies that are comparable in total risk to the Utility Proxy Group?

A. Yes, the basis of my selection and both proxy groups' regression statistics are shown in Schedule DWD-6.

Q. Did you review the Commission's Order[35] regarding the use of a Non-Price Regulated Proxy Group in the Company's last rate case?

A. I have. Regarding the use of a Non-Price Regulated Proxy Group, the Commission's conclusion that, since the market model results were different than the results of those same models applied to the Utility Proxy Group, the two groups could not be similar in risk. In order to provide more information to show similarity between the Utility and Non-Price Regulated Proxy Groups, I have analyzed the coefficients of variation ("CoV")[36] of net profit for each group and the results of that study are shown on page 4 of

[35] State of North Carolina Utilities Commission, Docket No. W-354, Sub 360, Order approving joint settlement agreement and stipulation, granting partial rate increase, and requiring customer notice, February 23, 2019, at 84-85.

[36] The coefficient of variation is used by investors and economists to determine volatility.

Schedule DWD-6. As shown, the mean and median CoV of net profit for the Non-Price Regulated Proxy Group are within the range of CoVs of net profit set by the Utility Proxy Group companies. With this additional information, I would hope that the Commission revisit this argument in its Order in this case.

Q. Did you calculate common equity cost rates using the DCF, RPM, and CAPM for the Non-Price Regulated Proxy Group?

A. Yes. Because the DCF, RPM, and CAPM have been applied in an identical manner as described above, I will not repeat the details of the rationale and application of each model. One exception is in the application of the RPM, where I did not use public utility-specific equity risk premiums, nor did I apply the PRPM to the individual companies.

Page 2 of Schedule DWD-7 contains the derivation of the DCF cost rates. As shown, the indicated common equity cost rate using the DCF for the Non-Price Regulated Proxy Group comparable in total risk to the Utility Proxy Group, is 11.88%.

Pages 3 through 5 contain the data and calculations that support the 12.00% RPM cost rate. As shown on Line No. 1 of page 3 of Schedule DWD-7, the consensus prospective yield on Moody's Baa rated corporate bonds for the six quarters ending in the third quarter of 2020, and for the years 2020 to 2024 and 2025 to 2029, is 5.21%.[37]

[37] *Blue Chip Financial Forecasts*, December 1, 2018, at p. 14 and May 1, 2019, at p. 2.

When the beta-adjusted risk premium of 6.79%[38] relative to the Non-Price Regulated Proxy Group is added to the prospective Baa2 rated corporate bond yield of 5.21%, the indicated RPM cost rate is 12.00%.

Page 6 contains the inputs and calculations that support my indicated CAPM/ECAPM cost rate of 11.17%.

Q. How is the cost rate of common equity based on the Non-Price Regulated Proxy Group comparable in total risk to the Utility Proxy Group?

A. As shown on page 1 of Schedule DWD-7, the results of the DCF, RPM, and CAPM applied to the Non-Price Regulated Proxy Group comparable in total risk to the Utility Proxy Group are 11.88%, 12.00%, and 11.19%, respectively. The average of the mean and median of these models is 11.79%, which I use as the indicated common equity cost rate for the Non-Price Regulated Proxy Group.

VIII. CONCLUSION OF COMMON EQUITY COST RATE BEFORE ADJUSTMENT

Q. What is the indicated common equity cost rate before adjustment?

A. Based on the results of the application of multiple cost of common equity models to the Utility Proxy Group and the Non-Price Regulated Proxy Group, the indicated cost of equity before adjustment is 10.35%. I use multiple cost of common equity models as primary tools in arriving at my recommended common equity cost rate, because no single model is so

[38] Derived on page 5 of Schedule DWD-7.

inherently precise that it can be relied on solely to the exclusion of other theoretically sound models. The use of multiple models adds reliability to the estimation of the common equity cost rate, and the prudence of using multiple cost of common equity models is supported in both the financial literature and regulatory precedent.

Based on these common equity cost rate results, I conclude that a common equity cost rate of 10.35% is reasonable, appropriate and indicated for the Company before any adjustment for relative risk between the Company and the Utility Proxy Group is made. The 10.35% indicated ROE is the approximate average of the mean and median results produced by my application of the models as explained above.

IX. ADJUSTMENTS TO THE COMMON EQUITY COST RATE

A. Size Adjustment

Q. Is there a way to quantify a relative risk adjustment due to CWSNC's small size relative to the proxy group?

A. Yes. The Company has greater relative risk than the average company in the Utility Proxy Group because of its smaller size compared with the group, as measured by an estimated market capitalization of common equity for CWSNC (whose common stock is not publicly-traded).

Table 5: Size as Measured by Market Capitalization for the Company and the Utility Proxy Group

	Market Capitalization* ($ Millions)	Times Greater than the Company
CWSNC	$217.491	
Utility Proxy Group	$4,385.585	20.2x

*From page 1 of Schedule DWD-8.

The Company's estimated market capitalization was at $217.491 million as of April 30, 2019, compared with the market capitalization of the average water company in the Utility Proxy Group of $4.386 billion as of April 30, 2019. The Utility Proxy Group's market capitalization is 20.2 times the size of CWSNC's estimated market capitalization.

Q. Please explain why size has a bearing on business risk.

A. Company size is a significant element of business risk for which investors expect to be compensated through higher returns. Generally, smaller companies are less able to cope with significant events that affect sales, revenues, and earnings. For example, smaller companies face more risk exposure to business cycles and economic conditions, both nationally and locally. Additionally, the loss of revenues from a few larger customers would have a greater effect on a small company than on a much larger company with a larger, more diverse, customer base.

Further evidence of the risk effects of size include the fact that investors demand greater returns to compensate for the lack of

marketability and liquidity of the securities of smaller firms. For these reasons, the Commission should authorize a cost of common equity in this proceeding that reflects CWSNC's relevant risk, including the impact of its small size.

As a result, it is necessary to upwardly adjust the indicated common equity cost rate of 10.35% to reflect CWSNC's greater risk due to its smaller relative size. The determination is based on the size premiums for portfolios of New York Stock Exchange, American Stock Exchange, and NASDAQ listed companies ranked by deciles for the 1926 to 2018 period. The average size premium for the Utility Proxy Group with a market capitalization of $4.386 billion falls in the 5th decile, while CWSNC's market capitalization of $217.491 million places the Company in the 10th decile. The size premium spread between the 5th decile and the 10th decile is 3.94%. Even though a 3.94% upward size adjustment is indicated, I apply a size premium of 0.40% to CWSNC's indicated common equity cost rate.

Q. What is the indicated cost of common equity after adjustment for size?

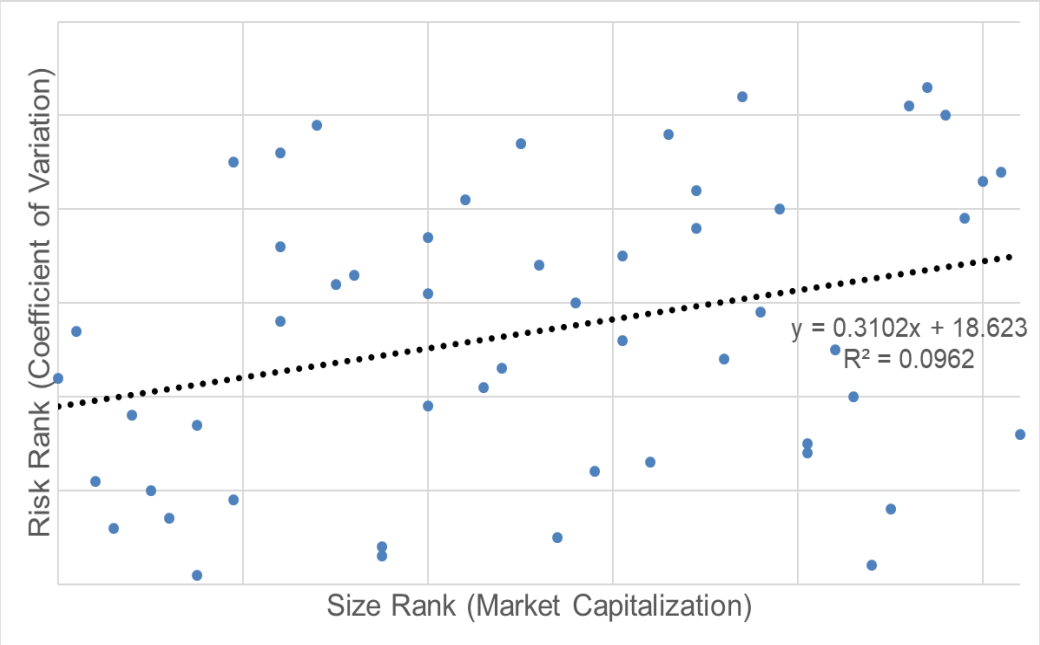
A. After applying the 0.40% size adjustment to the indicated cost of common equity of 10.35%, a size-adjusted cost of common equity of 10.75% results.

Q. Have you reviewed the Commission's Order[39] regarding the size adjustment in the Company's last rate case?

A. I have. The Commission's concerns regarding the size adjustment were that whether the size studies presented in the record were applicable to utilities, and that the selection of a 40 basis point adjustment from an indicated 461 basis point risk premium was rather arbitrary. In order to provide more information to the Commission in this case, I conducted a study on whether or not the size effect is in fact applicable to utilities. My study included the universe of water, gas, and electric companies included in *Value Line Standard Edition.* From each of the utilities' *Value Line Ratings & Reports*, I calculated the 10-year CoV of net profit (a measure of risk) and current market capitalization (a measure of size) for each company. After ranking the companies by size (largest to smallest) and risk (least risky to most risky), I made a scatter plot of the data, as shown on Chart 1, below:

[39] State of North Carolina Utilities Commission, Docket No. W-354, Sub 360, Order approving joint settlement agreement and stipulation, granting partial rate increase, and requiring customer notice, February 23, 2019, at 84-85.

Chart 1: Relationship between Size and Risk for the *Value Line* Universe of Utility Companies



As shown in Chart 1 above, as company size decreases (increasing size rank), the CoV increases, linking size and risk for utilities. The R-Squared of 0.0962 means that approximately 10% of the change in risk rank is explained by the size rank. While a 0.0962 R-Squared does not appear to have strong explanatory power, the average R-Squared of the Utility Proxy Group's beta coefficient is 0.0794.[40] The selection of a 40 basis point upward adjustment based on its difference in size given an indicated risk premium of approximately 400 basis points is consistent with the approximate 0.10 R-Squared of the size study applicable to utilities. With

[40] An R-Squared of 0.794 indicates that only approximately 8.0%of the change in risk is explained by beta.

this additional information, I would hope that the Commission revisit this concern in its Order in this case.

X. ECONOMIC CONDITIONS IN NORTH CAROLINA

Q. Did you consider the economic conditions in North Carolina in arriving at your recommended cost of common equity?

A. Yes, I did. As the Commission has stated, it "…is and must always be mindful of the North Carolina Supreme Court's command that the Commission's task is to set rates as low as possible consistent with the dictates of the United States and North Carolina Constitutions."[41] In that regard, the cost of common equity should be neither excessive nor confiscatory; it should be the minimum amount needed to meet the *Hope* and *Bluefield* Comparable Risk, Capital Attraction, and Financial Integrity standards.

The Commission also has found that the role of cost of capital experts is to determine the investor-required return, not to estimate increments or decrements of that return in connection with consumers' economic environment:

> … adjusting investors' required costs based on factors upon which investors do not base their willingness to invest is an unsupportable theory or concept. The proper way to take into account customer ability to pay is in the Commission's exercise of fixing rates as low as reasonably possible without violating constitutional proscriptions against confiscation of property. This is in

[41] State of North Carolina Utilities Commission, Docket No. E-7, Sub 1026, Order Granting General Rate Increase, Sept. 24, 2013 at 24; see also DEC Remand Order at 40 ("the Commission in every case seeks to comply with the North Carolina Supreme Court's mandate that the Commission establish rates as low as possible within Constitutional limits.").

accord with the "end result" test of Hope. This the Commission has done.[42]

The Supreme Court agreed, and upheld the Commission's Order on Remand.[43] The NC Supreme Court also made clear, however, that "in retail electric service rate cases the Commission must make findings of fact regarding the impact of changing economic conditions on customers when determining the proper ROE for a public utility."[44] The Commission made such additional findings of fact in its Order on Remand.[45] In light of the 2013 Cooper I decision, I present measures of economic conditions in the state and in the nation for the Commission to consider.

Q. What specific measures of economic conditions have you reviewed?

A. I have reviewed the following:

(i) Unemployment rates from the United States, North Carolina, and the counties comprising CWSNC's service territory;

(ii) The growth in Gross National Product ("GDP") in both the United States and North Carolina;

(iii) Median household income in the United States and in North Carolina; and

(iv) National income and consumption trends.

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[42] State of North Carolina Utilities Commission, Docket No. E-7, Sub 989, Order on Remand, October 23, 2013, at 34 - 35; see also DEC Remand Order at 26 (stating that the Commission is not required to "isolate and quantify the effect of changing economic conditions on consumers in order to determine the appropriate rate of return on equity").

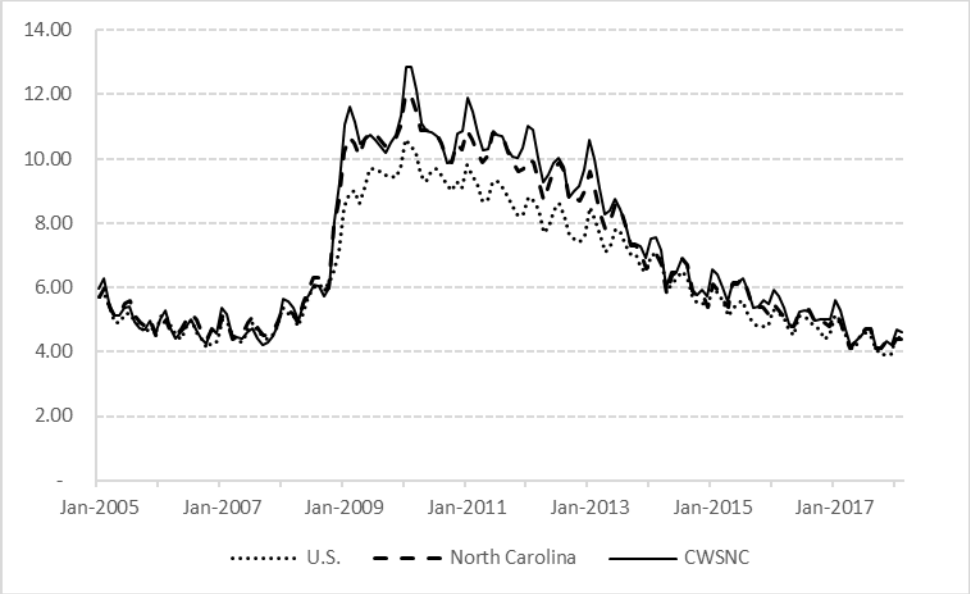
[43] State ex rel. Utils. Comm'n v. Cooper, 366 N.C. 484, 739 S.E.2d 541 (2013) (Cooper I)).

[44] State of North Carolina ex rel. Utilities Commission v. Cooper, 758 S.E.2d 635, 642 (2014) ("Cooper II").

[45] State of North Carolina Utilities Commission, Docket No. E-22, Sub 479, Order on Remand, July 23, 2015, at 4-10.

Turning first to the rate of unemployment, it has fallen substantially in North Carolina and the U.S. since late 2009 and early 2010, when the rates peaked at 10.00% and 12.00%, respectively. Although the unemployment rate in North Carolina rather exceeded the national rate during and after the 2008/2009 financial crisis, by late 2013, the two were largely consistent. By April 2019, the unemployment rate had fallen to less than one-half of the 2008/2009 peak levels: 3.30% nationally; and 3.60% in North Carolina. (*see* Chart 2, below).

Chart 2: Unemployment Rate: U.S. North Carolina, and CWSNC[46]



Since the conclusion of the Company's last rate filing in February 2019, the unemployment rate in North Carolina has decreased from 4.20% to 3.60%. That 0.60% decrease is slightly lower than the U.S.

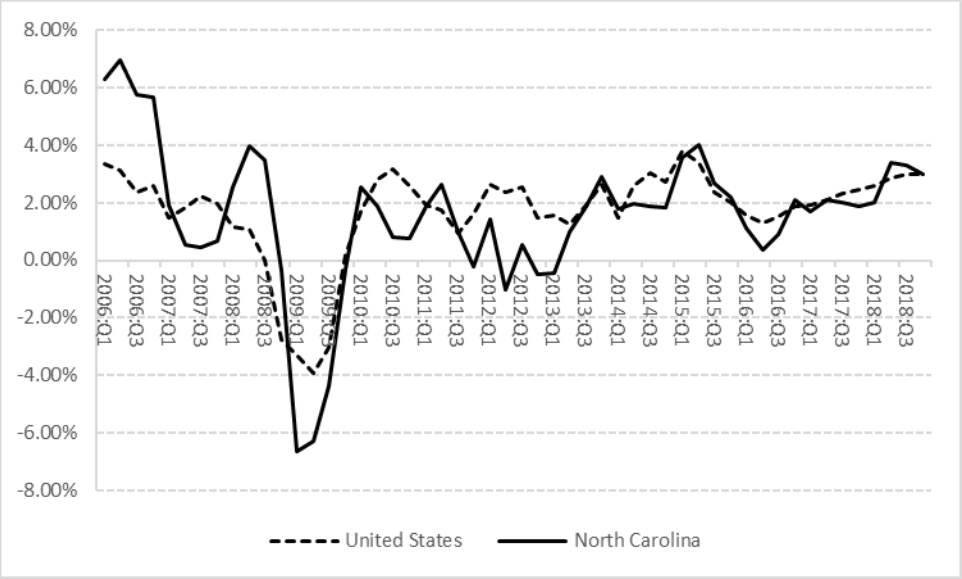
46 Source of Information: Bureau of Labor Statistics.

unemployment rate which has decreased 0.80% over that same period. Still, over the entire period of 2005 through 2018, the correlation between North Carolina's unemployment rate and the national rate was approximately 99%.

I was also able to review unemployment rates (seasonally unadjusted) in the counties served by CWSNC. At its peak, which occurred in late 2009 into early 2010, the unemployment rate in those counties reached an average 12.86% (86 basis points higher than the state-wide average); by April 2019 it had fallen to 3.68% (only 8 basis points higher than the state-wide average). Since the conclusion of the Company's last rate filing in February 2019, the counties' unemployment has also fallen, from 4.49% to 3.68%. From 2005 through 2018, the correlation in unemployment rates between the counties served by CWSNC, and the U.S. and North Carolina, were also approximately 99%. In summary, although it remains slightly higher than national and state-wide averages, county-level unemployment has fallen considerably since its peak in early 2010.

Looking to real Gross Domestic Product ("GDP") growth, there also has been a relatively strong correlation between North Carolina and the national economy (approximately 69%). Since the financial crisis, the national rate of growth at times (during portions of 2010 and 2012) outpaced North Carolina. Since the second quarter of 2015, however, growth in the state's real GDP has consistently exceeded the national growth rate.

Chart 3: Real Gross Domestic Product Growth Rate[47]



As to median household income, the correlation between North Carolina and the U.S. is relatively strong (approximately 87% from 2005 through 2018). Since 2009 (the years subsequent to the financial crisis), median household income in North Carolina has grown at a similar annual rate as the national median income (2.32% vs. 2.65%; *see* Chart 4, below). To put household income in perspective, the Missouri Economic Research and Information Center reports that in 2018, North Carolina had the 19th lowest cost of living index among the 50 states and the District of Columbia.[48]

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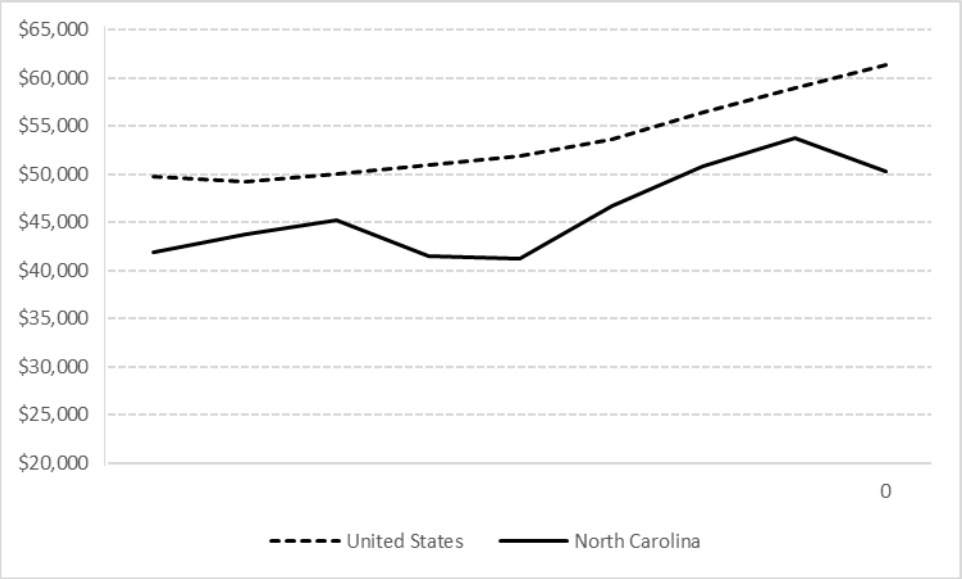
47 Source: Bureau of Economic Analysis.

48 Source: https://www.missourieconomy.org/indicators/cost_of_living/ Accessed 6/4/2019.

Chart 4: Median Household Income[49]



Q. Please summarize your analyses and conclusions.

A. In its Order on Remand in Docket No. E-22, Sub 479, the Commission observed that economic conditions in North Carolina were highly correlated with national conditions, such that they were reflected in the analyses used to determine the cost of common equity.[50] Those relationships still hold: economic conditions in North Carolina continue to improve from the recession following the 2008/2009 financial crisis, and they continue to be strongly correlated to conditions in the U.S., generally. In particular, unemployment, at both the state and county level, continues to fall and remains highly correlated with national rates of unemployment; real Gross Domestic Product recently has grown faster in North Carolina than the

[49] Source of Information: U.S. Census data.

[50] State of North Carolina Utilities Commission, Docket No. E-22, Sub 479, Order on Remand, July 23, 2015, at 39.

national rate of growth, although the two remain fairly well correlated; and median household income also has grown faster in North Carolina than the rest of the Country, and remains strongly correlated with national levels. In sum, the correlations between state-wide measures of economic conditions noted by the Commission in Docket No. E-22, Sub 479 remain in place and, as such, they continue to be reflected in the models and data used to estimate the cost of common equity.

XI. CONCLUSION OF COMMON EQUITY COST RATE

Q. What is your recommended cost of common equity for CWSNC?

A. Given the indicated cost of common equity of 10.35%, and the size-adjusted cost of common equity of 10.75%, I conclude that a cost of common equity cost rates for the Company of 10.75% is appropriate.

Q. In your opinion, is your proposed cost of common equity cost rate of 10.75% fair and reasonable to CWSNC, its shareholders, and its customers, considering the above economic conditions?

A. Yes, it is.

Q. Does this conclude your direct testimony?

A. Yes, it does.

Appendix A
Professional Qualifications of
Dylan W. D'Ascendis, CRRA, CVA

Summary

Dylan is an experienced consultant and a Certified Rate of Return Analyst (CRRA) and Certified Valuation Analyst (CVA). He has served as a consultant for investor-owned and municipal utilities and authorities for 10 years. Dylan has extensive experience in rate of return analyses, class cost of service, rate design, and valuation for regulated public utilities. He has testified as an expert witness in the subjects of rate of return, cost of service, rate design, and valuation before 17 regulatory commissions in the U.S. and an American Arbitration Association panel.

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

Areas of Specialization

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

Recent Expert Testimony Submission/Appearances

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

Recent Assignments

- Provided expert testimony on the cost of capital for ratemaking purposes before numerous state utility regulatory agencies
- Maintains the benchmark index against which the Hennessy Gas Utility Mutual Fund performance is measured
- Sponsored valuation testimony for a large municipal water company in front of an American Arbitration Association Board to justify the reasonability of their lease payments to the City
- Co-authored a valuation report on behalf of a large investor-owned utility company in response to a new state regulation which allowed the appraised value of acquired assets into rate base

Recent Publications and Speeches

- Co-Author of: "The Impact of Decoupling on the Cost of Capital of Public Utilities", co-authored with Richard A. Michelfelder, Ph.D., Rutgers University and Pauline M. Ahern. (Forthcoming)
- "Establishing Alternative Proxy Groups", before the Society of Utility and Regulatory Financial Analysts: 51st Financial Forum, April 4, 2019, New Orleans, LA.
- "Past is Prologue: Future Test Year", Presentation before the National Association of Water Companies 2017 Southeast Water Infrastructure Summit, May 2, 2017, Savannah, GA.
- Co-author of: "Comparative Evaluation of the Predictive Risk Premium ModelTM, the Discounted Cash Flow Model and the Capital Asset Pricing Model", co-authored with Richard A. Michelfelder, Ph.D., Rutgers University, Pauline M. Ahern, and Frank J. Hanley, The Electricity Journal, May, 2013.
- "Decoupling: Impact on the Risk and Cost of Common Equity of Public Utility Stocks", before the Society of Utility and Regulatory Financial Analysts: 45th Financial Forum, April 17-18, 2013, Indianapolis, IN.

scottmadden
MANAGEMENT CONSULTANTS

Appendix A
Professional Qualifications of
Dylan W. D'Ascendis, CRRA, CVA

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Regulatory Commission of Alaska				
Alaska Power Company	07/16	Alaska Power Company	Docket No. TA857-2	Rate of Return
Arizona Corporation Commission				
Arizona Water Company	08/18	Arizona Water Company	Docket No. W01445A-18-0164	Rate of Return
Colorado Public Utilities Commission				
Summit Utilities, Inc.	04/18	Colorado Natural Gas Company	Docket No. 18AL-0305G	Return on Equity
Atmos Energy Corporation	06/17	Atmos Energy Corporation	Docket No. 17AL-0429G	Return on Equity
Delaware Public Service Commission				
Tidewater Utilities, Inc.	11/13	Tidewater Utilities, Inc.	Docket No. 13-466	Capital Structure
Hawaii Public Utilities Commission				
Kaupulehu Water Company	02/18	Kaupulehu Water Company	Docket No. 2016-0363	Rate of Return
Aqua Engineers, LLC	05/17	Puhi Sewer & Water Company	Docket No. 2017-0118	Cost of Service / Rate Design
Hawaii Resources, Inc.	09/16	Laie Water Company	Docket No. 2016-0229	Cost of Service / Rate Design
Illinois Commerce Commission				
Utility Services of Illinois, Inc.	11/17	Utility Services of Illinois, Inc.	Docket No. 17-1106	Cost of Service / Rate Design
Aqua Illinois, Inc.	04/17	Aqua Illinois, Inc.	Docket No. 17-0259	Rate of Return
Utility Services of Illinois, Inc.	04/15	Utility Services of Illinois, Inc.	Docket No. 14-0741	Rate of Return
Indiana Utility Regulatory Commission				
Aqua Indiana, Inc.	03/16	Aqua Indiana, Inc. Aboite Wastewater Division	Docket No. 44752	Rate of Return
Twin Lakes, Utilities, Inc.	08/13	Twin Lakes, Utilities, Inc.	Docket No. 44388	Rate of Return
Louisiana Public Service Commission				
Louisiana Water Service, Inc.	06/13	Louisiana Water Service, Inc.	Docket No. U-32848	Rate of Return
Maryland Public Service Commission				
FirstEnergy, Inc.	08/18	Potomac Edison Company	Case No. 9490	Rate of Return
Massachusetts Department of Public Utilities				
Liberty Utilities	07/15	Liberty Utilities d/b/a New England Natural Gas Company	Docket No. 15-75	Rate of Return
Mississippi Public Service Commission				
Atmos Energy	03/19	Atmos Energy	Docket No. 2015-UN-049	Capital Structure
Atmos Energy	07/18	Atmos Energy	Docket No. 2015-UN-049	Capital Structure

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MANAGEMENT CONSULTANTS

Appendix A
Professional Qualifications of
Dylan W. D'Ascendis, CRRA, CVA

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Missouri Public Service Commission				
Indian Hills Utility Operating Company, Inc.	10/17	Indian Hills Utility Operating Company, Inc.	Case No. SR-2017-0259	Rate of Return
Raccoon Creek Utility Operating Company, Inc.	09/16	Raccoon Creek Utility Operating Company, Inc.	Docket No. SR-2016-0202	Rate of Return
New Jersey Board of Public Utilities				
Aqua New Jersey, Inc.	12/18	Aqua New Jersey, Inc.	Docket No. WR18121351	Rate of Return
Middlesex Water Company	10/17	Middlesex Water Company	Docket No. WR17101049	Rate of Return
Middlesex Water Company	03/15	Middlesex Water Company	Docket No. WR15030391	Rate of Return
The Atlantic City Sewerage Company	10/14	The Atlantic City Sewerage Company	Docket No. WR14101263	Cost of Service / Rate Design
Middlesex Water Company	11/13	Middlesex Water Company	Docket No. WR1311059	Capital Structure
North Carolina Utilities Commission				
Carolina Water Service, Inc.	09/18	Carolina Water Service, Inc.	Docket No. W-354 Sub 360	Rate of Return
Aqua North Carolina, Inc.	07/18	Aqua North Carolina, Inc.	Docket No. W-218 Sub 497	Rate of Return
Public Utilities Commission of Ohio				
Aqua Ohio, Inc.	05/16	Aqua Ohio, Inc.	Docket No. 16-0907-WW-AIR	Rate of Return
Pennsylvania Public Utility Commission				
SUEZ Water Pennsylvania Inc.	04/18	SUEZ Water Pennsylvania Inc.	Docket No. R-2018-000834	Rate of Return
Columbia Water Company	09/17	Columbia Water Company	Docket No. R-2017-2598203	Rate of Return
Veolia Energy Philadelphia, Inc.	06/17	Veolia Energy Philadelphia, Inc.	Docket No. R-2017-2593142	Rate of Return
Emporium Water Company	07/14	Emporium Water Company	Docket No. R-2014-2402324	Rate of Return
Columbia Water Company	07/13	Columbia Water Company	Docket No. R-2013-2360798	Rate of Return
Penn Estates Utilities, Inc.	12/11	Penn Estates, Utilities, Inc.	Docket No. R-2011-2255159	Capital Structure / Long-Term Debt Cost Rate
South Carolina Public Service Commission				
Carolina Water Service, Inc.	02/18	Carolina Water Service, Inc.	Docket No. 2017-292-WS	Rate of Return
Carolina Water Service, Inc.	06/15	Carolina Water Service, Inc.	Docket No. 2015-199-WS	Rate of Return
Carolina Water Service, Inc.	11/13	Carolina Water Service, Inc.	Docket No. 2013-275-WS	Rate of Return

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
United Utility Companies, Inc.	09/13	United Utility Companies, Inc.	Docket No. 2013-199-WS	Rate of Return
Utility Services of South Carolina, Inc.	09/13	Utility Services of South Carolina, Inc.	Docket No. 2013-201-WS	Rate of Return
Tega Cay Water Services, Inc.	11/12	Tega Cay Water Services, Inc.	Docket No. 2012-177-WS	Capital Structure
Virginia State Corporation Commission				
WGL Holdings, Inc.	7/18	Washington Gas Light Company	PUR-2018-00080	Rate of Return
Atmos Energy Corporation	5/18	Atmos Energy Corporation	PUR-2018-00014	Rate of Return
Aqua Virginia, Inc.	7/17	Aqua Virginia, Inc.	PUR-2017-00082	Rate of Return
Massanutten Public Service Corp.	08/14	Massanutten Public Service Corp.	PUE-2014-00035	Rate of Return / Rate Design

1 Q And Mr. D'Ascendis, did you file prefiled
2 rebuttal testimony in this docket on November 20th of
3 2019?
4 A I did.
5 Q And did it consist of 49 pages?
6 A Yes.
7 Q And attached to it were -- was a D'Ascendis
8 Rebuttal Exhibit Number 1 consisting of Schedules DWD-1R
9 through DWD-12R?
10 A Yes.
11 Q If I were to ask you the same questions that
12 appear in your prefiled testimony, would they be the
13 same?
14 A They would.
15 Q Do you have any additions or corrections to
16 make to this testimony?
17 A I don't.
18 Q Do you have a summary to present?
19 A I do. I guess I'll go one after the other.
20 I'll do the direct, then the rebuttal.
21 Q That's fine.
22 COMMISSIONER BROWN-BLAND: Mr. Bennink, did you
23 want to move that rebuttal testimony?
24 MR. BENNINK: I'm sorry. Yes. We'd like to

1 have that copied into the record. I'm sorry if I didn't
2 do that.
3 COMMISSIONER BROWN-BLAND: All right. That
4 motion will be allowed, and the rebuttal testimony of
5 Witness D'Ascendis will be received into the record.
6 (Whereupon, the prefiled rebuttal
7 testimony of Dylan W. D'Ascendis was
8 copied into the record as if given orally
9 from the stand.)
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I. INTRODUCTION

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

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

Q. **By whom are you employed and in what capacity?**

A. I am a Director at ScottMadden, Inc. ("ScottMadden").

Q. **Are you the same Dylan W. D'Ascendis that provided direct testimony in this proceeding?**

A. Yes, I am.

II. PURPOSE OF TESTIMONY

Q. **What is the purpose of your rebuttal testimony in this proceeding?**

A. The purpose of my rebuttal testimony is two-fold. First, I will update my recommended weighted average cost of capital ("WACC"), including my recommended return on common equity ("ROE"). Second, I will respond to the direct testimony of John R. Hinton, witness for the Public Staff of the North Carolina Utilities Commission ("Public Staff") concerning the investor required ROE of Carolina Water Service, Inc. of North Carolina ("CWSNC" or the "Company").

Q. **Have you prepared an exhibit in support of your rebuttal testimony?**

A. Yes. I have prepared D'Ascendis Rebuttal Exhibit No. 1, which consists of Schedules DWD-1R through DWD-12R.

III. SUMMARY

Q. What conclusions did you reach?

A. My updated analysis recommends the North Carolina Utilities Commission ("Commission" or "NCUC") authorize the Company the opportunity to earn a WACC of 7.74%, based on a ratemaking capital structure as of September 30, 2019. The updated capital structure is based on the actual capital structure of CWSNC's parent, Utilities, Inc., at September 30, 2019. It consists of 50.90% long-term debt at an embedded cost rate of 5.36% and 49.10% common equity at my updated ROE of 10.20%. My updated recommended overall rate of return is summarized on page 1 of Schedule DWD-1R and in Table 1, below:

Table 1: Summary of Overall Rate of Return

Type of Capital	Ratios	Cost Rate	Weighted Cost Rate
Long-Term Debt	50.90%	5.36%	2.73%
Common Equity	49.10%	10.20%	5.01%
Total	100.00%		7.74%

I also respond to Mr. Hinton's estimation of the Company's ROE and explain its shortcomings, including his:

- Inclusion of a gas proxy group to determine an ROE for a water utility;
- Misapplication of the discounted cash flow ("DCF") model;
- Misapplication of the risk premium model ("RPM");
- Misapplication of the capital asset pricing model ("CAPM");

- Misapplication of the Comparable Earnings Model ("CEM");
- Failure to account for size-specific risks; and
- Opinion that the approval of the Company's requested consumption adjustment mechanism ("CAM") in this proceeding requires a downward adjustment to the ROE.

I will also address Mr. Hinton's opinions regarding current capital markets.

IV. UPDATED ANALYSIS

Q. **Please discuss your updated analysis in this proceeding.**

A. My updated study, which reflects current investor expectations, is as of October 18, 2019 and is contained in Schedule DWD-1R.

Q. **Have you applied the models in the same manner as you applied them in your direct testimony?**

A. No. In the predictive risk premium model ("PRPM"), I averaged the long-term predicted variance with the spot predicted variance in my updated analyses while I selected the minimum value in my direct analysis.

V. CURRENT CAPITAL MARKETS

Q. **Please summarize Mr. Hinton's summary of current capital markets.**

A. Mr. Hinton provided the Moody's A-rated public utility bond yield as of January 10, 2014 when Docket No. W-354, Sub 336 was stipulated, which was 4.63%, and the current Moody's A-rated public utility bond as of September 2019, which is 3.37%. Mr. Hinton then presents a chart showing the current flattening yield curve as compared with the yield curves in

January 2014, September 2015, August 2017, and February 2019, the approximate dates of CWSNC's last four rate cases.[1] Because of decreasing interest rates and previous inaccuracies in forecasted interest rate levels, Mr. Hinton relies on current interest rates in his analyses.[2]

Q. **Do you have any comment on Mr. Hinton's opinions regarding current market conditions?**

A. Yes, I do. I agree with Mr. Hinton that A-rated public utility bonds have declined about 126 basis points since Docket No. W-354, Sub 336. This reduction is reflected in the debt cost rates requested by the Company over that period of time. In Docket No. W-354, Sub 336, the Company's actual embedded debt cost was 6.60%. Currently, the Company's actual embedded debt cost rate is 5.36%, a decline of 124 basis points to the cost of debt, or 0.62% from the WACC, assuming a 50% debt / 50% equity capital structure, a substantial savings for the Company's customers over that period of time. However, I disagree with Mr. Hinton regarding the stability of the current low levels of Treasury bonds.

Q. Please discuss the changes in long-term Treasury bonds since your direct testimony.

A. There was a substantial decline in interest rates since my direct testimony, occurring over a relatively short period of time encompassing the month of August into early September of this year. Specifically, over the 30-trading days ended August 28, 2019, the 30-year Treasury bond yield declined 66

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[1] Hinton Direct Testimony, at 14-15.
[2] *Ibid.,* at 15-16.

basis points, or 25.10%. This is noteworthy because since 1977, there are only two other instances with a 30-trading day decline of 30-year Treasury bond yields of 66 basis points or more, and a percentage decline of 30-year Treasury bond yields greater than 24.0%. The first occurrence happened during December 2008 through January 2009 as a part of the Great Recession, with the second occurrence in early September 2011, which attended the European Sovereign Debt Crisis.

Chart 1: Occurrences of Substantial Declines in 30-Year Treasury Bond Yields – 2008 to Present[3]

As shown in the Chart above, even though the overall trend is downward, interest rates after these two events have recovered shortly thereafter. Because of this, I expect that the current 30-year Treasury bond yield will also recover (30-year Treasury bond yields are 2.43% as of November 8, 2019, up over 25% from the August 28, 2019 low of 1.94%.).

[3] Source of information: Federal Reserve Bank of St. Louis.

Q. **Do you believe that current interest rates are appropriate for the estimation of the cost of common equity in this proceeding?**

A. No. Using current measures, like interest rates, are inappropriate for cost of capital and ratemaking purposes because they are both prospective in nature. The cost of capital, including the cost rate of common equity, is expectational in that it reflects investors' expectations of future capital markets, including an expectation of interest rate levels, as well as future risks. Ratemaking is prospective in that the rates set in this proceeding will be in effect for a period in the future.

Even though Mr. Hinton relies, in part, on projected growth rates in his DCF analyses, he fails to apply that same logic to selecting an appropriate interest rate in his RPM analysis. Whether Mr. Hinton believes those forecasts will prove to be accurate is irrelevant to estimating the market-required cost of common equity. Published industry forecasts, such as *Blue Chip Financial Forecasts*' ("*Blue Chip")* consensus interest rate projections, reflect industry expectations. Additionally, investors' expectations are not improper inputs to cost of common equity estimation models simply because prior projections were not proven correct in hindsight. As the Federal Energy Regulatory Commission ("FERC") noted in Opinion No. 531, "the cost of common equity to a regulated enterprise depends upon what the market expects, not upon what ultimately happens."[4] Because our analyses are predicated on market expectations,

[4] Opinion No. 531, 150 FERC ¶ 61,165 at P 88.

the expected increase in bond yields is a measurable, observable, and relevant data point that should be reflected in Mr. Hinton's analysis. Therefore, Mr. Hinton should have used forecasted interest rates in his analysis.

VI. RESPONSE TO MR. HINTON

Q. **What are Mr. Hinton's recommendations for the Company's WACC, including his recommended ROE?**

A. Mr. Hinton recommends that the Commission establish an overall rate of return of 7.15%, based on a capital structure consisting of 50.90% long-term debt at an embedded cost rate of 5.36%, and 49.10% common equity at his recommended cost of common equity of 9.10%.[5] If the CAM is approved, Mr. Hinton recommends an ROE of 9.00%.[6] Since Mr. Hinton's direct testimony, the Company has decided to not pursue the CAM in this proceeding. Because of this, Mr. Hinton's ROE recommendation is 9.10%, which is based on the average of his DCF (8.64%) and RPM (9.57%) results.[7]

Q. **Do you have any general comments on Mr. Hinton's recommended ROE?**

A. Yes. Mr. Hinton relies on only two models, the DCF and the RPM, in his ROE analysis, using both the CAPM and CEM only as checks on his

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5 Hinton Direct Testimony, at 36.
6 *Ibid.,* at 39.
7 *Ibid.*, at 36.

recommended ROE.[8] As discussed in my direct testimony,[9] the use of multiple models adds reliability to the estimation of the common equity cost rate, and the prudence of using multiple cost of common equity models is supported in both the financial literature and regulatory precedent.

Q. **Can you please provide some examples from the financial literature which support the use of multiple cost of common equity models in determining the investor-required return?**

A. Yes. In one example, Morin states:

> Each methodology requires the exercise of considerable judgment on the reasonableness of the assumptions underlying the methodology and on the reasonableness of the proxies used to validate a theory. The inability of the DCF model to account for changes in relative market valuation, discussed below, is a vivid example of the potential shortcomings of the DCF model when applied to a given company. Similarly, the inability of the CAPM to account for variables that affect security returns other than beta tarnishes its use.
>
> **No one individual method provides the necessary level of precision for determining a fair return, but each method provides useful evidence to facilitate the exercise of an informed judgment.** Reliance on any single method or preset formula is inappropriate when dealing with investor expectations because of possible measurement difficulties and vagaries in individual companies' market data. (emphasis added)
>
> * * *
>
> The financial literature supports the use of multiple methods. Professor Eugene Brigham, a widely respected scholar and finance academician, asserts (footnote omitted):
>
> Three methods typically are used: (1) the Capital Asset Pricing Model (CAPM), (2) the discounted cash flow (DCF)

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8 *Ibid.*, at 23.

9 D'Ascendis Direct Testimony, at 43.

> method, and (3) the bond-yield-plus-risk-premium approach. **These methods are not mutually exclusive – no method dominates the others**, and all are subject to error when used in practice. Therefore, when faced with the task of estimating a company's cost of equity, we generally use all three methods and then choose among them on the basis of our confidence in the data used for each in the specific case at hand. (emphasis added)

Another prominent finance scholar, Professor Stewart Myers, in an early pioneering article on regulatory finance, stated(footnote omitted):

> Use more than one model when you can. Because estimating the opportunity cost of capital is difficult, **only a fool throws away useful information**. That means you should not use any one model or measure mechanically and exclusively. Beta is helpful as one tool in a kit, to be used in parallel with DCF models or other techniques for interpreting capital market data. (emphasis added)
>
> Reliance on multiple tests recognizes that no single methodology produces a precise definitive estimate of the cost of equity. As stated in Bonbright, Danielsen, and Kamerschen (1988), 'no single or group test or technique is conclusive.' Only a fool discards relevant evidence. (italics in original) (emphasis added)
>
> * * *
>
> While it is certainly appropriate to use the DCF methodology to estimate the cost of equity, there is no proof that the DCF produces a more accurate estimate of the cost of equity than other methodologies. Sole reliance on the DCF model ignores the capital market evidence and financial theory formalized in the CAPM and other risk premium methods. **The DCF model is one of many tools to be employed in conjunction with other methods to estimate the cost of equity.** It is not a superior methodology that supplants other financial theory and market evidence. The broad usage of the DCF methodology in regulatory proceedings in contrast to its virtual disappearance in academic textbooks does not make

> it superior to other methods. The same is true of the Risk Premium and CAPM methodologies. (emphasis added) [10]

Finally, Brigham and Gapenski note:

> In practical work, *it is often best to use all three methods* – CAPM, bond yield plus risk premium, and DCF – and then apply judgment when the methods produce different results. People experienced in estimating equity capital costs recognize that both careful analysis and some very fine judgments are required. It would be nice to pretend that these judgments are unnecessary and to specify an easy, precise way of determining the exact cost of equity capital. Unfortunately, this is not possible. Finance is in large part a matter of judgment, and we simply must face this fact. (italics in original) [11]

In the academic literature cited above, three methods are consistently mentioned: the DCF, CAPM, and the RPM, all of which I used in my analyses.

Q. **Can you also provide specific examples where this Commission has considered multiple cost of common equity models?**

A. Yes. The Commission in Docket W-354, Sub 360, concerning CWSNC, stated:

> The average of witness D'Ascendis' utility proxy group DCF result of 9.15%, traditional CAPM result of 10.67%, total market RPM of 10.56%, witness Hinton's DCF result of 8.70% and RPM of 9.70% is 9.75%. The Commission approved return on equity of 9.75% is thus supported by the average of the results of the above listed cost of equity models which the

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[10] Roger A. Morin, New Regulatory Finance, Public Utilities Reports, Inc., 2006, at 428-431. ("Morin")

[11] Eugene F. Brigham and Louis C. Gapenski, Financial Management – Theory and Practice, 4th Ed. (The Dryden Press, 1985) at 256. ("Brigham and Gapenski")

> Commission finds are entitled to substantial weight based on the record in this proceeding.

Also, in Docket E-2, Sub 1142, concerning Duke Energy Progress, LLC, the Commission stated:

> Thus, the Commission finds and concludes that the Stipulation, along with the expert testimony of witnesses Hevert (risk premium analysis), O'Donnell (comparable earnings), and Parcell (comparable earnings), are credible and substantial evidence of the appropriate rate of return on equity and are entitled to substantial weight in the Commission's determination of this issue.

In the Commission Orders cited above, there is clear language that the Commission considers multiple models in its determination of ROE. It is also my interpretation of these Orders that the Commission correctly observes capital market conditions and their effect on the model results in determining a ROE for utility companies. This, in addition to the academic literature cited above, justifies the use of the DCF, CAPM, RPM, and CEM in this proceeding.

A. <u>Proxy Group Selection</u>

Q. Is it proper for Mr. Hinton to use a gas proxy group to determine an ROE for a water utility?

A. No, it is not. As stated in my direct testimony,[12] water and wastewater utilities have specific risks not borne by gas companies. For example, water is the only utility service that is ingested. As such, water utilities have an ever-increasing responsibility to be stewards of the environment from which supplies are drawn in order to preserve and protect essential resources of

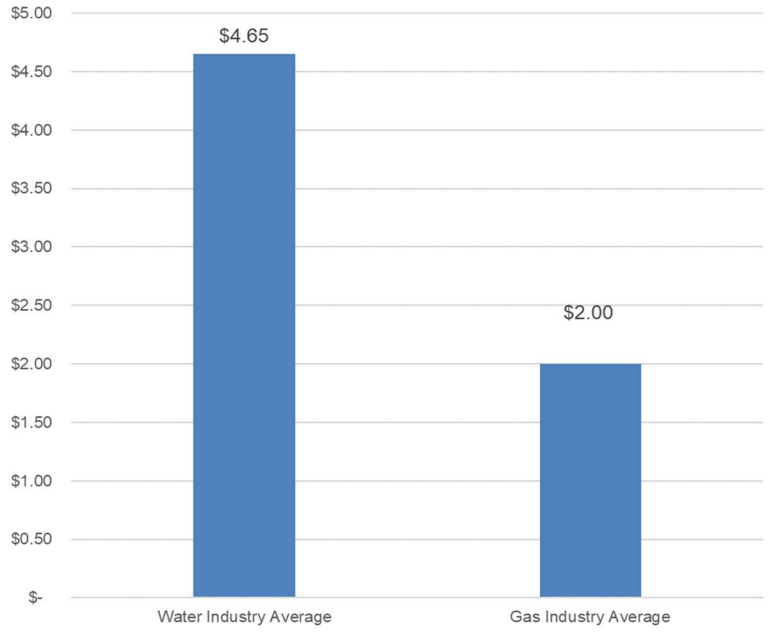
[12] D'Ascendis Direct Testimony, at 8-10.

the United States. This increased environmental stewardship is a direct result of compliance with the Safe Water Drinking Act and in response to the continuous monitoring of the water supply by the Environmental Protection Agency, state governments, and local governments for potential contaminants and their resultant regulations. Because of this, water utilities' risk profiles are distinct from gas utilities.

As stated in my direct testimony,[13] water utility companies have high capital intensity (how many dollars of plant generate one dollar in revenue) and low depreciation rates (a source of internal cash flow). As a capital-intensive industry, water utilities require significantly greater capital investment in infrastructure required to produce a dollar of revenue than natural gas utilities. For example, as shown on Chart 2, below, it took $4.65 of net utility plant on average to produce $1.00 in operating revenues in 2018 for the water utility industry as a whole. In contrast, for the natural gas utility industry, on average it took just $2.01 to produce $1.00 in operating revenues in 2018. As financing needs have increased and will continue to increase, the competition for capital from traditional sources has also increased and will continue to increase, making the need to maintain financial integrity and the ability to attract needed new capital increasingly important.

[13] *Ibid.*, at 7-8.

Chart 2: 2018 Capital Intensity of the Water and Gas Utility Industries[14]

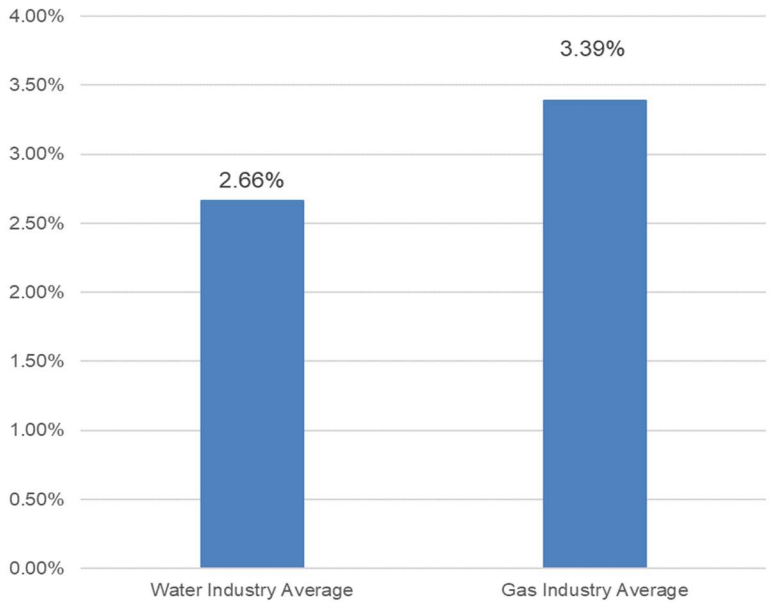


Coupled with its capital-intensive nature, the water utility industry also experiences lower relative depreciation rates compared with other types of utilities. Given that depreciation is one of the principal sources of internally-generated cash flows for all utilities, lower depreciation rates mean that water utilities cannot rely upon depreciation as a source of cash to the same extent that gas utilities do. Because water utility assets have longer lives and, hence, longer capital recovery periods than other types of utilities, water utilities face greater risk due to inflation. This results in a significantly higher replacement cost per dollar of net plant than for other types of utilities.

[14] Sources of Information: SNL Financial and Company Form 10-K.

As shown on Chart 3, below, water utilities experienced an average depreciation rate of 2.66% for 2018. In contrast, in 2018, the natural gas utilities experienced average depreciation rates of 3.39%, respectively. Lower depreciation rates signify that the pressure on cash flows remains significantly greater for water utilities than for other types of utilities

Chart 3: 2018 Depreciation Rate of the Water and Gas Utility Industries[15]



Q. Have you reviewed Public Staff Hinton Exhibit 3 regarding the measures of risk used by Mr. Hinton to show comparability between his water and gas proxy groups?

A. Yes, I have. From my review of the data in Hinton Exhibit 3, it is clear that Mr. Hinton's water and gas proxy groups are not comparable, as none of

[15] Sources of Information: SNL Financial and Company Form 10-K.

the measures for the two proxy groups were within the same ranking for either the Value Line or S&P measures.

Table 2: Comparison of Measures of Risk for Mr. Hinton's Water and Gas Groups

	Safety Rank	VL Beta	Price Stability	Earnings Predictability	Financial Strength	S&P Beta	S&P Quality Rank
Water Group Median	3	0.70	85	85	B++	0.19	A
Gas Group Median	2	0.65	90	80	A	0.30	A-

Furthermore, I used reasonable ranges of each Value Line measure used by Mr. Hinton for his water proxy group and screened them against Mr. Hinton's gas proxy group companies to see if any of them would be comparable to Mr. Hinton's water proxy group. I used the following ranges of Value Line risk measures representative of Mr. Hinton's water proxy group screen against Mr. Hinton's gas proxy group:

Table 3: Value Line Selection Criteria for Comparable Gas Companies to Water Group

Safety Rank	VL Beta	Price Stability	Earnings Predictability	Financial Strength
2 to 3	0.60 to 0.75	65 to 100	65 to 90	B+ to A

From this selection criteria, only three of the nine companies in Mr. Hinton's gas proxy group (Chesapeake Utilities, New Jersey Resources, and Southwest Gas Holdings) were deemed to be of comparable risk to Mr. Hinton's water proxy group using his own measures of risk.

For a more robust analysis, I applied the selection criteria I use to select my Non-Price Regulated Proxy Group, as explained in my direct testimony,[16] to Mr. Hinton's water group to see if any of Mr. Hinton's gas companies were comparable to his water proxy group. Again, only three of the nine gas companies in Mr. Hinton's gas proxy group (Chesapeake Utilities, Southwest Gas Holdings, and Spire, Inc.) were deemed as comparable to his water proxy group.

Q. Are you aware of any gas utility proceedings that Mr. Hinton was a party to where he used a water utility proxy group in addition to a gas proxy group for insight into the investor-required return?

A. No. If it is Mr. Hinton's contention that water and gas utilities are similar in risk, one would think that he would have used both water and gas proxy groups regardless of whether it was a gas or a water proceeding.

Q. What was Mr. Hinton's position in CWSNC's last rate case (Docket No. W-354, Sub 360) regarding the relative risk between water and gas utilities?

A. Mr. Hinton's position was that water companies were less risky than gas companies, stating: "Thus, the [water] industry is often considered less risky from an investor's perspective relative to [the] natural gas industry, which competes with electric service, propane, and other alternative fuel services."[17] While I disagree with Mr. Hinton to the extent one utility industry is riskier than the other, I do agree that the risks of each industry are

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[16] D'Ascendis Direct Testimony, at 39-40.

[17] Docket No. W-354, Sub 360, Hinton Direct Testimony, at 35. (clarification added)

1 different, which supports my position that ROEs for water utilities should be
2 determined by using water proxy groups.

3 **Q. What is your conclusion regarding Mr. Hinton's gas proxy group?**

4 A. Given that the water utility industry has unique operating risks compared to
5 gas companies, the fact that neither Mr. Hinton's nor my measures of total
6 risk were able to create a gas proxy group comparable in total risk to
7 Mr. Hinton's water proxy group, and Mr. Hinton's own statements in the
8 Company's last rate case, it is my conclusion that the Commission should
9 give the results of Mr. Hinton's gas proxy group no weight in this proceeding.

10 **B. <u>Discounted Cash Flow Model</u>**

11 Q. **Please summarize Mr. Hinton's DCF analysis.**

12 A. Mr. Hinton calculated his dividend yield by using the Value Line estimate of
13 the 12-month projected dividend yield for each of his proxy companies as
14 reported in the Value Line Summary and Index for 13 weeks ended October
15 18, 2019.[18] He then added the average expected dividend yields of 1.7%
16 (water proxy group) and 2.6% (gas proxy group) to a range of growth rates
17 from 4.4% to 8.3% (water proxy group) and 5.6% to 7.9% (gas proxy group)
18 to arrive at indicated DCF cost rates from 6.1% to 10.0% (water proxy
19 group) and 8.2% to 10.5% (gas proxy group). From these indicated DCF
20 cost rates, he averaged all of them together for his low DCF cost rate of
21 8.48%, and then he averaged all of his indicated DCF cost rates using
22 projected measures of growth for his high DCF cost rate of 8.80%. He then

[18] Hinton Direct Testimony, at 25-26.

averaged the 8.48% and 8.80% indicated DCF cost rates to arrive at 8.64%, which is his recommended DCF cost rate.[19]

Q. **Please comment on Mr. Hinton's growth rate analysis in his application of the DCF Model.**

A. Mr. Hinton states on page 28 of his direct testimony that he employed earnings per share ("EPS"), dividends per share ("DPS"), and book value of equity per share ("BVPS") growth rates as reported in Value Line, both five- and ten-year historical and forecasted, and the five-year projected EPS growth rate as reported by Yahoo Finance. He includes both historical and forecasted growth rates, "because it is reasonable to expect that investors consider both sets of data in deriving their expectations".

There is a significant body of empirical evidence supporting the superiority of analysts' EPS growth rates in a DCF analysis, indicating that analysts' forecasts of earnings remain the best predictor of growth to use in the DCF model. Such ample evidence of the proven reliability and superiority of analysts' forecasts of EPS should not be dismissed by Mr. Hinton.

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[19] *Ibid.*, at 36.

Q. **Please describe some of the empirical evidence supporting the reliability and superiority of analysts' EPS growth rates in a DCF analysis.**

A. As discussed in my direct testimony,[20] over the long run, there can be no growth in DPS without growth in EPS. Security analysts' earnings expectations have a more significant, but not the only, influence on market prices than dividend expectations. Thus, the use of projected earnings growth rates in a DCF analysis provides a better match between investors' market price appreciation expectations and the growth rate component of the DCF, because they have a significant influence on market prices and the appreciation or "growth" experienced by investors.[21] This should be evident even to relatively unsophisticated investors just by listening to financial news reports on radio, TV, or by reading newspapers.

In addition, Myron Gordon, the "father" of the standard regulatory version of the DCF model widely utilized throughout the United States in rate base/rate of return regulation, recognized the significance of analysts' forecasts of growth in EPS in a speech he gave in March 1990 before the Institute for Quantitative Research and Finance[22], stating on page 12:

> We have seen that earnings and growth estimates by security analysts were found by Malkiel and Cragg to be superior to data obtained from financial statements for the explanation of variation in price among common stocks… estimates by

[20] D'Ascendis Direct Testimony, at 18.

[21] Morin, at 298-303.

[22] Gordon, Myron J., "*The Pricing of Common Stock",* Presented before the Spring 1990 Seminar, March 27, 1990 of the Institute for Quantitative Research in Finance, Palm Beach, FL.

> security analysts available from sources such as IBES are far superior to the data available to Malkiel and Cragg.
>
> * * *
>
> Eq (7) is not as elegant as Eq (4), but it has a good deal more intuitive appeal. It says that investors buy earnings, but what they will pay for a dollar of earnings increases with the extent to which the earnings are reflected in the dividend or in appreciation through growth.

Professor Gordon recognized that the total return is largely affected by the terminal price, which is mostly affected by earnings (hence price/earnings multiples).

Studies performed by Cragg and Malkiel [23] demonstrate that analysts' forecasts are superior to historical growth rate extrapolations. While some question the accuracy of analysts' forecasts of EPS growth, the level of accuracy of those analysts' forecasts well after the fact does not really matter. What is important is the forecasts reflect widely held expectations influencing investors at the time they make their pricing decisions, and hence, the market prices they pay.

In addition, Jeremy J. Siegel [24] also supports the use of security analysts' EPS growth forecasts when he states:

> For the equity holder, the source of future cash flows is the earnings of firms. (p. 90)

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[23] Cragg, John G. and Malkiel, Burton G., Expectations and the Structure of Share Prices (University of Chicago Press, 1982) Chapter 4.

[24] Jeremy J. Siegel, Stocks for the Long Run – The Definitive Guide to Financial Market Returns and Long-Term Investment Strategies, McGraw-Hill 2002, pp. 90-94.

* * *

> Some people argue that shareholders most value stocks' cash dividends. But this is not necessarily true. (p. 91)

* * *

> Since the price of a stock depends primarily on the present discounted value of all expected future dividends, it appears that dividend policy is crucial to determining the value of the stock. However, this is not generally true. (p. 92)

* * *

> Since stock prices are the present value of future dividends, it would seem natural to assume that economic growth would be an important factor influencing future dividends and hence stock prices. However, this is not necessarily so. The determinants of stock prices are earnings and dividends on a *per-share* basis. Although economic growth may influence *aggregate* earnings and dividends favorably, economic growth does not necessarily increase the growth of per-share earnings of dividends. It is earnings per share (EPS) that is important to Wall Street because per-share data, not aggregate earnings or dividends, are the basis of investor returns. (italics in original) (pp. 93-94)

Therefore, given the overwhelming academic and empirical support regarding the superiority of security analysts' EPS growth rate forecasts, such EPS growth rate projections should have been relied on by Mr. Hinton in his DCF analysis.

Q. **What would Mr. Hinton's DCF result be had he only relied on EPS growth forecasts?**

A. As shown on Schedule DWD-2R, the mean DCF derived cost rate based on EPS growth forecasts is 9.43%. This result should be viewed with caution, however, as the DCF model is currently understating the investor-required return.

Q. **Why is it your opinion that the DCF model is currently understating the investor-required return?**

A. Traditional rate base/rate of return regulation, where a market-based common equity cost rate is applied to a book value rate base, presumes that market-to-book ("M/B") ratios are at unity or 1.00. However, that is rarely the case. Morin states:

> The third and perhaps most important reason for caution and skepticism is that application of the DCF model produces estimates of common equity cost that are consistent with investors' expected return only when stock price and book value are reasonably similar, that is, when the M/B is close to unity. As shown below, application of the standard DCF model to utility stocks understates the investor's expected return when the market-to-book (M/B) ratio of a given stock exceeds unity. This was particularly relevant in the capital market environment of the 1990s and 2000s where utility stocks were trading at M/B ratios well above unity and have been for nearly two decades. The converse is also true, that is, the DCF model overstates that investor's return when the stock's M/B ratio is less than unity. The reason for the distortion is that the DCF market return is applied to a book value rate base by the regulator, that is, a utility's earnings are limited to earnings on a book value rate base.[25]

As Morin explains, a "simplified" DCF model, like that used by Mr. Hinton, assumes an M/B ratio of 1.0 and therefore under- or over-states investors' required return when market value exceeds or is less than book value, respectively. It does so because equity investors evaluate and receive their returns on the market value of a utility's common equity, whereas regulators authorize returns on the book value of that common equity. This means that the market-based DCF will produce the total annual

[25] Morin, at 434.

dollar return expected by investors only when market and book values of common equity are equal, a very rare and unlikely situation.

Q. **Why do market and book values diverge?**

A. Market values can diverge from book values for a myriad of reasons including, but not limited to, EPS and DPS expectations, merger/acquisition expectations, interest rates, etc. As noted by Phillips:

> Many question the assumption that market price should equal book value, believing that 'the earnings of utilities should be sufficiently high to achieve market-to-book ratios which are consistent with those prevailing for stocks of unregulated companies.[26]

In addition, Bonbright states:

> In the first place, commissions cannot forecast, except within wide limits, the effect their rate orders will have on the market prices of the stocks of the companies they regulate. In the second place, *whatever the initial market prices may be, they are sure to change not only with the changing prospects for earnings, but with the changing outlook of an inherently volatile stock market*. In short, market prices are beyond the control, though not beyond the influence of rate regulation. Moreover, even if a commission did possess the power of control, any attempt to exercise it ... would result in harmful, uneconomic shifts in public utility rate levels. (italics added)[27]

Q. **Can the under- or over-statement of investors' required return by the DCF model be demonstrated mathematically?**

A. Yes, it can. Schedule DWD-3R demonstrates how a market-based DCF cost rate of 8.64%,[28] when applied to a book value substantially below market value, will understate the investors' required return on market value. As

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[26] Charles F. Phillips, The Regulation of Public Utilities, Public Utilities Reports, Inc., 1993, p. 395.

[27] James C. Bonbright, Albert L. Danielsen and David R. Kamerschen, Principles of Public Utility Rates (Public Utilities Reports, Inc., 1988), p. 334.

[28] Mr. Hinton's DCF cost rate as shown in Hinton Exhibit JRH-3.

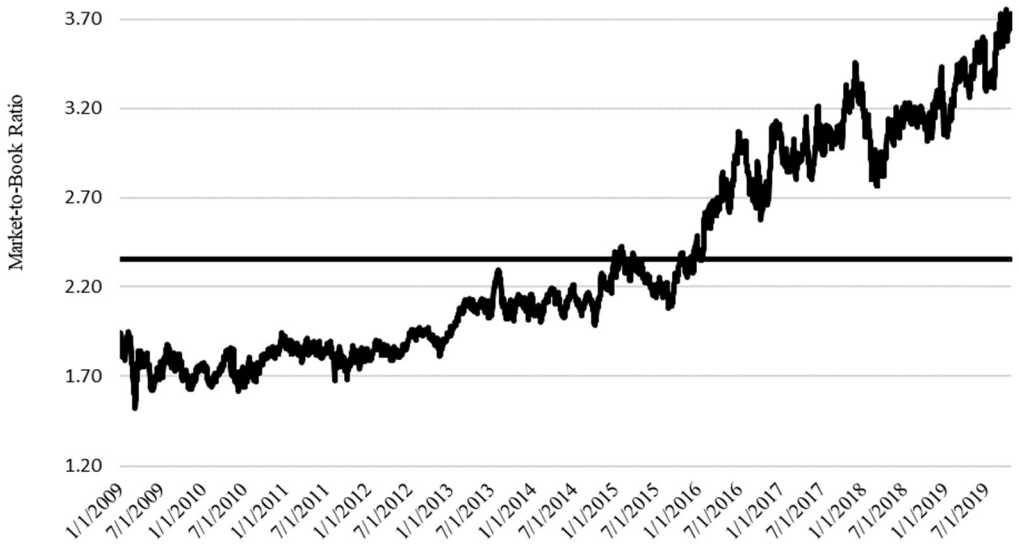
shown, there is no realistic opportunity to earn the expected market-based rate of return on book value. In Column [A], investors expect an 8.64% return on an average market price of $67.07 for Mr. Hinton's proxy group of water utility companies. Column [B] shows that when Mr. Hinton's 8.64% return rate is applied to a book value of $18.62,[29] the total annual return opportunity is $1.609. After subtracting dividends of $1.140, the investor only has the opportunity for $0.469 in market appreciation, or 0.70%. The magnitude of the understatement of investors' required return on market value using Mr. Hinton's 8.64% cost rate is 6.24%, which is calculated by subtracting the market appreciation based on book value of 0.70% from Mr. Hinton's expected growth rate of 6.94%.

Q. **How do the M/B ratios of the water proxy group compare to their ten-year average?**

A. The M/B ratios of the water proxy group are currently extraordinarily high compared with their ten-year average. As shown in Chart 4, below, since early 2016, the M/B ratios of the water proxy group have increased dramatically over their ten-year average M/B ratio of approximately 2.35 times.

[29] Representing a market-to-book ratio of 321.56%.

Chart 4: M/B Ratios Compared with Ten-Year Average[30]



The significance of this is that even though the ten-year average M/B ratio has always been greater than 1.0x, the current M/B ratio is even further removed from 1.0x, which further distorts DCF results.

Q. How can the inaccuracy or mis-specification of the DCF model be quantified when the M/B ratios are different than unity?

A. The inaccuracy of the DCF model, when market values diverge from book values, can be measured by first calculating the market value of each proxy company's capital structure, which consists of the market value of the company's common equity (shares outstanding multiplied by price) and the fair value of the company's long-term debt and preferred stock. All of these measures, except for price, are available in each company's SEC Form 10-K.

30 Source: Bloomberg Financial Services.

Second, one must de-leverage the implied cost of common equity based on the DCF. This is accomplished using the Modigliani / Miller equation[31] as illustrated in Schedule DWD-4R and shown below:

ku = ke - (((ku - i)(1 - t)) D/E) - (ku - d) P/E [Equation 1]

Where:

ku	=	Unlevered (i.e., 100% equity) cost of common equity;
ke	=	Market determined cost of common equity;
i	=	Cost of debt;
t	=	Income tax rate;
D	=	Debt ratio;
E	=	Equity ratio;
d	=	Cost of preferred stock; and
P	=	Preferred equity ratio.

Using average proxy group-specific data, the equation becomes:

ku = 8.64% - (((ku – 5.22%)(1 - 21%)) 23.31% / 76.65%) - (ku – 7.38%) 0.04% / 76.65%

Solving for ku results in an unlevered cost of common equity of 7.98%.

Next, one must re-leverage those costs of common equity by relating them to each proxy group's average book capital structure as shown below:

ke = ku + (((ku – i)(1 – t)) D/E) + (ku – d) P/E [Equation 2]

Once again, using average proxy group-specific data, the equation becomes:

ke = 7.98%+(((7.98% - 5.22%)(1 - 21%))45.17%/54.74%)+(7.98%-7.38%)0.09%/54.74%

Solving for ke results in a 9.78% indicated cost of common equity relative to the book capital structure of the proxy group, which is an increase

[31] The Modigliani / Miller theorem is an influential element of economic theory and forms the basis for modern theory on capital structure. *See,* Modigliani, F., and Miller, M. "The Cost of Capital, Corporation Finance and the Theory of Investment", The American Economic Review, Vol. 48, No. 3, (June 1958), at 261-297.

of 114 basis points over Mr. Hinton's average indicated DCF result of 8.64%.

Q. Are you advocating a specific adjustment to the DCF results to correct for its mis-specification of the investor-required return as Mr. Hinton alleges?[32]

A. No. The purpose of this discussion is to demonstrate that, like all cost of common equity models, the DCF has its limitations. The use of multiple cost of common equity models, in conjunction with informed expert judgment, provides a clearer picture of the investor-required ROE.

C. <u>Application of the Risk Premium Model</u>

Q. **Please summarize Mr. Hinton's RPM.**

A. Mr. Hinton's RPM explores the relationship between average allowed equity returns for water utility companies published by Regulatory Research Associates, Inc. ("RRA") and annual average Moody's A-rated utility bond yields. Using data from the years 2006 through 2019, Mr. Hinton conducts a regression analysis, which he then combines with recent monthly yields on Moody's A-rated public utility bonds to develop his risk premium estimate of 5.86% and a corresponding cost of equity of 9.57%.

Q. **Please comment on Mr. Hinton's application of the RPM.**

A. As previously addressed, it is inappropriate to use current bond yields to determine an expected ROE, so I will not repeat that discussion here. In addition, instead of using yearly average authorized returns and Moody's

[32] Hinton Direct Testimony, at 49-50.

A-rated public utility bond yields, it is preferable to use the authorized returns and Moody's A-rated public utility bond yields on a case by case basis. One reason why one should use individual cases instead of an annual average is that some years have more rate case decisions than others, and years with less rate case decisions will garner unnecessary weight. Another reason to use individual cases over an annual average is that interest rates and market conditions change during the year (*e.g.* the beginning and end of 2008), if one uses annual average authorized returns and annual average interest rates, the fluctuation between the interest rates and equity risk premiums during the year are lost.

Q. **What is the corrected result of the RPM after reflecting a prospective Moody's A-rated public utility bond yield and using individual rate case data in place of annual rate case data?**

A. As shown on page 1 of Schedule DWD-5R, the analysis is based on a regression of 185 rate cases for water utility companies from August 24, 2006 through July 1, 2019. It shows the implicit equity risk premium relative to the yields on Moody's A-rated public utility bonds immediately prior to the issuance of each regulatory decision.[33]

I determined the appropriate prospective Moody's A-rated public utility yield by relying on a consensus forecast of about 50 economists of the expected yield on Moody's Aaa-rated corporate bonds for the six

[33] If the Order was in the first half of the month, the Moody's A rated utility bond from two months prior would be used. If the Order was in the second half of the month, the Moody's A rated public utility bond from the last prior month was used.

calendar quarters ending with the first calendar quarter of 2021, and *Blue Chip's* long-term projections for 2021 to 2025, and 2026 to 2030.[34] As described on page 12 of Schedule DWD-1R, the average expected yield on Moody's Aaa-rated corporate bonds is 3.60%. I then derived an expected yield on Moody's A2-rated public utility bonds, by making an upward adjustment of 0.35%, which represents a recent spread between Moody's Aaa-rated corporate bonds and Moody's A2-rated public utility bonds.[35] Adding the recent 0.35% spread to the expected Moody's Aaa-rated corporate bond yield of 3.60% results in an expected Moody's A2-rated public utility bond yield of 3.95%.

I then used the regression results to estimate the equity risk premium applicable to the projected yield on Moody's A2-rated public utility bonds of 3.95%. Given the expected Moody's A-rated utility bond yield of 3.95%, the indicated equity risk premium is 5.72%, which results in an indicated ROE of 9.67%, as shown on Schedule DWD-5R.

D. <u>Application of the Capital Asset Pricing Model</u>

Q. Please summarize Mr. Hinton's CAPM analysis.

A. Mr. Hinton uses a six-month average 30 year Treasury yield ending September 2019 for his risk-free rate, and adds that yield to two Value Line beta adjusted market risk premiums ("MRP"), one using a long-term historical geometric average return on the market less the risk-free rate, and one using a long-term historical arithmetic average return on the market

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[34] *Blue Chip Financial Forecasts*, October 1, 2019, at 2, June 1, 2019, at 14.
[35] As explained on page 12 of Schedule DWD-1R.

less the risk-free rate. His indicated ROEs using the CAPM are 7.65% (geometric mean) and 8.96% (arithmetic mean).[36] Mr. Hinton does not assign any weight to his CAPM analysis, only using it as a limited check on his DCF and RPM analyses

Q. Do you have any concerns regarding Mr. Hinton's CAPM analysis?

A. Yes, I do. Mr. Hinton's CAPM analysis is flawed in at least three respects. First, he has incorrectly relied on a current risk-free rate despite the fact that both ratemaking and cost of capital are prospective, as discussed previously.

Second, Mr. Hinton incorrectly calculated the MRP by relying on a geometric mean historical market equity risk premium as well as the historical total returns on U.S. Treasury securities.

Third, Mr. Hinton did not incorporate an empirical CAPM ("ECAPM") analysis, even though empirical evidence indicates that low-beta securities, such as utilities, earn returns higher than the CAPM predicts and high-beta securities earn less.

Q. Please comment on Mr. Hinton's use of a six-month average 30-year Treasury bond yield as his risk-free rate.

A. Mr. Hinton's use of current, rather than projected, yields on 30-year U.S. Treasury Bonds ignores the fact that the cost of capital and ratemaking are prospective, as discussed previously. Mr. Hinton concurs when he states that:

[36] Hinton Direct Testimony, at 35.

> The cost of equity capital for a firm is the expected rate of return on common equity that investors require in order to induce them to purchase shares of the firm's common stock. The return is expected given that when the investor buys a share of the firm's common stock, he does not know with certainty what his returns will be in the future.[37]

Mr. Hinton also implicitly agrees when he incorporates projected growth rates in his DCF analysis. The cost of capital, including the cost rate of common equity, reflects investors' expectations of future capital markets, including an expectation of interest rate levels, as well as future risks. In addition, ratemaking is prospective in that the rates set in this proceeding will be in effect for a period of time in the future. Therefore, the appropriate expected risk-free rate available at the time of the preparation of Mr. Hinton's direct testimony was the average of the consensus forecasts of approximately 50 economists from *Blue Chip* for the six quarters ending with the first quarter 2021 from the October 1, 2019 edition, and the long-range forecasts from the June 1, 2019 edition for 2021-2025 and 2026-2030. This rate, 2.64%, is derived in note 2 on page 22 of Schedule DWD-1R.

Q. Please comment on Mr. Hinton's calculations of the expected MRP using long-term historical returns on the market.

A. Mr. Hinton calculates his expected MRP from data using the 2019 SBBI® Yearbook | Stocks, Bonds, Bills and Inflation ("SBBI – 2019"), which presents return data from 1926 – 2018. However, he relied on both arithmetic and geometric mean returns for both large company common

[37] *Ibid.*, at 22.

stocks and long-term U.S. Treasury Bonds, rather than exclusively relying on the appropriate arithmetic mean returns as detailed below.

Q. Please comment on Mr. Hinton's use of the geometric mean historical market return.

A. Mr. Hinton notes that he has relied on both the arithmetic and geometric mean returns for the S&P 500 as tabulated by Duff & Phelps.[38] Mr. Hinton states regarding his preference in measures of central tendency:

> However, I believe the use of the geometric return, which measures the annualized rate of return compounded over time, is the more appropriate measure of investor expectations.[39]

This statement is contradictory to what average SBBI – 2019, the source of Mr. Hinton's market return information, recommends for cost of capital purposes:

> The equity risk premium data presented in this book are arithmetic average risk premiums as opposed to geometric average risk premiums. The arithmetic average equity risk premium can be demonstrated to be most appropriate when discounting future cash flows. For use as the expected equity risk premium in either the CAPM or the building-block approach, the arithmetic mean, or the simple difference of the arithmetic means of stock market returns and riskless rates is the relevant number. This is because both the CAPM and the building-block approach are additive models, in which the cost of capital is the sum of its parts. The geometric average is more appropriate for reporting past performance because it represents the compound average return.[40]

Thus, only arithmetic mean return rates and yields are appropriate for cost of capital purposes because ex-post (historical) returns and equity

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38 *Ibid.*, at 35.
39 *Ibid.*
40 SBBI – 2019, at 10-22

1 risk premiums differ in size and direction over time, providing insight into the
2 variance and standard deviation of returns. Because the arithmetic mean
3 captures the prospect for variance in returns and equity risk premiums, it
4 provides the valuable insight needed by investors in estimating risk in the
5 *future* when making a current investment. Absent such valuable insight into
6 the potential variance of returns, investors cannot meaningfully evaluate
7 prospective risk.

8 In contrast, the geometric mean of ex-post equity risk premiums
9 provides no insight into the potential variance of future returns because the
10 geometric mean relates the change over many periods to a constant rate of
11 change, rather than the year-to-year fluctuations, or variance, critical to risk
12 analysis. Therefore, the geometric mean is of little or no value to investors
13 seeking to measure risk. Moreover, from a statistical perspective, because
14 stock returns and equity risk premiums are randomly generated, the
15 arithmetic mean is also forward-looking, consistent with the prospective
16 nature of the cost of capital and ratemaking. The financial literature is quite
17 clear that risk is measured by the variability of expected returns, *i.e.*, the
18 probability distribution of returns.[41]

19 In addition, Weston and Brigham provide the standard financial
20 textbook definition of the riskiness of an asset when they state:

[41] Eugene F. Brigham, Fundamentals of Financial Management (The Dryden Press, 1989) at 639.

> The riskiness of an asset is defined in terms of the likely variability of future returns from the asset. (emphasis added)[42]

Furthermore, Morin states:

> The geometric mean answers the question of what constant return you would have to achieve in each year to have your investment growth match the return achieved by the stock market. The arithmetic mean answers the question of what growth rate is the best estimate of the future amount of money that will be produced by continually reinvesting in the stock market. It is the rate of return which, compounded over multiple periods, gives the mean of the probability distribution of ending wealth. (emphasis added)[43]

In addition, Brealey and Myers note:

> The proper uses of arithmetic and compound rates of return from past investments are often misunderstood... Thus the arithmetic average of the returns correctly measures the opportunity cost of capital for investments... *Moral*: If the cost of capital is estimated from historical returns or risk premiums, use arithmetic averages, not compound annual rates of return. (italics in original)[44]

As previously discussed, investors gain insight into relative riskiness by analyzing expected *future* variability. This is accomplished using the arithmetic mean of a random distribution of returns/premiums. Only the arithmetic mean considers all the returns/premiums over a period of time, hence, providing meaningful insight into the variance and standard deviation of those returns/premiums.

Q. Can it be demonstrated that the arithmetic mean takes into account all of the returns, and therefore, the arithmetic mean is appropriate to use

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42 J. Fred Weston and Eugene F. Brigham, Essentials of Managerial Finance, 3rd Edition (The Dryden Press, 1974) at 272.

43 Morin, at 133.

44 Richard A. Brealey and Stewart C. Myers, S.C., Principles of Corporate Finance, 5th Ed. (McGraw-Hill Publications, Inc., 1996) at 146 – 147.

when estimating the opportunity cost of capital in contrast to the geometric mean?

A. Yes. Schedule DWD-7R graphically demonstrates this. Page 1 charts the returns on large company stocks for each of the years 1926 through 2018 from the SBBI – 2019 Appendix A Tables.[45] It is clear from the year-to-year variation of these returns that stock market returns, and hence, equity risk premiums, vary.

The distribution of each one of those returns for the entire period of 1926 through 2018 is shown on page 2. There is a clear bell-shaped pattern to the histogram, or probability distribution, of returns, an indication that the returns are randomly generated and not serially correlated. The arithmetic mean of this distribution of returns considers every return in the distribution, thus, takes into account the standard deviation or variance which may be experienced in the future when estimating the rate of return based on such historical returns.

In contrast, the geometric mean of these returns considers only two of the returns, the initial and terminal years, which, in this case, are 1926 and 2018. Based on only those two years, a constant rate of return is calculated by the geometric average. That constant return is graphically represented by a flat line, showing no year-to-year variation, over the entire 93-year (1926 to 2018) time period. This is clearly far different from actual,

[45] SBBI – 2019 Appendix A Tables.

1 based on the histogram, or probability distribution, of returns shown on page
2 2 and demonstrated on page 1 of Schedule DWD-7R.
3 Clearly, only the arithmetic mean takes the volatility of returns into
4 account and, thus, is appropriate for estimating the investor required rate of
5 return. The geometric mean, which does not take this volatility into account,
6 is appropriate only when measuring historical performance and should not
7 be used to estimate the investors required rate of return. Consequently,
8 Mr. Hinton should not have relied on the historical geometric mean return
9 on large company stocks from 1926-2018 from SBBI – 2019 in his CAPM
10 analysis.
11 **Q. Is there another expected return on the market Mr. Hinton could have**
12 **relied on in his CAPM analysis?**
13 A. Yes. In his DCF model, Mr. Hinton relied on the expected 12-month
14 dividend for each company in his proxy group from the Value Line Summary
15 & Index.[46] The Value Line Summary & Index also provides prospective
16 returns on the market each week, located on the cover of each issue. The
17 Value Line Summary & Index 13-week ending October 18, 2019 average
18 expected return on the market is 13.83%.[47]
19 **Q. Did Mr. Hinton incorporate an ECAPM analysis?**
20 A. No. Mr. Hinton failed to consider the ECAPM, despite the fact that
21 numerous tests of the CAPM have confirmed the ECAPMs validity by

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46 Hinton Direct Testimony, at 27.

47 Source of information: Value Line Summary & Index, July 26, 2019 to October 18, 2019. 13-week average market appreciation of 55% and average median dividend yield of 2.25% equals an annual expected market return of 13.83% ($(1.55^{0.25} - 1) + 2.25\% = 13.83\%$).

showing that the empirical Security Market Line ("SML") described by the traditional CAPM is not as steeply sloped as the predicted SML, as discussed in detail in my direct testimony.[48]

Q. If corrected for the above errors, what would be the results of Mr. Hinton's CAPM analysis?

A. Schedule DWD-6R presents the results of the correct applications of both the traditional CAPM and the ECAPM for Mr. Hinton's water proxy group. The corrected CAPM results indicate a cost of common equity of 10.12% for Mr. Hinton's water proxy group.

E. <u>Application of the Comparable Earnings Model</u>

Q. Please describe Mr. Hinton's CEM analysis

A. Mr. Hinton examined five years of historical earned returns on equity for his water and gas proxy groups and averaged all the returns together to arrive at a 9.83% indicated equity return.[49] Mr. Hinton did not rely on the results of this data for his recommended ROE, but only as a check on his DCF and RPM.[50] I would note that his indicated ROE using his CEM is in excess of 70 basis points over his recommended ROEs of 9.10% and 9.00% (with the authorization of the Company's requested CAM) and the average of his water proxy group's earned return is 10.05%.

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48 D'Ascendis Direct Testimony, at 32-35.
49 Hinton Direct Testimony, at Public Staff Hinton Exhibit 6.
50 *Ibid.,* at 33.

Q. Do you have any comment on the proxy groups Mr. Hinton used in his CEM analysis?

A. Yes. Mr. Hinton used his water and gas proxy groups in his CEM analysis.[51] Any proxy group selected for a CEM analysis should be broad-based in order to obviate company-specific aberrations and should exclude utilities to avoid circularity. Since the achieved returns on book common equity of utilities is a function of the regulatory process itself, they are substantially influenced by regulatory return on common equity awards. Therefore, the achieved ROEs of utilities are not representative of the returns that could be earned in a truly competitive market. Hence, Mr. Hinton's use of his water and gas proxy utilities in his CEM analysis should be rejected and replaced with the results of market models applied to a group of non-price regulated companies similar in total risk to Mr. Hinton's water proxy group. I addressed the inapplicability of Mr. Hinton's gas proxy group earlier in this testimony, and as such, will not be selecting a non-price regulated proxy group for his gas proxy group.

Q. Please explain the basis of using a non-price regulated proxy group in a CEM analysis.

A. Neither the *Hope* nor *Bluefield* cases specify that comparable risk companies must be regulated utilities. Since rate regulation is a substitute for the competition of the marketplace, non-price regulated firms operating in the competitive marketplace are an excellent proxy if a group can be

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[51] *Ibid*.

selected to be comparable in total risk to the water proxy group on whose market data Mr. Hinton relied on to estimate the cost of common equity. The bases of the selection applied are theoretically and empirically sound, identical to those I applied in my direct testimony,[52] and result in a non-price regulated proxy group which is comparable in total risk to Mr. Hinton's water proxy group.[53]

Q. Please explain how you chose the non-price regulated proxy group comparable in total risk to Mr. Hinton's water proxy group.

A. As discussed in my direct testimony,[54] the selection criteria for non-price regulated firms are based on statistics derived from Value Line regression analyses of weekly market prices over the most recent 260 weeks, *i.e.*, five years from the market prices paid by investors. Value Line unadjusted betas were used as a measure of systematic risk, while the standard errors of the regressions giving rise to those beta coefficients are a measure of unsystematic or firm-specific risk reflecting the extent to which events specific to a firm's operations affect its stock price. In essence, companies with similar betas and standard errors of the regression have similar <u>total</u> investment risk. Using a Value Line proprietary database dated September 2019 and applying the same selection criteria as in my direct testimony results in a non-price regulated proxy group comparable in total risk to Mr. Hinton's water proxy group. The basis of selection and the non-price

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52 D'Ascendis Direct Testimony, at 39-40.

53 Frank J. Hanley & Pauline M. Ahern, "Comparable Earnings: New Life for an Old Precept," American Gas Association, *Financial Quarterly Review*, Summer 1994 at 4 – 8.

54 D'Ascendis Direct Testimony, at 39-40.

regulated proxy group's regression statistics are shown on pages 1 through 3 of Schedule DWD-8R.

Q. Did you also select a non-price regulated proxy group based on the ranges of Value Line risk measures used by Mr. Hinton?

A. Yes, I did. I ran the screens using Mr. Hinton's Value Line risk measures as shown on Table 3 against the universe of Value Line companies to obtain a group of non-price regulated companies comparable in total risk to Mr. Hinton's water proxy group as shown on page 4 of Schedule DWD-8R.

Q. How did you calculate common equity cost rates for the non-utility proxy group that is comparable in total risk to Mr. Hinton's water proxy group?

A. I applied the market models in a manner identical to my correction of Mr. Hinton's applications of the DCF and the CAPM for his water proxy group as shown on Schedules DWD-2R and DWD-6R, respectively.

Page 6 of Schedule DWD-8R contains the derivation of the DCF cost rates for each comparable group. The composite DCF-derived cost rates based on EPS growth forecasts are 10.97% and 9.25% for the two comparable groups (average of 10.11%). My recommended indicated result using the DCF would be 10.11%, which is the average of the two groups' DCF results.

Page 7 of Schedule DWD-8R contains my correction of the CAPM applied to the non-utility proxy groups comparable in total risk to Hinton's water proxy group. The CAPM / ECAPM results indicates cost of common

equity rates of 10.55% and 10.50% for the two non-price regulated proxy groups, respectively. I will rely on the average of the two results, or 10.53%, as the indicated CAPM result for the non-price regulated proxy groups comparable in total risk to Mr. Hinton's water proxy group.

Q. What is your conclusion of the common equity cost rate based on the non-price regulated proxy groups?

A. It is 10.32% as shown on page 5 of Schedule DWD-8R. The results of the DCF and CAPM applied to the non-price regulated proxy groups are 10.11% and 10.53%, respectively, which average to 10.32%.

Q. **What are the results of Mr. Hinton's ROE models after making the adjustments described above and including the CAPM and CEM.**

As discussed above, my adjustments to Mr. Hinton's DCF and RPM result in ROEs of 9.43% and 9.67%, respectively. After the inclusion of the corrected CAPM (10.12%) and CEM (10.32%) results,[55] Mr. Hinton's average result is 9.89%. The average result of 9.89% still does not reflect the cost of common equity for CWSNC, as it has not been adjusted for the Company's greater risk relative to the proxy group based on its small size.

Q. **Mr. Hinton justifies his recommended ROE of 9.10% by reviewing the interest coverage ratio and confirming that his ROE would allow the**

[55] Schedules DWD-6R and DWD-8R, respectively.

Company a single "A" rating.[56] Does one measure of financial risk such as pre-tax interest coverage indicate a specific credit rating?

A. No. While I do not take issue with Mr. Hinton's inputs or calculations in determining CWSNC's pre-tax interest coverage ratio, I note that the ratios of pre-tax coverage needed to qualify for a single "A" rating range from 3.0 to 6.0. As can be seen in Schedule DWD-9R, ROE's ranging from 9.00% (Mr. Hinton's recommended ROE if the CAM is approved) to as high as 22.22%, all allow CWSNC to qualify for a single "A" rating based on its pre-tax coverage ratio. Clearly a significantly large range of results indicates that simply relying on a single measure, out of a multitude of measures reviewed by the bond/credit ratings agencies, to determine a company's bond rating is misleading and without significance.

F. <u>Failure to Reflect CWSNC's Greater Relative Risk Due to its Small Size</u>

Q. **Does Mr. Hinton make a specific adjustment to reflect the smaller size of CWSNC relative to the proxy group?**

A. No. As previously discussed in my direct testimony,[57] relative company size is a significant element of business risk for which investors expect to be compensated through greater returns. Smaller companies are simply less able to cope with significant events which affect sales, revenues and earnings. For example, smaller companies face more exposure to business cycles and economic conditions, both nationally and locally. Additionally,

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56 Hinton Direct Testimony, at 39.
57 D'Ascendis Direct Testimony, at 43-48.

the loss of revenues from a few large customers would have a far greater effect on a small company than on a larger company with a more diverse customer base. Finally, smaller companies are generally less diverse in their operations and have less financial flexibility. Consistent with the financial principle of risk and return in my direct testimony,[58] such increased risk due to small size must be taken into account in the allowed rate of return on common equity.

Q. **Is there another empirical study in addition to the empirical analysis you performed in your direct testimony that evaluates the effect of size on the cost of equity?**

A. Yes. Duff & Phelps' ("D&P") 2019 Valuation Handbook Guide to Cost of Capital – Market Results through 2018 ("D&P 2019") presents a Size Study based on the relationship of various measures of size and return. Relative to the relationship between average annual return and the various measures of size, D&P state:

> **The size of a company is one of the most important risk elements to consider when developing cost of equity estimates for use in valuing** a firm. Traditionally, researchers have used market value of equity (*i.e.,* "market capitalization" or "market cap") as a measure of size in conducting historical rate of return research. For example, the Center for Research in Security Prices (CRSP) "deciles" are developed by sorting U.S. companies by market capitalization. Another example is the Fama-French "Small Minus Big" (SMB) series, which is the difference in return of "small" stocks minus "big" (*i.e.*, large) stocks, as defined by market capitalization. (emphasis added) [59]

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[58] *Ibid.,* at 8.

[59] D&P 2019, at p. 10-1.

The Size Study uses the following eight measures of size, all of which have empirically shown that, over the long-term, the smaller the company, the higher the risk:

- Market Value of Common Equity (or total capital if no debt / equity);
- Book Value of Common Equity;
- Net Income (five-year average);
- Market Value of Invested Capital;
- Total Assets (Invested Capital);
- Earnings Before Interest, Taxes, Depreciation & Amortization ("EBITDA") (five-year average);
- Sales / Operating Revenues; and
- Number of Employees.

I used the D&P Size Study to determine the approximate magnitude of the necessary risk premium due to the size of CWSNC relative to the water proxy group. Schedule DWD-10R shows the relative size of CWSNC compared with the water proxy group. Indicated size adjustments based on these relative measures range from 1.08% to 2.79%, averaging 1.78%. From these results, it is clear that CWSNC is riskier than the water proxy group due to its small size, and that my proposed size adjustment of 40 basis points for CWSNC is conservative.

Q. **Mr. Hinton cites a study by Dr. Annie Wong for the proposition that there is no size premium for utilities. Does this study establish that contention?**

A. No. Dr. Wong's study is flawed because she attempts to relate a change in size to beta coefficients, which accounts for only a small percentage of

diversifiable company-specific risk. Size is company-specific and therefore diversifiable. For example, the average R-squared, or coefficient of determination for the water proxy group, is 0.0718 as shown on Schedule DWD-11R. An R-squared of 0.0718 means that approximately 7% of total risk is explained by beta, leaving 93% unexplained by beta.

Q. **Is there also a published response to Dr. Wong's article?**

A. Yes, there is. In response to Professor Wong's article, *The Quarterly Review of Economics and Finance* published an article in 2003, authored by Thomas M. Zepp, which commented on the Annie Wong article cited by Mr. Hinton. Relative to Ms. Wong's results, Dr. Zepp concluded in the Abstract on page 1 of his article: "Her weak results, however, do not rule out the possibility of a small firm effect for utilities."[60] Dr. Zepp also noted on page 582 that: "Two other studies discussed here support a conclusion that smaller water utility stocks are more risky than larger ones. To the extent that water utilities are representative of all utilities, there is support for smaller utilities being more risky than larger ones."[61] Finally, I note that Professor Wong's study, while relying on a large group of gas and electric utilities, used no water utilities.

Q. **Are you aware of any other academic article relating to the applicability of a size premium?**

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60 Thomas M. Zepp, Thomas M. "Utility Stocks and the Size Effect --- Revisited", The Quarterly Review of Economics and Finance, 43 (2003) at 578-582.

61 *Ibid, at 582.*

A. Yes. An article by Michael A. Paschall, ASA, CFA, and George B. Hawkins ASA, CFA, "Do Smaller Companies Warrant a Higher Discount Rate for Risk?" also supports the applicability of a size premium. As the article makes clear, all else equal, size is a risk factor which must be taken into account when setting the cost of capital or capitalization (discount) rate. Paschall and Hawkins state in their conclusion as follows:

> The current challenge to traditional thinking about a small stock premium is a very real and potentially troublesome issue. The challenge comes from bright and articulate people and has already been incorporated into some court cases, providing further ammunition for the IRS. Failing to consider the additional risk associated with most smaller companies, however, is to fail to acknowledge reality. Measured properly, small company stocks have proven to be more risky over a long period of time than have larger company stocks. This makes sense due to the various advantages that larger companies have over smaller companies. Investors looking to purchase a riskier company will require a greater return on investment to compensate for that risk. There are numerous other risks affecting a particular company, yet the use of a size premium is one way to quantify the risk associated with smaller companies.[62]

Hence, Paschall and Hawkins corroborate the need for a small size adjustment, all else equal. Consistent with the financial principle of risk and return discussed previously, and the stand-alone nature of ratemaking, an upward adjustment must be applied to the indicated cost of common equity derived from the cost of equity models of the water proxy group used in this proceeding.

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[62] Michael A. Paschall, ASA, CFA and George B. Hawkins ASA, CFA, "Do Smaller Companies Warrant a Higher Discount Rate for Risk?", CCH Business Valuation Alert, Vol. 1, Issue No. 2, December 1999.

Q. **Does Mr. Hinton give evidence to the relative risk of water companies based on their size in his direct testimony?**

A. Yes, he does. On page 21 of his direct testimony, Mr. Hinton states that Utilities, Inc., CWSNC's parent company, "has a history of making private placements of debt at relatively higher interest rates relative to public offerings by other utilities, such as seen with Aqua North Carolina." The inability to offer public debt, and the resulting higher capital costs is directly attributable to Utilities, Inc.'s small size. As the size risk of Utilities, Inc., and in turn, CWSNC is reflected in its debt cost rate, it must also be reflected in its equity cost rate.

G. <u>Consideration of Mechanisms in Place for CWSNC</u>

Q. **Mr. Hinton discusses the Company's Water and Sewer System Improvement Charge mechanisms and the Company's requested CAM that he claims impact risk for CWSNC.[63] Is his claim valid?**

A. No. The cost of capital is a comparative exercise, so if the mechanism is common throughout the companies that one bases their analyses on, the comparative risk is zero because any impact of the perceived reduced risk of the mechanism(s) by investors would be reflected in the market data of the proxy group. To that point, as shown on Schedule DWD-12R, every single one of the proxy companies has a Distribution Service Improvement Charge and five of seven of his water proxy group companies have a CAM-type mechanism in at least one of their jurisdictions.

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[63] Hinton Direct Testimony, at 36-37.

Q. Are you aware of any studies that have addressed the relationship between decoupling mechanisms, generally, and ROE?

A. Yes. I, along with Dr. Richard A. Michelfelder of Rutgers University, and my colleague at ScottMadden, Pauline M. Ahern, CRRA, examined the relationship between decoupling and ROE among electric, gas, and water utilities. Using the generalized consumption asset pricing model, also known as the Predictive Risk Premium Model, we found decoupling to have no statistically significant effect on investor perceived risk, and hence, ROE.[64]

Also, in March 2014, The Brattle Group ("Brattle") published a study addressing the effect of revenue decoupling structures on the cost of capital for electric utilities.[65] In its report, which extended a prior analysis focused on natural gas distribution utilities, Brattle pointed out that although decoupling structures may affect revenue, net income still can vary.[66] Brattle further noted that the distinction between diversifiable and non-diversifiable risk is important to equity investors, and the relationship between decoupling and ROE should be examined in that context. Further to that point, Brattle noted that although reductions in total risk may be important to bondholders, only reductions in non-diversifiable business risk

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64 Dr. Richard A. Michelfelder, Pauline M. Ahern, Dylan W. D'Ascendis, *The Impact of Decoupling on The Cost of Capital of Public Utilities*, Energy Policy 130 (2019) 311-319.

65 The Brattle Group, *The Impact of Revenue Decoupling on the Cost of Capital for Electric Utilities: An Empirical Investigation*, Prepared for the Energy Foundation, March 20, 2014.

66 *Ibid*., page 7.

would justify a reduction to the ROE.[67] In November 2016 the Brattle study was updated based on data through the fourth quarter of 2015.[68]

Brattle's empirical analysis examined the relationship between decoupling and the After-Tax WACC for a group of electric utilities that had implemented decoupling structures in various jurisdictions throughout the United States. As with Brattle's 2014 study, the updated study found no statistically significant link between the cost of capital and revenue decoupling structures.[69] Even though the Company has removed the CAM from consideration in this proceeding, I want to make sure that the Commission knows that there has been no study that links the approval of a decoupling mechanism to a lower investor-required ROE.

VII. CONCLUSION

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

A. Yes, it does.

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67 *Ibid*., page 8.

68 Michael J. Vilbert, Joseph B. Wharton, Shirley Zhang and James Hall, *Effect on the Cost of Capital of Innovative Ratemaking that Relaxes the Linkage between Revenue and kWh Sales – An Updated Empirical Investigation*, November 2016. Also available at http://files.brattle.com/files/5711_effect_on_the_cost_of_capital_of_ratemaking_that_relaxes_the_linkage_between_revenue_and_kwh_sales.pdf.

69 *Ibid.*

A All right. I'll start my summary. My name is Dylan D'Ascendis, and I offer expert testimony on behalf of investor-owned utilities on issues involving rate of return and class cost of service. I've testified in over 50 proceedings before 19 regulatory jurisdictions. I'm a graduate of the University of Pennsylvania, where I received a Bachelor of Arts degree in Economic History, and I also hold a Masters of Business Administration from Rutgers University with a concentration in Finance and International Business. I'm a Certified Rate of Return Analyst and a Certified Valuation Analyst.

My direct testimony recommends that the Commission authorize Carolina Water Service an opportunity to earn a rate of return of 8.07 percent. This is based on CWSNC's test year capital structure which consists of 52.04 debt, long-term debt, at an embedded cost rate of 5.59 percent and 47.96 percent common equity at my recommended common equity cost rate which is 10.75 percent.

I derived my range of common equity cost rates by applying market-based common equity models such as the discounted cash flow, the capital asset pricing model, and the risk premium model to a group of publicly-traded water utilities and a proxy group of non-regulated

1 companies comparable in total risk to the water utility
2 group.
3 Applying multiple market-based common equity
4 models to the companies comparable in risk to the
5 regulated utilities is consistent with the principles of
6 fair rate of return established in Hope and Bluefield
7 U.S. Supreme Court cases. This is especially important
8 regarding the corresponding risk standard which mandates
9 that an authorized return on common equity for a utility,
10 commensurate with returns on investments in other
11 enterprises having corresponding risk. However, no proxy
12 group of companies can be identical in risk to any one
13 single company, including Carolina Water. Therefore,
14 adjustments must be made to the market results of the
15 proxy group to reflect any type of risk difference
16 between the proxy group and the Company.
17 Through my selection criteria I selected six
18 water utility companies with similar risk. I then
19 applied the DCF, the CAPM, and the risk premium model to
20 the group of water utility companies and the group of the
21 non-utilities that are comparable in risk to the water
22 proxy group.
23 After resu--- after reviewing the results of
24 the models, I concluded that the indicated ROE was 10.35

1 percent before any adjustment for risk differences
2 between the Company and the proxy group. To determine if
3 there was any risk difference due to size, I relied on a
4 study by Ibbotson Associates which used estimated market
5 capitalization as a measure of company size which
6 translated into a premium over CAPM results. As shown on
7 Schedule DWD-8, the risk premium in excess of CAPM
8 results is 394 basis points over CAPM results. In order
9 to be conservative, I recommended a 40 basis point size
10 adjustment for Carolina Water. Applying the 40 basis
11 point size adjustment to the 10.35 indicated ROE based on
12 the proxy group indicates an ROE of 10.75 percent, which
13 is my recommendation -- initial recommendation for
14 Carolina Water.
15 That concludes my summary of my direct case.
16 I'm going to, I guess, right into my rebuttal.
17 My rebuttal testimony responds to the direct
18 testimony of Mr. John R. Hinton of the Public Staff and
19 updates my recommended my return on common equity cost
20 rate to 10.20 percent, reflecting current markets.
21 I also update the Company's capital structure
22 and cost of long-term debt at September 30th, 2019. The
23 updating ratemaking capital structure consists of 50.90
24 percent long-term debt at an embedded debt cost rate of

5.36 percent and 49.10 percent common equity. The updated analysis results in an updated recommended overall rate of return of 7.74 percent.

Also, in my rebuttal testimony I address several concerns that I have with Mr. Hinton's analysis, including his use of a natural gas distribution group in his analyses, his inclusion of historical growth rates in his DCF analysis, his inclusion of growth and dividends per share and book value per share in his DCF analysis, his use of yearly average authorized returns on equity from commissions in his risk premium analysis, his use of historical interest rates in his risk premium analysis and his capital asset pricing model, his partial reliance on geometric mean risk premiums in his capital asset pricing model, his non-use of an empirical capital asset pricing model, his general misapplication of his comparable earnings model, his rejection of the size adjustment, and his contention that the addition of ratemaking mechanisms necessitates a reduction in the Utility's ROE.

And that concludes the summary of my rebuttal testimony.

MR. BENNINK: The witness is available for cross examination.

1 COMMISSIONER BROWN-BLAND: And with respect to
2 identification for the record, the Rebuttal Exhibit 1
3 will be marked as it was identified when prefiled.
4 MR. BENNINK: Thank you.
5 (Whereupon, D'Ascendis Rebuttal Exhibit 1,
6 Schedules DWD-1R to DWD-12R, was
7 identified as premarked.)
8 COMMISSIONER BROWN-BLAND: Any questions from
9 Corolla Light?
10 MR. ALLEN: No questions.
11 COMMISSIONER BROWN-BLAND: All right. Mr.
12 Grantmyre?
13 MR. GRANTMYRE: Yes. We're handing out two
14 cross examination exhibits. The one that's on legal size
15 will be Cross Examination Exhibit 1 and the second one --
16 and that consists of two pages -- and the second one is
17 on letter size and it says Commission Approved Common
18 Equity Ratios and ROEs, and we would ask that that be
19 identified as Cross Examination Exhibit 2.
20 COMMISSIONER BROWN-BLAND: All right. Hold up
21 just a moment. Let us get them.
22 MR. GRANTMYRE: Give one to -- don't leave him
23 till last.
24 THE WITNESS: I'm ready to take a nap. Thank

1 you.

2 COMMISSIONER BROWN-BLAND: All right. This

3 first one that's on legal size paper and is -- begins

4 with the horizontal table will be identified as Public

5 Staff D'Ascendis Cross Examination Exhibit 1.

6 (Whereupon, Public Staff D'Ascendis

7 Cross Examination Exhibit Number 1 was

8 marked for identification.)

9 COMMISSIONER BROWN-BLAND: The single page

10 which is captioned Commission Approved Common Equity

11 Ratios and ROEs will be identified as Public Staff

12 D'Ascendis Cross Examination Exhibit 2.

13 (Whereupon, Public Staff D'Ascendis

14 Cross Examination Exhibit Number 2 was

15 marked for identification.)

16 CROSS EXAMINATION BY MR. GRANTMYRE:

17 Q I believe you testified, I might have misheard

18 it, that you are a Director at ScottMadden; is that

19 correct?

20 A I am.

21 Q Now, last time you testified Mr. Hevert was

22 your boss; is that correct?

23 A He still is, unfortunately.

24 Q Well, has ScottMadden figured out that you got

1 10.5 from the South Carolina Public Service Commission
2 and Mr. Hevert only got 9.5 for Duke -- Duke Energy
3 Carolinas and Duke Energy Progress?
4 A You know what that -- you know what that
5 proves? It proves that water utilities are more risky
6 than electric, right?
7 Q Notwithstanding the better witnesses. Okay.
8 Now, you have in front of you -- and you told me before
9 the hearing that you knew what Cross Examination Exhibit
10 1 is, is that correct, and I did not disappoint you, I
11 take it?
12 A No.
13 Q Okay. Now, this is your responses to data
14 requests, with the exception that I added the last column
15 that says Basis Points D'Ascendis is Below the Authorized
16 ROE. Do you recognize the rest of this?
17 A I do.
18 Q Now, the Kaupulehu Water Company case in
19 Hawaii, that’s been pending since 2016, and it's still
20 pending?
21 A It’s a mystery to me. I sent the testimony
22 out, and I haven’t heard anything since.
23 Q How many trips to Hawaii did you get?
24 A Just one, but it was a different claim on the

1 cost of service.

2 Q Okay, okay. Now, moving on to something

3 substantive here, now, you recognize Middlesex Water

4 Company, that's one of your -- the top one, that's one of

5 your proxy companies, correct?

6 A Yes. You're talking about the top line --

7 Q Yeah.

8 A -- authorized 7/15?

9 Q Yes.

10 A Yes.

11 Q And you agree that you were 65 basis points

12 below the -- your recommendation was 65 basis points

13 above -- I'm sorry -- basis points D'Ascendis is below

14 authorized -- is above authorized ROC (sic). Could I --

15 will you accept a change from below, that you are above

16 the authorized --

17 A I don't -- I don't think so.

18 Q Okay.

19 A I'll take it, yes.

20 Q Okay.

21 A But I would like to -- I'd like to say every

22 one of these with the -- with the superscript 1 is a

23 product of a settlement, so -- and that means that they

24 didn't particularly go to the record on these cases, and

1 I would think there's one, two, three -- there's four of
2 them that -- four of them on this list that was fully
3 litigated.
4 Q Now, you're aware that RRA, in their reports,
5 state that they don't find a material difference in
6 settled ROEs and fully litigated; is that correct?
7 A That may or may not be true, but the fact of
8 the matter is, is that authorized ROEs through fully
9 litigated is based on the record, whereas the settled
10 ROEs are based on a product of negotiation. It doesn't
11 matter whether or not it would be settled or litigated or
12 -- well, it matters because of that fact. And the
13 Commission, in their knowledge, they -- they're the
14 substitute for competition, so what they authorize is
15 what the expected investor -- theoretically, it's the
16 expected return for that company at that time. That's
17 the reason why when I do do the risk premium like Mr.
18 Hinton does, and I usually do that in gas and electric
19 company cases because they have more data, I only include
20 fully litigated cases because of that fact.
21 Q Now, you agree that the third case down, the
22 2015 Carolina Water case, you were 91 basis points above
23 the Commission approved ROE?
24 A Like I said before, it's a settled case, so it

1 was a product of negotiations and --
2 Q And about halfway down you see Middlesex Water
3 Company, WR1710, a New Jersey case, and there the
4 authorized ROE was 9.6 and you were 110 basis points
5 above that?
6 A Right, but like I said before, it's a product
7 of negotiations. It didn't go to hearing.
8 Q And your -- the next case, Carolina Water, they
9 approved a 10.5, and there your midpoint was only 20
10 points above, so --
11 A Well --
12 Q -- that's your crown jewel of your --
13 A I mean, I hope my career doesn't distill down
14 to that, but --
15 Q Okay.
16 A -- I did recommend that range, so if they
17 picked in the range, then that would be effectively zero.
18 Q But the range was 9 -- 10.45 to 10.95?
19 A And 10.5 is within that range, right?
20 Q Yeah.
21 A Okay.
22 Q So they were within the range. Actually, in
23 all the -- that's the only case here that the Commission
24 decided within your range; is that correct?

1 A Well, some of them I do a point estimate, some
2 I do a range.
3 Q Okay. And going down the page, third from the
4 bottom, Carolina Water, that was your last case here, and
5 you were 125 basis points above the final decision, and
6 that was a fully litigated case?
7 A That's right.
8 Q And at the bottom there's a note. It says
9 "Average authorized ROE basis points below Mr.
10 D'Ascendis' recommended ROE equal 127 basis points."
11 Will you agree, subject to check, if we added all these
12 up, it would come out to 127 basis points, including the
13 litigated and the settled cases?
14 A I wouldn't -- I agree to the math, but I don't
15 agree to the premise.
16 Q And there is an outlier in here or maybe two.
17 Now, we won't say that your 10.5 was an outlier, but we
18 will go with Raccoon Creek Water Company, 360 basis
19 points, you were way, way above on that. Will you agree,
20 subject to check, that the math would say if we
21 eliminated that one, the average drops to 110 basis
22 points?
23 A I'll accept your math, but I still won't accept
24 your premise.

1 Q Okay.
2 A And those Missouri cases are small company
3 cases with -- they have a certain formula, and it's --
4 and it's a spread over their current debt rate. And
5 their debt rate was 14 percent, so they went against
6 Commission policy on that case and the case below it,
7 which was Indian Hills, which was the other one.
8 Q Now, with regard to your recommended ROE on
9 your rebuttal, it's really 9.8 ROE plus 40 basis points
10 for the size factor, so it comes out to 10.20 percent
11 ROE; is that correct?
12 A Yes. So the 9.80 is the indicated ROE based on
13 the proxy group companies, and the 40 basis points are
14 due to size risk based on what I determined is factors
15 beyond, you know, the Company's control. And I think
16 actually Mr. Hinton touches on it a little bit and there
17 was a little discussion about their debt financing, and
18 we could talk about it. I think on page 21 of his
19 testimony he talks about how they -- how UI cannot get
20 the same type of financing as Aqua. The fact of the
21 matter is Aqua's -- Aqua North Carolina is two times the
22 size of Carolina Water and Aqua America is several
23 magnitudes bigger than Utilities, Inc.
24 So if you want to take -- if you take a real-

1 world example of the size difference and the risk
2 difference, all you really have to do is take the spread
3 between the debt rates of these two companies, so -- or
4 even that they can't raise capital right now at an
5 affordable rate to get their 6.60 debt retired because
6 they could if they have a small enough coupon rate to
7 make it cost effective, but right now they don't because
8 they're too small.
9 Q Are you aware with the interest rate that
10 Utilities, Inc. got on the 100 million in bonds or in
11 debt, whatever it was that they issued within the last
12 year?
13 A Yes. It's a revolving rate, though.
14 Q What is the rate now, approximately? Isn't it
15 in the 3 percent range?
16 A That sounds about right.
17 Q Okay. Now, will you agree that, as we said,
18 you were 110 basis points above, at least the math said
19 that, if you take 110 basis points off your 10.2 current
20 recommendation, that would be 9.10 percent, which is
21 exactly what Public Staff Witness Hinton recommended?
22 A Isn't that convenient, but it's still not worth
23 anything because what the Commission has to decide in
24 this case is based on the record, not based on what

1 somebody else authorized. They shouldn't be handcuffed
2 by anything that has to happen with what -- what I
3 recommended and what was authorized in a settlement 80
4 percent of the time, basically.
5 Q Well, let's jump to Public Staff Cross
6 Examination Exhibit 2, and we'll come back to page 2 of
7 Cross Examination Exhibit 1. You recognize that RRA
8 produces the results of many rate cases in a large number
9 of states, not all the states, that has the ROEs and the
10 equity ratios that are approved; is that correct?
11 A Yes.
12 Q And taking the last three years through June 30
13 of this year, it says at the bottom the average of the 30
14 rate case decisions, that is, every decision being
15 counted equally, not just year-by-year disagreements
16 because there's varying numbers of cases, will you agree,
17 subject to check, that the Commission-approved average is
18 9.5 percent, based on the math?
19 A Down here it says 9.57, right?
20 Q I think it says 9.50.
21 A Well, at the bottom or the -- you got -- you
22 got --
23 Q Okay.
24 A You've got an average of annual averages and

1 then you've got the average across the years.
2 Q Oh, the average -- those averages, the printed
3 are the entire page.
4 A Okay. So the -- so you're talking about the --
5 Q The last three years.
6 A -- handwritten portion?
7 Q Yeah. The handwritten portion shows the last
8 three years at 9.50.
9 A I agree to the math, but, I mean, if you're
10 looking at an apples-to-apples comparison, you've got to
11 look at Aqua -- or not Aqua, but North Carolina, which is
12 9.70, 9.75, you know. Since every state is different,
13 and I think you guys demonstrated that in your redirect
14 of Mr. Hinton, the only thing that would be -- that they
15 would be beholding to, the Commission, anyway, would be
16 what they did in the last case or cases before that or --
17 I'm not a lawyer or anything, but that's what they would
18 -- that's what they would be responsible for, not for,
19 you know, what happened in Kona or Hawaii Water Service
20 or California Water or anything like that, or even South
21 Carolina.
22 Q Now, with respect to Cross Examination Exhibit
23 1 page 2 of 2, the heading says D'Ascendis Proxy
24 Companies, Approved ROEs - Last Three Years. And will

1 you accept, subject to check, that these same companies
2 and decisions are listed on Cross Examination Exhibit 2?
3 A I'll take it, subject to check.
4 Q And you would agree, subject to check, that the
5 math would show that the three-year average for these
6 proxy companies listed on the RRA report comes out to
7 9.42 average approved ROE?
8 A I'd agree to that number, but you also have to
9 recognize that there are companies like Aqua
10 Pennsylvania, which is a humongous company, they were
11 black box settlement, and if you looked at that number,
12 their DISC number, which is their quarterly earned
13 return, is 9.95, so they would -- they wouldn't settle
14 anything below that. So you could assume that that's
15 even higher than that. There are several other ones that
16 could have been settled and black boxed that aren't
17 representative on this list. I think this list is
18 incomplete.
19 Q But Aqua Pennsylvania is not on the RRA list
20 for the last three years, is it?
21 A They filed -- I want to say that they filed --
22 they were in last year.
23 Q Okay. Now, you have made a size adjustment; is
24 that correct?

1 A That's right.
2 MR. GRANTMYRE: And we would hand this out and
3 ask that it be identified as D'Ascendis Cross Examination
4 Exhibit 3.
5 COMMISSIONER BROWN-BLAND: All right. This
6 two-page exhibit with -- the second page has a Counties
7 Served by CWSNC map of North Carolina, it will be
8 identified as Public Staff D'Ascendis Cross Examination
9 Exhibit 3.
10 (Whereupon, Public Staff D'Ascendis
11 Cross Examination Exhibit Number 3 was
12 marked for identification.)
13 Q Now, you made this same size adjustment or a
14 size adjustment in Carolina Water's last rate case, Sub
15 360, which the Commission decided in early 2019; is that
16 correct?
17 A Yes. And I -- in this case I added additional
18 information, and I -- and I'm going to point to it right
19 now. So on page 46 and 47 of my direct testimony I
20 provided a new study to give maybe a little bit more
21 information to the Commission to show that there is a
22 relationship for size -- or for size and risk for utility
23 companies. It included electric, gas, and water
24 companies, and it shows that as the size -- as the size

1 decre--- so the size rank -- as the size rank increases,
2 which means Size Rank Number 1 is the largest company as
3 you go up size rank -- the actual size gets smaller, and
4 the risk rank is measured by coefficient of variation,
5 which was actually accepted in part by Mr. Hinton on 46
6 and 47 of his direct testimony.
7 You can see a relation there. It's not a very
8 big one. I did the R square is roughly 10 percent. But
9 to reconcile that, I took 10 percent of my size
10 adjustment, which is 40 basis points of the indicated
11 size adjustment.
12 And additionally, in my rebuttal testimony --
13 well, in my rebuttal testimony I address what Mr. Hinton
14 provided as a rebuttal to my size study with Annie Wong.
15 Her testimony was based on the changes of beta, which is
16 a -- which is a measure of systematic risk, which is --
17 which is non-diversifiable, not company specific risk.
18 And that was rebutted by Dr. Thomas Zepp and was never
19 responded to by Dr. Wong.
20 So the fact of the matter is I provided
21 Ibbotson, I provided Duff & Phelps, and I provided a
22 utility-specific size study, all of which -- now,
23 obviously, my size study didn't pass academic muster, but
24 I'm the only one who provided anything that wasn't

1 rebutted yet.
2 Q Now, in your direct testimony and/or rebuttal
3 you talk about loss of large customers could affect a
4 smaller company. Are you aware that Carolina Water does
5 not have any industrial customers in their customer base?
6 A I'll take that, subject to check.
7 Q And basically 99.5 percent or more are
8 residential customers except for maybe some small stores
9 or some schools; is that -- would you accept that?
10 A I would, but you've also got to think that size
11 isn't just a loss of large customer.
12 Q Now, with respect to Carolina Water, you also
13 talk about geographic diversity, that they would not have
14 the geographic diversity. Do you see Cross Examination
15 Exhibit Number 3, the first page that lists the counties
16 and whether or not it's water or sewer?
17 A I do.
18 Q And will you accept that this was filed by
19 Carolina Water in their W-1 filing?
20 A Sure, but I think -- and I'm sorry to
21 interrupt, but in the view of geographic diversity, I'm
22 not -- I'm not talking about state. I'm more talking
23 about regions, regulatory jurisdictions, et cetera. So
24 say, you know, Utilities, Inc., they don't have their

1 eggs in one basket. They have operations all over the
2 country. That's what I'm talking about, geographic
3 diversity, not, you know -- now, obviously, they're
4 spread out over this state, but, you know, what drives
5 their -- what drives, you know, their attractiveness as
6 an investment is that they're spread out over many, many,
7 many states.
8 Q That is Utilities, Inc., not Carolina Water?
9 A Right, which increases the risk of Carolina
10 Water compared to Utilities, Inc.
11 Q But you would agree on page 2 the blue is the
12 coastal counties. I would suggest that to the right of
13 the blue is the ocean. Will you accept that?
14 A I will.
15 Q Okay. And the Piedmont counties are in yellow,
16 and it goes across in North Carolina. Will you accept
17 that that's what normally is called the Piedmont?
18 A Yes, I do. Thank you.
19 Q And as you can see, the green, the mountain
20 counties, Carolina Water has a large number of customers
21 in the mountain counties or serves in almost all the
22 mountain counties.
23 A Yes.
24 Q Now, will you accept, subject to check, and

it's in the Application, I believe, that Carolina Water has a total of approximately 50,000 water and sewer customers in North Carolina?

A I'll take that, subject to check.

Q And will you accept that they are the second largest water -- Commission-regulated water and wastewater utility in North Carolina behind Aqua North Carolina?

A Yes.

Q And will you accept, subject to check, that the third and fourth largest would be Pluris and -- I forget the name of that other company now -- and they only have about less than 7,000 -- Old North State Water Company.

A All right.

Q They only have 7,000 or less water customers?

A Yes, but I guess -- I guess this is where -- where I think we have a disconnect. And what it is, is that when you're talking about size risk, you've got to -- you've got to compare it to your proxy group, okay? These proxy groups are large, publicly-traded water companies, many of which are several magnitudes larger than what they have in Carolina Water Service. So what you're -- the appropriate measure is the proxy group, not the utilities in North Carolina or anything like that.

1 You've got to -- you've got to look at what you're
2 deriving your ROE on, and then you make the adjustment
3 from there.
4 Q Now, have you read the testimony of Gordon
5 Barefoot, the Corix CEO and President?
6 A I did not.
7 Q Well, will you accept, subject to check, that
8 he prefiled direct testimony in this case?
9 A Yes.
10 Q And in his direct testimony he testified as to
11 the shared services provided by Corix to Water Service
12 Corp. which provides a full suite of support services to
13 Carolina Water Service of North Carolina? That's on page
14 3 of his testimony, lines 15 and 19.
15 A I think these questions should be directed to
16 somebody else.
17 Q Well, he's not here and you are, so I'm asking
18 you.
19 A That's outside of the scope.
20 Q But you would agree that whatever his testimony
21 says, it says what it says?
22 MR. BENNINK: We object to this line of
23 questioning. The testimony is in the record. Mr.
24 D'Ascendis is not here to undergo cross examination for

1 that testimony. The Public Staff had an opportunity to
2 call Mr. Barefoot if they chose to.
3 COMMISSIONER BROWN-BLAND: I'll overrule the
4 objection. To the extent that you can answer his
5 question, answer it. If you are unable to, state that
6 you're unable to.
7 THE WITNESS: Okay.
8 A Can you repeat it, please?
9 Q So you -- will you accept, subject to check,
10 that his testimony on page 3, lines 15 and 19, says that
11 shared services provided to Corix to Water Service Corp.
12 -- provided to Water Service Corp. which provides a full
13 suite of services to Carolina Water Service of North
14 Carolina?
15 A Do you have his testimony handy, please?
16 Q I don't.
17 MR. BENNINK: Can I object again? If these
18 questions are to be allowed, when -- it's one thing to
19 have questions on questions from the Commission, but the
20 Public Staff had an opportunity to call Mr. Barefoot.
21 MR. GRANTMYRE: Well, you --
22 MR. BENNINK: Can I finish, Mr. --
23 MR. GRANTMYRE: Yeah. You can finish.
24 MR. BENNINK: Mr. D'Ascendis is not the witness

1 to ask these questions to. If there is a question, if
2 there is a witness to ask, it would be somebody else with
3 the Company more involved in operations, but, again, we
4 would object since they did not choose to call this
5 witness.
6 MR. GRANTMYRE: Well, I would point out the
7 Company came to the Public Staff and said this is a
8 hardship on the witness. He has to travel from
9 Vancouver, British Columbia, for the hearing and it's
10 over Thanksgiving weekend, and they could substitute
11 another person from the West Coast of the United States.
12 COMMISSIONER BROWN-BLAND: I'll overrule the
13 objection. Show him a copy of the testimony. If he's
14 able to answer the questions, he may do so. And to the
15 extent that he's not able to, he will say so.
16 THE WITNESS: Yeah. I just want to say it's
17 out of context. That's all.
18 COMMISSIONER BROWN-BLAND: I'll give Mr.
19 Grantmyre leeway till we see where he's going with the
20 question.
21 A What page was that, Mr. Grantmyre?
22 Q Page 3, lines 15 to 19.
23 A (Reviewing document.) Okay. I accept it.
24 Q And on page 4, line 4, that Corix is the

1 ultimate parent of Carolina Water Service of North
2 Carolina?
3 A Right, but I think -- I think I went through
4 the whole -- the companies aren't -- it's paramount --
5 it's tantamount to portfolio theory and CAPM. So if you
6 have a basket of individual securities, that overall
7 risk, if you have it in a portfolio, actually drops even
8 though the constituent parts of the portfolio are riskier
9 than what -- it's kind of like the whole is less than the
10 sum of its parts.
11 Q And on page -- will you refer to page 4, lines
12 7 to 9, where it says "Corix provides access to favorable
13 terms for debt financing in capital markets"?
14 A Right, but that's Corix. That's not -- that's
15 not CWS.
16 Q He's testifying in a CWS case. He's providing
17 that favorable financing for CWS.
18 A Yeah, and to the benefit of the ratepayers, and
19 I don't think debt financing is a contentious matter in
20 this case.
21 Q It says capital markets -- debt financing and
22 capital markets. Isn't capital markets equity?
23 A From what I -- from what I know, I don't think
24 that there has been a meaningful equity infusion to

1 Utilities, Inc. since they have been bought, but I could
2 be wrong.
3 MR. GRANTMYRE: We would ask that this exhibit
4 be identified as Public Staff D'Ascendis Cross
5 Examination Exhibit Number 4.
6 COMMISSIONER BROWN-BLAND: This one-page
7 exhibit that has the caption Carolina Water Service, Inc.
8 of North Carolina, underneath that Proxy Group of Six
9 Water Companies is highlighted, this exhibit will be
10 identified as Public Staff D'Ascendis Cross Examination
11 Exhibit 4.
12 (Whereupon, Public Staff D'Ascendis Cross
13 Examination Exhibit Number 4 was marked
14 for identification.)
15 Q Now, will you agree that other than the
16 handwritten changes to this exhibit, this was your
17 D'Ascendis Exhibit Number 1, Schedule DWD-8, of your
18 direct testimony?
19 A Yes. And I appreciate the penmanship.
20 Q And what you did in this, you used Carolina
21 Water equity or what you calculated their common equity
22 to be to come up with a size differential; is that
23 correct?
24 A That’s right.

1 Q Now, and what I did with the handwriting is I
2 used Utilities, Inc. capital equity as of April 30, 2019
3 of $280,237,000 -- $280,237,000, okay -- and in looking
4 at this, if we use the same multiplier, it comes out to
5 $973 million. Do you accept that math? I know you don't
6 accept the premise.
7 A No. I accept -- I don't accept the premise,
8 but I think it would be helpful for the Commission to
9 look at that Schedule DWD-8, page 1, also, because that's
10 where the size deciles and the -- and the market
11 capitalization deciles and associated size premiums are.
12 But besides that, yes, I agree with you. I'm sorry.
13 Q Now, you agree all of Carolina Water's debt
14 comes through Utilities, Inc., that Carolina Water does
15 not go into the debt market?
16 A Yes, sir.
17 Q And if you look down these proxy group of six
18 water companies, that is your six companies; is that
19 correct?
20 A That's right.
21 Q And we see Artesian Resources Corporation,
22 that's only 336 million; is that correct?
23 A That's right, but just a -- just a quick thing.
24 There's a reason why you use an average result. Mr.

1 Hinton used average results. I used average results. I
2 used median results. It's to get rid of outliers, things
3 like that. So, I mean, yes, point by point some are
4 bigger, some are smaller.
5 Q And Middlesex Water Company, the second from
6 the bottom, is 951 million; is that correct?
7 A It is.
8 Q And York Water Company is 440 million; is that
9 correct?
10 A It is.
11 Q So you would accept that if, in fact, we were
12 to use or the Commission decides to look at Utilities,
13 Inc. instead of Carolina Water, at 973 million it would
14 be larger than three of the six market capitalizations in
15 your proxy group?
16 A I'd agree with that, but I think that we'd want
17 to take a look at that page 1 of Schedule 8. That $973
18 million, if you -- if you would take the Utilities, Inc.,
19 which I don't recommend, I don't think it's right, but if
20 you -- if you took it, they would be in the eighth
21 decile, which would correspond to a 180 basis point size
22 premium over the CAPM.
23 Now, if you compare that to the average market
24 CAP of the water group, which is the fifth decile, you

1 get -- you get a 52 basis point indicated adjustment,
2 which is still over what I recommended. So either way
3 the numbers -- the number still checks out.
4 Q Now, you talked about the importance of getting
5 rid of outliers. Wouldn't you -- isn't it apparent that
6 American Water Works did -- or really 20 billion, when
7 you average up, is definitely an outlier in comparison to
8 these other five companies and Utilities, Inc.?
9 A Well, that's why you use the average. I mean,
10 it mitigates those type of numbers.
11 Q But isn't it often that the Commission will
12 throw out outliers that are so disproportionate to what's
13 being analyzed? Isn't that what an outlier is?
14 A I don't know what the Commission policy is.
15 Q Well, isn't that what an outlier is, when
16 something is so disproportionate to the group, it is
17 considered an outlier?
18 A Well, if you wanted to take a look at the
19 outliers, right, so let's say the average is 43 -- 4.3
20 billion, right? If American Water Works is 19 -- let's
21 call it 20, that's five times the average. If you take
22 that 335, that's what? You want to do it? It's 10
23 times. It's higher. So if you look at -- if you look at
24 numbers, the 335 could be considered an outlier, too --

Q Well --

A -- if you're looking at the average and standard deviations and things like that, so --

Q Well, your --

A -- I wouldn't -- I wouldn't say that, you know, this math exercise works either direction. That's why you take the average.

Q Well, your average of 4.4 billion includes the 20 billion for American Water Works. Once you remove American Water Works and you add up the other five companies, it appears that somewhere in the range of $7 billion is the total of the other five, divided by five, that would be close to $1.4 billion average --

A That doesn't --

Q -- which is much more in line with Carolina Water or Utilities, Inc.

A That's not how statistics and, you know, descriptive statistics work. You take the entire population, then you make the measurements of it. So you wouldn't -- you wouldn't just one off take that one out. So I don't agree with your math. I don't agree with anything that you're saying right now.

Q Okay.

MR. GRANTMYRE: I would ask that this next one

be identified as D'Ascendis Cross Examination Exhibit Number 5. I have a correction on this exhibit. Where it says D'Ascendis Proxy Group Companies, Group in Dividends, that word should be "Growth" instead of "Group" in the titles. So it should read D'Ascendis Proxy Group Companies, Growth in Dividends and Stock Market Prices, April 15, 2011 to November 29, 2019.

COMMISSIONER BROWN-BLAND: This two-page exhibit just described by Mr. Grantmyre will be identified as Public Staff D'Ascendis Cross Examination Exhibit 5.

(Whereupon, Public Staff D'Ascendis Cross Examination Exhibit Number 5 was marked for identification.)

Q Now, you have-- does Pauline Ahern still work with you all?

A She is an Executive Advisor, so --

Q But she worked with ScottMadden for a number of years, correct?

A No, but I've worked with her for 11.

Q Okay. And you understand the way she does DCF, discounted cash flow, and you do a similar model; is that correct?

A Yes, but if we go into what she does versus

1 what I do, I did what I do and she did what she does,
2 so --
3 Q And Mr. Hevert does similar, also. Okay.
4 A I don't agree with that.
5 Q Okay. But -- and you've been using the
6 constant growth DCF for a number of years, correct?
7 A I have, yes.
8 Q As has Mr. Hevert?
9 A Yes.
10 Q As has Ms. Ahern?
11 A Yes.
12 Q And right now your position is that the
13 constant growth DCF is much too low and does not give a
14 reasonable representation as the cost of common equity
15 for water utility companies; is that correct?
16 A I say to view the result with caution. I still
17 -- I still use it in my average and my median, and it's
18 still part of my recommendation. I haven't changed my
19 approach based on what's going on, so -- so, I mean, I
20 say that it should be viewed with caution. I don't
21 necessarily throw out the results or anything of that
22 matter. I just say look at the multiple models, make
23 sure you use some judgment and -- in your recommendation.
24 So I don't -- I still use it, so I can't -- I'm not

1 saying that it's worthless.
2 Q But seven, eight years ago the DCF was
3 producing much higher results; was that correct?
4 A Not particularly.
5 Q Well, isn't --
6 A Not for water companies.
7 Q Isn't a major component of the DCF the dividend
8 percentage rate?
9 A Say it again.
10 Q Isn't a major component -- DCF consists of two
11 major components. The first is the dividend percentage
12 rate, annual rate; is that correct?
13 A The dividend yield?
14 Q Yield.
15 A Yes.
16 Q And the second is the growth rate of the
17 dividends.
18 A Right.
19 Q And, of course, there's disagreement as to the
20 growth rate of dividends which you disagree with Mr.
21 Hinton?
22 A Yeah. And I think the record speaks pretty --
23 Q Okay.
24 A Yeah.

1 Q But will you accept, as we say the April 15,
2 each of these numbers for -- first of all, you accept
3 that these are your proxy companies?
4 A Yes.
5 Q The six proxy companies?
6 A Yes.
7 Q And the source for April of 2011 is the direct
8 testimony of Pauline Ahern, W-218, Sub 319, and we give
9 the Schedule PMA-6. Will you accept that, subject to
10 check, that that was in her testimony?
11 A I'm going to be a real stickler here. Can you
12 produce that?
13 Q I do not have it with me.
14 A Okay. So subject to check, I guess.
15 Q So subject to check. So for American States
16 Water the annual dividend has increased from 54 cents to
17 $1.22. Would you agree, subject to check?
18 A Yes.
19 Q And that would show a 68 percent -- 68 cent
20 increase and 126 percent?
21 A Right. And just one thing, I think DCFs were
22 probably around 8 to 10 percent in 2011, so you could see
23 how accurate the DCF actually is when you look at the
24 increase in dividends and the stock price appreciation

1 for these, and you could go throughout this whole entire
2 sheet and you could see that DCF understates what
3 actually happened over those years.
4 Q Well, also -- it also shows for American States
5 Water the stock price has increased 378 percent, but the
6 dividend amount is lagging way behind at only 126.
7 A Right, which that changes the market-to-book
8 ratio and what I discussed in my rebuttal testimony.
9 Q And you would accept, subject to check, of
10 these numbers, that for American Water Works the increase
11 to November 29, 2019 in price was 419 percent increase in
12 price, whereas the dividend percent has only increased or
13 dividend yield has only increased by 127 percent?
14 A I agree, but --
15 Q And for Artesian it was 91 percent versus 32?
16 A Yes.
17 Q And for California Water Service 173 percent to
18 27?
19 A Yes.
20 Q And Middlesex 243 percent to 29 percent?
21 A That's right.
22 Q And York Water Company 163 percent to 36
23 percent?
24 A That's right.

1 Q And the average of the six companies would be
2 245 percent to 59 percent?
3 A Yeah, and I think -- I think that proves that
4 DCF has been understating the investor expected return
5 for eight years now.
6 Q Wouldn't you agree that this also shows that
7 one reason the DCF is producing such low numbers is that
8 the dividend yields have fallen so low because of the
9 vast appreciation in stock prices for your six companies?
10 A Well, the one thing that isn't on this -- that
11 isn't on this exhibit is the growth rate. Now, there's a
12 relationship between PE multiples or price over earnings
13 and the growth rates or dividend yields, right? Or let
14 me back up. Price to earnings -- as price to earnings
15 goes up, as you've demonstrated here, dividend yields go
16 down, right? Now, that relationship is supposed to be
17 counterbalanced with increases in growth rates. So as
18 the dividend yield goes down, growth rates are supposed
19 to go up. That hasn't happened in this case, and that's
20 why the water -- that's why you could see that the
21 relationship between those two are broken at this time.
22 I mean, it could -- it could change from one way to
23 another.
24 But when you're looking at the DCF, you've got

1 to look at both parts, right? So when you -- when you
2 look at it, the relationship is broken where the growth
3 rates are supposed to go up and the dividend yields go
4 down and vice versa. So say something happens, right,
5 and all these stocks tank. The dividend rate will
6 obviously go up based on the ratio, assuming the dividend
7 cuts. Those would go up and growth rates would go down
8 because the prospects are going to go down because
9 they're in a depressed market, right? So that
10 relationship is supposed to hold throughout.
11 Now, you know, it's not supposed to be a wash,
12 but it's supposed to -- it's supposed to hold, and right
13 now it's not.
14 Q But you would agree that this shows that the
15 stock prices, the market prices have increased materially
16 since April 2011, while the dividend amounts have lagged
17 way behind percentage wise?
18 A Yes. I agree with you, and I think that's what
19 I just described.
20 MR. GRANTMYRE: We would ask that this be
21 identified as Public Staff D'Ascendis Cross Examination
22 Exhibit Number 6.
23 COMMISSIONER BROWN-BLAND: All right. This
24 will be identified as Public Staff D'Ascendis Cross

1 Examination Exhibit 6.
2 (Whereupon, Public Staff D'Ascendis Cross
3 Examination Exhibit Number 6 was marked
4 for identification.)
5 Q Now, this -- the title of this exhibit is
6 Increases of Market Prices - California Water Companies,
7 California Public Service Utilities Commission, Order
8 Dated March 22, 2019 to November 29, 2019. Do you
9 remember in the last rate case with Carolina Water we
10 were discussing these four decisions in California?
11 A I do.
12 Q And you at that time testified that it had a
13 significant negative impact on the stock prices or
14 investor confidence in these companies?
15 A Initially, it did, yes.
16 Q Well, as you look down, initially, March 22 for
17 American Water Works, it only dropped less than $1 a
18 share four days later. Would you -- and the same thing
19 $2 -- less than $2 for American States Water, California
20 Water Service less than $1, and San Jose less than $1, so
21 you would consider that shaking confidence in the
22 companies?
23 A Now, what shook the confidence was the initial
24 decision that did not turn into the Order. The initial

1 decision took the entirety of the consumer advocate in
2 that position, everything went down, and then the
3 Commission backed off of accepting that position, and
4 that's why the prices stabilized and now increased. So,
5 I mean, you're picking the wrong point in time.
6 Q Well, for American Water Works the price
7 increase over about 18, 19 months has been 51 percent
8 price increase. Would you consider that a good price
9 increase?
10 A I would, but like I said, it's because of the
11 Commission that backed off what was going to be an
12 extreme decision and came to a more reasonable decision
13 in those cases. If they would have went with -- if they
14 would have went with what the -- what the consumer
15 advocate did, there would have been a problem. And I
16 could point to a recent Commission decision in Texas
17 regarding CenterPoint. They received a -- I think it was
18 a 9.25, and the next day their stock price dropped 15
19 percent, okay? So these things aren't make believe.
20 These things happen, okay? And, you know, adopting
21 extreme positions by commissions and extreme commission
22 -- and extreme positions by opposing parties do affect in
23 some way stock prices of these companies.
24 Q But at the top it has the approved ROEs back in

1 March of 2019, California Water 9.2, California -- that
2 is California Water Service Company 9.2. I think the
3 first one is California American. Golden State Water
4 Company 8.9, and San Jose 8.9. You agree that that's the
5 final number in those cases and it was shown on the RRA
6 report; is that correct?
7 A I agree with you, yes.
8 Q And as far as American States Water, you would
9 -- that's 56.6 percent price increase in that 18 months.
10 You would agree that that's a significant price increase?
11 A Yes.
12 Q And almost all or a large number of American
13 States Water customers are located in California?
14 A Yes. They also have significant operations in
15 Army bases around the country, and they also have -- they
16 also have an electric utility.
17 Q Now, California Water Service, that's up 36.3
18 percent, and you would agree that virtually almost all of
19 their water customers are located in California?
20 A Yeah. I think it's around 85 percent or so.
21 Q And San Jose Water Company, that's San Jose,
22 California, you would agree that almost all of their
23 water customers, until they merged with Connecticut
24 Water, are located in California?

1 A I wouldn't, because if you're going to include
2 this time period, you would have to include the merger,
3 all that stuff. They also have a significant operation
4 in Texas. So I wouldn't agree to that, but before the
5 merger, yes.
6 Q But the merger just closed in October of 2019;
7 is that correct?
8 A Right, but it was announced over a year ago, so
9 that would -- that would have reflected in the price.
10 Q And the reason you did not include San Jose
11 Water in your current proxy group is because that it was
12 part of a merger and, therefore, you exclude companies as
13 part of a merger; is that correct?
14 A Yes, because there wasn't -- there wasn't --
15 before it closed, there was a lot of speculation based on
16 Eversource, led by Aquarion, were looking to buy it.
17 There was a hostile takeover bid there. It's just --
18 it's just not a common practice to use it. I didn't -- I
19 accepted Mr. Hinton's acceptance into the proxy group,
20 which I'm fine with. On the gas group that's a whole
21 'nother matter, but I'm fine with including it. I just
22 don't do it as a matter of course.
23 MR. GRANTMYRE: We would ask that this next
24 exhibit be identified as Public Staff D'Ascendis Cross

1 Examination Exhibit Number 7.
2 COMMISSIONER BROWN-BLAND: Mr. Grantmyre, while
3 he's passing that out, can you forecast about how much
4 more you have?
5 MR. GRANTMYRE: I've got -- after this I've got
6 three more exhibits. It may take 15 minutes, 20 minutes.
7 I'm not sure.
8 COMMISSIONER BROWN-BLAND: This single-page
9 exhibit captioned Basis Point Decrease in 30 Year
10 Treasury Bond Yields and A-Rated Public Utility Yields
11 will be marked Public Staff D'Ascendis Cross Examination
12 Exhibit 7.
13 (Whereupon, Public Staff D'Ascendis Cross
14 Examination Exhibit Number 7 was marked
15 for identification.)
16 Q Now, between your direct testimony you
17 recommended before the size adjustment 10.35 percent ROE;
18 is that correct?
19 A It is, yes.
20 Q And in your rebuttal, which was filed a number
21 of months later, it was 9.80 percent ROE was your
22 recommendation?
23 A It wasn't. 10.20. 10.20 is the
24 recommendation.

1 Q Okay. 10.2 after the 40-point adjustment.
2 A That's right.
3 Q But before the 40-point adjustment it was 9.8?
4 A Yeah, which is applicable to the proxy group
5 companies.
6 Q Now, in this do you recognize the, you know,
7 September 19 A-rated utility bonds actual yields of 3.37
8 percent? Would you accept that, subject to check, in
9 column (b)?
10 A I would.
11 Q And the risk free 30-year T-bond projected that
12 you put into your rebuttal testimony was 2.64 percent.
13 Do you recognize that?
14 A Yes, and I just want to note one thing, that
15 Mr. Hinton's historical rate in this case is 2.52 which
16 is about 10 basis points difference. I don't think that
17 his -- I don't think -- to Chair Mitchell's question of
18 Mr. Hinton earlier. In this case it's only a 10 basis
19 point difference, so I don't know if it's a big issue,
20 but --
21 Q And as of November 29th, will you accept,
22 subject to check, that 2.19 percent was the 30-year
23 Treasury bond yield?
24 A Yes.

1 Q And moving over to column (d), the yields in
2 September of 2018 when the last Carolina Water case was
3 heard before the Commission, will you accept that the
4 yield at that time was 4.32 percent?
5 A Yes. I agree.
6 Q And the risk free T-bond that's A-rated public
7 utility bonds for the 30-year T-bond projected was 3.74?
8 A So you said the risk free rate as proxied by
9 the 30-year T-bond?
10 Q Yes.
11 A Yes. I agree with that.
12 Q And the actual yield on -- in the October 16,
13 2018 yield was 3.32 percent?
14 A Yes.
15 Q So in looking at the last column, I know it's a
16 little backward, but column (d) minus column (b), that is
17 (b) being the most current where (d) being the oldest,
18 there's been a significant drop in bond rates, A-rated
19 utility bonds, on the first line of 95 basis points.
20 Would you agree with that?
21 A Yes. And if I can explain, and it's not --
22 it's not really -- me and Mr. Hinton, we agree that there
23 is an inverse relationship between bond yields and equity
24 risk premiums. So as the -- as the bond yields go down,

there is an up. It's not a one-for-one up change in utility -- or equity risk premium, so say if utility yields fall 100 basis points like as shown on this, equity risk premiums will go up, but it won't go up to 100. It might go to 50 or 60 or whatever -- whatever may have. But I think just looking at bond rates doesn't give a full picture. I think my updated analysis does, and it does show a drop. It shows a drop from -- what is it, 55 basis points drop for the last six months. So it's not like I didn't reflect the current market conditions in my rebuttal testimony and in my analysis.

Q So the last Carolina Water rate case started on October 16, 2018, and the drop in -- to last Friday would be 113 basis points. Would you accept that, subject to check?

A I would.

Q Now, you also heard Witness Hinton testify that investors, as they get older, look at utility investments as an alternative to bond yields; is that correct? Bond investments; is that correct?

A I don't agree with his contention. If you look at -- if you look at the water dividend yields, they're less than the risk free rate right now. They're one -- they're under -- they're under 2 percent. So as a proxy

1 -- and if we're looking at this chart, the A-rated public
2 utility bond is 3.37 percent, which is over, I would say,
3 electric, gas, and water dividend yields. So utilities
4 as a proxy for bonds is not accurate anymore. It used to
5 be accurate. It's not anymore.
6 Q Well, aren't the water utilities moving towards
7 growth stock status with all their mergers and
8 acquisitions of what appears to be unusual? For example,
9 San Jose Water in California buying Connecticut water in
10 Connecticut that also has a water system in Maine, isn't
11 that unusual?
12 A And that would be considered more risky, more
13 risky than gas, more risky than electric.
14 Q And wouldn't you consider it unusual with Aqua
15 buying a natural gas company in western Pennsylvania?
16 A I agree, and that's why it's my position that
17 these companies are as risky or riskier than gas or
18 electric. And it's not just me. The beta coefficients
19 are showing that the average beta coefficients of water
20 companies are higher than gas, higher than electric.
21 These things are -- these things are now reflected in the
22 marketplace.
23 Q Why should the customers pay for this increased
24 riskiness taken on by the water companies on these

1 mergers?
2 A I don't think they are.
3 Q Well, you said it increased the risk -- it
4 increased the risk factor. Aren't they -- isn't that
5 leading to a position that you recommend higher ROEs?
6 A Well, is -- the companies are represented by
7 the proxy group companies, right? So if there is similar
8 in risk, then yes, but I don't see any type of payments
9 or -- payments or purchase prices made to be directly
10 pulled from the customers' pockets. I don't think that
11 at all.
12 Q Now, you have a final group that you call your
13 non-priced regulated companies, and you did a DCF, CAPM,
14 and maybe a risk premium on those. And you realize that
15 this Commission has rejected that every time and given no
16 weight to that type of analysis every time you presented
17 it and Mr. Hevert has presented it?
18 A I don't think Bob has ever presented this.
19 Q Okay.
20 A In ever. I don't think ever. But like I said
21 in my direct testimony, I gave a little bit more
22 information, I tried to proactively give you guys -- give
23 the Commission more information, and that was on page 4
24 of 4 of Schedule DWD-6. And this showed the coefficient

1 of variation of the 10-year coefficient of variation for
2 net profit for the utility group and the non-utility
3 group, and the mean and median of that non-price
4 regulated group falls within the range of the coefficient
5 of variations of the other -- the water companies. So
6 I'm -- from what I'm trying to do, I'm trying to give
7 them more information, make a better decision. It's
8 still my position that, you know, based on the comparable
9 risk standard that these are appropriate for
10 consideration, and I will continue to press that issue
11 regardless of what commissions say.
12 Q Now, with regard to -- you filed D'Ascendis
13 Rebuttal Exhibit 1, Schedule DWD-8R, page 3 of 7. In
14 that you list these various companies. Do you have that
15 available?
16 A Can you repeat where you're getting it from,
17 and then I'll get there?
18 Q It's Rebuttal Exhibit DWD-8R, page 3 of 7.
19 A Okay. This is based on Mr. Hinton's proxy
20 group?
21 Q No. This is your --
22 A Yeah. It's just the --
23 Q You're comparing it to risk. I just want to
24 list the companies that you're using -- that you used to

1 make a comparison.
2 A Oh, all right. Yeah. This is -- but 8R is
3 based on the selection of proxy group companies
4 comparable to --
5 Q Okay.
6 A -- Mr. Hinton's group. Okay. I get it. Page
7 3, you said?
8 Q Yeah. Page 3 of 7.
9 A Okay.
10 Q And I'm focusing on the names of the companies.
11 Now, when I look up investment analysis, sometimes the
12 site describes whether or not there's a large moot,
13 M-O-O-T, a narrow moot, and could you describe what
14 they're talking about there?
15 A I don't know what you're talking about.
16 Q Well, the way I interpreted it, and see if you
17 could agree with this, is how protected they are from
18 competition invading their product line.
19 A Oh. So if you're getting into that, it's --
20 see, that's a business risk, right, and that's usually --
21 the way I select my criteria, it's different than what
22 you're -- what you're getting at, but I'll try and
23 explain it a little bit more.
24 The way I select my non-price regulated group

1 you use two measures, a measure of market risk and
2 diversifiable risk, which is pretty much the tenets
3 behind the CAPM. And if you have similar ranges of both
4 systematic risk and non-systematic risk, you have a
5 company that is of similar risk. So you don't -- now,
6 based on -- you know, based on competition, non-
7 competition, it doesn't matter as long as these numbers
8 are saying that they're the same risk, they're the same
9 risk. It doesn't matter.
10 Q Well, Carolina Water has a lot of water
11 utilities in North Carolina in various counties. You
12 agree with that?
13 A I agree, yes.
14 Q And would you agree that their franchise
15 protects them from being paralleled by another investor-
16 owned utility?
17 A I do.
18 Q And would you agree that if a city or county
19 wanted to parallel their lines, it's an extremely
20 expensive process to parallel an existing utility?
21 A I agree with you.
22 Q Now -- so they are fairly immune or pretty well
23 immune to competition in their service area.
24 A And that's the reason for regulatory

1 commissions.

2 Q And with the exception of bottled water, which

3 is a small percentage of the consumption in a household,

4 they get all their water from the utility?

5 A I agree with that, but like I said, the reason

6 why these utilities are allowed to have a monopoly is

7 because they're regulated, and the regulation is supposed

8 to act as a substitute for competition. If they're not

9 acting as a substitute for competition it wouldn't work,

10 but since they are, it's completely applicable,

11 especially considering the comparable risk standards of

12 Hope and Bluefield. I mean, I don't see any problems.

13 Q Well, with regard to AutoZone, they make or

14 sell automobile parts; is that correct?

15 A Yes.

16 Q And they would have -- and accessories, and

17 they would have a lot of competition. Let me read a few

18 that I looked up; Carquest, Advanced Auto Parts, NAPA,

19 O'Reilly -- O'Reilly Auto Parts, and Pep Boys. They have

20 a lot of competition. Would you agree?

21 A I agree.

22 Q And Cheesecake Factory, you know, they have --

23 that's a restaurant. They have a lot of competition.

24 Would you agree with that?

1 A I agree.
2 Q And Cracker Barrel is the same way. They have
3 a lot of competition.
4 A So the one thing is out of these companies --
5 let's pick Campbell Soup, right? They're staple
6 industries. These companies, regardless of competition,
7 you know, people have to get their car fixed, people have
8 to go to the general store, people have got to go out to
9 eat, people need soup, people need doughnuts and coffee
10 for breakfast. Like these things are staples. Now, not
11 necessities like water and gas and electric, but, I mean,
12 you could draw the -- you could draw the comparison that
13 they're just a part of anybody's life as water or
14 electric or gas.
15 Q Well, Campbell Soup has a lot of competitors,
16 also, doesn't it?
17 A It does.
18 Q And Dunkin' Donuts, you wouldn't call that a
19 necessity, would you?
20 A Ask somebody that likes coffee a lot and you'll
21 know.
22 Q Yeah, but you've also got locally Krispy Kreme,
23 Duck Donuts, Starbucks, Daylight Donuts, Baker's Dozen,
24 Harris Teeter, a lot of which people will argue have a

1 higher quality than Dunkin' Donuts' coffee and donuts.
2 A That may be true, but I'm from New Jersey and
3 never heard of them, so I've heard of Dunkin' Donuts.
4 Q Okay. Now, they also own Baskin-Robbins, and
5 you would agree that, you know, there's also competitors
6 Ben & Jerry's, EDY'S, Haagen-Dazs, they're all --
7 A I agree, yes.
8 Q -- they're all high-quality ice creams?
9 A I agree.
10 Q And I know you don't live here, but if you've
11 ever been to the NC State Fair, you'll know that the NC
12 State Howling Cow Ice Cream is well, well thought of, and
13 that's also a competitor to Baskin-Robbins.
14 A I actually heard of that, though. I've heard
15 of that.
16 Q Well, you ought to buy some before you go.
17 A Well, I'm -- I vacation here every year.
18 Q Okay. Good.
19 MR. GRANTMYRE: I would ask that this next
20 exhibit be identified as Public Staff D'Ascendis Cross
21 Examination Exhibit 8. And I will point out we have not
22 included the full Order since the Commission has those on
23 its website. We've only included the -- these all three
24 are Commission recent orders, and we've only included the

1 pages I wanted to point out. And the handwriting is
2 mine, and I hope you can read it.
3 COMMISSIONER BROWN-BLAND: All right. To the
4 extent Mr. Grantmyre referenced three, this is still just
5 one exhibit collectively together here, and so it will --
6 it's a collection of Orders from the Commission, and it
7 will be identified as Public Staff D'Ascendis Cross
8 Examination Exhibit 8.
9 (Whereupon, Public Staff D'Ascendis Cross
10 Examination Exhibit Number 8 was marked
11 for identification.)
12 Q Now, you're aware that the Commission issued
13 the Duke Energy Progress Order on February 28 which -- of
14 2018, which is the first page in this group?
15 A I'm aware, but not -- I didn't read the Order.
16 It's not my case. It was my boss' case.
17 Q Okay. And are you aware in this case the
18 Commission criticized the projected 30-year Treasury
19 rates?
20 A Can you point?
21 Q Okay.
22 A I'm sure -- I'm sure it's there, but I just --
23 Q Okay. If you go to the second page, which has
24 page 85 at the bottom.

1 A Okay.
2 Q If you look the second paragraph, in the middle
3 of the paragraph it's highlighted. Could you read into
4 the record what it says, starting with "DEP Witness
5 Hevert's"?
6 A Sure. DEP Witness Hevert's CAPM range of 9.15
7 to 11.49 is also an outlier and upwardly biased due to
8 his use of near-term projected 30-year Treasury interest
9 rate of 3.52 percent. I want to say one thing. The way
10 that -- I don't -- I don't do my CAPM the same way as Mr.
11 Hevert does, so I don't know if this is applicable
12 because he uses -- he uses one measure of market risk
13 premium; I use several. So I don't -- I don't know if
14 this is applicable or --
15 Q But you do -- I'm sorry. Go ahead.
16 A -- or if it -- and I don't know if my 9.35
17 percent updated capital asset pricing model is considered
18 an outlier, an upward outlier in this case. I don't
19 know, but I doubt it.
20 Q Well, you would agree that the end of that
21 sentence says it's upwardly biased due to the use of
22 near-term projected 30-year Treasury interest rates?
23 A That's what it says.
24 Q And that's what you use, also, to come up with

your 2.64; is that correct?

A I think it says the range is an outlier. I know it says biased due to it, but I don't agree with any of this.

Q Okay. Then further down at the end of the last sentence, could you read the last sentence in the paragraph, the same paragraph that's highlighted?

A "Witness Hevert's DCF dividend growth component based solely on analysts' earnings per share growth projections, without consideration of any historical results, is upwardly biased and" unreasonable (sic).

Q And unreliable.

A Regardless. My 8.81 DCF cost rate is probably not upwardly biased, but it -- I think it is unreliable.

Q But you use the same method. You solely use analysts' earnings per share growth rates; is that correct?

A I do, but I think -- I think that the Commission would look at the record in this case and the numbers produced by the models and not what happened in Duke.

Q Now, if we could go to the third page in this exhibit, and it has handwritten DEC Rate Order, 22 June 2018, Docket Number E-7, Sub 146. And if you could go to

1 the next page, page 62, could you read that last sentence
2 on the bottom of page 62 and continue on to the first
3 paragraph that's highlighted on page 63?
4 A Sure, it is. DEC Witness -- CAPM -- or
5 Hevert's CAPM range of 9.18 to 11.88 is also an outlier
6 and upwardly biased due to Witness Hevert's risk premium
7 component of his CAPM using a constant growth DCF for the
8 S&P 500 companies solely using analysts' projected EPS
9 forecasts as the growth component. Witness Hevert's DCF
10 dividend growth component based solely on EPS growth
11 projections without consideration of any historical
12 results is upwardly biased and unreliable.
13 One more thing. In Aqua and in Carolina Water
14 Service the Commission accepted my CAPM analysis.
15 Q Now, would you go to the last -- the next page
16 where it says Order dated October 31, 2019, Docket Number
17 G-9, Sub 743, for Piedmont Natural Gas? And could you go
18 to page 41?
19 A Sure. "Although the Commission, as stated in
20 previous Commission general rate case orders, does not
21 approve of Witness Hevert's sole use of analysts'
22 predicted earnings per share to determine the DCF growth
23 rate, the Commission finds Witness Hevert's constant
24 growth DCF analysis mean and median rate of return on

1 equity results credible," prohibitive (sic), "and
2 entitled to substantial weight."
3 Q So they said they don't like the use of
4 predicted earnings, but they still agreed to his DCF
5 analysis. Would you agree to that?
6 A Yeah. It's the end results doctrine.
7 Q And could you read the beginning at the bottom
8 of the page, "As previously stated," and going to the
9 next page?
10 A "As previously stated, the Commission approves
11 the use of current interest rates, rather than projected
12 near-term or long-term interest rates." But I guess I'll
13 continue to go on. "The Commission finds Witness
14 Hevert's updated bond yield plus risk premium analysis
15 using current yields to be credible," prohibitive (sic)
16 or "probative, and entitled to substantial weight."
17 MR. GRANTMYRE: We would ask that the
18 Commission identify this next exhibit as Public Staff
19 D'Ascendis Cross Examination Exhibit 9. And there's only
20 one more exhibit after this. And I apologize that the --
21 the Public Staff, because this was a late exhibit, did
22 not have a chance to do all the typing at the top as to
23 Public Staff D'Ascendis Cross Exam Number 9. And this
24 was, as you could see, an Attorney General Hevert recent

1 cross exam exhibit.

2 COMMISSIONER BROWN-BLAND: All right. This is

3 the exhibit that in the center of the page says

4 Commonwealth of Virginia State Corporation Commission

5 will be identified as Public Staff D'Ascendis Cross

6 Examination Exhibit 9.

7 (Whereupon, Public Staff D'Ascendis Cross

8 Examination Exhibit Number 9 was marked

9 for identification.)

10 Q Now, do you recognize this as an Order of the

11 Virginia Corporation Commission?

12 A I do.

13 Q And do you recognize this as a Final Order on

14 page 1?

15 A I do.

16 Q And do you remember that Mr. Hevert testified

17 in this case for Virginia Electric and Power?

18 A Yeah. I didn’t.

19 Q Yeah. He did, though.

20 A I didn’t.

21 Q Okay.

22 A I didn’t, so, I mean, all of this is

23 ridiculous. I do my things differently than Mr. Hevert

24 does.

1 Q Okay. But you use projected bond rates rather
2 than historical, correct?
3 A That's true, but --
4 Q And you --
5 A -- but that's in combination with several other
6 measures and several other market risk premiums and a
7 comp earnings model. Like there's so many different
8 things compared to me and Mr. Hevert's testimony, it's --
9 it's unrealistic. I mean, why don't you just give me,
10 you know, Roger Morin's testimony? It doesn't make any
11 sense.
12 Q Well, could you read the highlighted on the
13 bottom of page 4, continuing where it stops being
14 highlighted on page 5 at the top there?
15 A "For example, the Company continues to only use
16 earnings per share as the measure of growth in its DCF
17 model. As the Commission has previously stated, using
18 only earnings per share as the measure of long-term
19 growth results in unreasonably high growth rates that
20 upwardly skew results. Moreover, the Company's capital
21 asset pricing model analysis is also flawed."
22 Q And could you read the rest of the paragraph
23 that has -- that's highlighted?
24 A "The Commission has explicitly rejected use of

1 such projected interest rates in prior cases, stating
2 that inclusion of these projected rates inflates the
3 results of the utility's risk premium analysis. In
4 addition, the Company exclusively uses earnings per share
5 as the measure of long-term growth to develop the market
6 risk premium component of his CAPM analysis, which
7 results in an overstatement of cost of equity. The
8 Company's bond yield" -- "risk premium analysis contains
9 similar flaws as his CAPM analysis."
10 Like I said, we're -- Mr. Hevert's testimony
11 and applications of the models are different than mine.
12 And in the cases before us that I was involved in in
13 North Carolina, my DCF and my CAPM were both accepted by
14 the Commission in the last two cases less than a year
15 ago.
16 Q Now, I refer you to your rebuttal testimony,
17 page 10.
18 A Oh, we're actually on my own testimony?
19 Q Yeah. Thought we'd finish on a high note.
20 A All right. I'm there.
21 Q And in there you're quoting from the
22 Commission's Order in the last Carolina Water case,
23 W-354, Sub 360, is that correct, at the bottom?
24 A That is, yes.

1 Q Could you read that quote into the record
2 including as it carries into the next page?
3 A Sure. The average of Witness D'Ascendis'
4 utility proxy group DCF result of 9.15, traditional CAPM
5 results of 10.67 percent, total market risk premium of
6 10.56 percent, Witness Hinton's DCF result of 8.70
7 percent and risk premium of 9.70 percent is 9.75 percent.
8 The Commission approved the return on equity of 9.75 and
9 it is thus supported by the average of the results of the
10 above listed cost of equity models which the Commission
11 finds are entitled to substantial weight based on the
12 record in this proceeding.
13 Q So you would agree, then, as stated by the
14 Commission, that it appears that those are the five
15 criteria or five models that the Commission used an
16 average to come up with the ROE of 9.75?
17 A Yes. And I think -- I think the key -- the key
18 part of the sentence is "the Commission finds are
19 entitled to substantial weight based on the record in
20 this proceeding." I have responded to several of the
21 critiques of my testimony and my analysis in my direct
22 testimony, and it was not rebutted by Mr. Hinton in any
23 of those. In fact, he conceded that coefficient of
24 variation of net profit is a valid risk measure. Now,

1 maybe amongst others, but he did concede that point. So
2 I'm fine with, you know, basing your -- basing the
3 Commission's recommendation based on the record in the
4 case. I have no problem with that.
5 MR. GRANTMYRE: I would ask that this --
6 Q When you say "he conceded," he did not attack
7 it in his testimony; is that correct?
8 A Well, in page 47 of his testimony -- I think
9 it's 47. And I'll read it into the record because I
10 guess I'm used to it now. Lines 4 through 9. And it
11 just says "His review of the variation of the Company's
12 net profits as a proxy for the riskiness of the Company
13 may be reasonable. However, it would seem logical to
14 rely on other better known measures of risk such as
15 market to book ratio, bond ratings, safety ranks, or
16 others identified in Exhibit 3." But that -- it doesn't
17 say he's wrong. He says it may be an indicator. So I
18 would say that it's maybe not a concession, but
19 definitely not a rebuttal.
20 MR. GRANTMYRE: I would ask that this last
21 exhibit be identified as Public Staff D'Ascendis Rebuttal
22 Cross Examination Exhibit 9 (sic).
23 MS. HOLT: It's 10.
24 MR. GRANTMYRE: Is it 10? Ten.

1 THE WITNESS: That's the new record.
2 COMMISSIONER BROWN-BLAND: This single page
3 exhibit will be so identified as Public Staff D'Ascendis
4 Rebuttal Cross Examination Exhibit -- actually, strike
5 the rebuttal -- and it will be Number 10, Public Staff
6 D'Ascendis Cross Examination Exhibit 10.
7 (Whereupon, Public Staff D'Ascendis Cross
8 Examination Exhibit Number 10 was marked
9 for identification.)
10 Q Would you agree that these items listed here,
11 your DCF, your risk premium, and your total market risk
12 premium -- or I'm sorry -- your total market risk premium
13 and your traditional CAPM are -- come from your rebuttal
14 testimony exhibits?
15 A Yes.
16 Q And would you agree that the average of those
17 three, should the Commission use the exact same models
18 that they used in the Sub 360 case, the average of your
19 three would be 9.03?
20 A Yes, but I think I've made a case for the
21 ECAPM. I've made a place -- a case for the non-regulated
22 group. I made a case for the size adjustment. I think
23 all of these are now responsive to what the Commission
24 asked in their Order, so -- but now, is the math right?

1 Is everything else right? Yes.
2 Q Now, you would agree that Mr. Hinton's DCF was
3 8.64 and his risk premium 9.57? Would you agree to that?
4 A I would, but I think in my rebuttal testimony I
5 corrected it to 9.67 based on individual results kind of
6 like your first couple -- first couple exhibits, but, I
7 mean, I don't think it makes a hill of beans.
8 Q Okay. So he -- if we use the 8.64 and 9.57, it
9 comes out to 9.10; is that correct?
10 A That's right.
11 Q And if we take the average of all five, it's
12 9.06.
13 A That's right. The other thing is that Mr.
14 Hinton did not include comp earnings or his CAPM in his
15 analysis, and those are -- those are actually -- even
16 though he uses them as checks, the Commission isn't bound
17 by checks, and his comparable earnings analysis for -- on
18 his Hinton Exhibit 6 is 9.83 for the water and gas
19 companies. And if you just count the water companies,
20 it's 10.05. So depending on whether or not -- now, since
21 we're -- since we're going on the record in this case,
22 not the record of last case, they could look at this and
23 say, well, this 9.83 looks good; I'm going to -- I'm
24 going to use this because it's reasonable and -- or I

1 could use the 10.05 because I don't think the gas group
2 is reasonable and now the average changes. And then --
3 so, I mean, it's not just what happened last time because
4 that's not how things work.
5 Q But you would admit that the Order in 360 was
6 in early 2019; is that correct?
7 A I do.
8 Q Actually, it was February 21, 2019.
9 A I do.
10 Q So only seven months have elapsed -- seven
11 months and two weeks or whatever, and if the Commission
12 were to adopt the same models based on the evidence in
13 this case, the ROE should be 9.06 or would be 9.06; is
14 that correct?
15 A Based on your math, yes, but I don't think the
16 record in the case reflects it this time around.
17 MR. GRANTMYRE: I have no further questions.
18 COMMISSIONER BROWN-BLAND: All right. I
19 assume, Mr. Bennink, you have some redirect?
20 MR. BENNINK: Yes.
21 COMMISSIONER BROWN-BLAND: And so I don't think
22 we can complete with this witness today, and we will
23 adjourn for the evening and come back at 9:30 a.m. in the
24 morning.

1 (Proceedings recessed, to be reconvened
2 at 9:30 a.m. on November 3, 2019.)
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STATE OF NORTH CAROLINA

COUNTY OF WAKE

C E R T I F I C A T E

I, Linda S. Garrett, Notary Public/Court Reporter, do hereby certify that the foregoing hearing before the North Carolina Utilities Commission in Docket No. W-354, Sub 364 was taken and transcribed under my supervision; and that the foregoing pages constitute a true and accurate transcript of said Hearing.

I do further certify that I am not of counsel for, or in the employment of either of the parties to this action, nor am I interested in the results of this action.

IN WITNESS WHEREOF, I have hereunto subscribed my name this 4th day of December, 2019.

Linda S. Garrett

Linda S. Garrett, CCR
Notary Public No. 19971700150