

1 PLACE: Via WebEx Videoconference  
2 DATE: Monday, July 13, 2020  
3 DOCKET NO.: W-218, Sub 526  
4 TIME IN SESSION: 9:00 a.m. to 12:29 p.m.  
5 BEFORE: Commissioner ToNola T. 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 Commissioner Floyd B. McKissick, Jr.

12  
13 IN THE MATTER OF:  
14 Application by Aqua North Carolina, Inc.,  
15 202 MacKenan Court, Cary, North Carolina 27511,  
16 for Authority to Adjust and Increase Rates  
17 for Water and Sewer Utility Service in  
18 All of Its Service Areas in North Carolina

19  
20 VOLUME 8  
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18   Becker/Pearce Excess Capacity

19   Rebuttal Exhibits 1 through 15.....186/186

20   Pearce/Kunkel Water Loss

21   Rebuttal Exhibit 1.....214/214

22   D'Ascendis Rebuttal Exhibit 1.....253/253

23   Henry Revised Exhibits I and II.....307/307

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

2 COMMISSIONER BROWN-BLAND: All right. Let's  
3 come to order and go on record. Madam Court Reporter, if  
4 you think I can see your video without it affecting  
5 bandwidth, I'd like to see you so we know if anything is  
6 going wrong. There you go. Thank you.

7 All right. So where we left off, I think we  
8 are still with the Company. Ms. Sanford, this morning  
9 that's you.

10 MS. SANFORD: Yes, ma'am. I would like to call  
11 Amanda Berger, please.

12 COMMISSIONER BROWN-BLAND: All right.

13 AMANDA BERGER; Having first been duly affirmed,  
14 Testified as follows:

15 COMMISSIONER BROWN-BLAND: You're on mute.

16 THE WITNESS: I do.

17 COMMISSIONER BROWN-BLAND: All right. Thank  
18 you. Ms. Sanford.

19 MS. SANFORD: Good morning, Ms. Berger. And  
20 before I begin with your examination, I will do what I  
21 meant to do a few minutes ago, which is to let the  
22 Commission and the parties know where we are today, so a  
23 report. Ms. Berger is in the Cary office. She is in a  
24 room by herself in Mr. Becker's office. Mr. Bennink is

1 working remotely and I am working remotely. And so  
2 that's where we are today, so you'll know.

3 COMMISSIONER BROWN-BLAND: Thank you.

4 MS. SANFORD: We're dispersed, kind of like  
5 data centers. We're in all these different places hoping  
6 to maintain power.

7 DIRECT EXAMINATION BY MS. SANFORD:

8 Q Ms. Berger, please state your name, business  
9 address, and title, please.

10 A My name is Amanda Berger. My business address  
11 is 202 MacKenan Court, Cary, North Carolina, and my title  
12 is Environmental Compliance Director.

13 COMMISSIONER BROWN-BLAND: Ms. Berger, your  
14 sound is like you're far away, maybe not quite loud  
15 enough. I don't know if you can get closer to the mic.  
16 Madam Court Reporter, did you get all that?

17 COURT REPORTER: Yes.

18 COMMISSIONER BROWN-BLAND: All right. Let's  
19 try again. Continue, Ms. Sanford.

20 Q How long have you been employed by Aqua?

21 A Two years and seven months.

22 Q Did you prepare prefiled direct testimony in  
23 this case and --

24 MR. BENNINK: Excuse me. ToNola?

1                   COMMISSIONER BROWN-BLAND: Yes. So let's go  
2 off the record, Madam Court Reporter.

3                   (Off-the-record discussion.)

4                   COMMISSIONER BROWN-BLAND: And we'll go back on  
5 the record now, Madam Court Reporter. All right. Ms.  
6 Sanford, you may continue.

7                   MS. SANFORD: Okay.

8           Q        Ms. Berger, I just asked you how long you've  
9 been employed by Aqua, and you answered that. So my next  
10 question is did you prepare prefiled direct testimony in  
11 this case consisting of 22 pages and two exhibits which  
12 were labeled A and B?

13           A        Yes, I did.

14           Q        Were they filed with Aqua's application on  
15 December 31st, 2019?

16           A        Yes, they were.

17           Q        Do you have any changes to make to this  
18 testimony?

19           A        No, I do not.

20           Q        And would your testimony be the same if given  
21 orally from the stand today?

22           A        Yes, it would.

23                   MS. SANFORD: Commissioner Brown-Bland, I  
24 request that Ms. Berger's testimony be entered into

1 evidence, and that her Exhibits A and B be premarked.

2 COMMISSIONER BROWN-BLAND: All right. That  
3 motion will be allowed, and Ms. Berger's testimony will  
4 be received into evidence and treated as if given orally  
5 from the witness stand. The exhibits will be identified  
6 as they were when filed.

7 MS. SANFORD: Okay. Thank you.

8 (Whereupon, the prefiled direct  
9 testimony of Amanda Berger was copied  
10 into the record as if given orally  
11 from the stand.)

12 (Berger Direct Exhibits A and B  
13 were identified as premarked.)

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**STATE OF NORTH CAROLINA  
UTILITIES COMMISSION  
RALEIGH**

DOCKET NO. W-218, SUB 526

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

IN THE MATTER OF  
APPLICATION BY AQUA NORTH CAROLINA, INC.,  
202 MACKENAN COURT, CARY, NORTH CAROLINA 27511,  
FOR AUTHORITY TO ADJUST AND INCREASE RATES FOR WATER  
AND SEWER UTILITY SERVICE IN ALL SERVICE AREAS IN  
NORTH CAROLINA

PREFILED DIRECT TESTIMONY OF  
**AMANDA BERGER**  
ON BEHALF OF  
AQUA NORTH CAROLINA, INC.

December 31, 2019

1	<b><u>Glossary:</u></b>	
2	CMMS	Computerized Maintenance Management System; software
3		program utilized to produce and generate maintenance work
4		orders
5	EPA	United States Environmental Protection Agency
6	GENX	Trade name of a PFAS chemical manufactured by DuPont
7	GIS	Geographic Information Systems; software platform utilized to
8		gather, analyze, and maintain spatial data
9		
10	IOC	Inorganic
11		
12	LabD W/O	Work order assignment for discolored water calls
13	MCL	Maximum Contaminant Level; maximum allowable
14		concentration of a contaminant that can be found in a public
15		water supply, references primary EPA enforced standards
16	NCDEQ	North Carolina Department of Environmental Quality
17	NOD	Notice of Deficiency
18	NPDES	National Pollutant Discharge Elimination System; permitting
19		method utilized to administer the Clean Water Act
20	PDEP	Pennsylvania Department of Environmental Protection
21	PFAS	Per/polyfluoroalkyl substance; category of chemicals utilized
22		in manufacturing and firefighting processes, PFAS
23		references the combined total of PFOS and PFOA
24	PFOA	Perfluorooctanoic acid; member of PFAS family of chemicals
25	PFOS	Perfluorooctane sulfonate; member of PFAS family of
26		chemicals
27	PWS	Public Water Supply
28	RAA	Running Annual Average; EPA methodology to determine
29		compliance with the Safe Drinking Water Act, running 4-
30		quarter average of a particular contaminant
31	SSIC	Sewer System Improvement Charge

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sMCL	Secondary Maximum Contaminant Level; secondary standard established by EPA for contaminants for aesthetic purposes, not enforceable by EPA
UCMR	Unregulated Contaminant Monitoring Rule
WSIC	Water System Improvement Charge

1 **Q. PLEASE STATE YOUR NAME, YOUR POSITION WITH AQUA NORTH**  
2 **CAROLINA, INC. (“AQUA” OR “COMPANY”) AND YOUR BUSINESS**  
3 **ADDRESS.**

4 A. My name is Amanda Berger and my business address is 202 MacKenan  
5 Court, Cary, North Carolina. I currently serve as Aqua’s Director of  
6 Environmental Compliance. My responsibilities include oversight of  
7 environmental compliance within the Company.

8 **Q. PLEASE DESCRIBE YOUR BACKGROUND AND EXPERIENCE.**

9 A. I have twenty years of progressive experience in the water and wastewater  
10 industry and have been employed with Aqua since January 2018. Prior to  
11 that I was employed by American States Utility Services (“American States”)  
12 as the Operations Support/Environmental Health and Safety Manager.  
13 My duties at American States included direct oversight of all environmental,  
14 health, and safety requirements for the utility at nine military installations  
15 throughout the United States. I was also responsible for the development  
16 and administration of their Geographic Information System (“GIS”) and  
17 Computerized Maintenance Management System (“CMMS”) programs.  
18 In my career I have worked for large centralized water and wastewater  
19 treatment facilities (>100 million gallons per day, or “MGD”) and managed  
20 various environmental programs. As a regulator, I administered the National  
21 Pollution Discharge Elimination System (“NPDES”) Stormwater and

1 Agricultural Waste Management programs in two different states.<sup>1</sup>  
2 I previously held multiple licenses that include Grade IV Wastewater  
3 Operator, Grade A Water Treatment Operator, Grade A Water Distribution  
4 Operator, Class C Wastewater Collections Operator, Licensed Compost  
5 Operator, and Grade 2 Erosion Prevention and Sedimentation Control  
6 Professional. I am currently an Authorized Occupational Safety and Health  
7 Administration “OSHA” trainer, certified CPR trainer, and hold a Manager of  
8 Environmental, Safety, and Health Programs certificate. I graduated from  
9 the University of Wisconsin-Oshkosh with a Bachelor’s degree in  
10 Environmental Science.

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

12 A. My testimony will address water and wastewater compliance for Aqua with  
13 a focus on the Company’s *Water Quality Plan*, including the current climate  
14 around secondary water quality and emerging contaminants. Because  
15 secondary water quality is an ongoing issue of investment and  
16 improvement, I will be providing an update to Dr. Christopher Crockett’s  
17 discussion from the Company’s last rate case, Docket No. W-218, Sub 497,  
18 which addressed Aqua’s North Carolina *Water Quality Plan* and our goal to  
19 prioritize infrastructure improvements necessary to address secondary  
20 water quality issues for our customers.<sup>2</sup> Additionally, I will address:

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<sup>1</sup> Tennessee and Wisconsin.

<sup>2</sup> Dr. Crockett is Aqua America’s Chief Environmental Officer.

- 1 • Aqua's continued collaboration with the Public Staff on the  
2 development and submission of "Executive Summaries." Executive  
3 Summaries are prepared by Aqua and reviewed by the Public Staff  
4 and include support for the Company's requests for approval by the  
5 North Carolina Utilities Commission ("Commission" or "NCUC") for  
6 recovery through the Water System Improvement Charge ("WSIC")  
7 based on the installation of secondary water quality treatment filters.  
8 To support recovery, Executive Summaries are voluminous  
9 documents that include detailed data requests from Public Staff and  
10 most recently are the topics of meetings with the Public Staff. An  
11 example summary has been included (See Berger Exhibit A);
- 12 • Completed water quality projects;
  - 13 • Operational efforts to help address secondary water quality issues to  
14 include: the addition of a dedicated staff member to facilitate the  
15 handling of discolored water calls captured via the issuance of a  
16 Lab D Work Order ("Lab D W/O").<sup>3</sup> Additionally, I will explain how  
17 these activities have resulted in a decline in Lab D W/O's;
  - 18 • Challenges with Manganese Health Advisories;
  - 19 • Aqua's approach to the emerging contaminant issues, to include 1,4  
20 Dioxane, Bromide, "PFAS," ("PFOA" + "PFOS"), GenX, and

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<sup>3</sup> A Lab D W/O is generated when a customer contacts the customer call center due to discolored water. Lab D W/O's are assigned to the Technical Services Specialist, who is the liaison between the customer and operations Field Service Representative.

1 manganese, as well as the differing enforcement levels by state; and

- 2 • A discussion on compliance versus operational testing.

3 **AQUA NC WATER QUALITY PLAN**

4 **Q. PLEASE GENERALLY DESCRIBE THE WATER QUALITY PLAN THAT**  
5 **AQUA INTRODUCED IN JANUARY 2018.**

6 A. Aqua utilizes a combination of increased capital and operational process  
7 improvement to address secondary water quality issues within our *Water*  
8 *Quality Plan*. The Company's plan identifies capital and process needs to  
9 address each system's water quality issues and establishes a prioritization  
10 methodology. Examples of capital and process improvement needs include  
11 (but are not limited to) treatment options or filtration along with tank  
12 cleaning. This plan works to develop a common framework to address  
13 secondary water quality issues with support from the North Carolina  
14 Department of Environmental Quality ("NCDEQ"), thereby collaboratively  
15 engaging regulatory stakeholders.

16 **Q. PLEASE DISCUSS THE MANGANESE HEALTH ADVISORIES AND**  
17 **CHANGES IN ENFORCEMENT.**

18 A. The EPA has established a lifetime Health Advisory of 0.3 mg/L and has  
19 listed manganese as an emerging contaminant. A lifetime health advisory  
20 for adults (70 kg) is defined as the risk threshold for consuming greater than  
21 2 Liters (L) of water for 70 years. Manganese is included in the latest round  
22 of testing under the Unregulated Contaminant Monitoring Rule ("UCMR").

1 The purpose of the UCMR is to determine the geographic prevalence of a  
2 contaminant in drinking water throughout the United States. This testing is  
3 the foundation for future rulemaking along with increased scientific evidence  
4 that a contaminant has the potential to impact human health. Historically,  
5 “primacy agencies”---such as the NCDEQ---wait until the EPA establishes  
6 a Maximum Contaminant Level (“MCL”) before enforcing a health standard.  
7 This is no longer the norm. Primacy agencies throughout the country have  
8 begun enforcing health advisories in the absence of an established MCL  
9 due to increased concern from consumers and advocates.

10 **Q. WHAT APPROACH IS AQUA TAKING, AND WHAT IS THE IMPACT ON**  
11 **YOUR TESTING PROTOCOL AND BUDGET?**

12 A. In the exercise of sound management and operational judgment, Aqua has  
13 chosen to be proactive to address manganese in the absence of an MCL in  
14 North Carolina. Through the *Water Quality Plan*, Aqua identifies areas of  
15 concern, performs above-the-minimum levels of sampling to identify the  
16 systems with manganese concentrations above the health advisory, and  
17 then utilizes the data to determine the capital improvements---specifically  
18 manganese dioxide filters---required to remove the contaminant. This  
19 increased testing is prudent, necessary to sound operation, and increases  
20 our expenditures on sampling.

21 **Q. WITH REFERENCE TO MANGANESE AS A CRITICAL PART OF**  
22 **AQUA’S WATER QUALITY PLAN, PLEASE DESCRIBE THE**

1           **COMPANY'S WATER QUALITY PLAN PRIORITIZATION PROCESS.**

2    A.    Aqua's *Water Quality Plan* prioritizes sites and addresses water quality  
3           issues based on three criteria:

- 4                   1) Notices of deficiencies;
- 5                   2) Scientific, engineering, and health data, with an emphasis on  
6                   locations with manganese greater than the health advisory; and
- 7                   3) Customer complaints.

8           These factors were analyzed to sort Aqua's systems into groups associated  
9           with water quality needs and anticipated remediation methods were  
10          determined for each grouping.

11   **Q.    WHAT IS THE RESULT OF THE PREVIOUSLY EXPLAINED WATER**  
12   **QUALITY PRIORITIZATION PROGRAM?**

13   A.    The *Water Quality Plan* focuses on four groupings:

- 14                   • Group 1 Sites: Fe + Mn > 1 or Mn > 0.3 mg/L
- 15                   • Group 2 Sites: Fe > 0.6 & Mn > 0.1 mg/L
- 16                   • Group 3 Sites: Fe > 0.3 or Mn > 0.05 mg/L
- 17                   • Group 4 Sites: Under sMCLs<sup>4</sup> for Fe and Mn

18          Group 1 Sites are prioritized for public health protection. The EPA's health  
19          advisory for Mn in drinking water begins at 0.3 mg/L. As such, manganese  
20          measured at this level or higher is considered an acute issue and is  
21          anticipated to be treated with greensand filtration and tank cleaning. Sites

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<sup>4</sup> The term "sMCLs" is an acronym for "secondary maximum contaminant levels".

1 that meet the Group 1 criteria then receive further feasibility analysis to  
2 include their overall contribution to a system's needed capacity and its  
3 mineral load, along with an assessment of potential alternative sources,  
4 before final recommendation is made to Public Staff through the Executive  
5 Summary process to install a manganese dioxide filter system. Aqua  
6 collaborates with Public Staff regarding the Company's recommendation  
7 prior to requesting approval from the NCUC.

8 Group 2 sites are focused on water aesthetics and home plumbing  
9 protection. These sites must be continually assessed and tested to  
10 determine whether filtration may be required (and, if so, what type) or if  
11 sequestration is effective and appropriate. In 2019, Aqua began utilizing  
12 our *Aged Water Testing Program* to assist and confirm the sequestrant's  
13 effectiveness. The *Aged Water Testing Program* consists of an internal  
14 process of collecting raw water, treating the water with a sequestrant, and  
15 observing the sequestrant's effect for seven (7) days. If either iron or  
16 manganese particulates out during that time, Aqua adjusts the  
17 sequestrant's dose to determine if it will keep the iron and manganese in  
18 solution for a week. This test can be performed in-house several times until  
19 the right dosing ratio is determined. If staff is unable to make a final dosing  
20 recommendation, it is noted and will be evaluated for filtration based on  
21 prioritization criteria. It is a prudent and low-cost method to evaluate and  
22 improve our customers' water quality.

1 Group 3 sites are continuously reviewed to maximize sequestration and  
2 operational treatment with the aim to improve the water's aesthetics.

3 Group 4 sites are monitored as needed to maintain Fe and Mn below  
4 sMCLs.

5 **Q. IS THERE A SUMMARY DOCUMENT THAT GIVES AN OVERVIEW OF**  
6 **THE PLAN?**

7 A. Yes, please see Berger Exhibit B, *Water Quality Plan Summary*.

8 **Q. PLEASE FURTHER ADDRESS THE PRESENCE OF NATURALLY**  
9 **OCCURRING IRON AND MANGANESE IN THE GROUNDWATER**  
10 **SUPPLY WHICH AQUA ACCESSES ACROSS ITS SERVICE**  
11 **TERRITORIES.**

12 A. Aqua understands the concerns expressed by affected customers and I will  
13 address the scope of the issue, compliance standards, available remedies,  
14 and cost of remediation.

15 Iron and manganese characterize ground water across the state and impact  
16 the water drawn from public as well as private wells. Of Aqua's 1,285 entry  
17 points in this state, approximately 75 draw from groundwater that is  
18 considered Group 1 (Fe + Mn > 1 or Mn >0.3 mg/L) with appreciable  
19 amounts of iron and manganese and currently do not have filtration.

20 **Q. CAN YOU IDENTIFY THE DIFFERENT TREATMENT METHODS**  
21 **UTILIZED TO ADDRESS IRON AND MANGANESE?**

1 A. Iron and manganese can be treated to make them non-objectionable to  
2 customers in several ways. The most conventional ways include:  
3 1) removal from the water through a filter; or 2) by sequestration. Removal  
4 from water can be performed by several processes, including sedimentation  
5 and filtration, filtration alone, aeration followed by filtration, and by ion  
6 exchange. Manganese dioxide filtration is effective for the removal of both  
7 iron and manganese to very low levels. The chemical sequestration  
8 process transforms the iron and manganese from a particulate form to a  
9 dissolved form. Sequestration keeps the iron and manganese in their  
10 soluble liquid forms, which avoids staining and does not produce visible  
11 particles. Since sequestration does not physically remove manganese from  
12 the water source, it is not considered an effective treatment method for  
13 manganese greater than the health advisory of 0.3 mg/L.

14 **Q. PLEASE DESCRIBE THE 2016 ACTIONS BY THE NCDEQ REGARDING**  
15 **SECONDARY WATER LIMITS FOR IRON AND MANGANESE.**

16 A. In February of 2016, NCDEQ began issuing Notices of Deficiencies  
17 (“NODs”) for exceeding sMCLs for iron (“Fe”) and manganese (“Mn”) in the  
18 Raleigh region. These NODs were categorized in three tiers:

- 19 • Tier 1 NODs: Fe + Mn > 1 mg/L and no treatment (8 NODs  
20 received)
- 21 • Tier 2 NODs: Fe or Mn > their respective sMCLs and no treatment  
22 (13 NODs received)

- Tier 3 NODs: Fe + Mn > 1 and sequestration (47 NODs received).

Aqua received a total of 68 NODs for all three of these tiers. Prior to February 2016, Aqua had only received NODs for exceeding sMCLs for iron and manganese five times since 2011.

**Q. PLEASE PROVIDE AN UPDATE ON AQUA'S PROGRESS IN ADDRESSING THE 2016 NODs.**

A. As of November 1, 2019, Aqua addressed forty-four (44) of the NODs issued in 2016, and they have been rescinded. Twenty-four (24) remain, stemming from seventeen (17) Public Water Supplies ("PWSs"). In our latest quarterly report, Aqua requested rescission of eight (8) of the remaining twenty-four (24) NODs due to manganese dioxide filter installations or operational improvements that have consistently improved water quality. Six (6) additional NOD sites are scheduled to receive manganese dioxide filter installations in 2020 and rescission of their related NODs will be requested shortly after filter activation. The remaining NOD sites are either under Executive Summary review by the Public Staff, undergoing internal review for Executive Summary submission, or are undergoing additional in-depth investigations to determine the appropriate prudent measure to address elevated iron and/or manganese levels.

**WATER QUALITY OPERATIONS PLAN**

**Q. PLEASE PROVIDE SPECIFICS ABOUT SIGNIFICANT WATER QUALITY IMPROVEMENT PROJECTS, INCLUDING LOCATION,**

1 **COSTS AND RESULTS, IF RESULTS CAN BE TRACKED AT THIS**  
2 **POINT.**

3 A. Since 2015, Aqua has installed forty-one (41) manganese dioxide filters for  
4 a total spend of just under \$15 million. The average removal rate of iron  
5 and manganese by the manganese dioxide filters is 99.97% for iron removal  
6 and 99.95% for removal of manganese. (See Berger Exhibit C). In 2020,  
7 Aqua plans to install an additional eight (8) filters at Group 1 locations with  
8 a capital expenditure of approximately \$2.7 million.

9 **Q. WHAT IS YOUR ASSESSMENT OF THE EFFECTIVENESS OF THE**  
10 **WATER QUALITY PLAN, THUS FAR, AND WHAT IS THE BASIS FOR**  
11 **THAT ASSESSMENT?**

12 A. While there is still work to be done, water quality has improved and both  
13 NODs and customer complaints have been reduced. The *Water Quality*  
14 *Plan* developed in 2017 identified 92 wells as Group 1 locations. The current  
15 inventory is **76** wells, of which **22** are in either the planning or review stage  
16 for manganese dioxide filtration and **33** are undergoing additional testing for  
17 permanent filtration. The remaining **21** wells are either offline or Aqua is  
18 reviewing an alternative to filtration.

19 As stated earlier, Aqua's proactive efforts have reduced the 68 NODs  
20 issued in 2016 down to a current level of 24—a reduction of approximately  
21 65%.

1 Finally, customer complaints, measured by the quantity of Lab D work  
2 orders that are issued when a customer calls (during business and after  
3 hours) regarding a discolored water complaint, have declined over the past  
4 four years. Data gathered on Lab D work orders between 2015 – 2019  
5 (projected 2019) demonstrates a 21% decline in Lab D work orders,  
6 statewide, in 2019 from 2015 numbers. Specifically, in the Central Region  
7 of Aqua's territory, where the highest concentration of wells with iron and  
8 manganese is found, Aqua projects to achieve a 40% decline in Lab D work  
9 orders by year end from 2015 calculations. (See Berger Exhibit D)

#### 10 **CUSTOMER COMMUNICATIONS PLAN**

11 **Q. PLEASE DISCUSS THE *CUSTOMER COMMUNICATIONS PLAN***  
12 **LINKED TO THE *WATER QUALITY PLAN* AND UPDATE THE**  
13 **COMMISSION ON ITS PERFORMANCE SINCE THE LAST RATE CASE.**

14 **A.** Aqua developed a communications plan so that the water quality  
15 remediation efforts, timing, and education on the subject could be effectively  
16 conveyed to our customers.

17 In February 2018, Aqua rolled out a project website for customers to learn  
18 more about the program and Aqua's actions ([www.ncwaterquality.com](http://www.ncwaterquality.com)).

19 The website allows the Company to share ongoing updates about progress  
20 via email. Aqua also used direct letters, postcards and bill inserts to reach  
21 customers. Our goal is to continue to educate and provide more information  
22 to customers.

1 The website is actively utilized to provide a status of current capital filtration  
2 projects being considered and includes copies of letters sent to  
3 communities identifying water quality improvement projects completed in  
4 their communities. Additionally, Aqua utilized this site to better inform  
5 Bayleaf customers of the flushing schedule for the Bayleaf System. In  
6 addition to calling, emailing, or texting our customers, Aqua developed a  
7 schedule for each subdivision within the system. It was updated weekly on  
8 the website to keep customers informed of our progress. Aqua received  
9 positive remarks from our customers and there was a significant decline in  
10 LabD work orders related to flushing activities received during this time,  
11 compared to previous years.

12 In May of 2019, Aqua established the Bayleaf Advisory Group for our largest  
13 public water system. The group is comprised of Aqua staff and nine Bayleaf  
14 customers. To date, Aqua has held three meetings and discussed various  
15 topics from water quality, operations, flushing efforts, educational materials,  
16 and other items. The feedback from customers has been utilized to update  
17 processes and improve communications.

18 **Q. PLEASE DESCRIBE ADDITIONAL ACTIONS TAKEN TO EDUCATE**  
19 **AND COMMUNICATE WITH CUSTOMERS.**

20 A. Working collaboratively with our state regulators, we have developed a plan  
21 for carrying out our *Water Quality Program*. For customers, it is important  
22 to explain our long-term plan to address water quality. The plan on the site

1 outlines the following:

- 2 • For systems with high levels of iron and manganese, new filtration
- 3 treatment will be installed. Our goal is to install new filtration
- 4 treatment within a reasonable timeline. The wells that need it most
- 5 will see filtration within the next three to five years; installations will
- 6 be prioritized based on the number of compounds in the water.
- 7 • Areas with moderate levels will be treated with a process, such as
- 8 the *Aged Water Testing Program*, to improve overall water
- 9 aesthetics.
- 10 • Systems with little to no iron and manganese will be monitored and
- 11 treated as needed.

12 The site explains that all systems will be monitored on an ongoing basis to

13 help ensure safety and overall quality of the water source. It further explains

14 that Aqua also employs an aggressive water quality operation plan to help

15 make sure water consistently flows clear.

16 **AQUA'S WATER QUALITY SAMPLING PROGRAM**

17 **Q. PLEASE GENERALLY DESCRIBE THE RATEMAKING ADJUSTMENT**

18 **MADE IN THE LAST RATE CASE REGARDING THE COSTS OF AQUA'S**

19 ***WATER QUALITY SAMPLING PROGRAM.***

20 A. The Public Staff made a distinction between testing required by the

21 environmental regulations and process testing performed by our staff for

22 additional---and operationally necessary---information. The Commission

1 noted that some level of operational expenses should be recoverable but  
2 ruled that the Company should track its sampling costs in a manner that  
3 quantifies the difference between operational (process) and compliance  
4 sampling for review of reasonableness by the Public Staff.

5 **Q. WHAT HAS AQUA DONE TO COMPLY WITH THE COMMISSION'S**  
6 **MANDATE FOR COST-TRACKING OF THESE SAMPLING COSTS, AS**  
7 **DISCUSSED IN THE SUB 497 RATE CASE ORDER DATED**  
8 **DECEMBER 18, 2018?**

9 **A.** Public Water Supply samples are individually assigned work orders. A  
10 report is utilized to count the total number of samples and extract process  
11 samples from the total to determine number and cost per sample type  
12 during the test year. In addition, Aqua has designated an account code for  
13 use in future test years to differentiate between compliance and process  
14 sampling in its pro forma calculation. The improved accounting process was  
15 not implemented in time to be utilized for this case due to the test year  
16 incorporating months prior to the Sub 497 order.

17 **Q. DO YOU BELIEVE THAT ADDITIONAL TESTING, ABOVE THE LEVEL**  
18 **STRICTLY REQUIRED FOR COMPLIANCE, IS IN THE BEST**  
19 **INTERESTS OF AQUA'S CUSTOMERS?**

20 **A.** Yes, I do.

21 **Q. PLEASE DESCRIBE AQUA'S WATER QUALITY SAMPLING**  
22 **PROGRAM.**

1 A. Aqua's *Water Quality Sampling Program* includes the collection and  
2 analysis of approximately 20,000 laboratory samples and 100,000 field  
3 samples per year, across 714 public water systems and 79 permitted  
4 wastewater facilities, which are located in fifty counties---from Buncombe in  
5 the west to Carteret in the east. The data is utilized for the minimum  
6 compliance requirements and reporting.

7 In addition to this compliance reporting, it is also essential to perform non-  
8 compliance related testing in order to provide operations staff with  
9 information that is critical to making informed decisions about operation of  
10 Aqua's facilities in accordance with regulations. Both compliance and  
11 process sampling are necessary, crucial and central to the prudent  
12 management and operation of a water and wastewater utility. The costs  
13 are supported in this rate case application and I believe they should be fully  
14 recoverable.

15 **Q. WHY IS IT IMPORTANT FOR UTILITIES LIKE AQUA TO HAVE A**  
16 **COMPREHENSIVE SAMPLING PROGRAM?**

17 A. Our customers and regulators expect utilities to be proactive, versus  
18 reactive, especially with regard to secondary water quality and emerging  
19 compounds, as well as regulated contaminants.

20 In order to maintain water quality, Aqua must utilize the tools of source  
21 management, treatment, and/or other best practices in distribution

1 operations. I believe all of these need to be considered and employed in a  
2 complementary manner.

3 Most important to understanding our maintenance and improvement of  
4 water quality is a "Plan, Do, Check, Act" approach, which is universally  
5 accepted in many industries as a manifestation of continuous improvement  
6 programs. In order to conduct any of these steps, the first criterion is  
7 availability of accurate, relevant information. With respect to water quality,  
8 this means collecting and analyzing samples to monitor water quality  
9 beyond the absolute minimum requirements established by regulators for  
10 compliance. Compliance monitoring is designed to be reactive in nature to  
11 detect something that has gone wrong. However, monitoring to determine  
12 performance or the impact of an activity or action requires additional testing,  
13 above and beyond regulatory minimums. Utilities should be afforded the  
14 opportunity to proactively monitor the health of their public water supplies  
15 based on their expertise and knowledge of their systems without concern  
16 that the costs to perform this monitoring is not recoverable. This level of  
17 monitoring is expected by our customers and regulators.

18 **Q. HOW DOES AQUA UTILIZE THE DATA FROM THE SAMPLING**  
19 **PROGRAM TO ADDRESS SECONDARY WATER QUALITY ISSUES IN**  
20 **NORTH CAROLINA?**

21 **A.** Addressing secondary water quality factors is critical to achieving customer  
22 confidence in a water system. Implementation of treatment and other

1 management measures at the operational level depends on accurate  
2 testing to enable the Company to effectively address secondary water  
3 quality (“sMCLs”), as well as to meet primary drinking water standards.

4 **Q. WHAT IS THE REQUIRED INTERVAL BETWEEN TESTS FOR sMCLs**  
5 **AND IS THAT LEVEL OF TESTING ADEQUATE, IN YOUR**  
6 **PROFESSIONAL JUDGMENT?**

7 A. Standard compliance monitoring of sMCLs only occurs every three (3) years  
8 through Inorganic (“IOC”) analysis and I do not think that is sufficient to  
9 support the full range of operational requirements. This is particularly true,  
10 given the documented level of attention provided to water quality issues  
11 associated with levels of iron and manganese that exceed their respective  
12 sMCLs.

13 **Q. DO YOU EXPECT THE REQUIREMENTS OF TESTING TO DECREASE?**

14 A. No. In this era of heightened awareness of emerging contaminants, testing  
15 has been and will continue to increase to properly address existing and  
16 future regulatory needs in the best interest of Aqua’s customers.

17 For instance, consider the case of per- and polyfluoroalkyl substances  
18 (“PFAS”). Aqua is monitoring for PFAS so we can prudently plan for the  
19 future to ensure our customers’ protection. Although it is not formally  
20 regulated in North Carolina, our customers want to know if these chemicals  
21 are present in their water. GenX is one member of the PFAS family of  
22 contaminants, and it is clear that in North Carolina many customers are

1 already worried about PFAS as a result of the extensive concern over and  
2 media coverage of GenX in the southeastern part of the state. The PFAS  
3 family includes other contaminants that are regulated in other states; it is  
4 currently under evaluation by the United States Environmental Protection  
5 Agency (“EPA”) for regulation in the future. In fact, EPA has stated that it  
6 plans to issue pre-regulatory determination for PFOA and PFOS by  
7 year-end 2019, and under the UCMR process will establish a regular  
8 cadence to require sampling for other new contaminants. Many of our  
9 customers are aware of these actions, and they expect that their utility is  
10 looking out for their safety regardless of locale.

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

12 **A.** Yes, it does.

1 BY MS. SANFORD:

2 Q Ms. Berger, do you have a summary to give to  
3 the Commission this morning?

4 A Yes, I do.

5 MS. SANFORD: Commissioner Brown-Bland and  
6 Commissioners and parties, the summary was sent out  
7 yesterday, so hopefully you have a copy, and I will ask  
8 Ms. Berger to proceed to read her summary, please.

9 A I am Amanda Berger, and I provide testimony on  
10 behalf of Aqua North Carolina, Incorporated, Aqua, on the  
11 status of the Company's environmental compliance and  
12 secondary water quality programs. I am a graduate of the  
13 University of Wisconsin-Oshkosh, where I received a  
14 Bachelor of Science degree in Environmental Science.

15 My direct testimony is a summary of the  
16 Company's water and wastewater environmental compliance  
17 programs. I provide an update on the Company's Water  
18 Quality Plan, including an update on secondary water  
19 quality and emerging contaminants. The Secondary Water  
20 Quality Plan updates provide a status of completed water  
21 quality projects, operational efforts instituted since  
22 the Company's 2018 rate case, W-218, Sub 497, Aqua's  
23 continued collaboration with Public Staff on Water System  
24 Improvement Charge, or WSIC, executive summaries for

1 manganese dioxide filters, and challenges associated with  
2 the manganese health advisory. I also provide additional  
3 information on the Company's approach and efforts on  
4 emerging contaminants such as per-fluorinated alkyls and  
5 GenX compounds.

6 This concludes the summary of my direct  
7 testimony.

8 COMMISSIONER BROWN-BLAND: Ms. Sanford, you're  
9 on mute.

10 MS. SANFORD: Honestly. Sorry. Ms. Berger is  
11 available for cross.

12 And Ms. Berger, I'm going to ask you to stay  
13 close to the mic. My experience in terms of the audio is  
14 that it's a little warbly, so just stay up close if you  
15 would, please. Thank you. And she is available for  
16 cross.

17 COMMISSIONER BROWN-BLAND: All right. I will  
18 start with the AG. Is there cross, Ms. Townsend?

19 MS. TOWNSEND: There is no cross, but the  
20 parties have agreed that we can put into evidence the  
21 exhibits that were prefiled in this case --

22 COMMISSIONER BROWN-BLAND: Ms. Townsend, your  
23 sound is not good. Can you -- I think everybody is muted  
24 at this point. There's an echo.

1 MS. TOWNSEND: Can you hear me now?

2 COMMISSIONER BROWN-BLAND: I hear you. It's  
3 still a little distorted, but we hear you.

4 MS. TOWNSEND: I don't know what else I can do  
5 here. Again, let me know if I -- if you don't understand  
6 what I am saying. I will try to talk slower. Would that  
7 help?

8 COMMISSIONER BROWN-BLAND: It's like you're too  
9 loud and a little bit distorted.

10 MS. TOWNSEND: Let me try the remote. Is that  
11 better?

12 COMMISSIONER BROWN-BLAND: I don't think it is,  
13 but let's -- let's try. You know, we didn't have this  
14 problem with you last week. It was -- we did have it  
15 previously with Ms. Force, but not you, so I don't know  
16 if you switched places with her.

17 MS. TOWNSEND: No. I haven't moved. The  
18 camera has moved. Maybe that's what the problem or the  
19 difference is.

20 COMMISSIONER BROWN-BLAND: Madam Court  
21 Reporter, we'll be paused for a just a few minutes.

22 (Pause in proceedings.)

23 MS. TOWNSEND: Is that any better?

24 COMMISSIONER BROWN-BLAND: No, but let's see if

1 we can hear you because it sounded like you just had a  
2 little that you wanted to say?

3 MS. TOWNSEND: Right. I just wanted to -- we  
4 have agreed to put in our prefiled exhibits that the AGO  
5 prefiled in this case. I would just like to go over each  
6 one to make sure everyone is on the same page and has the  
7 same exhibits.

8 COMMISSIONER BROWN-BLAND: And did you say you  
9 don't have cross as long as we have these exhibits?

10 MS. TOWNSEND: That's correct.

11 COMMISSIONER BROWN-BLAND: We might be able to  
12 tolerate it just long enough to do that.

13 MS. TOWNSEND: Sorry.

14 COMMISSIONER BROWN-BLAND: Can you hear, Madam  
15 Court Reporter?

16 COURT REPORTER: Yes.

17 COMMISSIONER BROWN-BLAND: All right.  
18 Continue.

19 MS. TOWNSEND: First, on Exhibit -- AGO Berger  
20 Cross Exhibit 1 will be the document that is behind Tab 2  
21 of the prefiled exhibits.

22 COMMISSIONER BROWN-BLAND: All right.

23 MS. TOWNSEND: And that includes the response  
24 to Public Staff Data Request Number 76 and accompanied by

1 six Excel spreadsheets which contain a list of Notice of  
2 Violations, a Notice of Deficiencies for dates from July  
3 1st, 2018 to March 31st, 2020.

4 COMMISSIONER BROWN-BLAND: And that will be --  
5 that's behind Tab 2.

6 MS. TOWNSEND: Yes.

7 COMMISSIONER BROWN-BLAND: It will be  
8 identified as AGO Berger Cross Examination Exhibit 1,  
9 correct?

10 MS. TOWNSEND: Yes.

11 MS. TOWNSEND: And for Exhibit 2 it will behind  
12 Tab 3, and that is a Notice of Violation and Assessment  
13 of Civil Penalty dated March 16, 2020 for Chatham Water  
14 Reclamation Facility, and that consists of five pages.

15 COMMISSIONER BROWN-BLAND: All right. It will  
16 be so identified.

17 MS. TOWNSEND: Thank you. Three is behind Tab  
18 4. So AGO Berger Cross Examination Exhibit 3 is a Notice  
19 of Violation and Assessment of Civil Penalty dated March  
20 5th, 2020 for Chapel Ridge Wastewater Treatment Plant,  
21 consisting of seven pages.

22 COMMISSIONER BROWN-BLAND: All right. It will  
23 be identified as -- that's Cross Examination Exhibit 3.

24 MS. TOWNSEND: Thank you. And Exhibit 4 is

1 behind Tab 5. That is -- I'm sorry. Exhibit 3 -- we've  
2 done 2 and 3? We did 2, right?

3 COMMISSIONER BROWN-BLAND: We did 3. Three was  
4 Chapel Ridge.

5 MS. TOWNSEND: All right. Number 4 is behind  
6 Tab 5, and it's five Notices of Violations and  
7 Assessments of Civil Penalty dated January 22nd, '19,  
8 which is the first eight pages; then April 24th, '19,  
9 which is five pages; June 10th, '19, which is seven  
10 pages; July 25th, '19, which is five pages, and that's  
11 Violation 0168. There's another dated July 25th, 2019,  
12 which is for Violation 0173, and that's also five pages.  
13 And that's Number 4.

14 COMMISSIONER BROWN-BLAND: It will be so  
15 identified as Cross Examination Exhibit 4.

16 MS. TOWNSEND: Thank you. And the last exhibit  
17 is behind Tab 6, and it would be Exhibit 5, and it's four  
18 responses from Aqua to Department of Environmental  
19 Quality dated December 20, 2018, March 29th, '19,  
20 4/29/19, and 3/26/20.

21 COMMISSIONER BROWN-BLAND: All right. That  
22 will also be identified as Cross Examination Exhibit 5.  
23 And are you moving them into evidence at this time?

24 MS. TOWNSEND: I am.

1 COMMISSIONER BROWN-BLAND: Without objection?

2 MS. SANFORD: Commissioner Brown-Bland, no  
3 objection. We've discussed this with the Attorney  
4 General, but we will have redirect.

5 COMMISSIONER BROWN-BLAND: All right. Without  
6 objection, AGO Cross Examination Exhibits for witness  
7 Berger will be received into evidence at this time.

8 MS. TOWNSEND: Thank you.

9 COMMISSIONER BROWN-BLAND: And that is Numbers  
10 1 through 5, if I did not say that.

11 (Whereupon, AGO Berger Cross  
12 Examination Exhibits 1 through 5  
13 were identified as premarked and  
14 admitted into evidence.)

15 COMMISSIONER BROWN-BLAND: All right. We made  
16 it through, even though we hurt Commissioner Clodfelter's  
17 ears quite a bit. All right. So is there cross  
18 examination from the Public Staff?

19 MS. JOST: Yes. Good morning.

20 COMMISSIONER BROWN-BLAND: Ms. Jost.

21 MS. JOST: Can everyone hear me? All right.

22 CROSS EXAMINATION BY MS. JOST:

23 Q Good morning, Ms. Berger. I would like to  
24 direct you to pages 14 and 15 of your direct testimony.

1 And I'm not -- those pages you state that there has been  
2 a decline in Lab D work orders between 2015 and 2019; is  
3 that correct?

4 A Give me just one moment to turn to that page.

5 Q Sure.

6 A You stated page 14 and 15; is that correct?

7 Q That's correct.

8 A Yes, ma'am. I do state that.

9 Q Okay. And a Lab D work order is a work order  
10 that's assigned for a discolored water call; is that  
11 right?

12 A Yes, ma'am.

13 Q Now, Berger Direct Exhibit D is a graph that  
14 shows the volume of Lab D work orders that were received  
15 from 2015 to 2019; is that right?

16 A Yes, ma'am.

17 Q And 2019 indicates that those are projected  
18 numbers; is that right?

19 A As of this chart, yes, that was projected, uh-  
20 huh.

21 Q Okay. And I assume that's because you filed  
22 your testimony on December 31st, and you wouldn't have  
23 had the time to compile all of the data in time to use  
24 actual numbers in that graph; is that right?

1           A       That's correct.

2           Q       Okay. Now, the line at the top, which if  
3 you're looking at a color version is purple, shows the  
4 total Lab D work orders over time; is that right?

5           A       It is the combination of, yes, Lab D and Lab A  
6 work orders, uh-huh.

7           Q       All right. And would you agree that that line  
8 shows that the total sort of experienced a more  
9 significant decrease between 2015 and 2017 and then  
10 remained relatively steady between 2018 and 2019?

11          A       I don't have a colored version, so bear with me  
12 a moment. Are you talking about the line at the very top  
13 or the line that is trending along the top of the graph  
14 itself?

15          Q       It's the very top line, so the one indicating  
16 Grand Total.

17          A       Okay. I believe so, yes, ma'am.

18          Q       Okay. Now, during discovery in this case the  
19 Public Staff served Data Request Number 87, Question 1,  
20 on Aqua, and that requested a list of discolored water  
21 calls that were received by Aqua between 2018 and 2020  
22 year to date; is that correct?

23          A       Yes, ma'am.

24          Q       And so wouldn't you agree, subject to check,

1 that the response Aqua provided for Data Request 87,  
2 Question 1, indicates that Aqua received 238 discolored  
3 water calls during the first quarter of 2019? And I'm  
4 using the created date as the number -- leading to the  
5 number 238.

6 A Subject to check, yeah. Yes, ma'am.

7 Q Okay. And would you also agree, subject to  
8 check, that the same data request response indicates that  
9 Aqua received 292 discolored water calls during the first  
10 quarter of 2020, which is a 23 percent increase over the  
11 calls that were received during that quarter in 2019?

12 A Subject to check, yes.

13 MS. JOST: I have no further questions on  
14 direct.

15 COMMISSIONER BROWN-BLAND: Okay. Redirect?

16 MS. SANFORD: Thank you. Let me get plugged  
17 back in.

18 REDIRECT EXAMINATION BY MS. SANFORD:

19 Q Ms. Berger, let's look at the cross examination  
20 exhibits that were supplied by the Attorney General's  
21 Office. And I'll give you a minute to get there. You  
22 let me know when you're there, okay?

23 A I am there.

24 Q You're there?

1           A       Yes, ma'am.

2           Q       Okay. All right. Let's look at AGO Berger  
3 Cross Examination Exhibit Number 1. This deals with --  
4 and we're -- we're going to move quickly as we can  
5 through these, but this deals -- let's see. This is a  
6 response to Public Staff Data Request Number 76 sent on  
7 April 6 of this year; is that right?

8           A       Yes, ma'am.

9           Q       And you participated in the response to this  
10 question, as indicated by the note at the bottom?

11          A       Yes, ma'am.

12          Q       Okay. Thank you. Could you tell us what the  
13 status is of the noncompliance findings, just generally,  
14 and try to do it by grouping that are contained in this  
15 data request response?

16          A       Okay. Yeah. The first page is 2018 Wastewater  
17 NOVs and Notice of Deficiencies.

18          Q       Uh-huh.

19          A       A quick summary is there were 11 individual  
20 systems issued 36 NOVs. Twenty-four of the Notice of  
21 Violations were for Neuse Colony, which I believe is also  
22 one of the cross exhibits. I've got my numbers  
23 backwards, so I apologize, but -- but, yes, for Neuse  
24 Colony. Once again, that was a monitoring infrequency, a

1 monitoring reporting frequency violation due to a permit  
2 being issued at the -- late in the compliance period, and  
3 there were some changes to the actual permit from the  
4 draft. The permit was issued late. It came in around  
5 the time that Hurricane Florence had hit, and so the  
6 operator overlooked the permit and essentially missed  
7 some sampling during that period of time.

8           Since then the Company has instituted some QA  
9 and QC checks that involve operations and compliance to  
10 prevent future reoccurrence of a similar circumstance.

11           Q     Would you -- I'm sorry, Ms. Berger.

12           A     There was no mention of any environmental  
13 concern. Uh-huh?

14           Q     I'm so sorry to interrupt, but I didn't hear  
15 it. You instituted some what kinds of checks?

16           A     Quality control checks.

17           Q     Quality control.

18           A     Yes, ma'am. Quality control checks to  
19 essentially ensure that as the new permits -- we have 58  
20 wastewater treatment plants, and so there's a constant  
21 renewal process occurring, so to ensure we've formalized  
22 how the permits are received and sent out to operations  
23 and assured that the appropriate sampling schedule has  
24 been instituted in our asset management program.

1 Q Okay.

2 A With regards to 2019, there were 28 -- I  
3 believe 28 individual systems issued 66 NOVs. Twelve  
4 were paperwork errors, so essentially due to the software  
5 that we utilize to generate our Discharge Monitoring  
6 Reports, effectively known as DMR reports, there was an  
7 error, and so therefore we received a DMR violation. We  
8 resubmitted the correction and submitted that to the  
9 State. Of course, when we do that, the violation stands.  
10 It doesn't go anywhere.

11 Q Right.

12 A So once again, it was a paperwork error, not  
13 necessarily an environmental issue.

14 Thirty-two of the violations were associated to  
15 the Neuse Colony wastewater treatment plant. Once again,  
16 during that period of time, if I'm not mistaken, it was  
17 January through April 2019. Of course, North Carolina  
18 had significant rainfall from Hurricane Florence all the  
19 way through early spring. The plant's capacity, it was  
20 at its limit, and so we were effectively having some  
21 difficulty maintaining our biology within the plant,  
22 which is essentially the treatment process. The cold  
23 weather reduced detention time, is essentially what led  
24 to that.

1           Of course, while we were working on that issue  
2 is also while we were also completing the Johnston County  
3 Interconnect, which was completed in April of 2019, and  
4 we have been in compliance at Neuse Colony since that  
5 date. So that project was essentially to reduce the  
6 capacity and overloading that we were experiencing in  
7 early 2019.

8           The other one, I believe, is Wildwood Green.  
9 Wildwood Green is unique. A permit was issued in early  
10 2018, if I'm not mistaken, that assigned not only the  
11 lower Neuse River Basin nutrient -- nutrient loading, but  
12 also Falls Lake. The plant is not -- was never designed  
13 for nutrient removal, so it's very difficult to meet your  
14 permit limits if the plant isn't designed to do that.

15           So, one, we had a conversation with our  
16 environmental regulators at DEQ, Department of  
17 Environmental Quality, and we went about a pilot project  
18 to see if we could make some minor alterations to the  
19 treatment systems that effectively give it some removal.  
20 In concurrent, we collaborated with DEQ on a double  
21 permit where essentially we combined the nutrient loading  
22 or the nutrient limit for both Hawthorne and Wildwood  
23 Green since they are within the same basin association,  
24 so therefore we didn't have to upgrade the facility.

1 Again, that -- you know, that innovation and that  
2 collaboration with DEQ, essentially we didn't have to  
3 spend an exorbitant amount of money to make upgrades to  
4 the plant for it to be able to meet its permit limit. So  
5 working and collaborating with DEQ, we came up with that  
6 solution.

7 But the permit, we filed for the permit, and it  
8 was issued in April of 2019 -- I believe April 2019.  
9 Years are catching up on me. I apologize. April 2019,  
10 so it went into effect January of '19. So there were  
11 NOVs that were issued in January, but those were  
12 essentially rescinded by DEQ because of the new permit  
13 condition. But the thing that's important on that one,  
14 that one, in my mind, was a good project that was  
15 beneficial not only to the Company, but also to the  
16 customers as well.

17 And then there were -- there was three  
18 violations in early 2020 for Olde Beau. That was a  
19 result of chemical dumping into our plant. Essentially,  
20 someone dumped chemicals into the waste stream that  
21 impacted the biological activity at the plant. It  
22 impacted its ability to treat, so --

23 Q Somebody internally -- I'm sorry. Somebody  
24 internally to Aqua or somebody else?

1           A       Not internally. A customer or a contractor.

2       We're not sure.

3           Q       Okay.

4           A       Unfortunately, that -- in my experience, that  
5       happens quite frequently. With these smaller plants,  
6       these what we call a package plant, it's very difficult  
7       when that occurs to course correct. If you're running a  
8       much larger Grade IV like the City of Raleigh, you have a  
9       little more wiggle room when something like that occurs,  
10      but in these small package plants it impacts the biology  
11      and impacts it for quite some time. So we were able to  
12      identify that and move forward very quickly and get back  
13      in compliance in January of 2020.

14                   And then I believe the other exhibit, I'm not  
15      looking directly at this moment, is Chapel Ridge. That  
16      was a NOV for an SSO that occurred in --

17           Q       What's an SSO? I'm sorry. I'm going to slow  
18      you down a little bit, Ms. Berger.

19           A       I'm sorry.

20           Q       Help us out with your acronyms. NOV is Notice  
21      of Violation. Got that. What was --

22           A       Yes. Yes, ma'am. Yeah. SSO is sanitary sewer  
23      overflow.

24           Q       Okay.

1           A       So there was a sanitary sewer overflow at  
2 Chapel Ridge that was a result of an electrical failure  
3 at a lift station. We were issued a Notice of Violation  
4 and subsequent civil penalty in early 2020. Aqua has  
5 requested rescission of that NOV on the grounds that,  
6 one, this could not have been prevented; two, we took  
7 immediate action to address any environmental concerns;  
8 and three, recognizing that this particular incident  
9 could occur at another location, we went about inspecting  
10 our other facilities and making upgrades to ensure that  
11 there was not a reoccurrence on any other system. So we  
12 have requested that. To date, I'm not aware of any  
13 comment back from DEQ.

14           Q       Okay. Let's see. I think that -- I think  
15 we've actually now covered all of these, correct, with  
16 respect to the status?

17           A       I believe so.

18           Q       A few general questions. Let's put this in  
19 perspective. In your opinion, what is Aqua's overall  
20 record for environmental compliance?

21           A       Based on the data that is available for all  
22 water -- first, let me take a pause. I'll step back and  
23 speak for water utilities, specifically public water  
24 systems. There's information available out there in the

1 public realm through EPA, and when you review that  
2 information and you compare Aqua North Carolina, we have  
3 an exemplary compliance record. For many years we've  
4 been at 99.9 and greater compliance throughout the state  
5 of North Carolina. Not to toot my own horn, but with 700  
6 -- over 700 water systems, that's quite, quite, quite  
7 good. I mean, this has been going on for, in my opinion,  
8 many years, so it's not just -- it's just good effort.

9           Our wastewater compliance over the years has  
10 significantly improved, especially in 2018/2019. We're  
11 averaging around 97 percent compliance. Like I said  
12 earlier, our operating package plants, these small Grade  
13 I, Grade II, which is a designation provided by DEQ -- my  
14 apologies for using that terminology -- but that's quite  
15 good. It's very difficult to operate this style of  
16 plants. Like I mentioned, it doesn't take very much to  
17 upset the biology, so we're constantly making efforts to  
18 improve. I anticipate this year we'll do an even better  
19 job. I'm quite proud of the efforts we've made here at  
20 Aqua in the past several years.

21           Q       And when Aqua -- I mean, when events such as  
22 the -- or one underlying cause, I should say, such as the  
23 capacity issue at Neuse, can generate a lot of NOV's while  
24 you're trying to deal with it and fix it; is that

1 correct?

2 A Yes, ma'am. That's a fair statement.

3 Q Neuse Colony. And is it -- not to diminish  
4 this at all, but is it a relatively common phenomenon for  
5 operators, particularly wastewater treatment plants, to  
6 receive Notices of Deficiency and other kinds of notices  
7 of warning or of action from DEQ?

8 A I would say for the type of plants that we  
9 operate --

10 Q Right.

11 A -- it's not uncommon.

12 Q Right. And when Aqua does get these notices or  
13 whatever form the attention from the DEQ regulators comes  
14 in, then the Company moves to treat the problem or to  
15 address the problem, but what is your practice for going  
16 beyond that, as just a matter of course, to look at  
17 whether you need to have systemic kinds of improvements  
18 affecting other plants?

19 A Well, I mean, first of all, we're really  
20 concerned. There's a very lengthy process of review  
21 within the Company on Notices of Violation. They start  
22 from the moment that we receive what we call an  
23 Exceedance Report for any particular system. It's  
24 forwarded immediately to Operations. Operations will

1 make assessment based on the type of exceedance. If it's  
2 paperwork, that often involves myself and the Director of  
3 Operations, Mr. Pearce, working together on instituting a  
4 procedural change that -- you know, once again, our  
5 intent is to ensure that it does not occur. If it's  
6 something, you know, intended for a particular facility,  
7 there's, you know, involvement all the way up to myself  
8 and Mr. Pearce individually at those facilities to try to  
9 assist our operations.

10 Our goal here is to be a hundred percent  
11 compliant. I'm not -- you know, that's our goal. So we  
12 work very diligently towards that goal 365 days a year,  
13 and we will address certain issues as needed.

14 Q Thank you. And last question, what kinds of  
15 capabilities with respect to environmental compliance  
16 does Aqua America, now Essential, contain at the  
17 corporate level?

18 A At the corporate level, currently, that's  
19 headed up by Dr. Christopher Crockett. He is our Chief  
20 Environmental Officer. And below him there is a series  
21 of support staff that not only support him, but also  
22 support the individual states. We have a great team at  
23 our corporate level that provides, you know, guidance,  
24 knowledge, laboratory services, various different things

1 that support compliance and our customers in North  
2 Carolina.

3 Q Thank you, Ms. Berger.

4 MS. SANFORD: I have no further questions.

5 COMMISSIONER BROWN-BLAND: All right. Are  
6 there questions by Commissioners? Commissioner Hughes.

7 COMMISSIONER HUGHES. Yes.

8 EXAMINATION BY COMMISSIONER HUGHES:

9 Q I had a question. In your direct, you didn't  
10 mention it now, but you mentioned that you are keeping a  
11 close eye on PFAS and some of the other emerging  
12 contaminants. And I wonder if you could just comment  
13 briefly on any updates we should know about that and the  
14 level of expenditure magnitude you think the PFAS issue  
15 is going to incur relative to the secondary water  
16 quality, the contaminant, expenditures that you've been  
17 doing the last few years

18 A Okay. Yes. So the Company has went about  
19 sampling all of our entry points in the state of North  
20 Carolina for the PFAS compounds. To date, we're awaiting  
21 results of two of them. Otherwise, all entry points in  
22 the state of North Carolina have been sampled.

23 If -- Essential has instituted a policy based  
24 on its most stringent state, which is New Jersey, that

1 any individual contaminant, PFOS, PFOA, or PFNA that  
2 exceeds 13 parts per trillion will be treated.  
3 Currently, as it stands, we have 27, I believe, 27 or 28  
4 systems that have had numbers above 13. It's important  
5 to note that we have not had systems exceeding the health  
6 advisory consistently. We've had numbers above the  
7 corporate 13. So we are currently working on resampling  
8 these sites and doing a running annual average, which is  
9 similar to the state of New Jersey's actual primary  
10 contaminant levels. They have gotten ahead of EPA and  
11 went ahead and instituted this. We are evaluating  
12 treatment at specific locations.

13 With regards to exact cost, future cost, I  
14 can't say offhand. That's typically handled by our  
15 engineering manager. I don't believe it will come close  
16 to the level of expenditure that we currently see with  
17 our secondary water quality, but it will be in the  
18 millions, but to what degree I can't necessarily state at  
19 this moment.

20 The technol--- real quickly, the technology  
21 behind treatment is still evolving, so that will play  
22 into some of the decision factors as we watch other  
23 utilities here in North Carolina, specifically along the  
24 coast and various other places such as New Jersey, as

1 they institute treatment. We'll be working  
2 collaboratively with various different partners,  
3 engineering firms, et cetera, to try to select the  
4 appropriate treatment for the correct contaminant. I  
5 think that's important to state.

6 Q Thank you very much for that.

7 COMMISSIONER BROWN-BLAND: Further questions  
8 from the Commission? Commissioner Gray.

9 EXAMINATION BY COMMISSIONER GRAY:

10 Q Thank you. Ms. Berger, on your direct  
11 testimony on page 17 -- tell me when you get there.

12 A I'm there. I'm there, sir.

13 Q Starting with line 3, would you read that  
14 sentence?

15 A Page 17, line 3, "Our goal is to install new  
16 filtration treatment within a reasonable timeline." Is  
17 that the statement?

18 Q Yes, ma'am. And the next sentence, please.

19 A Yes, sir. "The wells that need it most will  
20 see filtration within the next three to five years;  
21 installations will be prioritized based on the number of  
22 compounds in the water."

23 Q Thank you. Could you explain what "reasonable  
24 timeline" means in this context?

1           A       Reasonable timeline, I believe, is based on the  
2       prioritization.  Currently, the Company is working to  
3       install nine to I believe as high as 15 filters,  
4       depending upon size and scope, each year, so we have a  
5       pretty detailed prioritization schedule, the systems and  
6       entry points throughout the state that have elevated  
7       levels of iron and manganese.  And from there we've  
8       prioritized based on the actual contaminant levels,  
9       whether it's iron or manganese.  Then we go through a  
10      series of review.

11                 And this is collabor--- in large degree  
12      collaboration with Public Staff as a part of the  
13      Executive Summary submittal, so if we have a well that  
14      has a high degree of iron and manganese, but it's a very,  
15      very low producing well and we could do something  
16      differently that's more prudent, we will try that first  
17      before going the route of filtration.  If we have very  
18      high producing wells with high concentrations, those are  
19      our targets.  Of course, currently, manganese greater  
20      than .3 is the emphasis of our program due to the health  
21      advisory.  That is -- the ones that we are currently  
22      working on address those.

23                 As of right now, the status updates of the  
24      Secondary Water Quality Plan, we plan to have all Group 1

1 locations, where the decision has been made that it's  
2 prudent, to install filtration completed by 2024. We'll  
3 be working on the Group 2 sites beginning in late 2024  
4 and 2025, pending, once again, sampling review and  
5 collaboration with Public Staff.

6 Q Thank you.

7 COMMISSIONER BROWN-BLAND: Further questions  
8 from the Commission? All right.

9 EXAMINATION BY COMMISSIONER BROWN-BLAND:

10 Q Ms. Berger, I asked Mr. Becker about tank  
11 cleaning, and I believe he said you would be the person  
12 who could give us the most accurate information about the  
13 status of the tank cleaning and describing the  
14 improvements that you've experienced with tank cleaning.  
15 Have those efforts been completed?

16 A Well, Commissioner, more than likely Mr. Pearce  
17 would have been the best one to do that.

18 Q And I apologize. He might have said Mr.  
19 Pearce, but if you can add anything.

20 A Yes, ma'am. Yes, ma'am, I will. Based on my  
21 last update, all Group 1 locations have been cleaned. I  
22 believe we are very close to having all Group 2 locations  
23 cleaned. And once again, that's based on my recollection  
24 of entering data into a spreadsheet. I believe all the

1 ones involved in one of our flushing programs that have  
2 SeaQuest for polyphosphates, ortho-polyphosphates, those  
3 have all been cleaned.

4 The results, I believe, have been good. It's  
5 been a good effort. I won't say that cleaning the tanks  
6 have stalled some systemic problems. Once again, you can  
7 clean a tank, but if it still has elevated concentrations  
8 of iron and manganese, you've got to go back to the  
9 source. But it is a good and worthwhile venture for Aqua  
10 to take, and we have implemented a schedule for all of  
11 these systems moving forward.

12 Q All right. Thank you for that. And a moment  
13 ago with regard to the SSO at Chapel Ridge -- I'm getting  
14 conversant in your acronyms -- you mentioned that it was  
15 due to an electrical issue that couldn't be avoided, but  
16 you did check all the other locations to see if the same  
17 thing might happen. Could you shed any light on what was  
18 the cause of the electrical outage?

19 A My memory escapes me on this one. It was due  
20 to an electrical storm, and there was some  
21 miscommunication with one of our -- with our SCADA  
22 system. I can't speak exactly to it. But recognizing  
23 that issue, Operations immediately went about identifying  
24 other locations where that could occur and, once again,

1 if it was not corrected immediately, there was a PM set  
2 up to have that done very quickly to ensure it didn't  
3 occur again.

4 Q And I apologize for not having a citation in  
5 your testimony about this or even the precise  
6 information, but it was just something that occurred to  
7 me while you were speaking a moment ago. I recall that  
8 there was a number of entry points where the manganese  
9 levels were exceeding the -- what do you call it -- the  
10 .03 manganese level, you were exceeding that, and then  
11 you also gave a number, though, like over the next two to  
12 three years how many filters were to be installed, and it  
13 was less than that entry point number. Over the next  
14 couple of years will those be corrected or those are  
15 still going to be further out, some of those --  
16 correcting some of those that exceed that level still  
17 further out than a couple of years?

18 A Based on my recollection because I don't have  
19 the data right in front of me, we're -- I believe  
20 depending upon which, again, permitting, scheduling,  
21 Executive Summary review, that process, the intent is to  
22 have all of those addressed within the next few years and  
23 then move into the Group 1, more iron focused. Our goal  
24 right now is addressing manganese greater than the health

1 advisory. That's been our emphasis for the past two  
2 years, and we'll continue until completion.

3 Q So the manganese is prioritized, and then still  
4 within that first category iron is coming right behind  
5 it; is that what you're saying?

6 A Yes, ma'am. So the Group 1 identification is  
7 iron plus manganese greater than 1.0 mg/L or manganese  
8 greater than 0.3, so our emphasis has been on those  
9 locations that have manganese greater than 0.3. And then  
10 from that, the remaining Group 1 sites are -- it's more  
11 attributable to iron being at elevated levels, and our  
12 goal will be to start working and completing those in  
13 2022 through 2024. But, yes, our emphasis has been on  
14 removing manganese above the health advisory.

15 Q And that's understandable because it is a  
16 health advisory and might ultimately lead to something  
17 else, but -- so going back to the -- I guess what you all  
18 in the water industry call the aesthetic qualities, which  
19 one is causing your customers greatest concern, or let me  
20 say it this way, greatest unhappiness? If -- it may be  
21 equal. I'm just -- I was just wondering if one was  
22 actually causing customers more concern than the other.

23 A I think for the most part it is equal. Of  
24 course, they have different appearance. Manganese is a

1 black speck, so customers not recognizing what it is, it  
2 looks like a piece of dirt has fallen into the water. So  
3 that's alarming for those who have or visibly can see the  
4 manganese.

5 Iron, I think systemically because it's more  
6 prevalent, probably we have more discolored water quality  
7 associated with iron, but once again, geographically it's  
8 more dispersed across North Carolina. Also, it gives you  
9 that brown look, so it's just more visible.

10 So I would say equally if you have it, but I  
11 think we get more calls from the iron.

12 Q All right.

13 COMMISSIONER BROWN-BLAND: Any further  
14 questions from Commissioners?

15 (No response.)

16 COMMISSIONER BROWN-BLAND: All right.

17 Questions on Commission's questions?

18 MS. TOWNSEND: No questions from the Attorney  
19 General's Office.

20 MS. JOST: No questions from the Public Staff.

21 COMMISSIONER BROWN-BLAND: Ms. Sanford?

22 MS. SANFORD: Get back on here. Thank you. I  
23 have a couple of questions only.

24 EXAMINATION BY MS. SANFORD:

1           Q     Ms. Berger, with respect to Commissioner Gray's  
2     question about reasonable timeline and prioritization,  
3     Aqua approaches these problems that you were just talking  
4     about, iron and manganese, secondary water quality  
5     problems, you are approaching them now and in recent  
6     years with the guidance and the direction contained in  
7     your Water Quality Plan; is that correct?

8           A     Yes, ma'am.

9           Q     And have you been present on occasions, either  
10    testimony or meetings or otherwise, when these -- the  
11    plan and the criteria for making decisions within the  
12    plan have been discussed with the Commissioners, correct?

13          A     Yes, ma'am.

14          Q     And with the Public Staff in the course of your  
15    ongoing collaboration with each other about these issues;  
16    is that right?

17          A     Yes, ma'am.

18          Q     And is it correct to say, first of all, that  
19    this is a very costly undertaking, this business of  
20    addressing the iron and manganese which occurs naturally  
21    in groundwater in various parts of the state?

22          A     Yes. It is costly.

23          Q     And some of the input, not all of the input,  
24    but some of the input that the Public Staff offers as you

1 evaluate these projects is geared towards the requirement  
2 that these things be done as efficiently as possible; is  
3 that correct?

4 A Yes. And I would say as prudently as possible.

5 Q And the Public Staff and the Company both look  
6 at -- and I call it a cost benefit kind of approach to  
7 doing the work that you need to do; is that correct?

8 A Yes.

9 Q If a well can be treated efficiently in this  
10 fashion, you use a lower-cost technology such as  
11 flushing, correct?

12 A I would say that --

13 Q Well, that's right. That's not treating the  
14 well. That was not a good question, so --

15 A Yeah, yeah. No, no. You're good. I would  
16 just say that, yes, for the higher level, the Group 1  
17 sites, flushing the system is not going to solve the  
18 problem. It's present. It's there. It's visible. It's  
19 aesthetically unpleasing and, of course, if the manganese  
20 is above the health advisory, there is that secondary  
21 issue. So flushing the system, utilizing an ortho-  
22 polyphosphate, that will not correct the customer's  
23 concern and issue.

24 When the levels are, you know, very low or just

1 above secondary MCL, which is, you know, very different  
2 than one, then some of those remediation efforts will  
3 help. But what we attempt to do and what we've been  
4 focused on is the Group 1 sites where, yes, you know,  
5 flushing and certain things will assist until you get to  
6 -- until you have an opportunity to install the filter,  
7 but that is not the long-term solution.

8 Q Right. But where it is appropriate and  
9 effective, then measures such as flushing or as using  
10 SeaQuest or some other ortho-phosphate or whatever the  
11 correct name is of these products, is the preferred mode  
12 of treatment, if it can be efficient and because it is  
13 less costly; is that correct?

14 A For -- to some degree, for sites that are, yes,  
15 where the levels --

16 Q For sites that --

17 A -- are much lower, uh-huh.

18 Q Right. Correct. And I do -- I should say that  
19 in these questions I am intending, if I don't say it, to  
20 relate the mode of treatment to the level of the issue  
21 with the water quality.

22 And when you -- as you go through this Water  
23 Quality Plan and as you attempt to address the various  
24 systems, focusing on your Group 1 or Tier 1 systems, you

1 work with the Public Staff; is that correct?

2 A Yes. The process is that there's a lengthy  
3 process within Aqua as we develop the Executive Summary  
4 to submit to Public Staff, where we -- you know, we take  
5 our data, we take the information on the system, the  
6 wells, et cetera, and we compile the Executive Summary.  
7 That takes several months to complete, and then we submit  
8 the Executive Summary to Public Staff and enter into  
9 discussions with them and answer questions that they may  
10 have regarding the information contained in the report.

11 Q So Aqua works to prepare this Executive Summary  
12 document or documents, and then you work with the Public  
13 Staff in a collaborative review, and then you present it  
14 to the Commission; is that how it works?

15 A Yes, ma'am.

16 Q So from when you begin to address one of these  
17 Tier 1 situations that you think is a priority until you  
18 get it to the Commission for approval can take how long?  
19 Just give me a range, please.

20 A Three to 15 months, depending upon -- depending  
21 upon the information and discussions between Public Staff  
22 and Aqua.

23 Q And is it correct to say that the Public Staff  
24 challenges the use of filtration if they believe it is

1 not the correct or cost efficient mode to treat the  
2 problem?

3 A Yes. I believe that they will -- they're doing  
4 their diligence to ensure it, so, yes --

5 Q Yes.

6 A -- there's some challenge there, yes.

7 Q Yes. Yes. And so part of this process, I  
8 mean, a natural part of this process is for Aqua to  
9 support what it believes to be the proper mode of  
10 treatment and for the Public Staff to do its job in terms  
11 of challenging your conclusions and requiring you to show  
12 that they are the correct ones?

13 A Yes. That's fair.

14 Q Because this has an impact on ratepayers,  
15 correct?

16 A Yes, ma'am.

17 Q Okay. Thank you.

18 MS. SANFORD: I have no more questions.

19 COMMISSIONER BROWN-BLAND: All right. I'll  
20 entertain the motions.

21 MS. SANFORD: Let's see. I will move Ms.  
22 Berger's Exhibits A and B into evidence, please.

23 COMMISSIONER BROWN-BLAND: Ms. Sanford, I  
24 notice you said A and B initially and had them

1 identified. Are we leaving out C and D?

2 MS. SANFORD: Well, it seems like I might be.

3 COMMISSIONER BROWN-BLAND: I mean, is that the  
4 intent?

5 MS. SANFORD: I didn't mean to. No, I did not  
6 mean to. I'm sorry. Let me revise that to A through D.  
7 I apologize.

8 COMMISSIONER BROWN-BLAND: All right. So C and  
9 D will also be identified as they were when prefiled, and  
10 at this time, without objection, Ms. Berger's Direct  
11 Exhibits A through D will be received into evidence.

12 MS. SANFORD: Thank you.

13 (Whereupon, Berger Direct Exhibits  
14 C and D were identified as premarked,  
15 and Berger Direct Exhibits A through  
16 D were admitted into evidence.)

17 MS. TOWNSEND: And Attorney General will move  
18 for Exhibits 1 through 5 to be entered into evidence.

19 COMMISSIONER BROWN-BLAND: All right. I had  
20 already allowed them, I thought, but let's do that out of  
21 an abundance of caution. The Attorney General's Exhibits  
22 will also -- 1 through 5 will be received into evidence.

23 (AGO Berger Cross Examination  
24 Exhibits 1 through 5 were previously

1 admitted on page 39.)

2 COMMISSIONER BROWN-BLAND: All right. And that  
3 concludes the Applicant's case in chief?

4 MS. SANFORD: Yes, ma'am.

5 COMMISSIONER BROWN-BLAND: All right. I will  
6 turn now to the Public Staff.

7 MS. JOST: Thank you. The Public Staff calls  
8 D. Michael Franklin. And I will, for the sake of  
9 transparency, state that Mr. Franklin is in his office on  
10 the second floor of the Dobbs Building. I am in my  
11 office on the fifth floor of the Dobbs Building.

12 COMMISSIONER BROWN-BLAND: Thank you, Ms. Jost.

13 MS. JOST: Mr. Franklin, can you hear us?

14 COMMISSIONER BROWN-BLAND: Mr. Franklin, you're  
15 on mute.

16 MR. FRANKLIN: Yeah.

17 COMMISSIONER BROWN-BLAND: Time to come off.

18 MR. FRANKLIN: Yes.

19 COMMISSIONER BROWN-BLAND: All right.

20 MR. FRANKLIN: I can hear you.

21 MS. JOST: Great. All right.

22 DIRECT EXAMINATION BY MS. JOST:

23 Q Could you please state your name, business  
24 address, and present position for the record?

1           A       Yes. My name is D. Michael Franklin. My  
2 address is 430 North Salisbury Street, Raleigh, North  
3 Carolina. I'm an engineer Public Staff --

4           COMMISSIONER BROWN-BLAND: Mr. Franklin, I  
5 think I neglected to get you under oath or affirmed.

6 D. MICHAEL FRANKLIN;       Having first been duly affirmed,  
7                                   Testified as follows:

8           COMMISSIONER BROWN-BLAND: All right. Ms.  
9 Jost, if you'll start that over, please.

10          MS. JOST: Sure. Sorry about that.

11          COMMISSIONER BROWN-BLAND: I'm sorry.

12          Q       Mr. Franklin, please state your name, business  
13 address, and current position for the record.

14          A       Okay. My name is D. Michael Franklin. My  
15 business address is 430 North Salisbury Street, Raleigh,  
16 North Carolina. My position, I'm an Engineer with the  
17 Public Staff Water, Sewer, and Telephone Division.

18          Q       On May 26, 2020, did you prepare and cause to  
19 be filed in this docket testimony consisting of 28 pages?

20          A       I did.

21          Q       Do you have any corrections to that testimony?

22          A       I do. Page 25, line 12, the words "and  
23 wastewater" should be deleted.

24          Q       Thank you. With the exception of that

1 correction, if you were asked the same questions today  
2 would your answers be the same?

3 A Yes, they would.

4 MS. JOST: I request that the prefilled  
5 testimony of Mr. Franklin be copied into the record as if  
6 given orally from the stand. Commissioner Brown-Bland, I  
7 think you were on mute there.

8 COMMISSIONER BROWN-BLAND: I was? Without  
9 objection, that motion is allowed.

10 MS. JOST: Thank you.

11 (Whereupon, the prefilled testimony  
12 of D. Michael Franklin, as corrected,  
13 was copied into the record as if  
14 given orally from the stand.)

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BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. W-218, SUB 526

In the Matter of  
Application by Aqua North Carolina, )  
Inc., 202 MacKenan Court, Cary, North )  
Carolina 27511, for Authority to Adjust )  
and Increase Rates for Water and )  
Sewer Utility Service in All Its Service )  
Areas in North Carolina )

TESTIMONY OF  
D. MICHAEL FRANKLIN  
PUBLIC STAFF – NORTH  
CAROLINA UTILITIES  
COMMISSION

**BEFORE THE NORTH CAROLINA UTILITIES COMMISSION****DOCKET NO. W-218, SUB 526****Testimony of D. Michael Franklin****On Behalf of the Public Staff****North Carolina Utilities Commission****May 26, 2020**

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

3 A. My name is D. Michael Franklin. My business address is 430 North  
4 Salisbury Street, Dobbs Building, Raleigh, North Carolina. I am an  
5 Engineer with the Water, Sewer and Telephone Division of the Public  
6 Staff – North Carolina Utilities Commission (Public Staff).

7 **Q. BRIEFLY STATE YOUR QUALIFICATIONS AND DUTIES.**

8 A. My qualifications and duties are included in Appendix A.

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

10 A. The purpose of my testimony is to provide the North Carolina Utilities  
11 Commission (Commission) the results of my review of specific areas  
12 of the application filed by Aqua North Carolina, Inc. (Aqua or  
13 Company), on December 31, 2019, in Docket No. W-218, Sub 526,

1 seeking authority to increase rates for water and sewer utility service  
2 in all of its service areas in North Carolina.

3 **Q HAVE YOU RECOMMENDED ANY ADJUSTMENTS TO**  
4 **EXPENSES RELATED TO AQUA'S WATER AND WASTEWATER**  
5 **OPERATIONS?**

6 A. I have not recommended any adjustments to the expenses I  
7 reviewed. However, I disagree with an increase Aqua proposes in  
8 the Item 18 adjustment for purchased wastewater. The results of my  
9 review are summarized below.

10 **CHEMICALS EXPENSES**

11 I reviewed Aqua's expenses for chemicals for both its water and  
12 wastewater operations. Aqua proposes a pro forma adjustment to  
13 update the pricing for five significant chemicals to apply the most  
14 recent price to the volume for the entire test year, which is the 12-  
15 month period ending September 30, 2019.

16 Based on Aqua's response to Public Staff Data Request No. 5, the  
17 expense amounts were reviewed to determine whether the pro forma  
18 adjusted amounts included in the Company's application reflect the  
19 most recent chemicals pricing. Additional pricing was verified using the  
20 invoices provided in Aqua's response to Public Staff Data Request No.  
21 48. Where chemicals invoices were not provided, the most recent  
22 chemicals cost based on per book amounts was used.

1 Based on my review, the Public Staff agrees with the following total  
2 chemicals expenses included in Aqua's application:

3		<u>Per Books</u>	<u>Pro Forma</u>	<u>Total</u>
4			<u>Adjustment</u>	<u>Expense</u>
5	ANC Water	\$500,927	\$(40,097)	\$460,830
6	ANC Sewer	\$539,657	\$(19,068)	\$520,589
7	Brookwood Water	\$310,642	\$(13,839)	\$296,803
8	Fairways Water	\$ 23,928	\$ 187	\$ 24,115
9	Fairways Sewer	\$ 28,656	\$ (131)	\$ 28,526

10 Any necessary adjustments for growth and consumption are being  
11 made by Public Staff witness Windley Henry.

## 12 PURCHASED POWER

13 I reviewed Aqua's expenses for purchased power for all Aqua rate  
14 entities. In response to Public Staff Data Request No. 3, Aqua provided  
15 detailed information on the monthly kilowatt hours billed and the  
16 corresponding cost amounts. In addition to reviewing this information,  
17 I compared Aqua's per book expenses to invoices provided in  
18 response to Public Staff Data Request No. 112. Aqua did not  
19 propose any pro forma adjustments to the purchased power expense  
20 for the test year.

21 Aqua filed a purchased power expense update on April 21, 2020. In  
22 the update, Aqua requested an additional Item 18 adjustment to update  
23 the purchased power expense to the actuals/per books amounts for

1 the 12-month period ended March 31, 2020, and included fuel for  
 2 power production expenses. Fuel for power production expenses are  
 3 addressed later in my testimony.

4 Per the Company's application, the total test year purchased power  
 5 expense was \$3,752,175. Updating the test year to end March 31,  
 6 2020, I calculated a reasonable purchased power expense level of  
 7 \$3,878,491 on a consolidated basis. These amounts are for  
 8 purchased power expenses with general ledger codes of 615100,  
 9 615800, 715100 and 715800.

10 Based on my review, the Public Staff agrees with the following  
 11 purchased power expense totals and current pricing adjustments  
 12 provided by Aqua:

	<u>Total Expense</u>
14 ANC Water	\$2,368,986
15 ANC Sewer	\$1,054,929
16 Brookwood Water	\$ 271,000
17 Fairways Water	\$ 75,588
18 Fairways Sewer	\$ 107,989

19 **PURCHASED WASTEWATER TREATMENT EXPENSE**

20 I reviewed the purchased wastewater treatment expenses using the  
 21 Company's purchased wastewater treatment expense records and  
 22 found the total per books purchased wastewater treatment expenses

1 to be accurate and reasonable. The Company proposed a pro forma  
2 adjustment to apply the most recent vendor rate changes from the City  
3 of Charlotte/Mecklenburg County and Carolina Water Service, Inc. of  
4 North Carolina (CWSNC). The City of Charlotte/Mecklenburg County  
5 purchased wastewater treatment expense was updated for rates  
6 effective July 1, 2019. Pursuant to the Commission's Order Approving  
7 Joint Partial Settlement Agreement and Stipulation, Granting Partial  
8 Rate Increase, and Requiring Customer Notice issued in Docket No.  
9 W-354, Sub 360, the CWSNC purchased wastewater treatment  
10 expense was updated for rates effective February 21, 2019. Based on  
11 the foregoing, the Public Staff agrees with the Company's pro forma  
12 adjustment to update these suppliers' rates.

13 I also reviewed the Company's pro forma adjustment to add a full  
14 year of Johnston County wastewater treatment and transmission  
15 service charges for Neuse Colony. Aqua began purchasing  
16 wastewater treatment and transmission services for Neuse Colony in  
17 April 2019. I reviewed the seven invoices Aqua received from the  
18 Johnston County Public Utilities Department between April 2019 and  
19 October 2019 and the adjustment appears to be appropriate.  
20 Additionally, Aqua made pro forma adjustments to remove specific  
21 charges including a 2018 year-end accrual and some power charges,  
22 both coded to purchased water expense account. Because the pro  
23 forma adjustment removes purchased water expenses, their removal

1 from purchased wastewater treatment expenses also appears to be  
2 appropriate.

3 Additionally, I reviewed Aqua's purchased wastewater treatment  
4 expense update submitted to the Public Staff and filed on April 21,  
5 2020. In its update, Aqua requested an additional Item 18 adjustment  
6 amount of \$12,867.87. Aqua stated the adjustment was made to  
7 reflect the impact of a proposed July 2020 rate increase for the  
8 Johnston County wastewater treatment and transmission service  
9 charges for Neuse Colony in ANC's Central Area. The proposed rate  
10 increase is based on an April 16, 2020 email from Chandra Farmer,  
11 Director of the Johnston County Public Utilities Department.<sup>1</sup> In the  
12 email, the Director states that the Johnston County Public Utilities  
13 Department has not completed the budgeting process or discussed the  
14 details of any rate increase with the Johnston County Manager or  
15 Johnston County Board of Commissioners.<sup>2</sup> Because the rate change  
16 process has not being completed or finalized by the Johnston County  
17 Public Utilities Department, Aqua's inclusion of the rate increase pro  
18 forma adjustment of \$12,867.87 is premature and should not be  
19 allowed because it is not known and measureable.

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<sup>1</sup> The email was filed as page 2 of Aqua's Update to Purchased Waste Water Treatment Expense, W-1, Item 18, filed in Docket No. W-218, Sub 526 on April 21, 2020.

<sup>2</sup> Id.

1 With the removal of the pro forma adjustment submitted by Aqua as an  
 2 update on April 21, 2020, the Public Staff recommends Aqua's stated  
 3 test year adjusted purchased wastewater treatment expenses are  
 4 reasonable and acceptable as follows:

	<u>Per Books</u>	<u>Pro Forma Adjustment</u>	<u>Total Expense</u>
5 ANC Sewer	\$485,714	\$71,785	\$557,499
6 ANC Water	\$ (19)	\$ 19	\$ 0
7 Fairways Sewer	\$ 6,043	\$ (723)	\$ 5,320

10 **PURCHASED FUEL FOR PRODUCTION**

11 I reviewed the purchased fuel for production expenses provided by  
 12 Aqua based on the Company's purchased fuel for production expense  
 13 records. Based on my review, Aqua's total per books purchased fuel  
 14 for production expenses appear to be accurate.

15 On April 21, 2020, Aqua filed Item 18 updates, including updated  
 16 purchased power expenses. Included in the purchased power  
 17 expense update were updated purchased fuel for production  
 18 expenses. The Item 18 adjustment was made to update the expense  
 19 to the actuals/per books amounts for the 12-month period ended  
 20 March 31, 2020. The Public Staff agrees with Aqua's Item 18 adjusted  
 21 fuel for production expenses as follows:

	<u>Aqua Application Total</u>	<u>Aqua Item 18 Adjusted Total</u>	
1			
2	ANC Water	\$ 1,169	\$ (1,571)
3	ANC Sewer	\$26,392	\$19,318
4	Brookwood Water	\$ 901	\$ (613)
5	Fairways Water	\$ (780)	\$ (209)
6	Fairways Sewer	\$ (374)	\$ 1,569

7 **TRANSPORTATION FUEL COST**

8 I reviewed the transportation fuel cost expenses provided by Aqua.  
9 Based on my review of Aqua's transportation fuel cost expense  
10 records, Aqua's total per books transportation fuel cost expenses  
11 appear to be accurate and reasonable. In its W-1, Item 10, Exhibit B3-  
12 p-2, the Company proposed a pro forma adjustment to reflect the  
13 application of the three-year average fuel price of \$2.418. The three-  
14 year average fuel price determined by Aqua has been calculated  
15 correctly and is also reasonable. The transportation expense is further  
16 addressed in the testimony and exhibits of Public Staff witness Windley  
17 Henry.

18 **Q. CAN YOU BRIEFLY DESCRIBE THE RESULTS OF YOUR REVIEW**  
19 **OF AQUA'S CUSTOMER SERVICE?**

20 **A.** My review of Aqua's Customer Service is based on information from  
21 the following four sources:

22 1. The Aqua North Carolina, Inc. - Bi-Monthly Reports on Water  
23 Quality Issues filed in Docket No. W-218, Sub 497A;

- 1           2.     The Public Staff's Quarterly Reports on Aqua Water Quality  
2           Complaints filed in Docket No W-218, Sub 497A;
- 3           3.     The Aqua customer statements filed in Docket Nos. W-218,  
4           Sub 526, and Sub 526CS; and
- 5           4.     Aqua's response to Public Staff Data Request No. 87.

6           On February 14, 2020, the Commission issued an Order Scheduling  
7           Hearings, Establishing Discovery Guidelines, and Requiring Customer  
8           Notice (Scheduling Order) in the present docket providing for, among  
9           other things, six hearings across the state for the purpose of receiving  
10          public witness testimony from Aqua's customers. The six public  
11          witness hearings were scheduled to take place on the following dates  
12          and at the following locations:

- 13                   Monday, April 13, 2020, Wilmington, North Carolina
- 14                   Monday, April 20, 2020, Greensboro, North Carolina
- 15                   Tuesday, April 21, 2020, Gastonia, North Carolina
- 16                   Wednesday, April 22, 2020, Statesville, North Carolina
- 17                   Monday, April 27, 2020, Raleigh, North Carolina
- 18                   Wednesday, April 29, 2020, Fayetteville, North Carolina

19          On March 31, 2020, the Commission issued an Order Postponing  
20          Public Witness Hearings in response to an executive order issued by  
21          Governor Roy Cooper declaring a State of Emergency and to assist in

1 preventing the spread of coronavirus (COVID-19). The Presiding  
2 Commissioner found good cause to postpone the public witness  
3 hearings until further order by the Commission.

4 The Public Staff supports the Commission's postponement of the  
5 public witness hearings to assist in preventing the spread of COVID-  
6 19. The Public Staff considers public witness hearings to be an  
7 essential part of rate case proceedings and supports rescheduling the  
8 public witness hearings to receive customer testimony when the  
9 Commission determines it is appropriate to do so.

10 Due to the postponement of public witness hearings, my review of the  
11 Company's customer service does not address customer testimony  
12 from public witness hearings associated with this rate case. The Public  
13 Staff reserves the right to file supplemental testimony regarding  
14 customer service and associated conclusions and recommendations  
15 subsequent to the rescheduled public witness hearings.

#### 16 **Customer Statements**

17 Two customer statements have been filed in Docket No. W-218,  
18 Sub 526CS. The first, dated March 3, 2020, opposed any significant  
19 increase from Aqua "as their service and response to issues has been  
20 subpar." The second, dated March 20, 2020, opposed the rate  
21 increase stating that Aqua is a "stunningly profitable company."

1 An additional customer statement was filed in Docket No. W-218,  
 2 Sub 526. Dated April 2, 2020, the customer statement requested that  
 3 the Public Staff review the calculation contained in the Notice to  
 4 Customers of the proposed increase to the customer's water and  
 5 sewer rates, which the customer believed had been calculated by the  
 6 Company. The customer stated that his calculations yielded a higher  
 7 increase than that identified in the Notice to Customers. The proposed  
 8 increase amounts contained in the Notice to Customers were prepared  
 9 by the Public Staff, reviewed for accuracy by the Company, and  
 10 recommended by the Public Staff to the Commission for issuance in  
 11 the Scheduling Order. The April 2, 2020 customer statement indicated  
 12 that the customer lives in the Woodlake Development. I verified the  
 13 rate increase amount based on the water and sewer rates provided in  
 14 the customer notice. The water increase was determined as follows:

	<u>Current Rate</u>	<u>Proposed Rate</u>	
15			
16	Monthly Base Fee	\$19.25	\$21.57
17	Usage Charge	\$2.77/Kgal	\$2.77/Kgal
18	Monthly Average Usage	4,896 gallons	4,896 gallons
19	Subtotal	\$32.81	\$35.13
20	Monthly WSIC <sup>3</sup>	2.69%	0%
21	Total Cost	\$33.69	\$35.13
22	% Change		4.27%

---

<sup>3</sup> WSIC stands for Water System Improvement Charge.

1 The 4.27% increase was rounded to the 4.3% increase stated in the  
 2 Notice to Customers for the average monthly residential water bill for  
 3 the Woodlake Development.

4 The customer's monthly residential, unmetered sewer flat rate was  
 5 calculated as follows:

	<u>Existing Rate</u>	<u>Proposed Rate</u>
6 Monthly Residential		
7 Unmetered Service		
8 Flat Rate	\$72.04	\$80.18
9 SSIC <sup>4</sup>	1.15%	0%
10 Total Cost	\$72.87	\$80.18
11 % Change		10.03%

13 The 10.03% increase should have been rounded to 10.0% and is  
 14 slightly lower than the 10.4% rate increase for monthly residential,  
 15 unmetered sewer flat rate contained in the Scheduling Order and is  
 16 believed to be a typographical error by the Public Staff.

17 On May 13, 2020, I called the author of the April 2, 2020 customer  
 18 statement. After verifying his water and sewer information, I explained  
 19 the method for calculating rate increases and that the Public Staff was  
 20 responsible for determining the proposed rate percent increase. By the  
 21 end of the call, the individual was aware that Aqua was not responsible

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<sup>4</sup> SSIC stands for Sewer System Improvement Charge.

1 for determining the percent increase contained in the Notice to  
2 Customers and indicated that his questions had been answered.

3 **Aqua North Carolina, Inc. - Bi-Monthly Reports on**  
4 **Water Quality Issues**

5 On March 31, 2020, in Docket No. W-218, Sub 497A, Aqua filed the  
6 most recent Aqua North Carolina, Inc. - Bi-Monthly Report on  
7 Secondary Water Quality Issues covering the months of January and  
8 February 2020. In that filing, Aqua requests approval to discontinue bi-  
9 monthly reporting for 16 of the 18 water systems. Of the 16 water  
10 systems for which Aqua requests approval to discontinue bi-monthly  
11 reporting, Stonebridge has received no customer complaints during  
12 the 16-month period from November 2018 through February 2020. Six  
13 water systems have received no customer complaints during the 14-  
14 month period from January 2019 through February 2020. These water  
15 systems are Sussex Acres, Swan's Mill, Wood Valley, Medfield,  
16 Saddleridge, and Waterfall Plantation.

17 For the remaining 9 water systems, Aqua received 33 total  
18 complaints during the 14-month period from January 2019 through  
19 February 2020. However, Aqua contends it should nevertheless be  
20 allowed to discontinue bi-monthly reporting due to the nature of the  
21 complaint(s), the installation of filtration devices, and because no  
22 customers from the utility systems testified regarding secondary water

1 quality concerns at the public hearings for the W-218, Sub 497, rate  
2 case.

3 Of the 33 complaints received, Aqua stated that 5 were related to  
4 discolored hot water, indicating an issue with the homeowners' hot  
5 water heaters, 2 were the result of the homeowners' in-home filters  
6 requiring flushing or replacement, and 2 required no corrective action  
7 by Aqua. Of the remaining 24 complaints, Aqua stated that 5 required  
8 flushing to be performed by the homeowner or Aqua as the primary  
9 corrective action, and 19 complaints were due to equipment failure  
10 (EF) or operational issues (OI) with Aqua's water system equipment.  
11 With the exception of the main breaks, the remaining equipment  
12 failures and operational issues were single events affecting multiple  
13 residences in the water system. The equipment failures, operational  
14 issues, and impacted water systems are summarized below:

15	<u>EF/OI</u>	<u>Complaints</u>	<u>Water System</u>
16	Main Break	2	Meadow Ridge, Coachman's
17			Trail
18	Air Compressor Failure	2	Olde South Trace
19	Filter Backwash Cycle Time	5	Westmoor
20	Flow Reversal – System Startup	10	Coachman's Trail

21 Additionally, of the nine water utility systems for which Aqua received  
22 complaints during the 14-month period from January 2019 through

1 February 2020, two water systems, Castelli and Yorkwood Park, do  
2 not have filtration systems installed. The remaining water systems  
3 have either iron and manganese filtration systems and/or cartridge  
4 filters installed.

5 The Public Staff has consistently stated that for water quality filters,  
6 such as greensand or manganese dioxide, to provide effective  
7 filtration of well water, the system must be properly designed,  
8 installed, operated, and maintained. The installation of a filter does  
9 not guarantee trouble-free water service. This is especially  
10 applicable to the Coachman's Trail Well No. 4 iron and manganese  
11 filtration system and adjoining distribution system that has been the  
12 source of multiple discolored water events for customers in the  
13 surrounding area. Additionally, the Public Staff has previously  
14 pointed out that the imbalance between supply and demand in the  
15 Bayleaf-Leesville master system has been a source of water quality  
16 and service issues. The actual supply on the system is less than the  
17 well production originally approved by the North Carolina  
18 Department of Environmental Quality (DEQ) and the system  
19 consistently struggles to meet demand during warm and/or dry  
20 periods.

21 Based on the information contained in the Aqua North Carolina, Inc.  
22 - Bi-Monthly Reports on Water Quality Issues, the Public Staff agrees

1 with Aqua's request for approval to discontinue bi-monthly reporting for  
2 16 of 18 water systems with the exception of Coachman's Trail. This  
3 water system continues to experience operational and equipment  
4 issues directly affecting water quality and the bi-monthly reporting  
5 requirement should therefore be maintained.

6 **Water Quality**

7 The Consumer Services Division of the Public Staff (Consumer  
8 Services) investigates customer complaints and helps to resolve them  
9 after the customer has attempted to resolve the problem directly with  
10 the utility. It is the standard practice of Consumer Services staff to ask  
11 customers whether they have contacted the appropriate utility prior to  
12 contacting Consumer Services. I reviewed the Public Staff's Quarterly  
13 Reports on Aqua Water Quality Complaints filed in Docket No. W-218,  
14 Sub 497A, for each quarter of 2019. During 2019, Consumer Services  
15 received 136 complaints from Aqua customers, either by telephone call  
16 or by written statement. As described in the Public Staff's Quarterly  
17 Reports on Aqua Water Quality Complaints, the Public Staff reviewed  
18 each complaint and determined that 15 were related to water quality.  
19 These water quality complaints were either low water pressure/water  
20 service outages or discolored water events.

21 The low water pressure/water service outages were examples of  
22 discretionary water usage increasing demand to the point of

1           necessitating expensive capital investment to maintain quality and  
2           reliability of service. Under drought conditions, Aqua is authorized by  
3           the Commission to enforce mandatory water usage restrictions, which  
4           customers should abide by to ensure the availability of water for  
5           essential uses.

6           Of the discolored water events, one was the result of a main break and  
7           another was due to reverse flow in the distribution system that occurred  
8           during the startup of a filter system. Discolored water events have  
9           continued to occur in water systems where filtration systems have  
10          been installed. The Public Staff has consistently stated that, for water  
11          quality filters such as greensand or manganese dioxide filters to  
12          provide effective filtration of well water, the filter system must be  
13          properly designed, installed, operated, and maintained. The  
14          installation of a filter alone does not guarantee trouble free water  
15          service.

16          In response to Public Staff Data Request No. 87, Aqua provided  
17          information on the Lab D service orders created for water quality  
18          (discolored) complaints from January 1, 2018, through April 20, 2020.  
19          On September 1, 2018, Aqua revised the procedure for after-hours call  
20          tracking. To ensure consistency of data, the Public Staff narrowed its  
21          review and analysis of the Lab D service orders from September 1,  
22          2018, through April 20, 2020.

1 The Lab D service order information Aqua provided in response to  
 2 Public Staff Data Request No. 87 contained, among other information,  
 3 the date of each complaint and a description of the technician's  
 4 reported cause. From September 1, 2018, through April 20, 2020,  
 5 1,954 Lab D service orders were created. The technician's reported  
 6 cause for each service order was reviewed and is summarized below:

7	<u>Technician's Reported Cause</u>	<u>Percentage of Total</u>
8	No Problem	28.2%
9	Source Water Quality Issue	19.3%
10	No Reported Cause	14.3%
11	Flush/Distribution System Maintenance	13.2%
12	Main Break	5.5%
13	Treatment System Issue	4.7%
14	Pump Failure	4.5%
15	Construction	3.5%
16	Other	6.8%

17 Eliminating the Lab D service orders for which the technician's reported  
 18 cause was "No Problem" results in a more accurate quantification of  
 19 the technician's reported causes as shown below:

	<u>Technician Reported Cause</u>	<u>Percentage of Total</u>
1		
2	Source Water Quality Issue	26.9%
3	No Reported Cause	19.9%
4	Flush/Distribution System Maintenance	18.4%
5	Main Break	7.6%
6	Treatment System Issue	6.6%
7	Pump Failure	6.3%
8	Construction	4.9%
9	Other	9.4%

10 My review of trends in technician's reported causes does not show a  
 11 significant change in performance of the above items over the  
 12 timeframe from September 1, 2018, through April 20, 2020.

13 **Q. BRIEFLY DESCRIBE THE STATUS OF THE COMPANY'S**  
 14 **NOTICES OF DEFICIENCY (NODs) REGARDING IRON AND/OR**  
 15 **MANGANESE CONCENTRATION LEVELS.**

16 A. I reviewed Aqua's Quarterly Notices of Deficiency Reports Provided  
 17 to DEQ filed in Docket No. W-218, Sub 497A. The majority of DEQ  
 18 deficiencies addressed in Aqua's quarterly notices are deficiencies  
 19 identified by DEQ for iron and/or manganese concentration(s) that  
 20 occurred between 2016 and 2018.<sup>5</sup> Aqua's responses to DEQ

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<sup>5</sup> In 2016, DEQ issued NODs for 68 Aqua drinking water supply wells for elevated concentration levels of iron and/or manganese.

1 contain summaries of well information, including completed and  
 2 planned activities, for the wells where DEQ identified deficiencies.  
 3 The responses also provide a summary of raw, point of entry, and  
 4 distribution iron and manganese samples as part of the inorganic  
 5 chemical analysis with both historical and recent analysis results and  
 6 customer water quality complaints received during the quarter. DEQ  
 7 has identified 22 drinking water wells with ongoing deficiencies.

8 **Q. BRIEFLY DESCRIBE THE RESULTS OF YOUR INVESTIGATION**  
 9 **OF DEQ NOTICES OF VIOLATION AND FINES.**

10 A. In response to Public Staff Data Request No. 76, Aqua provided  
 11 information on findings of environmental non-compliance regarding  
 12 Aqua's water and wastewater systems from July 1, 2018, through  
 13 March 31, 2020. This information demonstrates that Aqua received  
 14 significantly more violations on its wastewater utility systems as  
 15 compared to its water utility systems as shown below:

16	<u>Year</u>	<u>Wastewater Violations</u>	<u>Water Violations</u>
17	2018	36	1
18	2019	66	1
19	2020	8	4

20 The 2018 wastewater violations resulted in approximately \$2,700 in  
 21 fines/penalties. Of the 2018 wastewater violations, 24 violations were  
 22 on the Neuse Colony wastewater system where an operator failed to

1 collect the required sample for reporting purposes. According to the  
2 information provided by the Company in response to Public Staff  
3 Data Request No. 76, the required samples were not collected  
4 because Aqua personnel were unaware that new sampling  
5 frequencies had gone into effect for the Neuse Colony wastewater  
6 treatment plant. Aqua has implemented measures to ensure that  
7 new permits are forwarded to the proper personnel and supervisors.

8 Four of the Company's 2018 wastewater violations were on the  
9 Wildwood Green wastewater system for total nitrogen and total  
10 phosphorus monthly average exceedance. In response to the  
11 Wildwood Green violations, Aqua indicated that the wastewater  
12 system was not designed for total nitrogen removal and submitted a  
13 pilot improvement plan to DEQ to meet the total nitrogen monthly  
14 average concentration limit. Additionally, Aqua submitted an  
15 application requesting the combining of the Hawthorne wastewater  
16 system and Wildwood Green wastewater system nitrogen and  
17 phosphorus allocations, and the implementation of mass loadings as  
18 provided in the North Carolina Administrative Code, Title 15A,  
19 Environmental Quality.

20 In 2019, Aqua received 66 violations and 12 deficiencies on its  
21 wastewater systems, resulting in approximately \$8,000 in  
22 fines/penalties. Of the violations, 32 were due to capacity issues that

1           caused Aqua to exceed ammonia, nitrogen, biochemical oxygen  
2           demand, and flow limits. All 32 violations were from the Neuse  
3           Colony wastewater system. To address the capacity issue, Aqua  
4           interconnected the Neuse Colony wastewater system with the  
5           Johnston County wastewater system in April 2019.

6           Twelve of the 2019 wastewater system violations were related to  
7           filter design issues causing wear holes to develop in screens, thereby  
8           allowing the discharge of excess pollutants. Eleven of these  
9           violations occurred at the Beau Rivage wastewater system. Aqua  
10          took action to remedy the design flaw. Five of the 2019 wastewater  
11          system violations occurred at the Neuse River Village wastewater  
12          system due to exceedances of biochemical oxygen demand limits or  
13          coliform and fecal dry matter limits. To resolve the exceedances of  
14          coliform and fecal dry matter limits, Aqua adjusted the system  
15          chemicals to improve disinfection. The biochemical oxygen demand  
16          limit was exceeded due to an elevated river level trapping air in the  
17          discharge line, which affected the sample results.

18          From January 1, 2020, through March 31, 2020, Aqua received eight  
19          violations and three deficiencies on its wastewater systems, resulting  
20          in approximately \$1,800 in fines/penalties. Three of the 2020  
21          wastewater system violations were at the Olde Beau wastewater

1 system and were due to the exceedance of biochemical oxygen  
2 demand, coliform, and fecal membrane filter limits.

3 Of the six water system violations that occurred between January 1,  
4 2018, and March 31, 2020, the 2018 and 2019 water system  
5 violations occurred at The Cape water system and were for  
6 exceeding maximum contaminant levels of disinfection by-products.  
7 These were ongoing violations from July 2017. Additionally, though  
8 not identified in Aqua's response to Public Staff Data Request  
9 No. 76, The Cape also received a water system violation in 2020. On  
10 January 13, 2020, Aqua received a continuing violation for The Cape  
11 due to the exceedance of the total trihalomethane maximum  
12 contaminant level. To address the elevated levels of disinfection by-  
13 products, specifically trihalomethane, Aqua files quarterly reports  
14 with DEQ detailing its disinfection by-products monitoring results for  
15 The Cape water system, including its actions and plans to address  
16 the elevated trihalomethane levels. The three remaining violations in  
17 2020 were on three different water systems where the operator failed  
18 to take a sample resulting in monitoring violations. Samples were  
19 retaken in March 2020 for one water system and in April 2020 for the  
20 remaining two water systems.

21 **Q. DO YOU HAVE ANY RECOMMENDATIONS REGARDING**  
22 **WATER QUALITY REPORTING?**

1 A. Yes. I recommend that the Commission order the Company to  
2 continue to file written reports semi-annually. If a particular secondary  
3 water quality concern has affected or is affecting 10 percent of the  
4 customers in an individual subdivision service area or 25 billing  
5 customers, whichever is less, the customers affected and the  
6 estimated expenditures necessary to eliminate the secondary water  
7 quality issues through the use of projects eligible for recovery through  
8 the WSIC should be detailed in the written report.

9 Furthermore, I recommend that the Commission order Aqua to  
10 continue to convey to the Public Staff in a timely manner conversations  
11 with, reports to, and the recommendations of DEQ regarding the water  
12 and wastewater quality concerns being evaluated and addressed in  
13 Aqua's systems. I recommend that such communications continue to  
14 be provided in written format on a bi-monthly basis, at a minimum. I  
15 also recommend that Aqua be required to provide the Public Staff with  
16 copies of the following: (1) Aqua's reports and letters to DEQ  
17 concerning water quality concerns in its systems; (2) responses from  
18 DEQ concerning reports, letters, or other verbal or written  
19 communications received from Aqua; and (3) DEQ's specific  
20 recommendations to Aqua, by system, concerning each of the water  
21 quality concerns being evaluated by DEQ.

1 Functionally, the recommendations above would be a continuation of  
2 the Commission's Ordering Paragraphs 10 and 14 of the  
3 Commission's Order Approving Partial Settlement Agreement and  
4 Stipulation, Granting Partial Rate Increase, and Requiring Customer  
5 Notice issued on December 18, 2018, in Docket No. W-218, Sub 497.

6 **Q. PLEASE SUMMARIZE THE STATE OF AQUA'S WATER**  
7 **QUALITY.**

8 A. Based on my investigation, I have determined that Aqua's water  
9 utility systems are generally in compliance with federal and state  
10 regulations, testing requirements, and primary water quality  
11 standards. Where problems have been identified, Aqua has  
12 generally corrected the problems or is actively working toward  
13 solutions. However, the Company continues to contend with some  
14 water quality issues. For example, Aqua witness Berger states in her  
15 direct testimony, "Of Aqua's 1,285 entry points in this state,  
16 approximately 75 draw from groundwater that is considered Group 1  
17 (Fe + Mn > 1 or Mn >0.3 mg/L) with appreciable amounts of iron and  
18 manganese and currently do not have filtration."<sup>6</sup> Aqua should  
19 continue its efforts to optimize operations and maintenance and,

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<sup>6</sup> Page 11, lines 16-19, Direct Testimony of Company witness Amanda Berger filed in Docket No. W-218, Sub 526, on December 31, 2019.

1           where necessary, make reasonable and prudent capital investments  
2           to replace, renovate, upgrade, or install treatment systems.

3   **Q.    DOES THIS CONCLUDE YOUR TESTIMONY?**

4   **A.    Yes, it does.**

**QUALIFICATIONS AND EXPERIENCE****D. MICHAEL FRANKLIN**

I graduated from the University of South Carolina, earning a Bachelor of Science Degree in Engineering. I worked in the electric utility industry for 33 years prior to joining the Public Staff in June 2019. While employed by the Public Staff I have worked on utility rate case proceedings, new franchise and transfer applications, customer complaints, and other aspects of utility regulation.

1 BY MS. JOST:

2 Q Mr. Franklin, did you prepare a summary of your  
3 testimony?

4 A I did.

5 Q Would you please read it?

6 A The purpose of my testimony is to present to  
7 the Commission the Public Staff's position on water  
8 quality reporting. While my prefiled testimony also  
9 addressed adjustments to various expenses, those  
10 adjustments were reflected in the Partial Settlement  
11 Agreement and Stipulation filed by Aqua North Carolina,  
12 Incorporated, Aqua, and the Public Staff in this case.

13 In the March 31st, 2020 filing of Aqua's  
14 Bimonthly Report on Secondary Water Quality Issues in  
15 Docket Number W-218, Sub 497A, Aqua requested approval to  
16 discontinue bimonthly reporting for all of the 18 water  
17 systems it currently reports on, except for the systems  
18 serving the Bartons Creek Bluffs and Lake Ridge Aero Park  
19 Subdivisions. I agree with Aqua's request for the most  
20 part, but I believe that bimonthly reporting on secondary  
21 water quality issues should also continue for the  
22 Coachman's Trail Subdivision utility system. An iron and  
23 manganese filtration system was installed in September of  
24 2016 for Well Number 4 in Coachman's Trail Subdivision,

1 but equipment failures and operational issues have caused  
2 water quality issues for multiple residents.

3 I recommend continuation of Ordering Paragraph  
4 10 of the Commission's Final Order in the Sub 497 rate  
5 case. Paragraph 10 requires, in part, that Aqua file a  
6 written report with the Commission semiannually if a  
7 particular secondary water quality concern has affected  
8 or is affecting 10 percent of the customers in an  
9 individual subdivision service area or 25 billing  
10 customers, whichever is less. The report should detail  
11 the customers affected and the estimated expenditures  
12 necessary to eliminate the secondary water quality issues  
13 through the use of projects eligible for recovery through  
14 the WSIC.

15 I believe the current threshold of 10 percent  
16 or 25 billing customers is appropriate and reasonable  
17 because it ensures secondary water quality concerns  
18 affecting both large and small utility systems are  
19 properly identified. The semiannual reporting frequency  
20 is also appropriate and reasonable because it provides  
21 sufficient time for data collection and the timely  
22 development of corrective actions to address any issues  
23 identified.

24 I recommend the continuation of Ordering

1 Paragraph 14 of the Commission's Final Order in the Sub  
2 497 rate case. Paragraph 14 requires, in part, that Aqua  
3 convey to the Public Staff in writing on at least a  
4 bimonthly basis conversations with, reports to, and the  
5 recommendations of DEQ regarding water quality concerns  
6 being evaluated and addressed in Aqua systems.

7 While Aqua has made improvements in some  
8 communities since the Final Order in the Sub 497 rate  
9 case was issued in December of 2018, I do not believe  
10 sufficient time has passed to determine whether there has  
11 been consistent improvement in water quality across all  
12 of Aqua's water utility systems. The bimonthly reporting  
13 frequency is appropriate and reasonable as it provides  
14 sufficient time for the collection of the required  
15 reporting information and timely sharing of that  
16 information with the Public Staff.

17 This completes my summary.

18 MS. JOST: Thank you. The witness is available  
19 for cross examination.

20 COMMISSIONER BROWN-BLAND: All right. Is there  
21 cross examination from the Company?

22 MS. SANFORD: Yes, ma'am. Sorry. Slow on the  
23 button.

24 CROSS EXAMINATION BY MS. SANFORD:

1 Q Good morning, Mr. Franklin.

2 A Good morning.

3 MS. SANFORD: I hear some interference and I  
4 don't think it's me.

5 Q Good morning, Mr. Franklin. I have a few  
6 questions focusing on the reporting requirement issues,  
7 and some of these are just for clarification to be sure I  
8 understand the Public Staff's position.

9 To start with, is it still the Public Staff's  
10 position that verbal communications between Aqua and DEQ  
11 pertaining to the matters that were covered in Ordering  
12 Paragraph 14 in the 497 case, that these verbal  
13 conversations must be reduced to writing and shared with  
14 the Public Staff?

15 A Recognizing -- recognizing that reporting of  
16 verbal communications between Aqua and DEQ is more  
17 burdensome than the reporting requirements -- than other  
18 reporting requirements, the Public Staff does not want to  
19 suppress communications between Aqua and DEQ, as Mr.  
20 Becker pointed out in his testimony from last week, so  
21 the Public Staff is willing to forego this reporting,  
22 with the understanding that written communications will  
23 continue and be provided to the Public Staff. However,  
24 what we don't want to happen is that for the next rate

1 case we get neither -- or during the -- between now and  
2 the next rate case we get neither verbal or written  
3 communications from DEQ.

4 Q Okay. All right. Thank you for that. Keeping  
5 an eye on Ordering Paragraph 14 from Sub 497, I want to  
6 ask a few more questions about your position on reporting  
7 requirements. And I'll just have to ask the Commission  
8 to take Judicial Notice of this. I'm sorry I wasn't able  
9 to get an exhibit together. It would have made this  
10 easier. But Mr. Franklin, do you by any chance have  
11 Ordering Paragraph 14 of Sub 497 before you?

12 A I don't have it directly from the docket, but I  
13 have it in a Word format, yes.

14 Q Okay. Okay. Great.

15 COMMISSIONER BROWN-BLAND: Ms. Sanford, Mr.  
16 Franklin, as you go back and forth, if you could mute  
17 when you're not speaking --

18 MS. SANFORD: Okay.

19 COMMISSIONER BROWN-BLAND: -- I think that's  
20 when we hear the feedback.

21 MS. SANFORD: Okay, okay.

22 COMMISSIONER BROWN-BLAND: Have to have sort of  
23 a trigger finger.

24 MS. SANFORD: Yeah, yeah. All right. Thank

1 you.

2 Q So Mr. Franklin, let's look at Sub (d), which  
3 is the last phrase in this Ordering Paragraph 14 from Sub  
4 497. And I'm asking the Commission to take Judicial  
5 Notice of it. It describes one of the modes of  
6 communication that the Commission in that case ordered to  
7 be reported on. Would you read Subparagraph (d)?

8 A Subparagraph (d), "Communications from DEQ to  
9 Aqua North Carolina indicating DEQ's dissatisfaction with  
10 Aqua North Carolina's response to DEQ's concerns,  
11 directions, or recommendations concerning water quality  
12 affected by iron and manganese."

13 Q So this is clearly a focus on secondary water  
14 quality with respect to reporting.

15 A I agree.

16 Q I'm sorry. I'm not clicking off like I should,  
17 but I'll try to get better. So would you agree that  
18 addressing the water quality issues address those issues  
19 that are most in controversy before this Commission,  
20 secondary water quality?

21 A I'm not sure I understand your question. I'm  
22 sorry.

23 Q Let me try it again. I understand that you  
24 wouldn't understand it. It was poorly phrased. Does the

1 Public Staff believe the secondary water quality issues  
2 to be the highest priority in terms of these reporting  
3 requirements?

4 A I would say the Public Staff believes that all  
5 water quality issues are equally important.

6 Q And do you know if there are requirements of  
7 any other water/wastewater company to make reports of  
8 this kind?

9 A Within North Carolina I'm not aware, but also  
10 Aqua is significantly larger than any other North  
11 Carolina water utility companies in the state.

12 Q And -- oh, I'm sorry. I didn't mean to cut you  
13 off. And with respect to the totality of water quality  
14 concerns as opposed to just secondary water quality  
15 concerns, do you have any idea of what would be involved  
16 in the kind of reporting that the Public Staff recommends  
17 here for all water quality concerns?

18 A I don't believe it would -- I don't believe it  
19 would be any different than what they are reporting now,  
20 with the exception of the misunderstanding of Ordering  
21 Paragraph 14 and the different interpretation between  
22 Aqua and the Public Staff.

23 Q Could you tell us what that different  
24 interpretation is?

1           A       The Public Staff views Ordering Paragraph 14 to  
2       be specifically related to all water quality issues, with  
3       the exception of paragraph (d).

4           Q       And you maintain that position, that it ought  
5       to be everything, not just secondary water quality?

6           A       I do.

7           Q       What can you say if you have a view of the  
8       trend with respect to Aqua and its water quality results?

9           A       If you look at the trend for 2019 and 2020, it  
10      appears for the Lab D work orders, they appear to be  
11      fairly level. And as in Ms. Berger's exhibit for the Lab  
12      D and Lab A work orders, again, it also appears to be  
13      relatively level statewide.

14          Q       So you don't know what -- you just don't have  
15      an opinion, do you, in what would be involved in having  
16      Aqua personnel assigned to the tasks of providing reports  
17      on all water quality concerns?

18          A       Other than what Mr. Berger (sic) testified last  
19      week with the problems or the time that he believes it  
20      takes, that would be the only information that I have --

21          Q       Okay. Thank you.

22          A       -- based on the --

23          Q       Would you assume that it would be more than the  
24      time being taken just to report on the secondary water

1 quality issues?

2 A Perhaps more, but I don't believe it would be  
3 significantly more.

4 Q Mr. Franklin, in the Sub 497 case, I believe,  
5 the Public Staff was directed to file quarterly reports  
6 on customer complaints; is that correct?

7 A That's correct.

8 Q Did you file those reports in 2019?

9 A That's correct.

10 Q Did you file one in the spring of 2020 for the  
11 first quarter?

12 A I believe so, but I would have to check.

13 Q I will tell you, and I will invite response and  
14 correction from your counsel when it's their time, but  
15 I've looked on the Commission's website and I don't find  
16 one for 2020. Do you have direct knowledge as to whether  
17 it was filed?

18 A I do not. I believe I looked and I believe I  
19 saw it, but I -- again, it would be subject to check.

20 Q Well, you may be right and I'll recheck, but  
21 are you involved in the preparation of those reports?

22 A I am not.

23 Q Can you tell me who is?

24 A I believe primarily Charles Junis.

1 Q Okay. All right, Mr. Franklin. I don't have  
2 any more questions. Thank you.

3 A Thank you.

4 COMMISSIONER BROWN-BLAND: So cross examination  
5 from the Attorney General's Office?

6 MS. TOWNSEND: No cross exam. Thank you.

7 COMMISSIONER BROWN-BLAND: All right.

8 Redirect?

9 MS. JOST: Yes. Just a few questions.

10 REDIRECT EXAMINATION BY MS. JOST:

11 Q Mr. Franklin, Ms. Sanford asked you about  
12 Ordering Paragraph 14 of the Commission's Sub 497 Order  
13 and specifically whether it was the Public Staff's  
14 position that the various subparts of that paragraph  
15 apply to both secondary and primary water quality  
16 concerns or just to secondary water quality concerns. Am  
17 I correct that you stated the Public Staff believes that  
18 Subparagraphs (a) through (c) apply to both primary and  
19 secondary water quality concerns?

20 A That's correct.

21 Q And that Subparagraph (d) is just restricted to  
22 secondary water quality concerns?

23 A That's right, because Paragraph (d)  
24 specifically calls out secondary water quality where the

1 other paragraphs do not.

2 Q Okay. And can you give us some examples of  
3 primary water quality concerns that the Public Staff  
4 believes should be included in the reporting requirements  
5 for Subparagraphs (a) through (d)?

6 A Well, primary water quality are things that are  
7 issues where there's a regulatory limit on contaminants,  
8 and so we believe that would be important to inform the  
9 Public Staff with those particular issues because it  
10 could indicate a health concern.

11 Q Okay. Ms. Sanford asked you what would be  
12 involved in Aqua reporting both primary and secondary  
13 water quality concerns with respect to Paragraph 14.  
14 Would you agree that if Aqua doesn't have many primary  
15 water quality concerns, the reporting requirements would  
16 be relatively minor?

17 A I would.

18 Q Okay. All right. Let me just check my notes  
19 quickly here. Okay. I think that is all I have. Thank  
20 you.

21 COMMISSIONER BROWN-BLAND: Questions from the  
22 Commissioners?

23 (No response.)

24 COMMISSIONER BROWN-BLAND: All right. I have a

1 couple.

2 EXAMINATION BY COMMISSIONER BROWN-BLAND:

3 Q Mr. Franklin, witness Becker indicated, as you  
4 have alluded to this morning already, that there's some  
5 hindrance in the Company's relationship with DEQ created  
6 by the fact that there is some need -- under current  
7 Commission Order there is some need for verbal reporting  
8 to the Public Staff about conversations had with DE---  
9 about verbal conversations had with the DEQ, and those  
10 have been reduced to writing by Commission order. And he  
11 indicated that that was a hindrance and had sort of  
12 resulted in most of those discussions taking place by  
13 email. And do you recall -- do you recall that  
14 testimony?

15 A I do.

16 Q So if those verbal discussions are had, but  
17 there's no notation or communication with the Public  
18 Staff about those verbal discussions, the extent of them,  
19 the duration of them, the frequency of them with respect  
20 to any particular topic, if they're not sent by email any  
21 longer or a written notation made, you would assume that  
22 -- it would be fair to assume that some additional amount  
23 will be unknown to the Public Staff? Is that fair to  
24 assume? And that they will become verbal rather than by

1 email?

2 A So to date we have not received, to my  
3 knowledge. The only communications that we have received  
4 were in emails, and so there are email exchanges between  
5 Aqua and DEQ. We have not received information from Aqua  
6 where it's a conversation summary, if you will, of a  
7 verbal conversation. So to date, to my knowledge, we  
8 have not received those type of communications anyway.  
9 And if I understood Mr. Becker correct in his testimony  
10 last week, those verbal conversations aren't even taking  
11 place anymore. So the Public Staff has considered this,  
12 his statement, until we are willing to forego receiving  
13 the information from the verbal conversations, but again,  
14 as long as we continue getting the email and other  
15 written communications between Aqua and DEQ.

16 Q Didn't you understand what Mr. Becker was  
17 communicating was that the verbal discussions are not  
18 occurring because of this requirement of the Commission,  
19 and that that is why you're not receiving any summary  
20 notations?

21 A I understood that to be his position, yes.

22 Q So my question to you is what if they're --  
23 what if the verbal conversations between DEQ and the  
24 Company pick up? Is there any way that the Public Staff

1 will have to know what is being discussed, the extent of  
2 that, how often, the severity of any discussions in  
3 particular with regard to secondary water quality?

4 A No, there would not.

5 Q All right. I also see the Public Staff has  
6 agreed to reduce the number of reports for 15 of 18 water  
7 systems and that Coachman's Trail has issues that the  
8 Public Staff considers significant, thereby continuing  
9 bimonthly reporting for that system. But with regard to  
10 the semiannual reports, why does the Public Staff think  
11 that semiannual reports are necessary for the 15 systems  
12 as opposed to annual?

13 A Because we just believe the annual time frame  
14 is too long and it doesn't allow enough time for the  
15 Public Staff to reach out while the information is still  
16 fresh to customers within those -- that are served by  
17 Aqua. Because if something occurs in January and they  
18 file in March of the following year, that -- and then  
19 that's the first time the Public Staff gets to review  
20 that information, so much time has passed that we don't  
21 believe it would be fresh in the customer's mind, and it  
22 will also give the customer possibly the perception that  
23 their concern isn't important to the Public Staff, and so  
24 those are the primary reasons why we think annual is too

1 long and it should continue to be semiannually.

2 Q Do you recall language in prior Commission  
3 Orders that indicated that the Commission had a concern  
4 about being aware of customer water quality concerns only  
5 at the time or just prior to rate hearings?

6 A I do not recall that, but, you know, I believe  
7 maybe to your point somewhat, is that if you attribute  
8 all customer complaint reductions to improve performance  
9 and filter installation, I don't believe that's correct  
10 because there's other things that impact customer  
11 complaints, such as a rate case being considered, and  
12 also, you know, depending on the weather and the strain  
13 on the water system, as a result if we have a wetter  
14 summer, there's less strain on the system.

15 And also, you know, Aqua implemented their  
16 follow-up or their Closed Loop Program which provides  
17 more timely responses to customer complaints. So back to  
18 the reduction in the number of complaints, I feel that,  
19 you know, that could have impacted why we saw a decrease  
20 from previous years until 2019 and 2020, because you're  
21 not getting repetitive complaints from the same customers  
22 because there is that follow up.

23 Q Realizing that the Public Staff has asked for  
24 semiannual reports, notwithstanding that request, if the

1 Commission were to order that the reports be annual, has  
2 the Public Staff gained enough knowledge and history with  
3 this regulated entity to otherwise believe you would have  
4 enough information on some regular basis prior to the  
5 filing of a rate case to be aware of issues that might be  
6 arising, emerging?

7 A I think the only way we would actually have  
8 that information would be any complaints that were  
9 relayed to the Public Staff Consumer Services Division.

10 Q All right.

11 COMMISSIONER BROWN-BLAND: Any further  
12 questions from the Commission?

13 (No response.)

14 COMMISSIONER BROWN-BLAND: All right.  
15 Questions on Commission's questions? Ms. Sanford?

16 MS. SANFORD: If I may have just a moment,  
17 Commissioner Brown-Bland. Let me look over this and see  
18 if I have any. I have no questions. Thank you.

19 COMMISSIONER BROWN-BLAND: From the Attorney  
20 General?

21 MS. TOWNSEND: No questions from the Attorney  
22 General. Thank you.

23 COMMISSIONER BROWN-BLAND: And any from Ms.  
24 Jost?

1 MS. JOST: Just one.

2 EXAMINATION BY MS. JOST:

3 Q Mr. Franklin, Commissioner Brown-Bland asked  
4 why the Public Staff believes that the semiannual  
5 reporting frequency should be maintained for customer  
6 water quality service or complaints, and is it true that  
7 the Public Staff sometimes follows up with customers  
8 whose complaints they see in those reporting materials?

9 A Yes. That's correct.

10 Q And so if the Public Staff did not receive  
11 information on a report that was filed in January of  
12 2020, for example, until March 31st of 2021 when that  
13 report would be due under an annual regimen, would that  
14 make it more difficult for the Public Staff to follow up  
15 with those customers on their complaints?

16 A Yes, it would, because the information would no  
17 longer be fresh in the customer's mind, and so they may  
18 not be able to provide details of the issue.

19 Q Thank you.

20 MS. JOST: That's all I have.

21 COMMISSIONER BROWN-BLAND: All right. And his  
22 testimony is in, there are no exhibits, so Mr. Franklin,  
23 you may be excused.

24 THE WITNESS: Thank you.

1 (Witness excused.)

2 COMMISSIONER BROWN-BLAND: And we will take a  
3 15-minute break and -- well, a little less than 15.  
4 Let's come back at 10:45.

5 (Recess taken from 10:34 a.m. to 10:47 a.m.)

6 COMMISSIONER BROWN-BLAND: All right. We'll  
7 come back to order. I believe there's an agreement that  
8 we'll take the Company's witness on rebuttal at this  
9 time?

10 MS. SANFORD: Correct.

11 COMMISSIONER BROWN-BLAND: All right. She's  
12 already been affirmed.

13 MS. SANFORD: Thank you. So I am re-calling  
14 Amanda Berger, please.

15 COMMISSIONER BROWN-BLAND: All right.

16 MS. SANFORD: We've done a sound check, and  
17 they're attempting to improve the quality of the  
18 transmission for Ms. Berger out there as much as  
19 possible. We're a little bit at a loss to explain why it  
20 worked as well as it did for Mr. Becker, or more  
21 specifically why it has -- they've incurred some issues  
22 since then, but Ms. Berger, if you will continue to sit  
23 up close to the microphone, I think that will help.  
24 Okay. Should we proceed?

1 THE WITNESS: Did that help?

2 COMMISSIONER BROWN-BLAND: Seems to.

3 MS. SANFORD: Okay. So should we proceed?

4 COMMISSIONER BROWN-BLAND: Yes.

5 MS. SANFORD: Okay. Thank you.

6 AMANDA BERGER; Having been previously affirmed,

7 Testified as follows:

8 DIRECT EXAMINATION BY MS. SANFORD:

9 Q Ms. Berger, you are still under oath, and I  
10 wanted to ask you if you have prepared and filed in this  
11 docket rebuttal testimony consisting of 19 pages?

12 A Yes, I have.

13 Q And it was prefiled on June the 12th of 2020?

14 A Yes, it was.

15 Q Did you have any exhibits?

16 A I did. I had Exhibits 1 through 4.

17 Q Okay. Thank you. If you gave -- do you have  
18 any corrections to make to your testimony?

19 A I do. On page 15 at lines 1 and 5 there was an  
20 update, line 1, to say projected 25.1 percent decline in  
21 2020, and Exhibit Number 2 was also revised. Line number  
22 5 on page 15 should have stated the projected 76 percent  
23 decline in 2020, with Exhibit 3 revised as well. And in  
24 addition, page 18, lines 12 through 15 --

1 Q Let us catch up with you. Just a second, Ms.  
2 Berger, please. Let me catch up with you, anyway. Okay.  
3 Page 18.

4 A Page 18, lines 12 through 15, should state "A  
5 summary of systems to include secondary water quality  
6 concerns that have affected 10 percent of the customers  
7 in an individual subdivision area or 25 billing customers  
8 in an individual service area, whichever is less, in a  
9 semiannual period."

10 Q Okay. Any other changes?

11 A No, ma'am.

12 Q Is this the testimony you would give if you  
13 gave it from the stand orally today in this proceeding?

14 A Yes, ma'am.

15 MS. SANFORD: Ms. Berger is available for  
16 cross.

17 COMMISSIONER BROWN-BLAND: Did you want to move  
18 that in?

19 MS. SANFORD: Yes, I do. I do. Thank you very  
20 much. I'm the one who is not in sync here. I would like  
21 to move her prefiled evidence, as corrected, into the  
22 record, please, and to have her exhibits identified.

23 COMMISSIONER BROWN-BLAND: All right. That  
24 motion is allowed, and the rebuttal testimony of Amanda

1 Berger will be received into evidence, treated as if  
2 given orally from the witness stand, and her rebuttal  
3 exhibits will be identified as they were when prefiled.

4 MS. SANFORD: Thank you, Commissioner Brown-  
5 Bland.

6 COMMISSIONER BROWN-BLAND: Or when filed.

7 MS. SANFORD: Thank you.

8 (Whereupon, the prefiled rebuttal  
9 testimony of Amanda Berger, as  
10 corrected, was copied into the record  
11 as if give orally from the stand.)

12 (Whereupon, Berger Rebuttal Exhibit  
13 1, Revised Berger Rebuttal Exhibits  
14 2 and 3, and Berger Rebuttal Exhibits  
15 4 and 5 were identified as  
16 premarked.)

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**STATE OF NORTH CAROLINA  
UTILITIES COMMISSION  
RALEIGH**

DOCKET NO. W-218, SUB 526

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

IN THE MATTER OF  
APPLICATION BY AQUA NORTH CAROLINA, INC.,  
202 MACKENAN COURT, CARY, NORTH CAROLINA 27511,  
FOR AUTHORITY TO ADJUST AND INCREASE RATES FOR WATER  
AND SEWER UTILITY SERVICE IN ALL SERVICE AREAS IN  
NORTH CAROLINA

REBUTTAL TESTIMONY OF  
**AMANDA BERGER**  
ON BEHALF OF  
AQUA NORTH CAROLINA, INC.

June 12, 2020

1 **Q. PLEASE STATE YOUR NAME, YOUR POSITION WITH AQUA NORTH**  
2 **CAROLINA, INC. (“AQUA”, “AQUA NORTH CAROLINA”, OR**  
3 **“COMPANY”) AND YOUR BUSINESS ADDRESS.**

4 A. My name is Amanda Berger and my business address is 202 MacKenan  
5 Court, Cary, North Carolina. I currently serve as Aqua’s Director of  
6 Environmental Compliance. My responsibilities include oversight of water  
7 and wastewater environmental compliance within the Company.

8 **Q. PLEASE DESCRIBE YOUR BACKGROUND AND EXPERIENCE.**

9 A. I have twenty years of progressive experience in the water and wastewater  
10 industry and have been employed with Aqua since January 2018. Prior to  
11 that I was employed by American States Utility Services (“American States”)  
12 as the Operations Support/Environmental Health and Safety Manager.  
13 My duties at American States included direct oversight of all environmental,  
14 health, and safety requirements for the utility at nine military installations  
15 throughout the United States. I was also responsible for the development  
16 and administration of their Geographic Information System (“GIS”) and  
17 Computerized Maintenance Management System (“CMMS”) programs.  
18 In my career I have worked for large centralized water and wastewater  
19 treatment facilities (>100 million gallons per day, or “MGD”) and managed  
20 various environmental programs. As a regulator, I administered the  
21 National Pollution Discharge Elimination System (“NPDES”) Stormwater

1 and Agricultural Waste Management programs in two different states.<sup>1</sup>  
2 I previously held multiple licenses that include Grade IV Wastewater  
3 Operator, Grade A Water Treatment Operator, Grade A Water Distribution  
4 Operator, Class C Wastewater Collections Operator, Licensed Compost  
5 Operator, and Grade 2 Erosion Prevention and Sedimentation Control  
6 Professional. I am currently an Authorized Occupational Safety and Health  
7 Administration “OSHA” trainer, certified CPR trainer, and hold a Manager of  
8 Environmental, Safety, and Health Programs certificate. I graduated from  
9 the University of Wisconsin-Oshkosh with a Bachelor’s degree in  
10 Environmental Science.

11 **Q. WHAT ISSUES DO YOU PLAN TO ADDRESS IN YOUR REBUTTAL**  
12 **TESTIMONY?**

13 A. I rebut the testimony of Public Staff witness Darden on pump maintenance  
14 expense and Public Staff witness Franklin regarding water quality reporting,  
15 on behalf of Aqua.

16 **AQUA NC PUMP MAINTENANCE EXPENSE**

17 **Q. PLEASE GENERALLY DESCRIBE PUMP MAINTENANCE**  
18 **REQUIREMENTS FOR WASTEWATER COLLECTION SYSTEMS IN**  
19 **NORTH CAROLINA.**

20 A. North Carolina Administrative Code 15A NCAC 02T.0403 (a) (1) requires  
21 that the “...sewer system is effectively maintained and operated at all times  
22 to prevent discharge to land or surface waters, and to prevent any

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<sup>1</sup> Tennessee and Wisconsin.

1           contravention of groundwater standards or surface water standards.” To  
2           ensure compliance and that routine maintenance is performed, the  
3           North Carolina Department of Environmental Quality (“NCDEQ”) has  
4           established a minimum maintenance requirement that 10% of gravity sewer  
5           mains within a collection system are cleaned annually. That cleaning  
6           process is referred to as jetting. Local jurisdictions, such as public health  
7           departments, can establish more stringent minimums. Certainly, utilities  
8           throughout North Carolina can and should properly maintain gravity sewer  
9           mains; moreover, in the exercise of their professional, operational and  
10          management judgment and responsibility, they may determine a need to do  
11          more than the bare minimum requirements.

12       **Q.     PLEASE GENERALLY DESCRIBE AQUA NORTH CAROLINA’S PUMP**  
13       **MAINTENANCE PROGRAM.**

14       A.     Aqua North Carolina’s maintenance program is determined by the needs of  
15           each individual system to ensure the protection of the environment. Aqua  
16           adheres to the established jurisdictional minimums and performs additional  
17           routine jetting or pump maintenance based on the need of the specific  
18           system. Operators, duly licensed by the State of North Carolina, perform  
19           routine inspections of wastewater facilities and if a system requires  
20           additional maintenance activities to ensure compliance, the licensed  
21           operator will coordinate the activity with his or her supervisor. Aqua does

1 not limit an operator to minimum maintenance requirements if there are  
2 compliance risks or potential environmental impacts.

3 **Q. PLEASE EXPLAIN THE REGULATORY REQUIREMENTS TO MAINTAIN**  
4 **A WASTEWATER SYSTEM.**

5 A. As stated earlier, NCDEQ requires that a system be maintained at all times  
6 to prevent discharge to either land or surface waters. Each system is  
7 different in contributory loadings and maintenance requirements vary.  
8 Operators identify areas during their routine inspections that require  
9 additional maintenance based on customer contributions to the system and  
10 collection system layout (e.g., bends, dips). In my experience, it is not  
11 uncommon to have multiple areas in a system that contain excess rags  
12 and/or grease accumulations that, without proper attention, result in  
13 sanitary sewer overflows either in the pipes or pump stations within the  
14 system. Additional conditions like joints and bends or dips in collection  
15 system pipes that result from settling promote accumulations of these items  
16 that customers regularly flush. A sanitary sewer overflow is a violation of  
17 the NCDEQ permit and the Company can be fined when they occur. Aqua  
18 has instituted a proactive cleaning and jetting program that prevents these  
19 types of discharges and maintains compliance with regulatory code. That  
20 program is not designed to simply meet the bare minimum standard. Again,  
21 it is designed to prevent discharges to land or surface waters and is based

1 on our professional experience, gained specifically in the operation of the  
2 Company's wastewater systems.

3 **Q. WHY IS THE PUBLIC STAFF ASKING SHAREHOLDERS TO PAY FOR**  
4 **A PORTION OF THE COMPANY'S JETTING COSTS?**

5 A. It appears that the Public Staff believes that any expenses incurred over the  
6 bare minimum are not reasonable and/or prudent and should be borne by  
7 shareholders. Simply put, witness Darden's jetting adjustment does not  
8 allow the Company to recover its actual jetting expense. Aqua asserts that  
9 these actual expenses are based on the reality of the needs assessed by  
10 the licensed, experienced operators of the Company's wastewater systems.  
11 Though observant of models and regulatory minimum standards, the  
12 operators who are responsible for proper maintenance of the systems are  
13 required to deal with the reality and idiosyncrasies of each individual  
14 system, as it sits on or below the ground. If the Company attempted to  
15 defend inattention to a specific system's needs based on adherence to a  
16 minimum standard, I would expect NCDEQ and the Public Staff to allege  
17 fault to Aqua. This issue is about the extent to which, based on reasonable  
18 field judgments, Aqua is to be allowed the latitude in cost recovery that is  
19 commensurate with the responsibility it bears for proper, compliant  
20 operation of its systems and equipment.

21 At pages 12 and 13 of her prefiled testimony, witness Darden calculated a  
22 jetting cost based on the total length of the gravity sewer for each region  
23 and the jetting goal of 10%, with the exception of two systems that require

1 100% jetting. She determined that the Company's overall rate based on the  
2 linear footage minimum requirement is 14% overall. Her calculations  
3 indicated the "actual jetting rate during the test period was 17%" and she  
4 adjusted the expense based on the minimum requirements for a system  
5 versus the regulatory requirement to maintain the system. The Public  
6 Staff's proposed accounting adjustment to Aqua's actual test year jetting  
7 expense of \$188,294 is an inappropriate reduction of \$16,993  
8 (approximately 9 percent) of the Company's legitimate test year costs.

9 **Q. DO YOU DISPUTE WITNESS DARDEN'S ADJUSTMENTS?**

10 A. Yes. Initially, I note that the Company is only requesting that it recover its  
11 actual jetting costs spent in the test year. It is the Company's position that  
12 these costs are reasonable and prudent. Whether or not a state jurisdiction  
13 sets a minimum standard does not take away a utility's need and duty to  
14 use its professional judgment to perform the tasks necessary to provide safe  
15 and reliable service. Witness Darden's calculations are based on minimum  
16 requirements versus what is actually required for Aqua to effectively  
17 maintain and operate the Company's collections systems.

18 **Q. DO YOU AGREE THAT SHAREHOLDERS SHOULD BE RESPONSIBLE**  
19 **FOR JETTING COSTS REQUIRED TO MAINTAIN RELIABLE**  
20 **WASTEWATER SERVICE?**

21 A. No, I do not. Aqua opposes witness Darden's recommended calculation as  
22 it neither serves our customers' interests nor aligns with the Company's  
23 environmental standards and commitments. The Public Staff's position

1 should be understood to mean that regulated, professional utilities in North  
2 Carolina should be restricted to simply meeting the bare minimum jetting  
3 standard, because to oppose cost recovery of measures undertaken  
4 beyond that is to incent that lower level of response by the Company. The  
5 issue, again, is whether after-the-fact regulatory review and blanket  
6 standards are to dictate cost recovery, or whether the professional judgment  
7 of the licensed operators, on the job day after day, is to prevail as the  
8 determinant of reasonable standards of operation, and thus of costs. The  
9 Company owns the systems, assumes the risk and liability for systems'  
10 compliance with the Clean Water Act, and is required to meet the  
11 expectations of its environmental regulators and customers. I recommend  
12 that the Company's \$188,294 test year calculation for jetting expense be  
13 included in the rate calculation as it is reflective of actual costs, necessarily  
14 and prudently-incurred over the test year, and is reflective of prior year  
15 spends. In addition, the Company's actual on-going expense for jetting for  
16 the updated test year for the period from April 1, 2019, through March 31,  
17 2020, was \$192,473 or \$2,653 greater than the Company's claimed test  
18 year expense for purposes of setting rates in this proceeding.

1                    **AQUA NORTH CAROLINA WATER QUALITY REPORTING**

2                    **Q.    DID YOU REVIEW THE TESTIMONY OF PUBLIC STAFF WITNESS**  
3                    **FRANKLIN    IN    REGARD    TO    THE    PUBLIC    STAFF'S**  
4                    **RECOMMENDATIONS ON WATER QUALITY REPORTING?**

5                    A.    Yes, I did.

6                    **Q.    WHAT WERE HIS CONCLUSIONS AND RECOMMENDATIONS?**

7                    A.    Witness Franklin recommends that Aqua continue:

- 8                    •    Bi-Monthly Secondary Water Quality Reporting on three (3) of the  
9                                       eighteen (18) systems as ordered in Rate Case Docket No. W-218,  
10                                       Sub 363 and Sub 497.
- 11                    •    Semi-Annual Reporting on water systems that have a secondary  
12                                       water quality concern that has affected or is affecting 10 percent of  
13                                       the customers in an individual subdivision service area or 25 billing  
14                                       customers, whichever is less, as ordered in Docket No. W-218, Sub  
15                                       363 and continued in Docket No. W-218, Sub 497.
- 16                    •    Aqua DEQ communication bi-monthly reporting to include (1) Aqua's  
17                                       reports and letters to DEQ concerning water and wastewater quality  
18                                       concerns in its systems; (2) responses from DEQ concerning  
19                                       reports, letters, or other verbal or written communications received  
20                                       from Aqua; and (3) DEQ's specific recommendations to Aqua, by  
21                                       system, concerning each of the water quality concerns being  
22                                       evaluated by DEQ as ordered in Docket No. W-218, Sub 497.

1 Q. DID YOU DISCOVER DISCREPANCIES BETWEEN WITNESS  
2 FRANKLIN'S RECOMMENDATIONS AND THE COMMISSION'S  
3 ORDERS IN DOCKET NO. W-218, SUB 497 AND/OR DOCKET NO.  
4 W-218, SUB 363?

5 A. Yes, I did. For background purposes, the Commission's Rate Case  
6 Ordering Paragraph 14 in Docket No. W-218, Sub 497 required (1) Aqua's  
7 reports and letters to DEQ concerning water quality concerns in its systems;  
8 (2) responses from DEQ concerning reports, letters, or other verbal or  
9 written communications received from Aqua; (3) DEQ's specific  
10 recommendations to Aqua, by system, concerning each of the water quality  
11 concerns being evaluated by DEQ; and (d) communications from DEQ to  
12 Aqua NC indicating DEQ's dissatisfaction with Aqua NC's response to  
13 DEQ's concerns, directions or recommendations concerning water quality  
14 affected by iron and manganese.

15 Q. WHAT IS THE ACTUAL DISCREPANCY?

16 A. Item (d), highlighted for emphasis, was excluded from Public Staff witness  
17 Franklin's recommendations. Item (d) has been a matter of dispute between  
18 the Public Staff and the Company previously as Aqua infers the  
19 Commission's Order to require the Company to produce documentation  
20 **concerning water quality affected by iron and manganese** as Finding of  
21 Fact No. 34 in the Order (Docket No. W-218, Sub 497) focuses on  
22 secondary water quality standards, which has been the focal point of  
23 customer complaints in prior rate cases. The Public Staff has interpreted,

1 and verbally stated, that the Order requires the Company to provide all  
2 communication regarding **all water quality concerns in Aqua systems.**

3 **Q. WHAT IS YOUR CONCERN?**

4 A. Given the exclusion of Item (d) and previous conversations with Public Staff  
5 personnel, it appears that witness Franklin is expanding the reporting  
6 requirements of the Commission's previous Order to include **all water**  
7 **quality concerns in Aqua systems versus the previous Order that**  
8 **requires Aqua to report only on issues attributable to secondary water**  
9 **quality.**

10 Also, witness Franklin included wastewater quality concerns in his initial  
11 recommendation. I posed a clarifying question regarding wastewater  
12 quality to Mr. Franklin during a call between Public Staff and the Company  
13 on May 28, 2020, and he followed up with an email stating that the "inclusion  
14 of wastewater quality concerns in the reporting was in error" and he would  
15 correct that while on the witness stand.

16 **Q. DO YOU AGREE WITH THE WATER QUALITY REPORTING**  
17 **RECOMMENDATIONS MADE BY WITNESS FRANKLIN?**

18 A. No, I do not.

19 **Q. PLEASE EXPLAIN YOUR DISAGREEMENT WITH WITNESS**  
20 **FRANKLIN'S POSITION AND RECOMMENDATIONS.**

21 A. First, if it is the intent of the Public Staff to expand the Aqua DEQ  
22 communication requirement to include all primary and secondary water  
23 quality concerns, Aqua believes that witness Franklin's position on required

1 reporting by Aqua of DEQ communications is largely inconsistent with his  
2 prefiled testimony at page 26 which states that "...Aqua's water utility  
3 systems are generally in compliance with federal and state regulations,  
4 testing requirements, and primary water quality standards. Where  
5 problems have been identified, Aqua has generally corrected the problems  
6 or is actively working toward solutions. However, the Company continues  
7 to contend with some water quality issues...." While it is true that Aqua  
8 continues to address **secondary water quality** issues, it is clear that great  
9 progress has been made by the Company in that endeavor and that the  
10 Company is committed to continue down that road.

11 Furthermore, in reference to the level of ongoing reporting the Public Staff  
12 proposes be placed on, or continued, by the Company, I posed the following  
13 question to witness Franklin during the May 28, 2020 Aqua/Public Staff rate  
14 case discussion: "Is this requirement an Aqua only requirement or is  
15 Public Staff expanding to other regulated water utilities?" Witness Franklin  
16 stated that it was "Aqua only".

17 **Q. PLEASE EXPLAIN AND JUSTIFY YOUR REASONING TO QUESTION**  
18 **THIS REPORTING REQUIREMENT BY UTLITY.**

19 A. I questioned this reporting requirement as I regularly review and monitor  
20 data from the Unites States Environmental Protection Agency ("USEPA")  
21 regarding drinking water system compliance. USEPA statistics for the past  
22 three(3) years indicate that 33% of Public Water Systems ("PWS") in  
23 United States and 38% of Public Water Systems in North Carolina were

1 non-compliant for **primary drinking water** standards between 2017 and  
2 2020. Aqua's non-compliance record over that time period was 0.7% over  
3 the 3-year period for all primary drinking water violations. (See Berger  
4 Rebuttal Exhibit 1). Therefore, I question the reporting requirement because  
5 Aqua has a historically strong compliance record on primary water quality  
6 concerns. Aqua is concerned that the Public Staff's reporting expectations  
7 and recommendations have become punitive versus productive given that  
8 the Company's primary drinking water compliance record is historically very  
9 good when compared across North Carolina systems and other similarly  
10 sized and regulated systems. The reporting requirements are extensive  
11 and expensive, and Aqua requests the Commission to carefully review the  
12 question of whether they are, as constituted, productive of information that  
13 is necessary to sound regulatory review, or whether they are unproductively  
14 excessive and can be modified or eliminated.

15 **Q. PLEASE EXPLAIN YOUR REFERENCE TO "PUNITIVE VERSUS**  
16 **PRODUCTIVE."**

17 A. The Company has taken great strides in the past several years to improve  
18 and resolve concerns and issues regarding secondary water quality. The  
19 Company has instituted:

- 20 • Comprehensive Communications Program, including:
  - 21 ○ Maintenance of Water Quality web page with FAQ's and
  - 22 status of filter installations by system and distribution of
  - 23 periodic newsletters

- 1                   ○ Customer letter notifications to communities where filters
- 2                   are installed to improve water quality improvements in
- 3                   their systems
- 4                   • Hiring a dedicated employee for “Lab-D” calls (“Lab-D”
- 5                   represents discolored water calls)
- 6                   • Improved communication and submittal process for Executive
- 7                   Summaries to Public Staff
- 8                   • Installation of a Bayleaf Advisory Group to address concerns in
- 9                   our largest Public Water System
- 10                  • Implementation of Bayleaf Advisory Group recommendations re:
- 11                   ○ Adding operations updates to water outages/main breaks
- 12                   to provide Customer Service Representatives and
- 13                   customers with current status information
- 14                   ○ Adding “.bitly” links to Water Smart Alert texts to link to the
- 15                   Aqua America website where customers can access
- 16                   additional information regarding the outage
- 17                  • Improved metrics and tracking for Lab-D calls, to include after-
- 18                  hours calls

19                  Furthermore, the data indicates that these efforts are working. I provide the  
20                  following information as evidence of this statement:

- 21                  • 24.5% decline in Discolored Water Work Orders from 2017-2019
- 22                  statewide (See Berger Rebuttal Exhibit 2)

- 1                   ○ Projected 25.1% decline in 2020 (See Berger Rebuttal  
2                   Exhibit 2 Revised)
- 3                   • 49% decline in Discolored Water Work Orders from 2017 to 2019  
4                   in Bayleaf Master System (See Berger Rebuttal Exhibit 3)
- 5                   ○ Projected 76% decline in 2020 (See Berger Rebuttal  
6                   Exhibit 3 Revised)
- 7                   • A reduction in Bi-Monthly Reporting from 18 systems to 2  
8                   systems
- 9                   • A reduction in systems reported in Semi-Annual Water Quality  
10                  Reports within the past 18 months
- 11                  • Improved communication within Bayleaf customers, to include  
12                  Advisory Group participants' assistance in social media  
13                  messages
- 14                  • A reduction in NCDEQ Notices of Deficiency from 68 Entry Points  
15                  in 2018 to 13 Entry Points as of Quarter 1 2020.
- 16                  ○ The quarterly NOD communication is shared with the  
17                  Public Staff and contains historical and recent sampling  
18                  data and actions Aqua has taken and has scheduled to  
19                  address secondary water quality issues.
- 20                  • Communication from the former NCDEQ Raleigh Regional  
21                  Supervisor stating, "Aqua has made tremendous improvements  
22                  to a number of water systems regarding Fe/Mn and I'm sure the  
23                  customers appreciate that! I appreciate all that you and the rest

1 of the staff have done in regard to addressing Fe and Mn.” (See  
2 Berger Rebuttal Exhibit 4)

3 The metrics listed above exclude the data from our secondary water quality  
4 program. To update the metrics from December 2019 that I provided in my  
5 pre-filed testimony, as of June 2020, Aqua has 67 Entry Points statewide  
6 that are listed as Group 1 (Fe + Mn > 1.0 mg/L or Mn > 0.3 mg/L). Of those:

- 7 • Three (3) have filters scheduled to be installed in 2020
- 8 • Three (3) have filters currently in engineering design
- 9 • Eight (8) are awaiting Public Staff concurrence and support
- 10 • Two (2) are in draft Executive Summary form for future submittal  
11 to Public Staff for review
- 12 • Fifteen (15) are offline and are not providing water to the system
- 13 • Twelve (12) have alternative treatment or other sources of supply
- 14 • The remaining 23 are all undergoing prudency evaluation for  
15 future Executive Summary and consideration for manganese  
16 dioxide filtration
- 17 • Thirteen (13) filters have been installed since 2018 (inception of  
18 Secondary Water Quality Program) on sites identified as Group 1  
19 (Fe + Mn > 1.0 mg/L: Mn > 0.3 mg/L)

20 **Q. ARE WATER QUALITY ISSUES RESULTING FROM HEIGHTENED**  
21 **IRON AND MANGANESE LIMITED TO AQUA?**

22 A. No. Secondary water quality issues are not an Aqua-only issue. Iron and  
23 manganese are found in amounts greater than the sMCLs (Fe > 0.3 mg/L,

1 Mn>0.05 mg/L) in groundwater throughout the state. (See Berger Rebuttal  
2 Exhibit 5). This is not an “Aqua-only” issue in North Carolina.

3 Despite Aqua’s significant demonstrated improvement to address water  
4 quality issues through investment in filtration and operational attention, the  
5 resultant decline in water quality complaints, and its leading compliance  
6 record for primary contaminants, the Public Staff continues to recommend  
7 heightened reporting requirements. These reporting requirements for Aqua  
8 come at the cost of the Company staff’s time and energy that could be  
9 re-allocated toward maintaining the historically good compliance record on  
10 primary drinking water standards and continuing significant improvement  
11 with regard to secondary water quality standards.

12 **Q. CAN YOU JUSTIFY THE STATEMENT REGARDING AQUA STAFF’S**  
13 **TIME AND ENERGY ON REPORTING REQUIREMENTS?**

14 A. Yes. Witness Becker provided Aqua’s informal tracking of time associated  
15 with new reporting requirements ordered in the W-218, Sub 497 Aqua rate  
16 case and stated that a total of 588 hours was spent meeting these additional  
17 reporting requirements between January and October of 2019. That  
18 equates to 14.7 weeks at 40 hours/week of operations, compliance, and  
19 accounting time in addition to legal assistance required for filings. As stated  
20 by Company witness Becker, “Aqua fully supports the generation of reports  
21 that are relevant and useful to the Commission’s oversight and would

1 willingly participate in conversations designed to assess whether the current  
2 reporting requirements should be revised.”

3 **Q. WHAT IS THE COMPANY’S RECOMMENDATION ON SECONDARY**  
4 **WATER QUALITY REPORTING?**

5 A. The Company recognizes that some level of reporting to the Commission  
6 on secondary water quality concerns may be desired and warranted. If so,  
7 in lieu of the current bi-monthly and semi-annual reporting, I recommend  
8 that the Commission establish an Annual Secondary Water Quality Report  
9 to be filed by March 31<sup>st</sup> each year that provides an accounting of the  
10 progress made in the previous calendar year. The Company proposes to  
11 include the following data:

- 12 • A summary of systems to include secondary water quality concerns that  
13 have affected 10 percent of the customers in an individual subdivision area  
14 or 25 billing customers in an individual service area, whichever is less, in a  
15 semi-annual period.
- 16 • A secondary water quality data update on the number of entry points that  
17 have consistent water quality results greater than Group 1 (Fe + Mn > 1.0  
18 mg/L or Mn > 0.3 mg/L) and status of each system.
- 19 • A secondary water quality project update that provides:
  - 20 ○ Number of Manganese Dioxide filters installed in the previous  
21 calendar year
  - 22 ○ Number of Manganese Dioxide filters scheduled for the reporting  
23 year

- 1           o Executive Summary Update and status on filter project concurrence  
2           by Public Staff, to include an estimate of the Company's plans to  
3           submit executive summaries requesting filtration in the reporting year

4           The recommendations presented above align with other environmental  
5           regulatory reports and provide relevant information that can assist the  
6           Commission and Aqua's customers in assessing the Company's progress  
7           toward correcting secondary water quality concerns. Further, Aqua  
8           recommends that the Commission not require the Company to continue to  
9           provide NCDEQ communications either for secondary water quality or  
10          primary water quality concerns beyond the Company's NOD responses. As  
11          stated above, the Company does not have a poor compliance track record  
12          with its environmental regulators and the Public Staff did not present  
13          adequate justification in support of this continued (and further expanded)  
14          reporting requirement.

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

16       A. Yes, it does.

1 MS. SANFORD: And Ms. Berger is available for  
2 cross.

3 MS. JOST: Just one question. Ms. Berger had a  
4 -- you distributed a summary of her rebuttal testimony.  
5 Is she going present that?

6 MS. SANFORD: Thank you very much. It  
7 obviously takes a village right now, so yes. Thank you,  
8 Ms. Jost.

9 Q And Ms. Berger, we all know that you have a  
10 rebuttal summary, so would you please give it?

11 A Yes, ma'am, my summary.

12 I am Amanda Berger, and I provide testimony in  
13 this case on behalf of Aqua North Carolina, Incorporated,  
14 or Aqua, on the status of the Company's environmental  
15 compliance and secondary water quality programs. I am a  
16 graduate of the University of Wisconsin-Oshkosh, where I  
17 received a Bachelor of Science degree in Environmental  
18 Science.

19 My rebuttal testimony responds to the direct  
20 testimony of Public Staff witness Lindsay Darden on Pump  
21 Maintenance - Other Expenses, and recommendations by  
22 Michael Franklin on secondary water quality reporting.  
23 The issues between Aqua and the Public Staff concerning  
24 Pump Maintenance - Other expenses have been resolved, as

1 between these two parties, by the Settlement Agreement  
2 entered into between them and filed with the Commission.

3 Issues remain in dispute between Aqua and the  
4 Public Staff concerning secondary water quality  
5 reporting, which was addressed by witness Franklin for  
6 the Public Staff.

7 Aqua contests witness Franklin's  
8 recommendations to continue Bi-Monthly Secondary Water  
9 Quality Reporting on three of the 18 systems ordered in  
10 Rate Case Docket Number W-218, Sub 363 and Sub 497; Semi-  
11 Annual Reporting on water systems with secondary water  
12 quality concerns; and Aqua/DEQ bimonthly communications.

13 The basis of Aqua's disputes are the Company's  
14 historically good compliance record, the continued  
15 reduction in water quality complaints, dedication of  
16 personnel to address customer concerns, and communication  
17 plan improvements. Additionally, it is the Company's  
18 position that the regulatory review that is necessary can  
19 be streamlined to reduce the strain on the Company's  
20 human and financial resources.

21 I provide an explanation and history of the  
22 Company's primary drinking water standards compliance  
23 record, an update on continued efforts to improve  
24 secondary water quality issues throughout North Carolina,

1 information on the decline in North Carolina Department  
2 of Environmental Quality, NCDEQ, Notices of Deficiency  
3 from 2016 to current, and a report on the decline in  
4 discolored water work orders known as Lab Ds from 2017 to  
5 the present.

6 I also recommend elimination of the bimonthly  
7 secondary water quality reporting and Aqua DEQ bimonthly  
8 communications. Further, I suggest an annual secondary  
9 water quality report that includes the reporting  
10 requirements specified in Rate Case Number W-218, Sub 363  
11 and Sub 497, plus additional metrics. Done correctly,  
12 this would eliminate redundant reporting and mitigate  
13 staffing requirements and costs, yet continue to provide  
14 the metrics necessary for the Commission to review the  
15 performance of Aqua's Secondary Water Quality Plan.

16 This concludes the summary of my rebuttal  
17 testimony.

18 MS. SANFORD: And now Ms. Berger is available  
19 for cross.

20 COMMISSIONER BROWN-BLAND: All right. Is there  
21 any cross for this witness from the Attorney General?

22 MS. TOWNSEND: None from the Attorney General's  
23 Office. Thank you.

24 COMMISSIONER BROWN-BLAND: That was none. All

1 right. Ms. Jost?

2 MS. JOST: Thank you.

3 CROSS EXAMINATION BY MS. JOST:

4 Q All right. Ms. Berger, I'd like to start on  
5 page 10 of your rebuttal testimony. And it's on that  
6 page that you discuss the disagreement between Aqua and  
7 the Public Staff regarding Ordering Paragraph 14 of the  
8 Commission's Final Order in Sub 497 rate case; is that  
9 right?

10 A Yes, ma'am. It is.

11 Q All right. I would like to turn to page 178 of  
12 the cross examination exhibit packet that the Public  
13 Staff distributed before the hearing. I'll give everyone  
14 a moment to get there. So that's page -- this exhibit  
15 will be pages 178 and 179, and that's going by the page  
16 number that's in the top left-hand corner.

17 MS. JOST: And I would request that this  
18 document be marked as Public Staff Berger Rebuttal Cross  
19 Examination Exhibit 1.

20 COMMISSIONER BROWN-BLAND: All right. It will  
21 be so identified, and it is -- the front page has the  
22 caption -- it's a Commission Order captioned Order  
23 Approving Partial Settlement in Sub 497.

24 MS. JOST: Thank you.

1 (Whereupon, Public Staff Berger  
2 Rebuttal Cross Examination Exhibit  
3 1 was marked for identification.)

4 Q And if we could turn to the second page of that  
5 exhibit, is it correct that this includes Ordering  
6 Paragraphs 11 through at least part of 15 from the  
7 Commission's Sub 497 Final Order?

8 A Yes, it is.

9 Q Okay. And generally speaking, Paragraph 14  
10 requires that Aqua provide the Public Staff with  
11 information about various communications between Aqua and  
12 DEQ. Would you agree with that?

13 A Yes, ma'am.

14 Q And Sub, or Paragraph 14, rather, has four  
15 subparts that are (a) through (d); is that right?

16 A Yes, ma'am.

17 Q And so generally speaking, Aqua believes that  
18 Ordering Paragraph 14 requires that it provide the Public  
19 Staff with information related only to secondary water  
20 quality concerns for all of the subparts; is that  
21 correct?

22 A Yes. That is -- was our conclusion.

23 Q And is it your understanding that the Public  
24 Staff's position is that this paragraph requires Aqua to

1 provide information or correspondence from DEQ relating  
2 to both primary and secondary water quality concerns for  
3 Subparagraphs (a), (b), and (c); is that correct?

4 A That is, yes, my understanding.

5 Q All right. Can you show me where in Items (a)  
6 -- or Subitems (a) through (c) it indicates that this  
7 applies only secondary water quality concerns?

8 A The one; (a) through (c) does not. Our  
9 understanding came from the Findings of Fact that were  
10 contained at the beginning of the Order that discusses  
11 this reporting requirement. Without it in front of me, I  
12 can only paraphrase that there's multiple or -- maybe  
13 that's the wrong word -- several mention -- it mentions  
14 secondary water quality throughout the Findings of Fact,  
15 not primary water quality, therefore, that's where the  
16 Company's position came from, based on the summary  
17 paragraphs revolving around Items 11 through 14.

18 Q Would you agree, subject to check, that  
19 Subitems (a) through (c) in Ordering Paragraph 14 were --  
20 appear in Public Staff witness Junis' testimony that was  
21 filed in the Sub 497 rate case, specifically on page 26?

22 A Subject to check.

23 Q And would you also agree, subject to check,  
24 that there is no restriction of those three items to

1 secondary water quality concerns?

2 A Once again, subject to check, yeah.

3 Q Thank you. On page 12, lines 11 through 16 of  
4 your rebuttal testimony, you reference a statement that  
5 you say was made by Public Staff witness Franklin during  
6 a discussion between the parties in May of this year.  
7 And that is a statement made in response to your question  
8 "Is this requirement an Aqua-only requirement or is  
9 Public Staff expanding to other regulated water  
10 utilities?" Is that a fair or accurate restatement of  
11 your question?

12 A Yes, ma'am.

13 Q And in your testimony, do you state that Mr.  
14 Franklin responded Aqua only?

15 A Yes, ma'am.

16 Q Are you aware of any other Commission regulated  
17 water utilities that have as many systems as Aqua does?

18 A No, ma'am. We are the largest.

19 Q And would you agree, subject to check, or maybe  
20 you know off the top of your head, that Aqua has 741  
21 water systems consisting of more than 1,400 wells?

22 A That is a very close number, yes, ma'am.

23 Q Do you know how many water systems or wells  
24 Carolina Water operates in North Carolina?

1           A       Not offhand, but I know it's around a hundred  
2 or so. That's as close as I can recall.

3           Q       You're pretty close there. Would you accept,  
4 subject to check, that it's 93 water systems?

5           A       Subject to check, yes, ma'am.

6           Q       And would you agree that Carolina Water is the  
7 next largest water utility in the state that's regulated  
8 by the Commission?

9           A       Subject to check, yes, ma'am.

10          Q       So would you agree, then, that because Aqua has  
11 so many water systems and so many more than the next  
12 largest commission-regulated utility, that it would be  
13 very cumbersome for the Public Staff to have to obtain  
14 all of this information that is submitted to DEQ on its  
15 own?

16          A       I believe it would be what information Public  
17 Staff is speaking from DEQ on some. If it's based on  
18 secondary water quality regarding specific communication  
19 with DEQ, for the most part, we provide that directly  
20 through our Notice of Deficiencies. If it's expanding to  
21 all water quality issues in North Carolina, one you're  
22 placing an additional burden on the Company, I'm not --  
23 to which degree I'm not sure why. Carolina Water does  
24 have less water utilities than us, but there is data

1 available through the EPA website that indicates that  
2 Aqua's compliance is much better than theirs.

3 Q But my question was wouldn't it be more  
4 difficult for the Public Staff to seek out that  
5 information about 741 water systems with respect to Aqua  
6 as opposed to 93 water systems which Carolina Water has?

7 A No, not necessarily. I believe, once again,  
8 what you're seeking, also Carolina Water is dispersed, to  
9 my understanding, pretty geographically close to Aqua  
10 North Carolina, and obtaining the information from DEQ is  
11 as simple as reaching out to the regional supervisor and  
12 doing an information request, so doing it for Aqua should  
13 be relatively similar to doing it for Carolina Water. I  
14 think the burden would be placed on DEQ staff.

15 Q All right. So it's your testimony that it  
16 would be equally easy for the Public Staff to obtain  
17 information about seven times the number of systems?

18 A Yes. Yeah. Once again, I think the burden  
19 would be on DEQ to gather the information, depending upon  
20 what the information is that's being requested. The  
21 request is simple. It's contact DEQ. Then they would  
22 have to compile that information, is my understanding,  
23 and how in the past I've done Freedom of Information  
24 requests.

1 Q So that would put a pretty significant burden  
2 on DEQ, correct?

3 A Yes. Once again, depending upon what  
4 information is being sought. I think that's particularly  
5 what might be at dispute here, is the level and degree of  
6 information that's being requested.

7 Q So you indicated that if the Public Staff is  
8 looking for or the Commission wants Aqua to provide  
9 information on both secondary and primary water quality  
10 concerns, that would put a burden on the Company; is that  
11 correct?

12 A Yes. That is correct --

13 Q Would you --

14 A -- most definitely.

15 Q I'm sorry. It's your testimony that Aqua is  
16 doing quite well with respect to compliance, correct?

17 A Yes, ma'am. Water compliance we do quite well.

18 Q Okay. And so if you're doing quite well, there  
19 wouldn't be much to report. Would you agree with that?

20 A No. I think this is where the dispute lies, is  
21 in the definition of water quality concerns. I think  
22 that in order to -- I think there needs to be a  
23 definition behind what the intention is behind water  
24 quality concerns. And I state that because we do operate

1 over 700 public water systems in North Carolina, and our  
2 job is water quality. So if the Public Staff were to  
3 take a broad definition of water quality concerns to  
4 imply most any type of communication that we have with  
5 DEQ, then yes, that is extremely burdensome. I can't  
6 even begin to imagine the level of detail that would  
7 require because we conversate and collaborate with our  
8 regulatory agency on a daily basis throughout the  
9 Company. We have over 200 water inspections each year to  
10 which there's reports, various different recommendations,  
11 et cetera, multiple changes in sampling schedule that,  
12 once again, could be construed to mean water quality.

13 So when there is a broad definition placed upon  
14 water quality concerns where it can reach beyond just  
15 environmental compliance, yes, I think that that is --  
16 that would be a huge burden upon the Company to try to  
17 maintain that information and provide to Public Staff.

18 Q So would you agree that if Aqua is not  
19 providing the Public Staff with these communications, the  
20 Public Staff is not in a position to collaborate with  
21 Aqua and DEQ to address primary concerns?

22 A I believe if you're only referencing primary  
23 water quality compliance, that's the key word,  
24 compliance, not issues or concerns, then that can be

1 relatively achieved. We do file reports to DEQ that  
2 could be transmittable no differently than our Notice of  
3 Deficiency reports, which I believe I recommended -- in  
4 my recommendation I stated continue to provide NODs.

5           The issue that is concerning to me in the  
6 testimony is the broad definition of water quality  
7 concerns. When I go back and I read through -- and  
8 please understand, I was not present at Aqua for the 363  
9 case -- but my understanding is bimonthly reporting is  
10 based on secondary water quality. That's been expanded  
11 to now we include operational Lab D work orders. There's  
12 an expansion. My concern is without clear definition, it  
13 could be construed that we are not complying, without  
14 recognition of just the amount of work that is required.

15           Currently, as we report on secondary water  
16 quality, that is time intensive for what we're currently  
17 doing. So it's -- I can't even begin to give you an  
18 estimate of what it would take to address everything that  
19 we do with DEQ. I think it needs to be defined.

20           Q     Just one further question on this topic. So I  
21 had asked, you know, whether you would agree that the  
22 information required by this report would be helpful to  
23 the Public Staff in collaborating with Aqua and DEQ to  
24 address both primary and secondary water quality

1 concerns. Would you agree that Chapel Ridge is an  
2 example of a primary concern that arose in the Sub 497  
3 rate case?

4 A It was. Okay. Sorry. It says -- I stand  
5 corrected.

6 Q Right. And this was a concern that the Public  
7 Staff wasn't aware of until that rate case because there  
8 was no reporting requirement in place that would have  
9 identified that prior to the rate case; is that right?

10 A There was no reporting requirement of us. The  
11 information is easily obtainable through DEQ.

12 Q Would you agree that another example of a  
13 primary water quality concern that's arisen is with  
14 respect to North Gate, which I believe is in the Fuquay-  
15 Varina area?

16 A A primary water quality concern, no.

17 Q Was there an issue with pollution of Aqua wells  
18 by an adjacent commercial operation?

19 A That would have taken place in the early 2000s,  
20 and it was remediated through a filtration system, so it  
21 is not a primary water quality concern at this time.

22 Q All right. I'm going to move on. Can we turn  
23 next to page 14, line 19, through page 15, line 6 of your  
24 rebuttal testimony, please?

1           A       Page 14, line 19; is that correct?

2           Q       That's right.

3           A       Yes, ma'am. I'm there.

4           Q       Okay. So in that section of your rebuttal  
5 testimony you provide some figures on declines in Lab D  
6 work orders from 2017 to 2019, as well as projected  
7 declines in 2020 in the Bayleaf system; is that right?

8           A       Yes, ma'am.

9           Q       All right. If we could turn to pages 180  
10 through 182 of the cross examination exhibit packet  
11 distributed by the Public Staff. That is a Public Staff  
12 Data Request Number 130. It's actually the response to  
13 that Data Request.

14                   MS. JOST: And I would request that this  
15 document be marked as Public Staff Berger Rebuttal Cross  
16 Examination Exhibit 2.

17                   COMMISSIONER BROWN-BLAND: It will be so  
18 identified.

19                                   (Whereupon, Public Staff Berger  
20                                   Rebuttal Cross Examination Exhibit  
21                                   2 was marked for identification.)

22           Q       All right. So Data Request 30 from the Public  
23 Staff, and this is question 4 from that Data Request,  
24 asks about your testimony on pages 14 and 15 of your

1 rebuttal, and Subpart (a) asks specifically whether a  
2 number of factors, including system demand, weather, and  
3 flushing impact the number of customer complaints and, in  
4 effect, the number of work orders; is that right?

5 A That is the question I was asked, yes.

6 Q All right. And on the second page of that  
7 response is your -- your actual response. This is page  
8 181 up in the top left-hand corner. And the third full  
9 paragraph begins "Key to this metric." Do you see that  
10 paragraph?

11 A Yes, ma'am.

12 Q All right. So you indicate that the number of  
13 work orders has significantly declined since 2017. And  
14 in the next sentence you indicate "This is attributable  
15 to the measures Aqua has taken to remediate or remove  
16 iron and manganese, in addition to improved operational  
17 metrics." Is that right?

18 A Yes, ma'am.

19 Q Is it your contention that the reduction in Lab  
20 D work orders is explained solely by the Company's  
21 capital investments and operational changes?

22 A That's -- the key to my testimony is solely  
23 based on capital investments? Is that your question?

24 Q Is that your contention, just in general?

1           A     No. I wouldn't say that's my contention in  
2     general.

3           Q     Are there other factors that have led to these  
4     decreases?

5           A     I believe it's the implementation of our Water  
6     Quality Plan that has led to it, which back to this  
7     paragraph, the point I'm trying to make is the measures  
8     that we have taken to remediate or remove iron and  
9     manganese, both operationally through investment, capital  
10    investment, filters, et cetera, in addition to our  
11    communications plan and the dedicated resources to  
12    address customer concerns, has led to their decline.

13          Q     Would you agree that decreased demand, which in  
14    turn would result in less stress on the system, could  
15    contribute to fewer secondary water quality issues and  
16    complaints about those issues?

17          A     A reduction in demand on the system?

18          Q     Yes.

19          A     No. Demand is a separate issue than iron and  
20    manganese. Now, iron and manganese causes Lab D calls.  
21    An increase in demand can lead to Lab D and/or A calls  
22    because it will cause some discoloration of the water,  
23    but I think that's the key, is that we have calls that  
24    come in that are Lab D that are either attributable to

1 iron and manganese or they're attributable to other  
2 operational issues such as demand, main breaks, et  
3 cetera.

4 Q Okay. Would you agree that 2018, and this is  
5 subject to check, of course, was an unusually wet year in  
6 Raleigh and impact throughout the state?

7 A There was -- yes. It was rather wet. We had a  
8 couple hurricanes. Uh-huh.

9 Q And so would you agree that this is a factor  
10 that could lead to fewer water quality complaints?

11 A If you're looking at it -- potentially, if  
12 you're looking at it as a whole, but I believe the  
13 metrics that are provided was 2017 through 2020 to  
14 provide an accounting for some of those disparities. And  
15 that's the reason why I did it. It's not to focus on one  
16 particular year, but to show where we started and where  
17 we are now. So, yes, there is an influx in calls, but  
18 keep in mind the way Aqua tracks metrics are we do it two  
19 different ways. One is how a call is assigned, and then  
20 how a call is completed. And so if a call is completed  
21 as a Lab A or if it was due to a well issue, it's  
22 identified differently. Regardless of how I'm looking at  
23 those metrics, there has been a decline in the number of  
24 water quality calls related to iron and manganese.

1 Q All right. I'd like to move on to pages 18 and  
2 19 of your rebuttal testimony. And on those pages you  
3 provide Aqua's recommendations on secondary water quality  
4 reporting; is that right?

5 A Yes, ma'am.

6 Q And does that include the recommendation that  
7 the Commission establish an annual Secondary Water  
8 Quality Report which would be filed on March 31st of each  
9 year?

10 A Yes, ma'am.

11 Q So you filed some revised rebuttal testimony on  
12 June 19th; is that right?

13 A I did. Yes, ma'am.

14 Q And I believe that you also made a correction  
15 to your testimony on the stand just now which basically  
16 makes the same revision. And am I correct that that was  
17 to change your recommendation that a summary be provided  
18 of the systems, including secondary water quality  
19 concerns that have affected 10 percent of customers in an  
20 individual subdivision area and not fewer than 10 billing  
21 customers in a semiannual period to 25 billing customers?

22 A Yes, ma'am. The intent was to reiterate the  
23 existing order, to keep in place the existing reporting  
24 requirement for the semiannual report, but to expand it

1 to an annual report. I did not recognize that I had  
2 mistyped in my initial rebuttal testimony, so that was  
3 the reason for the change.

4 Q Okay. Thank you. And with respect to the  
5 recommendation that the reporting frequency go up to  
6 annually, would you agree that if complaints -- complaint  
7 calls come in in January of a year, that it wouldn't be  
8 potentially until March 31st of the following year, so  
9 about 15 months before the Public Staff and the  
10 Commission would be aware of those complaints?

11 A Yes. Outside of them making a direct call to  
12 the Consumer Services Division, I would -- yeah, that  
13 would be correct, uh-huh.

14 Q Okay.

15 MS. JOST: I do not have any further questions.  
16 I would move that Public Staff Berger Rebuttal Cross  
17 Examination Exhibits 1 and 2 be entered into evidence.

18 COMMISSIONER BROWN-BLAND: Before we get to  
19 that, let's see if we have some redirect.

20 MS. SANFORD: Yes, ma'am. I do.

21 COMMISSIONER BROWN-BLAND: All right.

22 REDIRECT EXAMINATION BY MS. SANFORD:

23 Q Ms. Berger, let's continue the conversation  
24 about these Lab D reports. Is it your position that the

1 Lab D reports are one reflection of an improvement in  
2 your water quality performance?

3 A Yes.

4 Q And do you think they show improvement?

5 A Yes, they do.

6 Q And would you -- do you have an opinion on  
7 whether improvement shown by whatever means the Company  
8 can show it, if we have shown it, to result in fewer  
9 reporting requirements instead of more?

10 A Yes. I would agree.

11 Q And are you only driven to address and improve  
12 your performance metrics by whether you have to file  
13 reports?

14 A No, ma'am. I think that's a good point. The  
15 information that we're reviewing for these reports is  
16 reviewed internally on a consistent basis. It's a driver  
17 of our Water Quality Plan. I think it's also important  
18 to say in the past year there's been a significant  
19 decline in the number of systems that we're reporting on.  
20 We've had a reduction in the bimonthlies.

21 The past year we have reported on two systems  
22 for both the first half of the year and second half of  
23 the year. I worked yesterday on preparing the report for  
24 this upcoming January through June period, and we have

1 potentially just one system to report on. I think it's  
2 important to say that these systems are very small.  
3 You're looking at anywhere between 19 and 50 customers.  
4 It is not difficult to hit the 10 percent mark when you  
5 have a system of 19 customers. It takes one call.

6           So it's not -- this recommendation is not made  
7 to reduce transparency and the ability to collaborate  
8 with Public Staff and address customer concerns. It's  
9 actually the opposite. I made this recommendation so  
10 that way we spend less time, you know, compiling reports  
11 because this is time intensive. It may not appear as  
12 such, but it is exceptionally time intensive to compile,  
13 review, analyze these reports. I personally would prefer  
14 to utilize that time to collaborate with Public Staff on  
15 Executive Summary submissions or secondary water quality  
16 concerns or replying to emails regarding a customer  
17 complaint that they have. That was the intent behind  
18 this recommendation. It's not to reduce transparency. I  
19 completely understand that there is a need to continue to  
20 report. I felt that this was an appropriate time, given  
21 the metrics that I've presented, to make this  
22 recommendation, so that way we can take this time and  
23 effort that goes towards reporting to continue to improve  
24 water quality for our customers.

1           Q       Whose responsibility is it to discharge in a  
2 proper fashion the operational and management  
3 requirements of Aqua?

4           A       If I understand you correctly, that would be  
5 Aqua's responsibility to operate. Was that what you were  
6 asking?

7           Q       Yes, I was. Thank you.

8           A       Okay. Sorry.

9           Q       And the regulatory oversight of reasonable,  
10 prudent operation is the Public Staff's, is that correct,  
11 and the Attorney General's, ultimately --

12          A       Yes, ma'am.

13          Q       -- and ultimately the Commission. I'm working  
14 my way around the room here.

15          A       Yes, ma'am.

16          Q       So your answer was yes. And so Aqua engages  
17 professional, experienced employees, correct?

18          A       Yes, ma'am.

19          Q       And though you indicate that you do understand  
20 a requirement for reporting, just to be clear, the  
21 reporting is not what drives your operational and  
22 management proficiency and obligation?

23          A       No, it is not.

24          Q       Let's talk for a few minutes about the

1 conversation about Ordering Paragraph 14 which sets forth  
2 reporting requirements from the Sub 497 case, and a  
3 little bit of background -- excuse me -- about that. Do  
4 you recall -- you recall when that Order was issued, the  
5 Sub 497 Order?

6 A Yes, ma'am, I do. December of '18.

7 Q December of '18. And were you part of  
8 conversations during the early part of 2019 with respect  
9 to how to implement that Order?

10 A Yes, ma'am, I was.

11 Q There were a lot of conversations about a lot  
12 of issues, but a lot of conversations about the reporting  
13 requirements. Do you remember that?

14 A Yes, ma'am.

15 Q And Aqua and the Public Staff engaged in verbal  
16 and written communications about how to basically sort  
17 out what the Commission intended and figure out how to  
18 comply with it. Is that a reasonably fair statement?

19 A Yes, ma'am.

20 Q Do you remember an email exchange as part of  
21 that along about April 19th, 2019, that was addressing  
22 these very issues about what the language -- what the  
23 Commission intended?

24 A Yes, ma'am.

1           Q     And is it fair to say that the Company was  
2 focusing on the Commission's reference in the Orders to  
3 secondary water quality issues, and the Public Staff's  
4 view was a more expansive one about what was to be  
5 covered?

6           A     That was my -- yes, ma'am. That was the  
7 understanding.

8           Q     So moving from then to now, as we try to figure  
9 out what we're going to do going forward, do I understand  
10 you to say that the Company persists in its concern about  
11 the breadth of the -- of any requirement to respond in  
12 any kind of reporting fashion to, quote, unquote, "water  
13 quality concerns"?

14          A     With respect to DEQ? Is that your question?

15          Q     Yes. With respect to DEQ -- with respect to  
16 any reporting requirements to the Public Staff or the  
17 Commission about water quality concerns.

18          A     Yes.

19          Q     And your objections are based on what?

20          A     My objections with respect to specifically DEQ  
21 is similar to Shannon -- Mr. Becker's. It has stymied  
22 our conversation and collaboration with DEQ. I informed  
23 them that this was a requirement and, I guess, came to a  
24 mutual conclusion that we would do our best to

1 communicate via email to ensure that there was no  
2 misinterpretation of words between the two of us.

3 Q And --

4 A Uh-huh?

5 Q I'm sorry. I didn't mean to interrupt you. Go  
6 ahead.

7 A Oh. Which it has. It's impacted conversation.  
8 We have not had meetings with DEQ. When we have had  
9 verbal conversations regarding secondary water quality,  
10 we do place that back into an email to the party. For  
11 instance, there was an email, and this was included in  
12 our report, an email between Joe Pearce and Allen Hardy  
13 in March of 2019, I believe, to which Joe stated to the  
14 effect of "As we discussed." Very similar, there was an  
15 email between myself and Mrs. Mills at the Mooresville  
16 regional office, to which I stated "I appreciate your  
17 phone call." That is the key. And the reason why we do  
18 that, if there is a verbal conversation, one of us will  
19 type it up, send it to the other party, and make sure  
20 that we agree on what was stated between us. It's  
21 cumbersome and it's -- we don't speak as frequently as we  
22 used to.

23 Q And thank you, Ms. Berger. I want us to focus  
24 on another aspect of this conversation. I thought I

1 understood you earlier to indicate your concern with  
2 simply the scope or the breadth of any reporting  
3 requirement that would include water quality concerns.

4 A Yeah. I understand you. I apologize if I  
5 didn't answer your question the first time correctly.  
6 Yeah. So I was not involved in -- like I stated, I was  
7 not involved in the 363 case. I was in involved in 497.  
8 When I go back and I review these Orders, there's  
9 specific references to secondary water quality  
10 complaints, concerns, and my understanding of secondary  
11 water quality, whether it's specifically stated or  
12 referenced, is iron and manganese. However, when I was  
13 listening to Mr. Franklin testify about Coachman, there  
14 is a reference to that filter, but his concern was on  
15 operational metrics.

16 Also, our most recent bimonthly report, you  
17 know, we spelled out that there was a main break that  
18 attributed to the water quality concern. There was us  
19 putting a new filter online that was to improve water  
20 quality, reverse the flow. I think it's key that, one,  
21 we do operate 700 -- over 700 water systems, but any  
22 water system that has a main break will experience water  
23 quality issues or discolored water. If a booster pump  
24 goes down on the City of Raleigh system, they could

1 anticipate discolored water. It's not attributable to  
2 secondary water quality concerns. It's attributable to  
3 just hydraulics in a pipe. And my concern is without a  
4 clear definition, is that water quality concerns could be  
5 construed to mean any portion of what we do. And we  
6 operate water systems, so water quality could be  
7 expanded.

8           And so I'm not -- I don't believe I'm opposed  
9 to providing a primary MCL report to Public Staff. It's  
10 that broad definition sweep across the entire  
11 organization and its impact that's concerning to me.

12           Q     And you expressed, I think, concern that this  
13 would simply be burdensome.

14           A     It would be beyond burdensome. For instance,  
15 although on vacation last week, I replied and spoke to  
16 DEQ regarding various different things multiple times,  
17 and that's just myself. That doesn't include our  
18 operators, our supervisors, our engineers. I keep saying  
19 we have 700 water systems. We go through about 250  
20 sanitary surveys a year. We have multiple lead and  
21 copper items. We're pulling 20,000 water quality samples  
22 each year, to which we do an outstanding job  
23 accomplishing that. We get a lot of, you know, kudos  
24 from various folks for being able to even accomplish it.

1 So to have to bring all of our staff in and make sure  
2 that we didn't miss an email or a report or a letter,  
3 yes, that's -- that would be extremely time consuming. I  
4 giggle, but it's not funny. It's really hard.

5 Q It's a nervous giggle, huh?

6 A Very nervous.

7 Q So Ms. Berger, you heard me ask Mr. Franklin  
8 the question about the Public Staff's requirement  
9 pursuant to the Sub 497 Order to file customer complaint  
10 reports quarterly, correct?

11 A Yes, ma'am, I did.

12 Q And I will ask you, do you know whether the  
13 Public Staff, whether such a report has been filed, to  
14 your knowledge, for the first quarter of 2020?

15 A I'm not aware. I haven't received any  
16 communication regarding -- and I did check, but I could  
17 not find it, either.

18 Q Didn't find it on the website. And so do you  
19 -- do you have any information about -- well, and you may  
20 not -- do you have any information about the level of  
21 customer complaints in the first quarter of 2020?

22 A Not regarding those that have been directed to  
23 Public Staff. I have our information, but not -- I  
24 haven't had any direct communication with Public Staff

1 regarding complaints they've received. No, ma'am.

2 Q Okay. One more question. When the Public  
3 Staff is either concerned about a water quality issue or  
4 any reason, specific complaint or however they might have  
5 found out about it in real time, is it the practice for  
6 Aqua and the Public Staff to communicate about those  
7 issues?

8 A Like are you referencing something specific or  
9 -- I apologize. I missed something.

10 Q Well, I mean, just in the ordinary course of  
11 your interaction with the Public Staff --

12 A Uh-huh.

13 Q -- if you know, if you know the answer to this,  
14 if they have concerns about a water quality issue, do  
15 they -- and they learn of it in some fashion, do they  
16 call you? Do you have conversations about those things  
17 as you go about your regular daily or weekly business?

18 A No. Most of our conversation is geared around  
19 the Executive Summary. I'm aware that there are some  
20 conversations between Public Staff and DEQ. That's been  
21 shared with me. But I haven't had a lot of interaction  
22 with Public Staff outside of secondary water quality  
23 concerns --

24 Q Secondary water --

1           A       -- or water quality complaints. Uh-huh.

2           Q       So if there's a customer complaint, that's just  
3 not anything that would necessarily come to your  
4 attention in real time; is that correct?

5           A       Oh, no, ma'am. No.

6           Q       Yeah. Okay. All right. Thank you.

7           MS. SANFORD: I have no more questions.

8           COMMISSIONER BROWN-BLAND: All right.

9           EXAMINATION BY COMMISSIONER BROWN-BLAND:

10          Q       I have a few, Ms. Berger, and it's concerning  
11 the reports and the conversations, communications that  
12 occur with DEQ between Aqua, the Public Staff, and DEQ.  
13 It is obviously a fair statement that the Commission has,  
14 at least in the last two cases, the Sub 363 and the 497,  
15 given you directions or instructions or orders or what  
16 have you and left it to the Public Staff and Aqua, at  
17 least, to determine what it means. And the Orders speak  
18 for themselves, so I can't purport to change anything  
19 that's written in the Order, and you interpret of it what  
20 you will, but in the 497, the Finding of Fact 34, the  
21 Commission attempted there to define what it meant by  
22 report, and I will read to you that it said "In this  
23 context it means notification of the fact of meetings or  
24 conversation and the salient topics and points

1 discussed," and one way that could be interpreted is  
2 something of an outline nature, but I realize there are  
3 other ways it could be interpreted.

4           And then it goes on to say that in addition to  
5 what was described in the 363 Orders, the steps that  
6 should be taken to ensure that the Public Staff is copied  
7 on written communications with DEQ that relate to, and it  
8 goes on to say basically secondary water quality  
9 standards.

10           If the Commission's goal is to learn of -- if  
11 its simpler goal is to learn of and be notified about  
12 water quality concerns, and that's the broad phrase you  
13 speak of, but the water quality concerns that are  
14 intensely and persistently brought up to the Commission  
15 in the context of the general rate case or of a general  
16 rate case, if that's what we want to be notified about  
17 before and earlier than we find ourselves in rate cases  
18 and to give the Public Staff or to put the Public Staff  
19 in a position to be able to assist -- to assist you and  
20 the customers around those issues of secondary water  
21 quality concerns, what language would you propose that we  
22 would use to be -- to meet that basic goal?

23           A     Very good question, Commissioner. I --

24           Q     And let me say, I meant to build this into it.

1 I would ask counsel of Public Staff and the Company to  
2 think about that and include that in your post-hearing  
3 filings, but I'm asking witness Berger what she's thought  
4 about, if anything, in this regard.

5 A My recommendation, to ensure that the  
6 Commission and Public Staff are aware of any water  
7 quality concerns, even to -- my recommendation would be  
8 primary and secondary Notices of Violations, Notice of  
9 Deficiencies, those two specific documents. And I say  
10 that based on my experience with DEQ and the information  
11 that -- once again, it's my interpretation, when I review  
12 the Order, what I believe is being asked for is found in  
13 quarterly reports regarding primary and secondary MCL  
14 violations or deficiencies. Once again, secondary will  
15 be a deficiency. A primary will be a violation. That  
16 would be my recommendation. Exact verbiage would need to  
17 be refined, yes.

18 Q Ms. Berger, would DEQ's activity around these  
19 issues ever be changed or increased based on hearing  
20 customers, customers of specific systems, complain about  
21 their water quality?

22 A On a primary, no, ma'am, because the rules are  
23 specific with regards to communication. They may share  
24 with us that they've received a complaint and answered a

1 question by a customer or discussed it with a customer,  
2 but overall, no. It's very clear in the rules.

3           Secondary, the Notice of Deficiencies that we  
4 receive from DEQ, the complaints were the driver. So if  
5 DEQ is receiving an increase in complaints and it is  
6 attributable to iron or manganese, which means that there  
7 are results from our sampling efforts that show that the  
8 iron and/or manganese is above the SMCL and they are  
9 having complaints from that system due to that, they will  
10 issue a Notice of Deficiency.

11           So that's going back a couple rate cases, I  
12 guess, where the 68 NODs were issued and now we're down  
13 to 13, which we've asked to rescind a couple more, but  
14 we're at 13, that is that process. They were receiving a  
15 significant number of complaints, and they issued  
16 Deficiencies and required the quarterly reporting, so we  
17 update them on our progress to address the customer  
18 concerns.

19           Q     Does the level of -- around that process, does  
20 the level of communications with the Company increase  
21 between DEQ and the Company?

22           A     To some degree, maybe. We might receive an  
23 email prior to the issuance of an NOD. I have to be  
24 honest, since I've been with Aqua, we've only had one NOD

1 issued to us, so I can't really state what occurred when  
2 those 68 were issued in 2016/2017, I believe. My  
3 understanding would be that they would contact us, inform  
4 us of a complaint or a series, ask us to respond, and if  
5 they felt that it wasn't sufficient, then they would  
6 issue the NOD, so you would have that communication. But  
7 once again, we haven't had but one, and actually it  
8 didn't transpire that way. We were just issued.

9 Q So if the Public Staff's Consumer Division was  
10 not receiving specific complaints about water quality,  
11 would being aware that they're ongoing or back and forth  
12 conversations with the Company be one way that the Public  
13 Staff, and ultimately the Commission, would know before  
14 we were in a rate case that there were a lot of customer  
15 dissatisfaction around these water quality issues?

16 A And I apologize. Are you asking if we are  
17 sharing the complaints that are coming to Aqua? Would  
18 that be one way of informing the Commission and Public  
19 Staff that we have had an increase in calls, or are you  
20 asking if sharing our DEQ communication would be one way  
21 of keeping you updated?

22 Q I'm asking if the Public Staff were to be aware  
23 that -- or aware that suddenly there's an uptick in  
24 conversations around secondary water quality issues, is

1 that not -- I mean, is that increased communications not  
2 one piece of information that would clue both the  
3 Commission and the Public Staff in on the fact that  
4 either customer dissatisfaction has increased or has not  
5 changed between rate cases?

6 A I think it could be a factor. To what degree  
7 recently, I'm not sure if it would be helpful, but once  
8 again, things change, but yes, it could.

9 Q And in terms of what the Public Staff might  
10 need to know, is there a basic level of information that  
11 they could be informed about that would be enough to put  
12 the onus back on them to -- on the Public Staff to  
13 determine whether they need to pick up the phone and have  
14 their own conversation or back and forth questions to DEQ  
15 or with DEQ?

16 A Potentially. I can only speak from experience  
17 while working at Aqua, and I would say that since I've  
18 been here that's not necessarily my experience. Dating  
19 back pre, I guess, pre me to the 363 rate case, that  
20 could have been influential. So, yes, it could.

21 Q So my question is getting at what's the basic  
22 -- how can we get it at a basic, less onerous, quote,  
23 unquote, "reporting" requirement whereby the Public Staff  
24 would have enough information to follow up on their own?

1 Not necessarily getting into the details of the  
2 discussion, but knowing that there's topics being  
3 discussed about which they might wish to follow up.

4 A I understand. I believe essentially that the  
5 Notice of Deficiencies are the ones that -- once again,  
6 it's not uncommon for DEQ to receive a complaint for a  
7 system. They receive complaints at times similar to  
8 Public Staff. Where there is an issue and there's an  
9 increase in the number of complaints, that is when they  
10 issue their Notice of Deficiency. So I do not disagree  
11 with sharing that information. I think that is very  
12 useful to both Public Staff and the Commission and our  
13 customers to know that. I think the burdensome part is,  
14 one, taking notes through a verbal conversation with DEQ,  
15 and then also trying to dig through emails amongst 20  
16 individuals in a company to make sure that we are not  
17 excluding any information. So sharing NOD reports,  
18 sharing our quarterly NOV reports for MCLs, that will  
19 keep folks well informed of the communication between the  
20 Company and DEQ.

21 Q If the Commission's goal is more general and,  
22 as I say, to be informed about what's going on between  
23 rate cases with regard to secondary water and the  
24 customers' satisfaction or dissatisfaction, and there was

1 not a sort of Close the Loop of our own to know what was  
2 happening at DEQ so that there was no reporting that  
3 conversations had occurred or what those topics were  
4 about, what assurances would the Commission have and also  
5 the Public Staff that all of these conversations didn't  
6 become verbal so that there would be nothing to report in  
7 writing?

8 A I guess it's hard to say what assurances. I  
9 think it's protocol, for the most part. If I pick up the  
10 phone to ask a DEQ employee a question regarding a  
11 complaint, it leads to that question. It's been standard  
12 practice for them to send emails. It's also standard  
13 practice for us to reply back in emails. The cumbersome  
14 part is, like I said, is trying to make sure that we  
15 document the conversation completely right. I don't want  
16 to be accused of not providing the Commission what they  
17 asked. So that has -- I think that is what stymied the  
18 communication. I think also, like I said, it's just no  
19 differently than my relationship with Chuck. I do pick  
20 up the phone and -- or sorry, Mr. Junis -- I do pick up  
21 the phone and call Mr. Junis about questions. I hope he  
22 would do the same with me. And we do commonly respond  
23 back to each other after a conversation in email. That's  
24 just professional. I might be missing something, but I

1 think that we're going to continue to do our best to  
2 ensure that the Public Staff and the Commission are aware  
3 of any lingering issues that need to be addressed.

4 And, also, my recommendation in the reporting,  
5 the increased metrics that I have offered to provide,  
6 provide the background information on a Secondary Water  
7 Quality Plan. So you're going to see a list of the  
8 systems that are still Group 1 that we're working to  
9 address. You're going to see a status update of those  
10 systems, in addition to Group 2. That was part of my  
11 recommendation. You're going to see which systems we're  
12 putting filters on or proposing.

13 And, also, I, you know, as a part of this  
14 report, make a recommendation for us to provide Public  
15 Staff a list of systems we propose to submit Executive  
16 Summaries to, so that way they are aware of what we hope  
17 to send to them for their review and their time because  
18 it requires their review as well. I crafted that  
19 recommendation to encompass what I felt, and I may have  
20 missed something, but what I felt included everyone's  
21 concern, to ensure that you are getting a comprehensive,  
22 detailed report of not only just customer complaints, but  
23 the science, the data, and the information behind what  
24 Aqua is doing to correct secondary water quality. I

1 thought it could be expanded so you would get an even  
2 more detailed understanding of our program.

3 Q And on the additional metrics, how often did  
4 you propose we would receive?

5 A Yeah. I proposed annual. One, that falls in  
6 line -- I'm in environmental compliance, not financial,  
7 so most of our reporting is annual. To that degree, I  
8 think back to my wastewater days of pretreatment and bio-  
9 solids reports, you do an annual report that details  
10 everything you've done the previous year.

11 Also, we do have 13, almost -- or 1,400 entry  
12 points, so I update my database quarterly, but that  
13 information changes a lot, so the reason why I  
14 recommended annual was so that way you're not going,  
15 well, she said 61 this month and now she says 59 or vice  
16 versa, because there is some explanation because you take  
17 -- you keep it the same, the data changes. So that's why  
18 I made the annual recommendation, is based on just how I  
19 could see the report in line with some of the reporting  
20 that I'm currently doing.

21 Q If we were to go back to more annual reporting  
22 versus quarterly or semiannual, do you think that would  
23 adequately -- well, that would assist in avoiding the  
24 situation where the Commission is -- or feels that it's

1 hit with these customer complaints at the last minute  
2 just before a rate case and has no prior notice that  
3 something ordered in a previous case either hasn't  
4 addressed the problem or that the problem has worsened or  
5 whatever the case may be, would we -- would the annual  
6 report be enough to eliminate that uncomfortable  
7 situation?

8 A My personal thought, based on the -- especially  
9 with the semiannual reports, yeah, because we -- and I  
10 can't speak for 2017. I've seen some of those reports.  
11 In 2016 we were reporting on around 20, don't quote me on  
12 that, but 20 systems or more. Now we're down to two,  
13 maybe one or none this reporting period. So the intent  
14 is to, you know, keep abreast of those bigger issues, I  
15 think, yes, currently. And like I said, we're continuing  
16 to move forward. There's no intention here to go back.  
17 We're just going to keep plowing and moving forward to  
18 make improvements. I think, yes, it is sufficient.

19 I think that there might be -- you know, if  
20 there's still that desire for a semiannual, I would  
21 essentially make a recommendation, tailor down some of  
22 the information. It's one thing to provide a list. It's  
23 a whole "nother" thing to provide all the data in that  
24 report that's behind that list. So if there's -- you

1 know, I'm not sure I should do this, but I could say that  
2 you could see a comprehensive annual report with a  
3 semiannual just update. You got the list. You know it's  
4 coming. We provide a wealth of information on the  
5 backside if that's the Commission's concern.

6 I still recommend my annual report, but I do  
7 recognize what you're saying, Commissioner Brown-Bland.

8 Q Ms. Berger, periodically over the last, say, 10  
9 years, Aqua customers have gone to the television media  
10 or sometimes the print media, and sometimes the  
11 complaints are -- probably end up, upon investigation,  
12 being strictly related to the iron and manganese,  
13 sometimes perhaps an operational issue like flushing has  
14 occurred. I'm not speaking from memory, but just from a  
15 possibility, I suppose at times there could be some sort  
16 of boil water notice or something like that that  
17 potentially results in such action by customers. But in  
18 the last year has Aqua been aware of any such action on  
19 behalf of customers?

20 A To my memory, there has -- there's been one out  
21 west due to a well, overdemand on a system. We made  
22 multiple requests to the customers to stymie back on  
23 irrigation, et cetera. They did not. We -- of course,  
24 we did an interconnect with the City and was able to

1 supply them -- keep that supply going. So, yes, but once  
2 again, there was some ignored communication on the  
3 customers' part there.

4           And then there was one out west earlier this  
5 year where we had a contractor that continued with a main  
6 replacement project just as COVID -- people were sent  
7 home for COVID, and there was a customer without water  
8 that did go to the news. That, once again, prompted us  
9 to suspend those replacement projects and also flushing  
10 activities until life resumes a little bit more normal.  
11 I'm not sure what that is anymore. But, you know, so  
12 yes, those are the only two that I am aware of. I'm not  
13 saying I didn't miss something, but I'm unaware of any  
14 other ones.

15           Q     So through these discussions with you and the  
16 past rate cases and here today and through some of these  
17 reporting requirements that were put in place, the  
18 Commission and, likewise, the Public Staff, I would  
19 assume, gained certain insight into the Company's actions  
20 and activities and operations and those kinds of things,  
21 but at this point, if -- and so that just filled out some  
22 knowledge about what was going on in respect to all the  
23 complaints that we were getting. But at this point, if  
24 the Commission were inclined to reduce the level of

1 complaints or combine -- I mean, of reports or combine  
2 reporting requirements and those sorts of things, what if  
3 the Commission bowed out of telling you what to do, how  
4 to do it, when to do it? What if that -- what if that  
5 were to happen? Do you think, given your working  
6 relationship and the Company's working relationship with  
7 the Public Staff, that the two parties could come  
8 together and make recommendation starting out on your  
9 own; not starting out from where the Commission started,  
10 but starting out on your own and produce something for  
11 the Public Staff and the Commission whereby the  
12 Commission could have an insight, as you mentioned a  
13 moment ago, like with updates, et cetera, but having  
14 insights so that issues aren't just boiling up at the  
15 point of a rate case and the Commission have the feeling  
16 that the customers' complaints had gotten lost along the  
17 way? Is that something that the parties could work on  
18 together if the Commission bowed out?

19 A I believe so. Like I stated earlier, it's not  
20 the Company's intent not to be transparent. We want to  
21 keep Public Staff and the Commission and our customers  
22 aware of our actions. That's been a huge driver in our  
23 communications plan. That information is out there. We  
24 continue to make improvements. You know, I like -- I

1 think honestly we could.

2           And once again, it goes back to part of the  
3 reason why I made this recommendation, actually, the  
4 major reason, is it's a lot of work and a lot of  
5 information to compile these reports. And I look at  
6 things as what is the, you know, cost benefit, right? I  
7 understand the concerns of Public Staff and the  
8 Commission, and we want to make sure we provide you the  
9 information that you need, but want to do so in a way  
10 that isn't so burdensome upon our time and in respect to  
11 Public Staff, burdensome upon their time. I would like  
12 to see us use this as an opportunity not only to  
13 collaborate on reporting, but also collaborate on  
14 Executive Summaries. We've had some very good meetings  
15 in the past year and a half, very productive. I would  
16 like to see us have an opportunity to do more of those  
17 things versus less, and that was part of the reason for  
18 the recommendation.

19           Q       And between these things that we've been  
20 discussing and also the Company's communications with its  
21 customers that has increased, modified, changed over the  
22 years, you know, one of the Commission's other interest  
23 here was making sure that customers had awareness of what  
24 the Company was doing, and what the Public Staff is

1 doing, and what the Commission is doing in response to  
2 what they repeatedly tell us about.

3 COMMISSIONER BROWN-BLAND: All right. Other  
4 questions from the Commission?

5 (No response.)

6 COMMISSIONER BROWN-BLAND: Questions on  
7 Commission's questions?

8 MS. TOWNSEND: No questions from the Attorney  
9 General's Office.

10 COMMISSIONER BROWN-BLAND: Thank you, Ms.  
11 Townsend. Ms. Jost?

12 MS. JOST: Nothing from the Public Staff.  
13 Thank you.

14 MS. SANFORD: Commissioner Brown-Bland, I have  
15 a few questions.

16 EXAMINATION BY MS. SANFORD:

17 Q Ms. Berger, I actually think I have three  
18 questions. First of all, with respect to the  
19 conversation that you engaged in with Commissioner Brown-  
20 Bland about customer concerns and how things were  
21 communicated or known about, Aqua has a system called  
22 Aqua Alert; is that correct?

23 A Yes, ma'am, we do. Water Smart Alert.

24 Q Water Smart Alert. And is that the means or a

1 means by which Aqua and customers can communicate with  
2 each other about water quality issues or flushing issues  
3 or anything related to service?

4 A So that is a way that we, as the Company,  
5 communicate to our customers water quality concerns --

6 Q Uh-huh.

7 A -- or flushing. They can't necessarily  
8 communicate back with us that way.

9 Q So it's just one-way communication. Okay.

10 A Yes, ma'am.

11 Q All right. Thank you for that. Second  
12 question, do -- do I understand you in your testimony in  
13 this case and just in your view of it to believe that  
14 communication between you and your regulators,  
15 particularly the Public Staff, is key to discharge of  
16 both of your responsibilities?

17 A Yes, ma'am. I do.

18 Q Third question. Would it be helpful for Aqua  
19 to know about reports or the Public Staff's experience  
20 with respect to contacts it has with DEQ and with your  
21 customers?

22 A I would say, yes, that is helpful, because --  
23 well, one, for our customers, so that way we -- we're  
24 aware. No differently than DEQ when they have direct

1 communication with a customer, I always encourage them to  
2 remind them to please contact Aqua to give us an  
3 opportunity to address their concern. And I believe the  
4 Public Staff does that.

5 With regards to communication with DEQ, yes, I  
6 think it just puts us all on the same page with each  
7 other. I'm kind of -- I have financial and environmental  
8 regulators on both sides, so clear communication is  
9 important.

10 Q Thank you.

11 MS. SANFORD: I have no further questions. And  
12 at this point, Commissioner Brown-Bland, I would move Ms.  
13 Berger's exhibits into evidence, please.

14 COMMISSIONER BROWN-BLAND: All right. Without  
15 objection, the Berger Rebuttal exhibits will be received  
16 into evidence at this time.

17 MS. SANFORD: Thank you.

18 (Whereupon, Berger Rebuttal Exhibits  
19 1, 4, and 5, and Revised Berger  
20 Rebuttal Exhibits 2 and 3 were  
21 admitted into evidence.)

22 MS. SANFORD: And that concludes Aqua's case.

23 COMMISSIONER BROWN-BLAND: Ms. Sanford, I  
24 believe you had rebuttal testimony.

1           MR. BENNINK: I'm prepared to move that in,  
2 Commissioner, if that would be okay right now.

3           COMMISSIONER BROWN-BLAND: All right.

4           MR. BENNINK: We would ask that the Joint  
5 Rebuttal Testimony of Shannon Becker and Joseph Pearce,  
6 consisting of 27 pages, and Becker-Pearce Excess Capacity  
7 Rebuttal Exhibits 1 through 15 be moved into the record.

8           COMMISSIONER BROWN-BLAND: So without  
9 objection, that motion is allowed, and the exhibits are  
10 identified as they were premarked.

11          MR. BENNINK: So, again, we assume that the  
12 testimony will be copied into the record as if given  
13 orally from the stand and the exhibits will be admitted?

14          COMMISSIONER BROWN-BLAND: Correct.

15                               (Whereupon, the prefiled joint  
16 rebuttal testimony of Shannon Becker  
17 and Joseph Pearce was copied into the  
18 record as if given orally from the  
19 stand.)

20                               (Whereupon, Becker/Pearce Excess  
21 Capacity Rebuttal Exhibits 1 through  
22 15 were identified as premarked and  
23 admitted into evidence.)

24

STATE OF NORTH CAROLINA  
UTILITIES COMMISSION  
RALEIGH

DOCKET NO. W-218, SUB 526

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

IN THE MATTER OF  
APPLICATION BY AQUA NORTH CAROLINA, INC.,  
202 MACKENAN COURT, CARY, NORTH CAROLINA 27511  
FOR AUTHORITY TO ADJUST AND INCREASE RATES FOR WATER  
AND SEWER UTILITY SERVICE IN ALL SERVICE AREAS IN  
NORTH CAROLINA

PREFILED REBUTTAL TESTIMONY OF  
**SHANNON BECKER AND JOSEPH PEARCE**  
ON BEHALF OF  
AQUA NORTH CAROLINA, INC.

June 13, 2020

1 **Q. MR. BECKER, PLEASE STATE FOR THE RECORD YOUR NAME,**  
2 **ADDRESS, AND PRESENT POSITION.**

3 A. My name is Shannon Becker and my business address is 202 MacKenan  
4 Court, Cary, North Carolina. I am the President of Aqua North Carolina,  
5 Inc. ("Aqua" or "Company").

6 **Q. MR. BECKER, HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN**  
7 **THIS CASE?**

8 A. Yes, I filed Direct testimony on December 31, 2019 with the Company's  
9 Application to discuss Aqua's position on Excess Capacity, among other  
10 items.

11 **Q. MR. PEARCE, PLEASE STATE FOR THE RECORD YOUR NAME,**  
12 **ADDRESS, AND PRESENT POSITION.**

13 A. My name is Joseph Pearce and my business address is 202 MacKenan  
14 Court, Cary, North Carolina. I currently serve as the Director of Operations  
15 for Aqua North Carolina, Inc.

16 **Q. MR. PEARCE, HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN**  
17 **THIS CASE?**

18 A. Yes, I filed Direct Testimony addressing water loss with the Company's  
19 Application, on December 31, 2019 and I filed Rebuttal Testimony with Mr.  
20 George Kunkel, on June 12, addressing "water loss."

21 **Q. MR. PEARCE, DO YOU HAVE EXPERTISE IN THE CALCULATION OF**  
22 **DESIGN FLOW AS THAT IS A DETERMINANT OF THE APPROPRIATE**  
23 **LEVEL OF CAPACITY IN WASTEWATER PLANTS?**

1 A. Yes, I am a licensed North Carolina Professional Engineer and was  
2 employed as an Environmental Engineer II by the North Carolina  
3 Department of Environment and Natural Resources in the Non-Discharge  
4 Permitting Unit and On-Site Wastewater Program for greater than eight (8)  
5 years. As part of this employment, the review of wastewater treatment plant  
6 contributory design flow was a routine part of the work. I estimate that I  
7 have either completed or reviewed these types of calculations more than  
8 one hundred times.

9 **Q. WHAT ISSUES DO YOU ADDRESS IN YOUR REBUTTAL TESTIMONY?**

10 A. We rebut the testimony of Public Staff witness Junis regarding Excess  
11 Capacity in the Carolina Meadows, The Legacy at Jordan Lake, and the  
12 Westfall wastewater treatment plants.

13 **Q. MR. BECKER, WHY ARE YOU PROVIDING JOINT TESTIMONY?**

14 A. There are two professional disciplines involved in the determination of  
15 excess capacity: accounting and engineering. I will provide testimony  
16 regarding the appropriateness of the accounting for excess capacity  
17 adjustments. Mr. Pearce will provide testimony regarding the  
18 appropriateness of the engineering calculation of excess capacity as it  
19 relates to contributory design flows.

20 **Q. WHAT IS EXCESS CAPACITY?**

21 A. Excess capacity is considered the difference between wastewater  
22 treatment plant design flow and the contributory design flows from the

1 customers. This calculation, in a few select circumstances, may be  
2 considered to exclude certain asset balances from rate base recovery.

3 **Q. MR. BECKER, DO YOU HAVE ISSUES WITH WITNESS JUNIS'**  
4 **JUSTIFICATION FOR EXCESS CAPACITY ADJUSTMENTS?**

5 A. Yes. There is a significant issue with witness Junis' application of Excess  
6 Capacity Adjustments for capital expended to ensure wastewater treatment  
7 compliance for the existing customers of these facilities. Witness Junis  
8 notes in his testimony (p. 7, lines 1-4) that:

9 "The Public Staff does not recommend excess capacity  
10 adjustments be made against all overbuilt plant. Commonly,  
11 the developer of a system bears a majority of the initial cost  
12 and risk associated with plant infrastructure to serve future  
13 projected customer growth."

14  
15 Assuming the Commission agreed with this statement, it could then be  
16 comprehensible to assign an excess capacity calculation applied to the  
17 **original cost** of rate base that was acquired from the developer as part of  
18 that transaction, as the utility would be assumed to step into the developer's  
19 shoes. However, witness Junis specifically states that "the developer of a  
20 system bears a majority of the **initial** cost and risk associated with plant  
21 infrastructure to serve future projected growth." [emphasis added] It can,  
22 therefore, be logically assumed that witness Junis is referring to the  
23 developer's cost of the initial plant construction and that any resultant  
24 excess capacity is therefore born by the developer, or the acquiring utility.  
25 Given this statement, any post-acquisition capital costs incurred that are  
26 necessary to ensure the compliance of the plant necessary to provide

1 on-going reliable service to the existing customers and protect the health of  
2 our communities and the environment should be fully recoverable.

3 **Q. PLEASE EXPAND ON THE IMPACTS OF THIS ADJUSTMENT.**

4 A. The application of excess capacity to any post-acquisition capital effectively  
5 penalizes the Company, beyond the last rate base of its original plant cost,  
6 for continuing to service its customers responsibly. It is a disincentive for a  
7 utility to make necessary repairs, replacements, or upgrades when it knows  
8 that a percentage of that cost will be unrecoverable. Because the  
9 Commission applied an excess capacity adjustment to fifty percent (50%)  
10 of the Carolina Meadows upgrades (the investment totaled approximately  
11 \$1.7 million) in the Sub 497 rate case, the application of the excess capacity  
12 calculation effectively resulted in Aqua funding a necessary investment  
13 exceeding \$250,000 that the Company will never recover – this assumes  
14 excess capacity deductions will continue to be allowed in this case and the  
15 adjustments are also allowed to be applied to post-acquisition investments.  
16 This exacerbates the “penalty,” is not constructive or aligned with the reality  
17 of required investment, and could actually serve to promote non-  
18 compliance.

19 **Q. MR. BECKER, WHAT IS AQUA’S POSITION IN THIS CASE WITH**  
20 **RESPECT TO DISALLOWANCES FOR WHAT IN THE PAST HAS BEEN**  
21 **DESCRIBED AS EXCESS CAPACITY FOR WASTEWATER**  
22 **TREATMENT PLANTS ACQUIRED FROM DEVELOPERS?**

1 A. The Commission should not approve excess capacity disallowances for  
2 developer-installed systems that Aqua, or its predecessors, have acquired  
3 at original cost. In particular, the Public Staff proposes an “excess capacity”  
4 adjustment for the original cost of the three previously mentioned  
5 wastewater treatment plants, including subsequent repairs and  
6 replacements necessary to maintain compliance since the plant was initially  
7 acquired. The decisions to construct the WWTPs were reasonable and  
8 prudent, they were designed according to North Carolina standards and  
9 appropriately sized by Professional Engineers (“PE’s”), and Aqua was  
10 prudent when it acquired them. Aqua’s investments in the plants at issue  
11 on a per connection basis are reasonable. Requiring Aqua to take  
12 depreciation expense on its books without actual recovery of that expense  
13 through rates, and foregoing a return on a portion of this plant investment,  
14 is inconsistent with the Commission’s policy of encouraging acquisition of  
15 developer-owned systems and application of the uniform rate structure. It  
16 is also a barrier to Aqua’s fair opportunity, even under good management,  
17 to earn its authorized return.

18 **Q. DO YOU BELIEVE THAT INDIVIDUAL WWTP PLANTS SHOULD BE**  
19 **SELECTIVELY CONSIDERED FOR EXCESS CAPACITY**  
20 **ADJUSTMENTS?**

21 A. No. The three plants that have received excess capacity treatment in the  
22 past are all included in the Aqua North Carolina (“ANC”) Wastewater  
23 consolidated rate entity. Aqua’s state-wide wastewater system ownership

1 is made up of 59 wastewater treatment plants that were acquired through  
2 acquisition or individual developer contracts. These agreements have  
3 resulted in a footprint of assets and a range of costs per customer that are  
4 included in the two consolidated Aqua rate divisions. The negotiated  
5 developer agreements have resulted in a range of average rate base per  
6 customer costs that provides the Company with varying amounts of  
7 investment upon which to earn, but similar operational requirements,  
8 expense, and risk exist for all. The majority of Aqua's wastewater systems  
9 reflect agreements where a significant portion of the asset balances are  
10 contributed, and customers benefit from the Company's negotiation of those  
11 agreements via lower rates.

12 Aqua North Carolina Sewer is a consolidated rate entity and offers  
13 customers the protections afforded through a spreading of costs and the  
14 benefits of reduced costs realized through economies to scale. However,  
15 the elimination of rate base costs associated with these three "excess  
16 capacity" plants, simply because the reasonably anticipated, planned  
17 growth may not have occurred on these systems, is inappropriate.

18 **Q. IF THESE EXCESS CAPACITY ADJUSTMENTS WITH RESPECT TO**  
19 **PLANT ARE DETERMINED TO BE APPROPRIATE (CONTRARY TO**  
20 **AQUA'S STATED POSITION) SHOULD THE EXCESS CAPACITY**  
21 **ADJUSTMENTS BE APPLIED TO POST-ACQUISITION REPAIRS,**  
22 **REPLACEMENTS, OR UPGRADES TO THOSE PLANTS?**

1 A. No. Post-acquisition costs incurred to make necessary upgrades and  
 2 maintain the three plants under discussion are done to serve the customers  
 3 on this system - not future customers - yet these additions are also  
 4 subjected to the Public Staff's excess capacity calculation. These  
 5 customers are afforded the same level of protections and service as the rest  
 6 of the customers in their consolidated rate entity; yet under the Public Staff's  
 7 rigid construct, the Company must absorb the alleged "excess" loss. In the  
 8 Final Order issued in Aqua's Sub 497 rate case, the Commission concluded  
 9 as follows (*See Discussion and Conclusions on p. 71 of the Final Order*):

10 As a rate base/rate of return utility, Aqua NC should  
 11 have in its rate base a reasonable level of investment per  
 12 connection and should otherwise seek to maximize its CIAC.  
 13 However, the Company has a uniform wastewater rate  
 14 structure. All of its investment in WWTPs, wherever located,  
 15 is consolidated into the Plant in Service account.  
 16 Designations for individual plants or other facilities owned by  
 17 the utility are lost for ratemaking purposes....  
 18

19 **Q. MR. BECKER, WAS ALL OF THE RECENT PERIOD CAPITAL SPEND**  
 20 **FOR THE CAROLINA MEADOWS, THE LEGACY, AND THE WESTFALL**  
 21 **FACILITIES DIRECTLY CORRELATED WITH THE ALLEGED**  
 22 **"EXCESS" CAPACITIES OF THE ACTUAL WASTEWATER**  
 23 **TREATMENT PLANTS?**

24 A. No. Review of the capital expenditures for Carolina Meadows for the period  
 25 between July 1, 2018 and March 1, 2020 indicates total capital charges  
 26 were \$216,478.39. Of this amount, only \$72,965 (34%) was spent on the  
 27 Carolina Meadows WWTP. The other 66 percent was expended on lift

1 station/pump repairs, driveway repair, protective bollards, generator repair,  
2 a generator quick connect, and a sewer flowmeter.

3 Review of the capital expenditures for The Legacy for the period between  
4 July 1, 2018 and March 1, 2020 indicates the total capital charges were  
5 \$237,240. Of this amount, only \$90,845 (38%) was spent on The Legacy  
6 WWTP. The other 62 percent was expended on grinder pump repairs,  
7 spray pumps, generator repairs, remote monitoring repairs, and force main  
8 repair.

9 Review of the capital expenditures for Westfall for the period between July  
10 1, 2018 and March 1, 2020 indicates the total capital charges were  
11 \$130,935. Of this amount, only \$49,173 (38%) was spent on the Westfall  
12 WWTP. The other 62 percent was expended on grinder pumps, spray  
13 pumps, generator repairs, lift station repairs, and power monitor.

14 As demonstrated, only a portion of the capital spend for each of these  
15 systems is for the wastewater treatment plants. I do not believe it is proper  
16 to reduce rate base capital for expenditures that are not for the wastewater  
17 treatment plant itself. There is no relevant nexus between all of these  
18 expenditures and the wastewater treatment plant, which in the first instance  
19 is wrongly described as "excess." Nonetheless, per witness Junis'  
20 testimony, all capital expenditures at the facility would be subject to excess  
21 capacity adjustments. Aqua disagrees.

1 Q. MR. PEARCE, DO YOU AGREE WITH THE METHODOLOGY USED BY  
2 THE PUBLIC STAFF TO CALCULATE ITS PROPOSED EXCESS  
3 CAPACITY ADJUSTMENT?

4 A. No. The methodology being used by the Public Staff in this case, and the  
5 last several rate cases, to estimate excess capacity is flawed. Although the  
6 base formula used to calculate excess capacity<sup>1</sup> is appropriate, the Public  
7 Staff attempts to estimate the contributory design flow component of this  
8 calculation incorrectly. Wastewater treatment plants are designed for  
9 maximum flow potential based on meeting the estimated needs for  
10 designed **bedrooms per dwelling unit, not residential equivalency units**  
11 **(“REU’s”)**. There is always meant to be enough capacity for a plant to  
12 handle the maximum flows for the types of buildings included within a  
13 particular development’s footprint for which that wastewater plant serves.  
14 Witness Junis uses REU’s that are based on water meter sizes and the  
15 Public Staff’s generalized estimate (400 gpd) of the gallons needed to  
16 support each REU to calculate the contributory design flow component of  
17 the excess capacity calculation. In the case of the three plants in question,  
18 this results in a smaller numerator and an overestimation of excess capacity  
19 for which the plant was purposely designed – according to NCDEQ  
20 regulations for Design Flow as contained in 15A NCAC 02T .0114  
21 Wastewater Design Flow Rates, attached as *Becker/Pearce Rebuttal*  
22 *Exhibit 1*. The code provides engineers a prescriptive value necessary to

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<sup>1</sup> 1-[contributory design flow / Permitted Capacity] = excess capacity %

1 calculate the design flow capacity and the resultant plant size needed to  
2 support the developer's approved plan.

3 The application of an appropriately determined contributory design flow will  
4 illustrate that the three wastewater treatment plants in question should  
5 result in **no** excess capacity adjustments in this case. I will provide the  
6 detailed contributory design calculations in accordance with 15A NCAC 02T  
7 .0114 later in my testimony, and they will illustrate this point.

8 **Q. WHAT IS THE BASIS FOR THE PUBLIC STAFF'S CALCULATION OF**  
9 **EXCESS CAPACITY?**

10 A. Witness Junis, at p. 7 of his testimony, references the Commission's  
11 decision in its Order in the 2011 Docket No. W-218, Sub 319 as the basis  
12 for his recommendation to continue the utilization of the Public Staff's  
13 calculations for calculating excess capacity in this case. However, the  
14 Commission in the 2018 Sub 497 case requested Aqua and other parties to  
15 provide other formulas for excess capacity adjustment in future cases.  
16 Specifically, "The Commission advises the parties that should this issue  
17 arise in a future rate case proceeding, the Commission requests that more  
18 evidence be presented by the parties regarding other formulas or methods  
19 for making excess capacity adjustments such that the Commission could  
20 determine by the weight of the evidence presented whether future growth  
21 projections or any other additional factors should be included in the  
22 approved methodology." *Order of December 2018 in Docket No. W-218,*  
23 *Sub 497, page 48.*

1 My rebuttal testimony presents an alternative methodology that replaces the  
2 use of REU's and an approximation of gallons per day ("gpd") with the  
3 metric that is used as the foundation to determine the appropriate sizing of  
4 a wastewater treatment plant.

5 **Q. WHY IS IT INCORRECT TO UTILIZE AN REU IN THE CALCULATION TO**  
6 **ESTIMATE CONTRIBUTORY DESIGN FLOW?**

7 A. The Public Staff uses water meter sizing to approximate a residential  
8 equivalency unit. Water meter sizing calculations do not properly  
9 approximate the number of bedrooms per residence, or other recreational  
10 facilities for which a wastewater plant was designed. Additionally, REU's  
11 are a poor approximation for commercial facilities' wastewater use.

12 In my opinion, a water meter size is a poor estimate for a wastewater  
13 contributory design flow for a facility, and to my knowledge its use is not  
14 endorsed by any environmental regulatory authority or wastewater  
15 treatment plant design expert.

16 **Q. DO YOU KNOW WHY THE PUBLIC STAFF USES A WATER DESIGN**  
17 **STANDARD FOR A WASTEWATER TREATMENT PLANT'S**  
18 **CONTRIBUTORY DESIGN FLOW CALCULATION AND A 400 GPD**  
19 **ESTIMATE FOR EACH REU?**

20 A. The Public Staff uses a 400 GPD estimate for each REU. In witness Junis'  
21 response to Data Request 2 (*Becker/Pearce Rebuttal Exhibit 2*) to the  
22 Company regarding his Direct testimony, he states: "The water design  
23 standard is 400 gallon/connection for a residential service, per 15A NCAC

1 18C .0409.” It should be noted that 15A NCAC 18C .0400 regulations are  
2 water supply design regulations and are not wastewater treatment plant  
3 design regulations. The wastewater treatment plant design regulations are  
4 provided in 15A NCAC 02T .0114 and they are not equivalent. In making  
5 an excess capacity evaluation, it is appropriate to use the wastewater  
6 design regulations since we are assessing wastewater capacity. It is not  
7 appropriate to use water supply design regulations to evaluate WWTP  
8 contributory design flow.

9 **Q. WHY IS IT APPROPRIATE TO USE 15A NCAC 02T .0114 TO**  
10 **DETERMINE THE CONTRIBUTORY DESIGN FLOW COMPONENT OF**  
11 **THE EXCESS CAPACITY CALCULATION?**

12 **A.** The code, 15A NCAC 02T .0114, provides engineers who are designing a  
13 wastewater treatment facility the sizing requirements for plant design and  
14 permitting. For residential units, the code prescribes a 120 gpd requirement  
15 per bedroom with a 240 gpd minimum for each dwelling unit. The code  
16 additionally includes predetermined gpd amounts that are to be used for  
17 various other commercial facilities. Developers rely on these estimates to  
18 determine the proper sizing of the plants as they want to be sure to properly  
19 size the plant – not over, not under. Therefore, the determination as to  
20 whether a plant is “overbuilt” or has excess capacity should be based on  
21 the same understanding that was used to size the plant under  
22 North Carolina regulations.

1 An example of the notable disparity between the Public Staff's and Aqua's  
2 proposed calculations of contributory design flow is demonstrated through  
3 the following example. A 5/8" water meter is installed to provide water to  
4 most residences in any development. The wastewater contributory design  
5 flow assigned and allowed as calculated by the Public Staff using this meter  
6 will result in one REU x 400 gpd or 400 gpd, no matter what the size of the  
7 home may be. The developer plan, however, was for this residence to be  
8 a five-bedroom home. In this case, the engineer designing this plant must  
9 account for wastewater capacity necessary to meet maximum flow needs  
10 for five bedrooms at 120 gpd, or 600 gpd. While a general assumption is  
11 commonly made to assume an average of three-bedrooms per home, or a  
12 wastewater capacity need of 360 gpd (or even the slightly higher 400 gpd  
13 estimate currently used by the Public Staff) per residential unit, this  
14 assumption should not be applied blindly as can be seen in the example  
15 above.

16 **Q. CAN YOU PROVIDE ANOTHER EXAMPLE OF WHY AQUA NORTH**  
17 **CAROLINA'S METHODOLOGY IS MORE APPROPRIATE?**

18 A. Another example, more specific to our issue at hand, where the Contributory  
19 Design calculation by witness Junis to determine the excess capacity is  
20 significantly off, is the application of Public Staff's REU and gpd  
21 assumptions for the six-inch (6") wastewater flow meter used to collect  
22 wastewater for Carolina Meadows Senior Care facility. This six-inch  
23 wastewater flow meter was considered equivalent to a six-inch water meter

1 and was therefore assigned a value of 50 REU's and then multiplied by the  
2 400 gpd usage estimate to arrive at a contributory design flow of  
3 20,000 gpd. As will be discussed later in my testimony and shown in  
4 *Becker/Pearce Rebuttal Exhibit 5*, the actual contributory design flow for the  
5 Carolina Meadows Senior Care facility is 128,665 gpd. Water meter sizing  
6 calculations are not reliable approximations of the contributory design flow  
7 used to determine the size of a wastewater plant and they should not be  
8 used to assess excess capacity. REU's do not consistently allow for an  
9 accurate representation of the number of bedrooms per residence and are  
10 a poor approximation for commercial facilities. This misapplication alone  
11 has resulted in at least a 100,000 gpd error that, if added to witness Junis'  
12 current 240,400 contributory design flow calculation for the 350,000 gpd  
13 Carolina Meadows wastewater treatment plant, clearly demonstrates that  
14 the current plant is at near full contributory design flow capacity. The  
15 Carolina Meadows plant was built to facilitate its existing active customer  
16 base and should result in \$0 excess capacity adjustments.

17 As was demonstrated, REU's are not good estimates of contributory design  
18 flow necessary to properly determine if there is any excess capacity within  
19 any wastewater treatment plant. REU's and a static gpd estimate based on  
20 meter sizes do not properly approximate excess capacity and the use of  
21 any methodology that is not in line to utilize the sizing parameters by which  
22 the wastewater plant was required to be built is inappropriate.

1 **Q. MR. PEARCE, HAS THE COMPANY INFORMED THE PUBLIC STAFF**  
2 **OF THE FLAW IN THEIR METHODOLOGY TO CALCULATE**  
3 **CONTRIBUTORY DESIGN FLOW?**

4 A. Yes. In response to Public Staff Data Request 116 Q3, attached as *Becker/*  
5 *Pearce Rebuttal Exhibit 3*, Aqua provided an excerpt from and a reference  
6 to 15A NCAC 02T .0114 for Wastewater Design Flow Rates. For one of the  
7 wastewater plants in question, The Legacy, Aqua additionally provided an  
8 explanation supporting the specific estimation of bedrooms and amenities  
9 to be served and the application of the code with Aqua's conclusion which  
10 stated: "On a design flow basis, the water treatment plant is over its design  
11 flow capacity."

12 **Q. WHAT WOULD THE RESULTS OF THE EXCESS CAPACITY**  
13 **CALCULATIONS BE IF CONTRIBUTORY FLOW WAS CALCULATED**  
14 **USING THE DESIGN STANDARDS SET BY 15A NCAC 02T .0114?**

15 A. Aqua has completed calculations in accordance with 15A NCAC 02T  
16 .0114(b) for Carolina Meadows (*Becker/Pearce Rebuttal Exhibit 5*), The  
17 Legacy (*Becker/Pearce Rebuttal Exhibit 10*), and Westfall (*Becker/Pearce*  
18 *Rebuttal Exhibit 15*). These calculations indicate that the Carolina  
19 Meadows wastewater treatment plant current contributory design flow is  
20 391,669 gpd for a 350,000 gpd facility, The Legacy's wastewater treatment  
21 plant's current contributory design flow is 164,990 gpd for a 120,000 gpd  
22 facility, and the Westfall wastewater treatment plant's current contributory

1 design flow is 91,783 gpd for a facility with maximum permitted wastewater  
2 treatment capacity of 90,000 gpd.

3 As proposed in witness Junis' testimony, the reduction in revenue for  
4 Excess Capacity using the Public Staff's methodology for contributory  
5 design capacity is an approximate \$190,000 annual reduction to Aqua's  
6 revenue requirement (dependent on the final authorized ROE approved in  
7 this case). If the calculations are done in accordance with the North  
8 Carolina Department of Environmental Quality ("DEQ") regulatory design  
9 flow standard, there would be no adjustment.

10 **Q. PLEASE DESCRIBE THE CAROLINA MEADOWS DEVELOPMENT AND**  
11 **EXPLAIN YOUR DESIGN FLOW CALCULATIONS.**

12 A. Based on the detailed description of the development, I will calculate the  
13 applicable design flowrates using the standards for each contributing facility  
14 as prescribed in 15A NCAC 02T .0114. The Carolina Meadows wastewater  
15 treatment plant receives wastewater from the Carolina Meadows senior  
16 facility, the Camden Apartment complex, a commercial area, and  
17 single-family residences. An aerial photo of the area is provided as  
18 *Becker/Pearce Rebuttal Exhibit 4* and shows the relatively dense level of  
19 development that our Carolina Meadows wastewater plant serves.  
20 *Becker/Pearce Rebuttal Exhibit 5* summarizes the calculations to determine  
21 the contributory design flow for each of the separately identifiable areas  
22 served by the Carolina Meadows wastewater treatment plant as follows:

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- The Carolina Meadows Senior Care facility is a 168-acre development with 287 one- and two-bedroom homes, 162 one- and two- bedroom apartments, 169 assisted living and nursing home beds with laundry, and a beauty shop. The information for the current facilities at Carolina Meadows was provided by their Vice President of Operations. Using the applicable facility design flowrate values prescribed by 15A NCAC 02T .0114 of 240 gallon per day per dwelling unit minimum, 120 gallons per bed for nursing home beds, and 125 gallon per bowl for the beauty shop produces the following result: **The total contributory design flow for the Carolina Meadows Senior Care facility is 128,665 gpd.**
  - The Camden Apartment Complex, or Camden at Carolina Meadows Apartment Complex, exists within the Governor's Village multi-use facility. This apartment complex has 201 one- and two- bedroom apartments, and 41 three-bedroom apartments. The facility information was provided by the Camden Community Manager. Using the same prescribed design flow values of 240 gallon per day per dwelling unit minimum and the 360 gallon per day per three-bedroom dwelling unit, **the total contributory design flow for the Camden at Carolina Meadows Apartment Complex is 63,000 gpd.**
  - The Commercial area within the Governor's Village multi-use facility includes a full-size Food Lion supermarket, three (single-service)

1 restaurants, two (full-service) restaurants, a nail salon, a dry  
2 cleaners, a dentist office, a veterinary office, a dance studio, a bank,  
3 a Montessori Charter School, a preschool, a hair salon, a pharmacy,  
4 and an ABC store. There is also significant additional office space  
5 for which usage could not be readily determined and for which design  
6 flow calculations were not included. From a personally completed  
7 field survey, I determined the relevant facility counts for these  
8 facilities and applied the appropriate design basis using 15A NCAC  
9 02T .0114. For five of these facilities, I used my best professional  
10 judgment to apply conservative design flow estimates; the total for  
11 these design flow estimates is 1100 gpd. **The total contributory  
12 design flow for the commercial area is 15,955 gpd.**

- 13 • There are several other types of single-family residential units within  
14 the Carolina Meadows Service Area, including townhouses,  
15 standard homes, and custom homes. For each of our single family  
16 residential customer addresses, we completed a Multiple Listing  
17 Service review, *Becker/Pearce Rebuttal Exhibit 6*, to determine the  
18 proper number of bedrooms for these customers. The number of  
19 bedrooms was determined for 355 of 442, or eighty percent (80%)  
20 percent of the residences. The average number of bedrooms per  
21 single family residence is 3.47 bedrooms per residence. With 442  
22 residences, 120 gpd per bedroom, and an average of 3.47 bedrooms

1 per residence, **the total contributory design flow for the**  
 2 **residences is 184,049 gpd.**

3 The Grand Total of the design flows for all of the Carolina Meadows  
 4 Wastewater Treatment Plant contributory facilities described above is  
 5 391,669 gpd. This calculates to a twelve percent (12%) **excess** of the  
 6 350,000 gallon per day NPDES permit for this facility.

7 **Q. HOW DOES YOUR CALCULATION OF CONTRIBUTORY DESIGN**  
 8 **FLOW COMPARE TO WITNESS JUNIS' CALCULATION OF**  
 9 **CONTRIBUTORY DESIGN FLOW?**

10 A. In Junis Testimony Table 2, witness Junis provides a value of 234,400 gpd  
 11 for flow based on an REU value of 586 REUs for the Carolina Meadows  
 12 wastewater treatment plant. In witness Junis' response to Aqua's Data  
 13 Request No. 2, attached as *Becker/Pearce Rebuttal Exhibit 2*, he states  
 14 "The practice for ratemaking purposes has been the meter size is multiplied  
 15 by a factor, see table below, for the calculation of base facilities charges  
 16 and REUs".

Meter Size	AWWA Factor based on 5/8
5/8 inch	1.00
3/4 inch	1.50
1 inch	2.50
1-1/2 inch	5.00
2 inch	8.00
3 inch	15.00
4 inch	25.00

6 inch	50.00
8 inch	80.00
10 inch	115.00
12 inch	215.00

1  
2 During my review of the excess capacity calculation for Carolina  
3 Meadows, I recently discovered an error in the “REU” estimation information  
4 that was based on meter sizing information provided by Aqua personnel for  
5 the Carolina Meadows senior care facility. The Carolina Meadows senior  
6 care facility REU count was based upon a single 6-inch wastewater meter  
7 for the entire facility and provided an REU count of only 50. A review of the  
8 January 2, 2019 Master Water Billing Account Summary for Carolina  
9 Meadows Care (*Becker/Pearce Rebuttal Exhibit 7*) indicated that a total of  
10 278 active accounts exist: 232 residential, 10 commercial, and 36  
11 multifamily. As such, it can be assumed the REU count would have been  
12 at least 278 for the Carolina Meadows Senior Care facility versus the 50  
13 that were assigned through the REU to meter conversion performed to  
14 estimate contributory design flow. The revised REU count used by the  
15 Public Staff for the Carolina Meadows Wastewater Treatment Plant should  
16 have been, at a minimum, 814 REU’s ( $(586 + 278 - 50) = 814$ ). Even using  
17 the Public Staff’s REU methodology, upon correction for the significant error  
18 resulting from the REU assumption for a 6” wastewater meter, produces  
19 814 REU’s at 400 gpd is 325,600 gpd or 93% capacity – full capacity.

20 **Q. MR. PEARCE, PLEASE EXPLAIN THE APPLICATION OF 15A NCAC**  
21 **02T .0114 CALCULATIONS FOR THE LEGACY WASTEWATER**

1           **CUSTOMERS AND THE SUBSTANTIAL DIFFERENCE BETWEEN THE**  
2           **VALUES       CALCULATED       UNDER       THE       ALTERNATIVE**  
3           **METHODOLOGIES.**

4    A.    The Legacy Wastewater Treatment Plant serves a residential community  
5           with 241 dwelling units, an amenity center, and a guard house. An aerial  
6           photo of the wastewater contributory area is provided in *Becker/Pearce*  
7           *Rebuttal Exhibit 8.*

8           As the exact count of bedrooms for every dwelling unit is not known and  
9           could not be located within the Chatham County online datasets, Aqua staff  
10          searched Trulia.com and Zillow.com for real estate information for every  
11          dwelling unit address. A table of addresses and bedrooms per address is  
12          included in *Becker/Pearce Rebuttal Exhibit 9.* Through the Trulia.com and  
13          Zillow.com search, bedroom data was found for 173 of 241 addresses.  
14          From this large representative sample (71% of entire population), the  
15          average number of bedrooms per dwelling unit in The Legacy service area  
16          is 4.503. With 241 dwelling units, 4.503 bedrooms per dwelling unit, and  
17          each bedroom with a design flow of 120 gpd, the dwelling unit design flow  
18          is 130,224 gpd. There is also a guardhouse (rated at 100 gpd) and an  
19          amenity center (rated at 1450 gpd) supporting the contributory design flow  
20          to The Legacy wastewater treatment plant. The total contributory design  
21          flow is 131,774 gpd and is summarized at *Becker/Pearce Rebuttal Exhibit*  
22          *10.*

1 Witness Junis' testimony, in Table 2 on Page 9, calculates the contributory  
 2 design flow value as 96,400 gpd for The Legacy wastewater treatment  
 3 plant. The primary reason for the difference is witness Junis' use of the  
 4 Public Staff's non-specific and not applicable 400 gpd flow estimate per  
 5 dwelling unit that, as previously mentioned in my testimony, is a value based  
 6 on water design regulations and not wastewater treatment plant design  
 7 regulations.

8 Additionally, the permit issued to The Legacy wastewater treatment facility  
 9 in March 22, 2005, attached in full as *Becker/Pearce Rebuttal Exhibit 11*,  
 10 included the following:

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FOR THE

construction and operation of a 165,000 gallons per day (GPD) wastewater treatment and reclaimed water irrigation system consisting of the following:

a 120,000 GPD Phase I wastewater treatment system serving up to 999 bedrooms and a 100 GPD guardhouse and consisting of a 42,000 gallon flow equalization tank with two (2) 135 gallon per minute (GPM) pumps and one (1) 175 cubic feet per minute (cfm) blower, a manually cleaned bar screen, a flow splitter box, two (2) 98,000 gallon aeration basins with two (2) 500 cfm blowers each, two (2) 15,400 gallon clarifiers each with one (1) variable rate sludge pump, one (1) 31,600 gallon sludge holding basin, two (2) 7.5 feet by 7.5 feet tertiary filters, a clearwell with three (3) 425 GPM pumps, a mudwell with two (2) 150 GPM pumps, two (2) UV disinfection units with eight (8) bulbs each, a chlorine contact basin, dechlorination, and an ultrasonic effluent flow measuring device;

a 60,000 GPD Phase II wastewater treatment system serving up to 363 additional bedrooms and a 1,450 GPD tennis/swim amenity area and consisting of a 20,600 gallon flow equalization tank and one (1) 175 cubic foot per minute (cfm) blower, one (1) 98,000 gallon aeration basin with one (1) 500 cfm blower, one (1) 15,400 gallon clarifier with one (1) variable rate sludge pump, one (1) 15,800 gallon sludge holding basin, one 7.5 feet by 7.5 feet tertiary filter, a 4,222 gallon clearwell, and 5,000 gallon mudwell, a 2,975 gallon chlorine contact chamber, and a 1,775 dechlorination chamber;

11  
 12 This permit specified the number of bedrooms to be served by the facilities  
 13 and the comparative design flow. The 120,000 gallon per day Phase I  
 14 facility was permitted to serve 999 bedrooms and a guardhouse. The  
 15 design flow is derived by multiplying 999 (the bedrooms) by the 120 gallon  
 16 per day per bedroom design flow and calculates to a total of 119,880 gpd

1 design flow. With the additional 100 gpd for the guardhouse, the total flow  
2 would be 119,980 gpd - presumably rounded to the 120,000 gpd plant  
3 capacity. Based on the design flow calculations above for the actual  
4 connections, supported by 15A NCAC 02T .0114, approximately  
5 1085 bedrooms ( $241 \times 4.503 = 1085$ ), are currently contributory to The  
6 Legacy wastewater treatment plant and in excess of the 999 bedrooms  
7 referenced in the permit. It is obvious, based on the appropriate method of  
8 calculation of design flows, that Aqua was correct in not including excess  
9 capacity adjustments for The Legacy wastewater treatment plant.

10 **Q. PLEASE EXPLAIN THE APPLICATION OF 15A NCAC 02T .0114**  
11 **CALCULATIONS FOR THE WESTFALL WASTEWATER CUSTOMERS**  
12 **AND THE SUBSTANTIAL DIFFERENCE BETWEEN THE VALUES**  
13 **CALCULATED UNDER THE ALTERNATIVE METHODOLOGIES.**

14 A. The Westfall Wastewater Treatment Plant serves a residential community  
15 with 181 dwelling units, an amenity center, and a guard house. An aerial  
16 photo of the wastewater contributory area is provided in *Becker/Pearce*  
17 *Rebuttal Exhibit 12*.

18 As the exact count of bedrooms for every dwelling unit is not known and  
19 could not be located within the Chatham County online datasets, Aqua  
20 administrative staff searched Trulia.com and Zillow.com for real estate  
21 information for every dwelling unit address. A table of addresses and  
22 bedrooms per address is included in *Becker/Pearce Rebuttal Exhibit 13*.  
23 Through the Trulia.com and Zillow.com search, bedroom data was found

1 for 110 of 180 addresses. From this large representative sample (61% of  
2 entire population), the average number of bedrooms per dwelling unit in the  
3 Westfall service area was calculated to be 4.06. With 181 dwelling units,  
4 4.06 bedrooms per dwelling unit, and each bedroom with a design flow of  
5 120 gpd, the dwelling unit contributory design flow is estimated at 88,262  
6 gpd. There is also a community pool in this service area which was not  
7 included in this calculation.

8 The northwest area of the Westfall community is currently in a rapid growth  
9 phase, with several dwelling units under construction. I have personally  
10 visited this site and was able to obtain visual verification of the bedroom  
11 counts where possible. The dwelling units under construction, *Becker/  
12 Pearce Rebuttal Exhibit 14*, include: one "finished" dwelling unit – assumed  
13 to be four (4) bedrooms; three (3) units under construction with  
14 14 bedrooms total; and three (3) additional lots with foundations underway,  
15 which we assume, based on our previous survey, to have four (4) bedrooms  
16 per unit or 12 bedrooms total. The seven dwelling units under construction  
17 have an assumed minimum of 30 bedrooms and would have an additional  
18 contributory design flow of 3600 gpd. With the inclusion of dwelling units  
19 under construction, the grand total contributory design flow is 91,862 gpd.  
20 and is summarized in *Becker/Pearce Rebuttal Exhibit 15*.

21 Junis Testimony Table 2 on Page 9 calculates the value as 73,400 gpd for  
22 the Westfall design flow. The primary reason for the difference is  
23 witness Junis' use of the Public Staff's non-specific and not applicable

1 400 gpd flow estimate per dwelling unit that, as previously mentioned in my  
 2 testimony, is a value based on water design regulations and not wastewater  
 3 treatment plant design regulations.

4 Based on the appropriate method of calculation of design flows and the  
 5 additional residential growth in Westfall, Aqua was correct in not including  
 6 excess capacity adjustments for the Westfall wastewater treatment plant.

7 **Q. MR PEARCE, WHAT IS YOUR RECOMMENDATION FOR EXCESS**  
 8 **CAPACITY ADJUSTMENTS?**

9 A. No excess capacity adjustments should be made for the Carolina Meadows  
 10 WWTP, The Legacy WWTP, or the Westfall WWTP due to the fact that the  
 11 existing, or soon to be, contributory design flows, calculated in accordance  
 12 with NC Administrative Codes for wastewater, are greater than the  
 13 permitted capacities for each of the three wastewater treatment plants.  
 14 Below is a summary table of my testimony. A negative excess capacity  
 15 value means that excess capacity does not exist.

A	B	C	D (1-C/B)
Plant Name	Capacity (gpd)	Contributory Design Flow (gpd)	Excess Capacity
Carolina Meadows	350,000	391,669	-11.9 %

The Legacy at Jordan Lake	120,000	131,774	-17.7%
Westfall	90,000	91,862	-2.1%

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**Q. MR BECKER, DO YOU HAVE ANY ADDITIONAL RECOMMENDATIONS REGARDING EXCESS CAPACITY ADJUSTMENT?**

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**Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

19

A. Yes, it does.



**STATE OF NORTH CAROLINA  
UTILITIES COMMISSION  
RALEIGH**

**DOCKET NO. W-218, SUB 526**

**BEFORE THE NORTH CAROLINA UTILITIES COMMISSION**

IN THE MATTER OF  
APPLICATION BY AQUA NORTH CAROLINA, INC.,  
202 MACKENAN COURT, CARY, NORTH CAROLINA 27511  
FOR AUTHORITY TO ADJUST AND INCREASE RATES FOR WATER  
AND SEWER UTILITY SERVICE IN ALL SERVICE AREAS IN  
NORTH CAROLINA

PREFILED REBUTTAL TESTIMONY OF  
**JOSEPH PEARCE AND GEORGE KUNKEL**  
ON BEHALF OF  
AQUA NORTH CAROLINA, INC.

June 12, 2020

1 **Q. MR. PEARCE, PLEASE STATE FOR THE RECORD YOUR NAME,**  
2 **BUSINESS ADDRESS, AND PRESENT POSITION.**

3 A. My name is Joseph Pearce and my business address is 202 MacKenan  
4 Court, Cary, North Carolina. I am the Director of Operations for Aqua North  
5 Carolina, Inc. ("Aqua" or "Company").

6 **Q. MR. PEARCE, BRIEFLY STATE YOUR QUALIFICATIONS AND**  
7 **EXPERIENCE RELATING TO WATER AND WASTEWATER**  
8 **OPERATIONS.**

9 A. I am a Professional Engineer and have more than 30 years' experience in  
10 water and wastewater treatment. Additionally, I have multiple operator  
11 certifications including Grade 4 wastewater treatment operator, Grade 3  
12 collection system operator, Grade B well operator. My experience includes  
13 work with the North Carolina Department of Environment and Natural  
14 Resources and its predecessor agencies (in a wide-range of engineering  
15 and regulatory sections), work as the Utility Division Manager and Deputy  
16 Director of Engineering and Environmental Services for Durham County,  
17 and as the Public Utilities Director for Elizabeth City, North Carolina. My  
18 experience includes work with both small decentralized facilities and larger  
19 centralized water and wastewater facilities (up to 12,000,000 gallons per  
20 day).

21 **Q. MR. PEARCE, HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN**  
22 **THIS CASE?**

1 A. Yes, I filed Direct Testimony addressing water loss with the Company's  
2 Application, on December 31, 2019.

3 **Q. MR. KUNKEL, PLEASE STATE FOR THE RECORD YOUR NAME,**  
4 **BUSINESS ADDRESS, AND PRESENT POSITION.**

5 A. My name is George Kunkel and my business address is 30 Clark Road,  
6 Hershey, Pennsylvania. I am Principal of Kunkel Water Efficiency  
7 Consulting ("Consultant").

8 **Q. MR. KUNKEL, BRIEFLY STATE YOUR QUALIFICATIONS AND**  
9 **EXPERIENCE RELATING TO WATER OPERATIONS.**

10 A. I am a Professional Engineer and have 40 years' experience in water utility  
11 operations, specifically in water distribution systems and water loss control.  
12 Additionally, I am a registered professional engineer in the States of  
13 Pennsylvania and Delaware, a Class A certified water system operator in  
14 Pennsylvania, and a Public Services Institute Instructor for the  
15 Pennsylvania Department of Environmental Protection. My experience  
16 includes 35 years working for the Philadelphia Water Department, where I  
17 led its successful water loss control program for 25 years. My experience  
18 also includes five (5) years as an independent consultant working directly  
19 with water utilities, large and small, to compile American Water Works  
20 Association ("AWWA") standard water audits and assist them in their water  
21 loss control efforts. I have also participated in numerous research projects,  
22 serve as an instructor for several programs, and serve as an expert witness.  
23 I am an active volunteer with the AWWA and have had leadership

1 involvement with almost all its major publications, reports, and software  
2 regarding water audits and loss control programs over the past 25 years.  
3 Finally, I am the chair of the Technical Review Board for AWWA Manual  
4 M36 Water Audits and Loss Control Programs, Fourth Edition, and am an  
5 expert in "Water Loss Control."

6 **Q. WHAT ISSUES DO YOU ADDRESS IN YOUR REBUTTAL TESTIMONY?**

7 A. We rebut the testimony of Public Staff witness Darden regarding  
8 Appropriate Water Loss Standard.

9 **Q. MR. PEARCE, WHAT IS AQUA'S POSITION CONCERNING THE  
10 PROPER LEVEL OF WATER LOSS STANDARD TO BE EMPLOYED  
11 FOR OPERATIONAL AND REGULATORY REVIEW PURPOSES?**

12 A. Aqua's position is that water loss should be evaluated using the AWWA's  
13 water loss method, and that Aqua should prioritize water loss reduction  
14 efforts based upon the site-specific key indicators, such as water loss per  
15 connection and water loss per mile of pipe. I, along with my fellow operators  
16 at Aqua, are trying to limit water loss and at the same time recognize there  
17 are costs involved in that endeavor. While the Public Staff suggested  
18 standard and accompanied adjustment may be minor in the big picture, I do  
19 not believe it is appropriate.

20 **Q. HAVE EACH OF YOU REVIEWED THE TESTIMONY OF WITNESS  
21 DARDEN WITH REGARD TO THE WATER LOSS STANDARD AND, IF  
22 SO, DO YOU AGREE WITH HER RECOMMENDATIONS?**

1 A. Yes, we have reviewed the testimony and do not agree with witness  
2 Darden's recommendations.

3 **Q. WHY ARE YOU PROVIDING JOINT TESTIMONY?**

4 A. Witness Pearce is a seasoned utility professional with extensive experience  
5 on leak detection, leak repair, and water loss reduction projects; however,  
6 he is not an expert regarding the AWWA standard. To ensure that the  
7 Commission has the best possible information, witness Kunkel will provide  
8 expert rebuttal regarding the AWWA standards and his findings regarding  
9 the Chapel Ridge (Town of Pittsboro purchased water) water audit.

10 **Q. MR. PEARCE, WHAT IS THE BASIS FOR YOUR DISAGREEMENT WITH**  
11 **WITNESS DARDEN'S POSITION ON WATER LOSS?**

12 A. Aqua opposes witness Darden's recommendation for the continued use of  
13 the 15% gross purchased water loss standard that was allowed in Aqua's  
14 last Rate Case Order under Docket No. W-218, Sub 497. The 15% cap  
15 "incentivizes" a utility to potentially spend more capital or expense dollars  
16 to address purchased water loss issues than the cost of the water itself.  
17 Aqua---in the exercise of sound, professional, operational judgment---is  
18 currently using a more appropriate standard (AWWA Water Audit method  
19 that includes performance indicators) to help make prudent decisions as to  
20 which projects to pursue for investment in water loss reduction.

21 **Q. MR. PEARCE, WHAT IS WITNESS DARDEN'S RECOMMENDED LEVEL**  
22 **OF WATER LOSS ADJUSTMENT?**

1 A. Per Line 7 on Page 30 of witness Darden's testimony, she makes a  
2 recommendation to reduce Aqua's recovery of its requested purchased  
3 water costs from \$1,850,078 to \$1,787,711. The difference is \$62,367 per  
4 year.

5 **Q. MR. PEARCE, USING WITNESS DARDEN'S WATER LOSS**  
6 **ADJUSTMENTS, DOES ONE PROVIDER DOMINATE THE**  
7 **REDUCTION?**

8 A. Yes. Witness Darden recommends that Aqua's purchased water actual  
9 expense from the Town of Pittsboro be reduced by approximately \$37,500.  
10 Sixty percent (60%) of the penalty for all water loss is for water purchased  
11 from the Town of Pittsboro.

12 **Q. MR. PEARCE, FOR WHICH WATER SYSTEM DOES AQUA PURCHASE**  
13 **WATER FROM THE TOWN OF PITTSBORO?**

14 A. Aqua purchases water from the Town of Pittsboro to serve only the Chapel  
15 Ridge water system.

16 **Q. MR. PEARCE, HOW MUCH HAS THE COMPANY SPENT TRYING TO**  
17 **COME INTO COMPLIANCE WITH THE PUBLIC STAFF'S**  
18 **RECOMMENDED STANDARD?**

19 A. It is over \$135,000. The details are discussed below.

20 **Q. MR. PEARCE, DURING AND AFTER THE TEST PERIOD, HAS AQUA**  
21 **COMPLETED SIGNIFICANT WATER LEAK REDUCTION WORK IN THE**  
22 **CHAPEL RIDGE SYSTEM?**

1 A. Yes. Aqua has taken a two-pronged approach to reduce water loss in  
2 Chapel Ridge. The first prong was to professionally assess the system for  
3 leaks. The second prong was to install a monitoring system which could  
4 provide rapid reporting for potential breaks or abnormal water usage events.

5 **Q. MR. PEARCE, PLEASE ELABORATE ON THE PROFESSIONAL**  
6 **SYSTEM LEAK ASSESSMENT.**

7 A. Aqua contracted a water loss reduction firm to complete acoustic leak  
8 detection for the entire Chapel Ridge water system. Five (5) leaks in the  
9 distribution system which totaled an estimated 2.35 gallons per minute were  
10 found and repaired. Twenty-four (24) additional small leaks were  
11 discovered on the customers' side of their meters. These customer leaks  
12 were so small that they were not registering on the water meters.  
13 Customers were notified of their leaks. It must be noted that several of  
14 these customer leaks were from irrigation back flow assemblies, which  
15 inherently "spritz and dribble." A summary table of the leak assessment  
16 findings is provided as *Pearce Kunkel Rebuttal Exhibit 1 – Chapel Ridge*  
17 *Leak Detection Summary.*

18 **Q. MR. PEARCE, PLEASE ELABORATE ON THE MONITORING SYSTEM.**

19 A. A District Metering Area ("DMA") system is being pilot tested in the Chapel  
20 Ridge system. The DMA system divided the Chapel Ridge system into five  
21 (5) sub-areas. Each sub-area is continuously monitored and data-logged  
22 for flow at the connection points of the sub-areas to determine atypical flow  
23 in the sub-area. If atypical flow occurs, it allows for early detection and

1 repair. This pilot test is to determine the efficacy of this method of early leak  
2 detection.

3 **Q. MR. PEARCE, IS THERE ANYTHING ELSE THAT CAN BE**  
4 **REASONABLY DONE TO REDUCE WATER LEAKAGE IN CHAPEL**  
5 **RIDGE?**

6 A. Aqua has cautiously reduced the operating pressure in the system by  
7 lowering the water level maintained in the water tank; however, there is risk  
8 of causing supply issues during irrigation periods in the system. Aqua will  
9 continue to evaluate whether the operating pressure can be further reduced.  
10 The only other option which is readily available is the installation of higher  
11 accuracy water (ultrasonic) water meters in the Chapel Ridge system. Aqua  
12 has some concerns about the prudence of this option due to the ability to  
13 tamper with these meters and meter battery life. We have effectively  
14 exhausted our options for leak reduction in the Chapel Ridge system.

15 **Q. MR. PEARCE, PLEASE COMMENT ON FIRE DEPARTMENT FLUSHING**  
16 **DURING HYDRANT TESTING?**

17 A. In Chapel Ridge, the Fire Department periodically flushes and tests the  
18 hydrants. During the rate case test period, the Fire Department flushed  
19 62,000 gallons of water. The value of this water is \$848 at the purchased  
20 water rate of \$13.67 per one thousand gallons. The use of this water for  
21 this purpose is authorized and unbilled. The Fire Department is currently  
22 not funded to pay for this water. If the water loss penalty remains, then the  
23 value of water used for Fire Department flushing and testing should be

1 removed from the calculation, or Aqua should be authorized to assess  
2 charges to Fire Departments who use Aqua's water systems.

3 **Q. MR. PEARCE, WHAT IS YOUR OPINION ON THE 15% STANDARD**  
4 **RECOMMENDED BY WITNESS DARDEN BEING APPLIED TO EVERY**  
5 **PURCHASED WATER SYSTEM?**

6 A. I disagree with this standard. This standard ignores the proactive measures  
7 the Company continues to make to address water loss. It is imposed  
8 without regard to Aqua's active pursuit of water loss measures, the costs  
9 involved in those efforts, and with a lack of evidence of improper operation  
10 or management.

11 **Q. MR. KUNKEL, WHAT ISSUES DO YOU ADDRESS IN YOUR REBUTTAL**  
12 **TESTIMONY?**

13 A. I rebut the testimony of Public Staff witness Darden regarding the  
14 Commission's use of the volumetric percentage performance indicator as  
15 an appropriate type of performance indicator to employ in setting a water  
16 loss standard.

17 **Q. MR. KUNKEL, HAVE YOU REVIEWED THE TESTIMONY OF WITNESS**  
18 **DARDEN IN THIS CASE, AND DO YOU AGREE WITH HER**  
19 **RECOMMENDATIONS?**

20 A. I have reviewed the testimony and do not agree with witness Darden's  
21 recommendations.

22 **Q. MR. KUNKEL, WHAT IS THE BASIS FOR YOUR DISAGREEMENT?**

1 A. In applying a volumetric percentage performance indicator, with a target of  
2 15% as a water loss standard, witness Darden employs a method that is  
3 characterized by the AWWA – the nation’s leading water utility standard-  
4 setting organization – to be imprecise and inappropriate for reliably  
5 assessing non-revenue water levels in drinking water utilities. It is  
6 inappropriate for the Commission to employ a volumetric percentage  
7 performance indicator – classifying a level of 15%, or any other percentage  
8 level – as an appropriate water loss standard. AWWA provides a best-  
9 practice method for drinking water utilities to reliably quantify their level of  
10 non-revenue water and identify achievable and cost-effective non-revenue  
11 water reduction goals.

12 **Q. MR. KUNKEL, HOW DOES WITNESS DARDEN JUSTIFY HER**  
13 **POSITION?**

14 A. Witness Darden testimony states that “The Public Staff asserts that the  
15 appropriate standard of water loss for use in this proceeding is 15%. This  
16 level is consistent with the AWWA’s recommendation that action should be  
17 taken when water loss is 15%.” However, the latter sentence is factually  
18 incorrect. AWWA specifically recommends *against* the use of percentage  
19 indicators of any kind in water loss assessments. Additionally, AWWA does  
20 not support any percentage level of “allowable water loss” because it does  
21 not recognize the use of percentage indicators as valid.<sup>1</sup>

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<sup>1</sup> Jernigan, W, G. Kunkel, G. Trachtman, A. Wyatt, 2020. AWWA Water Loss Control Committee Report: Key Performance Indicators for Non-revenue Water – AWWA’s 2020 Position. *Journal AWWA*, 112 (1): 20.

1 The standard for the Commission to render technically sound and objective  
2 decisions must be a reliable one. Unfortunately, the standard previously  
3 allowed by the Commission does not reliably represent water utility  
4 non-revenue water levels and can result – in some cases – in water utilities  
5 spending money to enact water loss reductions that may never be reflected  
6 by an appropriate change in the percentage performance indicator value.

7 **Q. MR. KUNKEL, WHY DOES THE AMERICAN WATER WORKS**  
8 **ASSOCIATION REGARD VOLUMETRIC PERCENTAGE**  
9 **PERFORMANCE INDICATORS – SUCH AS THE PERCENTAGE USED**  
10 **ON AQUA’S PURCHASED WATER SYSTEMS – TO BE UNRELIABLE?**

11 A. Multiple reasons exist. First, volumetric percentages are unduly influenced  
12 and skewed by changing volumes of customer consumption such as the  
13 shutdown of a large water using customer. In such a case, the percentage  
14 may increase in the next year even if water losses decline. In this way, the  
15 percentage is heavily influenced by a parameter (total customer  
16 consumption) outside of the parameter that it attempts to measure, i.e.,  
17 water loss volumes, making it highly unreliable. Next, AWWA defines  
18 non-revenue water (“NRW”) as the difference between the annual volume  
19 of water supplied into the water distribution system, and the annual volume  
20 of total customer consumption. NRW is then broken into three components:  
21 Unbilled Authorized Consumption (unbilled water authorized by the utility  
22 and not a water loss), Apparent Losses (non-physical losses of under-billing  
23 due to measurement or billing error and theft of service), and Real Losses

1 (leakage and unintended storage tank overflows). The occurrence and  
2 impact of apparent losses and real losses are notably different – as are their  
3 cost impacts – and, thus, different control strategies are needed to quantify  
4 and control each type of loss. Attempting to use a single volumetric  
5 percentage - which hides the volumes of apparent losses and real losses –  
6 does not provide water utilities an ability to directly address specific losses.  
7 Because of this, percentage indicators are not “actionable” for water loss  
8 control; a confirmed reduction in a utility’s apparent or real losses may or  
9 may not move the percentage in an appropriate way. Finally, it is essential  
10 in NRW management to know the cost impact of apparent losses (valued  
11 at the customer retail charge) and real losses (usually valued at the variable  
12 production or purchased water cost). The volumetric percentage reveals  
13 nothing about cost impacts of losses and therefore places water utilities at  
14 the great disadvantage of being pressed to undertake loss control actions  
15 without the cost-effectiveness of such actions being linked to the water loss  
16 standard employed by the Commission.

17 **Q. MR. KUNKEL, DOES AWWA PROVIDE A MEANS OF SETTING UTILITY**  
18 **WATER LOSS STANDARDS THAT ARE SUPERIOR TO THE USE OF**  
19 **VOLUMETRIC PERFORMANCE INDICATORS?**

20 **A.** Yes, this is a best practice approach that was first published by AWWA in  
21 2003 – followed by many subsequent publications and free water audit  
22 software – and is now utilized in several US states - most prominently in  
23 Georgia and California.

1 **Q. MR. KUNKEL, DOES AQUA NORTH CAROLINA PROPOSE AN**  
2 **ALTERNATIVE APPROACH IN QUANTIFYING NON-REVENUE WATER**  
3 **LEVELS FOR USE AS A STANDARD IN ITS WATER SYSTEMS?**

4 A. Yes, the water audit method and performance indicators embodied in the  
5 AWWA M36 manual publication *Water Audits and Loss Control Programs*  
6 (4<sup>th</sup> edition, 2016) and the AWWA Free Water Audit Software (version 5.0,  
7 2014) define this approach and provide a software tool to compile the  
8 AWWA water audit.

9 **Q. MR. KUNKEL, WHAT ARE THE KEY ELEMENTS OF THE**  
10 **ALTERNATIVE APPROACH USING THE AWWA WATER AUDIT**  
11 **METHDOLOGY AND PERFORMANCE INDICATORS AND HOW DO**  
12 **THEY QUANTIFY WATER LOSS LEVELS AND COST IMPACTS IN A**  
13 **WAY THAT COULD BETTER EMPOWER THE COMMISSION IN**  
14 **RENDERING FAIR AND OBJECTIVE DECISIONS ON WATER RATES?**

15 A. The AWWA Water Audit method is rational in assigning quantities to all  
16 components of water supply, customer consumption, and losses - apparent  
17 and real. Because quantities are input for all components, all water is  
18 “accounted-for” and no water is “unaccounted-for.” It is recognized that  
19 some components are quantified in a robust manner while others are often  
20 derived from estimates. The AWWA Free Water Audit Software features a  
21 data grading capability that allows the auditor to assign a grading – or rating  
22 of data integrity – to each component. The grading is a number from 1-10,  
23 with 1 being low validity (rough estimate) and 10 being high validity (robust

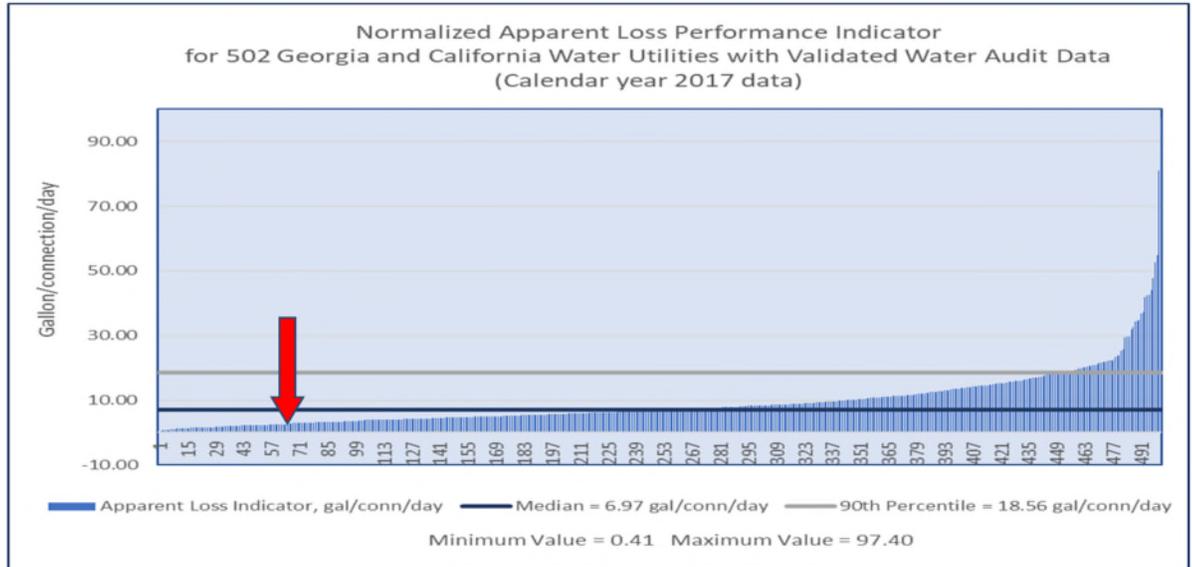
1 number from well-maintained measuring and monitoring structures). The  
2 gradings are used to calculate the Data Validity Score (“DVS”), with an  
3 upper range of 100, that reflects the validity of the water audit. The gradings  
4 and DVS give a rating of the trustworthiness of the water audit data and the  
5 DVS can serve as a performance indicator.

6 In addition to water volumes, the auditor inputs data on water system  
7 characteristics and costs. All of this data is used to calculate a series of  
8 performance indicators, which reflect losses and loss rates for apparent  
9 losses and real losses. Having multiple indicators that represent apparent  
10 and real losses in detail is a robust means of assessing water efficiency,  
11 while a single imprecise volumetric percentage is incapable of providing this  
12 insight. On a general level, the AWWA Water Audit method stresses that  
13 water utilities focus on Volume of losses (apparent and real), the Value (or  
14 cost impacts of annual loss volumes), and Validity (as represented by the  
15 Data Validity Score).

16 The AWWA Free Water Audit Software calculates loss volumes, costs of  
17 losses, and the performance indicators. Collectively, these parameters give  
18 a highly reliable way to quantify non-revenue water and serve as the basis  
19 to set a cost-effective loss control strategy. The most useful AWWA  
20 performance indicators representing losses calculate a normalized unit rate  
21 of loss by dividing the annual loss volume by the number of customer  
22 service connections in the system and placing it on a daily basis to give  
23 units of gallons per service connection per day. One indicator in this form

1 exists for apparent losses and one for real (leakage) losses. Additionally,  
2 for distribution systems with a low density of customer service connections  
3 per mile of system pipeline, an expression of unit leakage losses exists in  
4 the units of gallons/mile of pipeline/day.

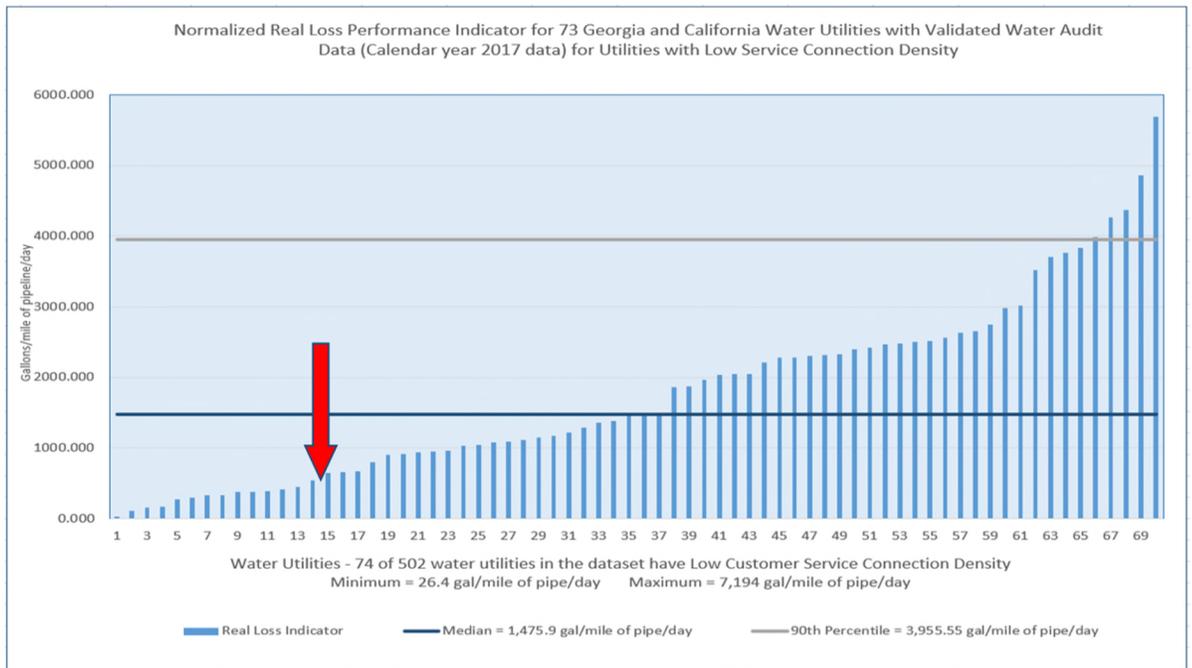
5 As multiple US state and regional regulatory agencies have begun to  
6 employ the AWWA Water Audit method, a growing body of water audit data  
7 has emerged. California and Georgia are the largest programs in terms of  
8 data collection, but also in that the data is carefully reviewed in a data  
9 validation process that provides for data quality control of the water audits  
10 submitted by the water utilities. The data from these two states stands out  
11 as the most reliable to date. In 2019, I conducted a detailed validation of  
12 the AWWA water audit for Aqua North Carolina's Chapel Ridge water  
13 system supplied from the Town of Pittsboro. In figures 1 and 2 the  
14 normalized unit rates of apparent and real losses, respectively, are shown  
15 for this system, and its value is placed in a chart of the same parameter with  
16 over 500 validated water audits from California and Georgia.



**Figure 1 Comparison of Aqua NC Chapel Ridge Water System with the GA/CA Dataset**

**Normalized Apparent Losses: Chapel Ridge value of 4.64 gal/conn/day shown by red arrow**

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**Figure 2 Comparison of Aqua NC Chapel Ridge Water System with the GA/CA Dataset**

**Real (Leakage) Losses – Normalized Real Losses for Low Service Connection Density Systems Chapel Ridge value of 584.21 gal/mile of pipeline/day shown by red arrow**

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1 As shown in these figures, the unit rates of apparent losses and real losses  
2 compare to systems in the lowest quartile of the dataset and are well below  
3 the median values of the California and Georgia data. On a relative basis  
4 compared to the largest validated water audit dataset in the US, the loss  
5 levels in the Chapel Ridge Water System are extremely low. This is a good  
6 reflection on Aqua North Carolina as the operators of this system, but also,  
7 it suggests that further loss reduction here would come with only great effort  
8 and at great expense – and then – with likely only minimal additional  
9 reduction achieved. The cost-effectiveness of such undertakings is highly  
10 questionable. To further validate the low loss findings of the Chapel Ridge  
11 water system audit, the findings of work undertaken by MatchPoint to  
12 measure flows and pressure in small zones known as District Metered  
13 Areas and conduct acoustic leak detection was evaluated. The water audit  
14 quantified the annual leakage volume in the Chapel Ridge water system at  
15 4.478 million gallons in 2018. Dividing this volume by 365 days in the year  
16 and 1,440 minutes in a day calculates to the equivalent of a continuously  
17 running leakage rate of 8.52 gallons per minute (“gpm”). This is equivalent  
18 to two low-volume customer service line leaks, and an extremely small level  
19 of leakage. The acoustic leak detection work conducted by MatchPoint  
20 uncovered only five small leaks on customer service lines that totaled to a  
21 rate of 2.35 gpm. The difference between the water audit average leakage  
22 rate and the rate of leaks detected by MatchPoint may be scattered

1 background leakage (weeps and seeps at joints and fittings) which is not  
2 acoustically detectable.

3 By all measures of the considerable work undertaken on the Chapel Ridge  
4 water system, apparent and real losses are extremely low and efforts to  
5 further reduce them are expensive and likely to result in only minimal  
6 additional reduction. It is most likely that the loss levels existing in the  
7 Chapel Ridge water system exist below the economic level or point where  
8 the cost of loss reduction activities equals the savings in the reduced losses.

9 Pursuing further loss reduction will be cost-inefficient, as more operator and  
10 management time and utility money will be spent on loss reduction activities  
11 than can be recovered in loss reduction. This is not a financially prudent  
12 requirement to impose on Aqua North Carolina for the Chapel Ridge water  
13 system. Yet, the current standard applied to Aqua by the Commission is a  
14 15% loss level. The Chapel Ridge water system volumetric percentage was  
15 approximately 22%. To reduce this percentage to 15%, means that Aqua  
16 North Carolina would need to achieve additional customer billings of  
17 2,743,000 gallons annually, or a drop in imported (purchased) water supply  
18 due to leakage reduction of the same amount (assuming all other  
19 components of the water audit remain unchanged). To achieve this through  
20 leakage reduction an average leakage rate reduction of 5.2 gpm is needed.  
21 The remaining leakage in the Chapel Ridge water system is most likely not  
22 a single leak but the collective leakage from numerous scattered weeps and  
23 seeps occurring as background leakage. It is not cost effective to attempt

1 to locate, repair and/or reduce numerous scattered weeps to reduce  
2 leakage by another 5.2 gpm.

3 For the Commission to effectively monitor and address water losses in  
4 North Carolina water utilities, it should employ performance indicators that  
5 are based directly upon loss levels, apparent and real, that are further  
6 discussed later in this testimony. The AWWA Water Audit method provides  
7 these features in an array of performance indicators, with the unit rates of  
8 apparent and real losses – discussed herein – superior measures compared  
9 to volumetric percentage indicators.

10 **Q. MR. KUNKEL, WHAT IS YOUR RECOMMENDATION FOR THE**  
11 **COMMISSION'S ASSESSMENT OF AQUA'S WATER LOSSES IN THIS**  
12 **DOCKET?**

13 A. In assessing non-revenue water for the purchased water systems of  
14 Aqua North Carolina, the Commission should abandon its use of a  
15 volumetric percentage performance indicator and instead employ the  
16 AWWA Water Audit method performance indicators – the normalized unit  
17 loss rates specifically as shown in Figures 1 and 2.

18 **Q. MR. KUNKEL, DOES THIS CONCLUDE YOUR REBUTTAL**  
19 **TESTIMONY?**

20 A. Yes, it does.

21  
22 **Q. MR. PEARCE, WHAT IS YOUR RECOMMENDATION FOR THE**  
23 **COMMISSION'S ASSESSMENT OF AQUA'S WATER LOSSES IN THIS**  
24 **DOCKET?**

- 1 A. I concur with witness Kunkel and offer the following additional  
2 recommendations:
- 3 1. First, I urge the Commission to not substitute regulatory review, based  
4 on a fixed "standard," for the utility's professional judgment, which is  
5 based on its reliance on a more detailed industry method, site-specific  
6 review, and analysis. Aqua North Carolina should be allowed to  
7 complete Water Loss Audits and focus on those systems which perform  
8 more poorly on the normalized unit loss rates and suspend the  
9 disallowance of actual purchased water costs incurred. Additionally,  
10 Aqua proposes to work with Public Staff to develop an appropriate  
11 metric, such as water loss per connection, water loss per mile, or similar.
- 12 2. Secondly, if the disallowance of actual purchased water costs incurred  
13 is to continue, please recognize that the Chapel Ridge purchased water  
14 loss has been thoroughly investigated and is exceptionally low on a  
15 per-connection basis, as well as on a length of pipeline basis. Thus, I  
16 recommend that no adjustment to purchased water revenue be made in  
17 this proceeding for the Town of Pittsboro purchased water.

18 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

19 A. Yes, it does.

1                   MR. BENNINK: Aqua requests that the prefiled  
2 rebuttal testimony of witness Paul Hanley, consisting of  
3 17 pages, be entered into the record as if given orally  
4 from the witness stand.

5                   COMMISSIONER BROWN-BLAND: That motion is  
6 allowed.

7                   MR. BENNINK: And there were no rebuttal  
8 exhibits attached to that.

9                   COMMISSIONER BROWN-BLAND: All right.

10   (Whereupon, the prefiled rebuttal  
11   testimony of Paul Hanley was copied  
12   into the record as if given orally  
13   from the stand.)

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**STATE OF NORTH CAROLINA  
UTILITIES COMMISSION  
RALEIGH**

DOCKET NO. W-218, SUB 526

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

IN THE MATTER OF  
APPLICATION BY AQUA NORTH CAROLINA, INC.,  
202 MACKENAN COURT, CARY, NORTH CAROLINA 27511,  
FOR AUTHORITY TO ADJUST AND INCREASE RATES FOR WATER  
AND SEWER UTILITY SERVICE IN ALL SERVICE AREAS IN  
NORTH CAROLINA

REBUTTAL TESTIMONY OF  
**PAUL HANLEY**  
ON BEHALF OF  
AQUA NORTH CAROLINA, INC.

June 12, 2020

1 **Q. PLEASE STATE YOUR NAME, YOUR POSITION AS IT RELATES TO**  
2 **AQUA NORTH CAROLINA, INC. (“Aqua”, “Aqua North Carolina”, or**  
3 **“Company”) AND YOUR BUSINESS ADDRESS.**

4 A. My name is Paul Hanley and my business address is 1000 South Schuyler  
5 Avenue, Kankakee, Illinois, 60901. I currently serve as Aqua America’s  
6 Regional Controller. My responsibilities include oversight of the financial  
7 operations and regulated environment for six states within the Aqua  
8 footprint, including Aqua North Carolina. The State Controller for Aqua  
9 North Carolina is my direct report, and his department in North Carolina  
10 reports up through the finance department for Aqua.

11 **Q. PLEASE DESCRIBE YOUR BACKGROUND AND EXPERIENCE.**

12 A. I have almost nineteen years of progressive experience in the water and  
13 wastewater industry and have been employed by Aqua for those nineteen  
14 years. I was employed by Aqua Illinois (formerly Consumers Illinois Water  
15 Company) in Kankakee, Illinois from September 1996 through May 2000  
16 where I served as the Accounting Manager of the state finance department  
17 and State Analyst supporting the regulatory process. From June 2000  
18 through July 2005, I was employed by RAM Consulting in Oak Brook, Illinois  
19 as their Senior Accountant. RAM Consulting was a testing and compliance  
20 consultant in Oak Brook, Illinois. The primary client was McDonald’s, and  
21 RAM’s important responsibility for McDonalds was testing the products and  
22 toys in the Happy Meal product line. I was hired to bring structure and a

1 systematic process to the accounting function. My role with RAM Consulting  
2 included implementation of procedural guidelines and oversight of their  
3 financial operations (nationally and internationally) and implementation of  
4 an Oracle financial system. In August 2005, I was hired back by Aqua  
5 Illinois as their State Controller where I served for almost twelve years until  
6 March 2017. As the Illinois State Controller, I was responsible for the  
7 financial operations of the state, and my roles included the oversight and  
8 accountability of the monthly, quarterly, and annual financial closings and  
9 reporting, SOX and audit compliance, quarterly regulatory and bondholder  
10 filings, budget, forecasting, and 5-year planning, regulatory petitions with  
11 the Illinois Commerce Commission, numerous acquisitions, debt and equity  
12 financings, and other strategic projects. In April 2017, I was promoted to  
13 Regional Controller for Aqua America with financial oversight and support  
14 of the six states: Illinois, Indiana, North Carolina, Ohio, Texas, and Virginia.

15 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE A REGULATORY**  
16 **COMMISSION?**

17 A. Yes, I have testified before the Illinois Commerce Commission in numerous  
18 regulatory filings, that include, but are not limited to, proceedings in base  
19 rates petitions, infrastructure surcharges, acquisitions, debt financings, and  
20 rulemakings.

21 **Q. WHAT ISSUES DO YOU ADDRESS IN YOUR REBUTTAL TESTIMONY?**

22 A. I rebut the testimony of Public Staff witness Lynn Feasel on the following

1 five (5) Public Staff adjustments as described in my testimony:

2 1. An adjustment to allocate executive compensation to shareholders  
3 in the amount of (\$373,874);

4 2. An adjustment to remove 50% of Board of Directors ("BOD")  
5 compensation in the amount of (\$62,072);

6 3. An adjustment to remove 50% of BOD various expenses from  
7 miscellaneous expense in the amount of (\$16,525);

8 4. An adjustment to reflect the allocation from Corporate Services  
9 and Aqua Customer Operations in the amount of (\$242,470); and

10 5. An adjustment to reflect benefits allocated from Corporate  
11 Services in the amount of (\$17,037).

12 **I. ADJUSTMENT TO ALLOCATE EXECUTIVE COMPENSATION TO**  
13 **SHAREHOLDERS**

14  
15 **Q. PLEASE DESCRIBE YOUR UNDERSTANDING OF THE BASIS FOR**  
16 **PUBLIC STAFF WITNESS FEASEL'S ADJUSTMENT OF EXECUTIVE**  
17 **COMPENSATION IN THE AMOUNT OF (\$373,874).**

18 A. Witness Feasel made an adjustment, as reflected in Feasel Exhibit 1,  
19 Schedule 4, Line 9, to reduce operating costs for Executive Compensation  
20 that includes the removal of 50% of the total compensation of the top five  
21 executives, which is comprised of total annual salary, Short-Term Incentive  
22 Plan ("STIP"), Long-Term Incentive Plan ("LTIP"), and Benefits. The Public  
23 Staff has a belief that it is appropriate and reasonable for the shareholders  
24 of the very large water and wastewater utilities to bear some of these costs.

1 Furthermore, witness Feasel states that officers have fiduciary duties of  
2 care and loyalty to shareholders, but not to customers.

3 **Q. DO YOU AGREE WITH MS. FEASEL'S ADJUSTMENT?**

4 A. No, I do not agree with the recommended reduction of 50%. Moreover, I  
5 note that the Public Staff's position, through the testimony of witness  
6 Feasel, ignores and fails to follow the prior decision of the Commission,  
7 which resolved this issue in the W-218, Sub 497 rate case by imposing a  
8 25% adjustment. I believe that the Public Staff's proposed 50% adjustment  
9 is and continues to be excessive and unwarranted. While Aqua continues  
10 to fundamentally disagree with this type of adjustment, at a minimum, the  
11 Company believes the Commission should follow with consistency the  
12 decision it employed in the referenced Sub 497 case. Aqua supports and  
13 requests that the Commission again reject the Public Staff's proposed 50%  
14 adjustment.

15 In its Sub 497 Order, the Commission specifically found that it was not  
16 appropriate to adopt the Public Staff's recommended adjustment to allocate  
17 to shareholders 50% of the compensation, including pension and incentive  
18 plans, of the top five Aqua America executives (Finding of Fact No. 65 at  
19 page 19). Instead, the Commission adopted a 25% adjustment to those  
20 expenses (Finding of Fact No. 66). On page 101 of its Order, the

1 Commission found the Public Staff's proposed adjustment to be  
2 "...unreasonable and not supported by the evidence presented..."<sup>1</sup>

3 **Q. PLEASE EXPLAIN WHY YOU DO NOT BELIEVE THAT THE**  
4 **REASONS ARTICULATED BY WITNESS FEASEL MERIT A 50%**  
5 **REDUCTION IN AQUA AMERICA EXECUTIVE COMPENSATION**  
6 **CHARGED TO EXPENSE.**

7 A. Aqua sets compensation levels for its executives to attract and  
8 retain qualified personnel and to remain competitive in the market.  
9 The efforts of Aqua 's executives ultimately benefit customers  
10 through controlling costs and managing a strong overall company,  
11 which allows it to attract capital at lower costs. This level of  
12 management strength and stability is extremely important in 2020  
13 as the country addresses a pandemic, a potential financial crisis,  
14 and civil unrest. One cannot overstate the importance of  
15 maintaining an unerring focus on key aspects of a major utility's  
16 responsibilities---including critical service quality for water and  
17 wastewater operations, reliability, environmental compliance, and a  
18 high level of safety for Aqua's customers and employees.  
19 Aqua leaders have a responsibility not only to all investors in the  
20 Company, which include both shareholders and bondholders, but

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<sup>1</sup> The Commission premised its decision significantly on the testimony in that proceeding offered by Aqua witness Robert A. Kopas, the retired Regional Controller for Aqua Services, Inc., who testified in support of the Company as a consultant.

1 also to employees and most of all---to customers. Aqua is in a  
2 highly-regulated business both on the environmental and financial  
3 side. Aqua leaders are also charged with the responsibility of  
4 meeting these standards of providing safe and reliable water and  
5 wastewater service to customers served by Aqua in North Carolina.  
6 Only then is Aqua granted an opportunity to earn a return on the  
7 dollars invested by shareholders. In my opinion, the ability of Aqua  
8 as a public utility to meet the needs of its customers is the highest  
9 priority of all Company employees, as only then will the financial  
10 returns be achieved to attract both debt and equity capital needed  
11 in the business. A full compensation package, even for executive  
12 compensation, is a necessary part of the Company's overall cost of  
13 service to meet the needs of its customers, and a ratemaking  
14 adjustment of 50% to Aqua America executive compensation is not  
15 warranted.

16 **II. ADJUSTMENT TO REMOVE 50% OF BOARD OF DIRECTORS' ("BOD")**  
17 **COMPENSATION**

18 **Q. WHAT DID PUBLIC STAFF WITNESS FEASEL ADJUST FOR BOD**  
19 **COMPENSATION IN THE AMOUNT OF (\$62,072)?**

20 **A.** Ms. Feasel made an adjustment, as reflected in Feasel Exhibit 1, Schedule  
21 7, Line 3 to remove 50% of the compensation expenses associated with the  
22 Aqua America BOD.

1 **Q. DO YOU AGREE WITH MS. FEASEL'S ADJUSTMENT?**

2 A. No, I do not agree with the Public Staff's reduction of 50%. Here again, the  
3 Public Staff, through the testimony of witness Feasel, has decided to  
4 relitigate the prior decision of the Commission as explained and adopted in  
5 the Sub 497 case. Although parties and the Commission are generally free  
6 to change positions from case to case, the rationale imposed in the last rate  
7 case served as a guide to the industry and the Public Staff, as well as other  
8 intervenors. Aqua continues to fundamentally disagree with any ratemaking  
9 adjustment here.

10 The Commission, in the Sub 497 rate case Order (at page 104) reached the  
11 following conclusions, in pertinent part, in support of its decision on BOD  
12 compensation and expenses:

13 ...The Commission generally agrees with Aqua NC's  
14 assertions that adequate compensation is required to attract  
15 extremely competent, qualified members of a Board of  
16 Directors to lead a company such as Aqua America, Inc. and  
17 that North Carolina ratepayers and Aqua America, Inc.  
18 shareholders share a mutual interest in a highly skilled and  
19 qualified Board. The Commission also generally agrees that  
20 ratepayers' best interests depend on a regulated utility's  
21 ability to attract capital; in this instance, to support the level of  
22 investment required by Aqua NC as a regulated water and  
23 wastewater service provider in this state. As stated by  
24 Aqua NC, these financial and investment decisions are made  
25 at the parent company level and are integrally related to and  
26 supportive of the local company's ability to provide safe and  
27 reliable service.

28  
29 Again, while Aqua disagrees with any adjustment, if the Commission so  
30 chooses, the Company asserts that an adjustment of 25% for

1           ratemaking purposes is the maximum adjustment which the  
2           Commission should adopt in this case for BOD compensation.

3           **III. ADJUSTMENT TO REMOVE 50% OF BOD VARIOUS EXPENSES AND**  
4           **FEES FROM MISCELLANEOUS EXPENSE**

5           **Q.    WHAT DID PUBLIC STAFF WITNESS FEASEL ADJUST FOR BOD**  
6           **VARIOUS EXPENSES AND FEES IN THE AMOUNT OF (\$16,525)?**

7           A.    Witness Feasel made an adjustment, as reflected in Feasel Exhibit 1  
8           Schedule 7, Lines 4-6 to remove 50% of the miscellaneous expenses  
9           (insurance and other fees) associated with the Aqua America BOD.

10          **Q.    DO YOU AGREE WITH WITNESS FEASEL'S ADJUSTMENT?**

11          A.    No, Aqua does not agree with the Public Staff's proposed 50% reduction.  
12           For the reasons enunciated previously in my rebuttal testimony regarding  
13           both Executive and BOD Compensation, the Company requests that the  
14           Commission also reject the Public Staff's position on this issue. As  
15           with the Executive and BOD Compensation issues, if the  
16           Commission feels that an adjustment is necessary, Aqua urges the  
17           Commission to adhere to the Sub 497 case precedent. The 50%  
18           ratemaking adjust proposed by the Public Staff is unreasonable and  
19           unjustified by the facts presented.

20          **IV. ADJUSTMENTS TO REFLECT THE ALLOCATION FROM CORPORATE**  
21          **SERVICES AND AQUA CUSTOMER OPERATIONS**

22          **Q.    WHAT DID PUBLIC STAFF WITNESS FEASEL ADJUST FOR THE**  
23          **ALLOCATION FROM CORPORATE SERVCIES AND AQUA**  
24          **CUSTOMER OPERATIONS IN THE AMOUNT OF (\$242,470)?**

1 A. Witness Feasel made an adjustment, as reflected in Feasel Exhibit 1,  
2 Schedule 4, Lines 10-11 to reduce operating costs for (1) the salaries of  
3 nineteen open positions that were allocated to Aqua North Carolina from  
4 Corporate Services and the Aqua Customer Operations (“ACO”) team;  
5 (2) 35% for the short-term incentive bonus plan allocated to Aqua North  
6 Carolina from Corporate Services and ACO; and (3) 50% for the stock  
7 options and awards allocated to Aqua North Carolina from Corporate  
8 Services and the ACO. The Public Staff’s adjustments would allocate the  
9 adjusted amounts to the Company’s shareholders.

10 **Q. DO YOU AGREE WITH WITNESS FEASEL’S ADJUSTMENT IN THE**  
11 **AMOUNT OF (\$242,470)?**

12 A. No, I do not agree with the reduction of (\$242,470) as I will further explain  
13 below. The Company asserts that the following proposed adjustments  
14 should not reduce our operating costs:

- 15 1. \$91,121 for nineteen open positions for Corporate Services  
16 and Aqua Customer Operations;
- 17 2. \$58,577 for 35% of bonuses for Corporate Services  
18 employees;
- 19 3. \$76,222 for 50% of Restricted Share Units/Performance  
20 Share Units/Stock Options for Corporate Services employees;
- 21 4. \$12,350 for 35% of bonuses for Aqua Customer Operations  
22 employees; and
- 23 5. \$4,200 for 50% of Restricted Share Units/Performance Share  
24 Units/Stock Options for Aqua Customer Operations  
25 employees;  
26  
27  
28  
29  
30

1           Regarding the nineteen vacant positions from Aqua Customer Operations  
2           and Corporate Services whose allocated salaries were removed from the  
3           Company's cost of service by the Public Staff, Aqua contends that the  
4           Staff's proposed ratemaking adjustment should be denied by the  
5           Commission. These positions, which were filled during most if not all of the  
6           test year, were vacant as of March 31, 2020 (the close of the update period).  
7           These are all critical positions in Corporate Services and ACO which must  
8           be filled to support all Aqua's operations (including customers) and for which  
9           no ratemaking adjustment is appropriate in this case. Efforts to fill these  
10          positions have been slowed during the recent work from home assignments.  
11          None of the positions have been eliminated; one has been filled by a  
12          temporary employee. In fact, since actual costs are allocated to the Aqua  
13          states during the historical test year, any vacancies during the test year  
14          would result in no costs allocated for any positions which are open.  
15          **Therefore, the allocated costs, or lack thereof, from Corporate**  
16          **Services and Aqua Customer Operations already contain a level of**  
17          **vacancies before they reach Aqua North Carolina.** Aqua urges the  
18          Commission to deny the Public Staff's proposed adjustment for this  
19          legitimate allocated salary expense which has been charged to Aqua.  
20          The reasons which support Aqua's opposition to the remainder of these  
21          adjustments in the total amount of (\$151,349) for incentive compensation  
22          will be set forth in the next section of my rebuttal testimony which discusses

1 Public Staff adjustments to reflect benefits allocated from Corporate  
2 Services.

3 **V. ADJUSTMENTS TO REFLECT BENEFITS ALLOCATED FROM**  
4 **CORPORATE SERVICES**  
5

6 **Q. WHAT DID PUBLIC STAFF WITNESS FEASEL ADJUST FOR BENEFITS**  
7 **ALLOCATED FROM CORPORATE SERVICES IN THE AMOUNT OF**  
8 **(\$17,037)?**

9 A. Ms. Feasel made an adjustment, as reflected in Feasel Exhibit 1, Schedule  
10 5, Line 4 to reduce operating costs for benefits that were allocated from  
11 Corporate Services and Aqua Customer Operations and allocated them to  
12 the Company's shareholders.

13 **Q. DO YOU AGREE WITH ANY OF WITNESS FEASEL'S ADJUSTMENTS**  
14 **AS DISCUSSED IN SECTIONS IV AND V OF THIS REBUTTAL**  
15 **TESTIMONY?**

16 A. No, I do not agree with any of the separate parts of the proposed reductions  
17 totaling (\$242,470) and (\$17,037), as I will explain below.

18 **Q. PLEASE EXPLAIN WHY YOU DO NOT BELIEVE THAT THE**  
19 **REASONS ARTICULATED BY WITNESS FEASEL MERIT A**  
20 **RATEMAKING ADJUSTMENT TO COSTS FOR CORPORATE**  
21 **SERVICES AND AQUA CUSTOMER OPERATIONS.**

22 A. As described above, Aqua America sets compensation levels to  
23 attract and retain qualified personnel. The total compensation

1 packages may assist with the retention of our employees in the  
2 corporate services and customer operations divisions; areas that  
3 directly impact the satisfaction of our customers. Some of the  
4 employees have direct contact with our customers, and I completely  
5 disagree with cost cutting for these important positions in our  
6 Company. Therefore, Aqua disagrees with the reduction to Aqua's  
7 Customer Operations and Aqua Corporate Services costs in the  
8 amounts of (\$242,470) and (\$17,037).

9 In the Aqua Sub 497 Rate Case, the Public Staff proposed an  
10 accounting adjustment to allocate 30% of North Carolina  
11 Supervisory employee bonuses to shareholders. The Commission  
12 found that the Public Staff's proposed adjustment was inappropriate  
13 (See Finding of Fact No. 64 on page 19 of the Sub 497 Rate Case  
14 Order). In so ruling, the Commission once again premised its decision  
15 significantly on the testimony in that proceeding offered by Aqua witness  
16 Kopas, which I hereby adopt by reference in support of my testimony in this  
17 proceeding.

18 The Commission, in the Sub 497 rate case Order (at pages 94 - 96) reached  
19 the following conclusions, in pertinent part, in support of its decision on the  
20 Staff's proposed adjustment to allocate 30% of North Carolina  
21 Supervisory employee bonuses to shareholders:  
22

1 Aqua NC witness Kopas testified on rebuttal that he  
2 disagreed with Public Staff witness Henry's adjustment to  
3 allocate 30% of bonuses paid to North Carolina supervisory  
4 employees to shareholders. Witness Kopas stated that, for  
5 the reasons set forth in his testimony regarding the  
6 Company's opposition to the Public Staff's accounting  
7 adjustment to executive compensation, the STI is part of the  
8 total compensation paid to attract and retain qualified  
9 supervisory employees at Aqua NC. He testified that this  
10 financial metric reinforces to employees that it is their  
11 responsibility to serve Aqua NC's customers in a prudent and  
12 efficient manner. He further testified that the Company's  
13 ability to provide reliable service to its customers is directly  
14 related to its financial viability and linking a portion of those  
15 employees' compensation to a financial target encourages  
16 employees to achieve customer-based objectives in a cost-  
17 efficient manner. Witness Kopas testified that the STI (or  
18 supervisory bonus) program for Aqua NC has been in place  
19 without any ratemaking adjustment having been proposed or  
20 made in the Company's last two rate case proceedings.  
21

22 After reviewing all of the evidence presented, the  
23 Commission concludes that the Public Staff's proposed  
24 adjustment to exclude 30% of the bonuses paid to North  
25 Carolina supervisory employees in the amount of \$29,648  
26 from the cost of service in this case is unreasonable and  
27 inappropriate for the reasons testified to by Aqua NC witness  
28 Kopas.  
29

30 First, the Commission gives substantial weight to Aqua  
31 NC witness Kopas' rebuttal testimony that Aqua NC's STI is  
32 part of the total compensation paid to attract and retain  
33 qualified supervisory employees who actually work for Aqua  
34 NC in North Carolina and directly provide service to customers  
35 in this State in a manner designed to ensure that those  
36 customers are served in a prudent and efficient manner.  
37

38 Second, the Commission gives great weight to witness  
39 Kopas' testimony that linking a portion of the compensation of  
40 North Carolina supervisory personnel to a financial target, as  
41 is the case with the STI, clearly encourages those employees  
42 to achieve customer-based objectives in a cost-effective  
43 manner.  
44

1 Third, the Commission gives little weight to Public Staff  
2 witness Henry's testimony, which emphasizes his earnings  
3 per share analysis as essentially benefiting only the Aqua  
4 America shareholders' value with no stated benefit to  
5 ratepayers. The Commission agrees with Aqua NC that  
6 employee compensation packages that include financial  
7 metrics appropriately incentivize individuals to achieve goals  
8 that support strong operations of a company that ultimately  
9 does benefit ratepayers.

10  
11 Further, the Commission concludes that if it approved  
12 the Public Staff's position on this issue, it would send the  
13 wrong message to Aqua NC and its North Carolina-based  
14 supervisory personnel. The Public Staff does not propose to  
15 exclude any of the salaries or other benefits earned by Aqua  
16 NC's North Carolina supervisory personnel in this case, and  
17 the Commission finds no reasonable basis to exclude any  
18 portion of the STI program from the Company's cost of service  
19 in this proceeding. Also, the Commission notes that witness  
20 Kopas specified that there have been no similar ratemaking  
21 adjustments either proposed or made in Aqua NC's last two  
22 rate case proceedings

23  
24 **Q. WHY DO YOU CITE THE ABOVE-QUOTED LANGUAGE FROM THE**  
25 **COMMISSION'S SUB 497 RATE CASE ORDER AT THIS POINT IN**  
26 **YOUR TESTIMONY?**

27 A. Aqua believes and asserts that the rationale used by the  
28 Commission in the Sub 497 Order, as quoted above, is also  
29 applicable to the ratemaking adjustments proposed by the Public  
30 Staff as discussed in Sections IV and V of this rebuttal testimony.  
31 The services provided to Aqua North Carolina by employees in  
32 Corporate Services and Aqua Customer Operations provide  
33 services directly to the Company as it provides water and sewer  
34 service to its customers. These services are centralized to provide

1 economies of scale to each state's operation they support and  
2 reduce the cost that may otherwise be necessary for each state to  
3 maintain these same redundant services independently. Aqua  
4 admits that these employees are not directly employed by the  
5 Company, but they provide services which are critical to Aqua's  
6 ability to provide "adequate, efficient and reasonable service" to its  
7 customers as required by G.S. 62-131(b). In fact, nearly forty  
8 Customer Service Representatives ("CSRs"), who work from a  
9 customer call center which is located in Cary, North Carolina, have  
10 direct interactions with Aqua's customer base on a daily basis. The  
11 Public Staff's attempt to adjust responsibility for the specified valid  
12 expenses under discussion is misguided, incorrect, and not justified  
13 by the facts. Approval of any or all these proposed ratemaking  
14 adjustments would send the wrong message in that it will only  
15 embolden the Public Staff to continue to propose meritless  
16 positions in the future.

17 **Q. WHAT DOES AQUA RECOMMEND IN THIS CURRENT PROCEEDING?**

18 A. Compensation and benefits, whether for the Aqua America Executives,  
19 Board of Directors, Corporate Services, or Aqua Customer Operations  
20 employees, unquestionably benefit both ratepayers and shareholders.  
21 These individuals---through their governance and vital contributions to the  
22 operation of Aqua's business---have a fiduciary responsibility to maintain a

1 high level of quality. This requires great proficiency as they guide, direct,  
2 and contribute to Aqua's impact---as an essential water and sewer utility  
3 service provider---on the environment, on customers' welfare and safety,  
4 and on economic development. The relationships among ratepayers,  
5 shareholders, and employees are greatly enhanced when the leaders of  
6 Aqua align the interests of all parties and society as a whole. Considering  
7 these facts, Aqua requests the Commission to adopt the Company's  
8 position on the significant issues addressed by this rebuttal testimony.

9 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

10 **A.** Yes, it does.



**STATE OF NORTH CAROLINA  
UTILITIES COMMISSION  
RALEIGH**

DOCKET NO. W-218, SUB 526

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

IN THE MATTER OF  
APPLICATION BY AQUA NORTH CAROLINA, INC.,  
202 MACKENAN COURT, CARY, NORTH CAROLINA 27511,  
FOR AUTHORITY TO ADJUST AND INCREASE RATES FOR WATER  
AND SEWER UTILITY SERVICE IN ALL SERVICE AREAS IN  
NORTH CAROLINA

PREFILED REBUTTAL TESTIMONY OF  
**DYLAN W. D'ASCENDIS, CRRA, CVA**  
ON BEHALF OF  
AQUA NORTH CAROLINA, INC.

June 2, 2020

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1 **I. INTRODUCTION**

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

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

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

6 A. I am a Director at ScottMadden, Inc. ("ScottMadden").

7 **Q. ARE YOU THE SAME DYLAN W. D'ASCENDIS THAT PROVIDED**  
8 **DIRECT TESTIMONY IN THIS PROCEEDING?**

9 A. Yes, I am.

10 **II. PURPOSE OF TESTIMONY**

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

13 A. The purpose of my rebuttal testimony is two-fold. First, I will update my  
14 recommended weighted average cost of capital ("WACC"), including my  
15 recommended return on common equity ("ROE"). Second, I will respond to  
16 the direct testimony of John R. Hinton, witness for the Public Staff of the  
17 North Carolina Utilities Commission ("Public Staff") concerning the investor  
18 required ROE of Aqua North Carolina, Inc. ("Aqua NC" or the "Company").

19 **Q. HAVE YOU PREPARED AN EXHIBIT IN SUPPORT OF YOUR**  
20 **REBUTTAL TESTIMONY?**

21 A. Yes. I have prepared D'Ascendis Rebuttal Exhibit No. 1, which consists of  
22 Schedules DWD-1R through DWD-11R.

1 **III. SUMMARY**

2 **Q. WHAT CONCLUSIONS DID YOU REACH?**

3 A. Based on my updated analysis I recommend the North Carolina Utilities  
 4 Commission (“Commission” or “NCUC”) authorize the Company the  
 5 opportunity to earn a WACC of 7.61%, based on a ratemaking capital  
 6 structure as of March 31, 2020. The updated capital structure is based on  
 7 the Company’s actual capital structure at March 31, 2020 which consists of  
 8 50.00% long-term debt at an embedded cost rate of 4.21% and 50.00%  
 9 common equity at my updated recommended ROE of 11.00%. My updated  
 10 recommended overall rate of return is summarized on page 1 of Schedule  
 11 DWD-1R and in Table 1, below:

12 **Table 1: Summary of Overall Rate of Return**

<u>Type of Capital</u>	<u>Ratios</u>	<u>Cost Rate</u>	<u>Weighted Cost Rate</u>
Long-Term Debt	50.00%	4.21%	2.11%
Common Equity	<u>50.00%</u>	11.00%	<u>5.50%</u>
Total	<u>100.00%</u>		<u>7.61%</u>

13 **Q. PLEASE SUMMARIZE YOUR RESPONSE TO MR. HINTON.**

14 A. In my response to Mr. Hinton’s estimation of the Company’s ROE I explain  
 15 its shortcomings, including:

- 16 • His misapplication of the discounted cash flow (“DCF”) model;
- 17 • His misapplication of the risk premium model (“RPM”);
- 18 • His failure to account for size-specific risks;
- 19 • His failure to reflect flotation costs; and

- 1                   • His opinion that the approval of the Company’s requested  
2                   consumption adjustment mechanism (“CAM”) in this proceeding  
3                   requires a downward adjustment to the estimated ROE.

4                   Also, in my response, I address Mr. Hinton’s opinions regarding  
5                   current capital markets. My corrections and adjustments to Mr. Hinton’s  
6                   analysis result in an indicated ROE of 10.05% before any adjustments for  
7                   Aqua NC’s small size and flotation costs.

8   **IV. UPDATED ANALYSIS**

9   **Q. PLEASE DISCUSS YOUR UPDATED ANALYSIS IN THIS PROCEEDING.**

10   A. My updated study, which reflects current investor expectations, is as of April  
11       30, 2020 and is contained in Schedule DWD-1R.

12   **Q. DID YOU UPDATE YOUR PROXY GROUP BY APPLYING YOUR  
13       SELECTION CRITERIA<sup>1</sup> TO 2019 ANNUAL DATA?**

14   A. Yes, I did. The screening of the *Value Line Investment Survey* (“*Value  
15       Line*”) water utility group through my selection criteria resulted in the same  
16       proxy group used by Mr. Hinton in his analysis.<sup>2</sup>

17   **Q. HAVE YOU PROVIDED ADDITIONAL ANALYSES BASED ON THE  
18       COMMISSION’S FINAL ORDER IN DOCKET NOS. W-354, SUBS 363,**

---

<sup>1</sup> D’Ascendis Direct Testimony, at 15.

<sup>2</sup> The resulting water utility proxy group consists of American States Water Co., American Water Works, Co., Inc., California Water Service Group, Essential Utilities, Inc., Middlesex Water Co., SJW Group, and York Water Co.

1           **364, AND 365 CONCERNING CAROLINA WATER SERVICE OF NORTH**  
2           **CAROLINA, INC.?**

3           A.     Yes. Even though I do not agree with using current interest rates in a rate  
4           of return analysis, as will be discussed below, I have presented an ROE  
5           analysis which exclusively uses current interest rates in addition to my  
6           updated analysis.

7           **Q.     ARE THERE ANY CHANGES TO YOUR ANALYSES BASED ON MR.**  
8           **HINTON'S DIRECT TESTIMONY?**

9           A.     Yes. Regarding Mr. Hinton's discussion of flotation costs,<sup>3</sup> he points out  
10          that the Commission has not accepted flotation costs for equity issuances  
11          not issued during the test year or in the immediate future. While I do not  
12          agree that only test year equity issuances should be included in a flotation  
13          cost adjustment (as common equity is outstanding in perpetuity), as  
14          discussed in my direct testimony<sup>4</sup> and to limit the areas of disagreement, I  
15          have only included share issuances of Essential Utilities, Inc. that occurred  
16          during the test year in my updated calculation of flotation costs.

17          **Q.     APART FROM THE ABOVE EXCEPTIONS, HAVE YOU APPLIED THE**  
18          **ROE MODELS IN THE SAME MANNER AS YOU APPLIED THEM IN**  
19          **YOUR DIRECT TESTIMONY?**

20          A.     Yes.

---

<sup>3</sup> Hinton Direct Testimony, at 44-45.

<sup>4</sup> D'Ascendis Direct Testimony, at 52-54.

1 **V. RESPONSE TO MR. HINTON'S COMMENTS ON CURRENT CAPITAL**  
2 **MARKET CONDITIONS**

3 **Q. PLEASE SUMMARIZE MR. HINTON'S OPINIONS OF CURRENT**  
4 **CAPITAL MARKET CONDITIONS.**

5 A. First, Mr. Hinton reviews A-rated utility bond yields, which have declined by  
6 approximately 90 basis points since the Company's last rate case (Docket  
7 No. W-218, Sub 497, final order December 18, 2018).<sup>5</sup> Second, Mr. Hinton  
8 discusses the effect of the Coronavirus on water utility stocks, concluding  
9 that water stocks survived the crash relatively well compared to the rest of  
10 the market, partially attributing it to water utility stock's low betas.<sup>6</sup> Third  
11 and finally, due to decreasing interest rates and previous inaccuracies in  
12 forecasted interest rates, Mr. Hinton relies on current interest rates in his  
13 analyses.<sup>7</sup>

14 Specific to economic conditions in North Carolina, Mr. Hinton  
15 reviewed the economic well-being of each county as measured by the North  
16 Carolina Department of Commerce served by Aqua NC and determined that  
17 the average well-being of Aqua NC's customers is above average for the  
18 state.<sup>8</sup> As to the impact of the Coronavirus on Aqua NC's customers, Mr.  
19 Hinton concludes that it is too early to gauge the economic impact, but is

---

5 Hinton Direct Testimony, at 13.

6 *Ibid.*, at 14.

7 *Ibid.*, at 17-18.

8 *Ibid.*, at 35-36.

1 optimistic that the current economic slowdown will abate as the state  
2 reopens in the third and fourth quarters of 2020.<sup>9</sup>

3 **Q. DO YOU HAVE ANY COMMENT ON MR. HINTON'S OPINIONS**  
4 **REGARDING CURRENT MARKET CONDITIONS IN GENERAL?**

5 A. Yes, I do. I agree with Mr. Hinton that A-rated public utility bonds have  
6 declined about 90 basis points since Docket No. W-218, Sub 497.<sup>10</sup> This  
7 reduction is reflected in the debt cost rates requested by the Company over  
8 that period of time. As noted by Mr. Hinton, the Company's embedded long-  
9 term debt cost rate has fallen by 40 basis points over that same timeframe.  
10 This shows that the Company is securing low cost capital for the benefit of  
11 their customers. It must also be noted that Mr. Hinton acknowledges that  
12 declines in interest rates do not translate into like declines in the investor-  
13 required return.<sup>11</sup>

14 To that point, one should look at more than one market measure to  
15 gauge whether the cost of equity has changed in a meaningful way. For  
16 example, during Docket No. W-218, Sub 497, market data was considered  
17 within the period of January 12, 2018 (my direct analysis) through  
18 December 18, 2018 (the final order). The annualized volatilities<sup>12</sup> of the  
19 Utility Proxy Group's prices and the S&P 500 price over this period were

---

9 *Ibid.*, at 36.

10 *Ibid.*, at 13.

11 *Ibid.*, at 30.

12 The annualized volatility of a stock is measured by taking the standard deviation of the price changes within the sample and multiplying by the square root of 252 (the assumed number of trading days in a year).

1 24.40% and 16.19%, respectively. The time frame of this proceeding so far  
2 has encompassed the period from October 18, 2019 through April 30, 2020.  
3 The annualized volatilities of the Utility Proxy Group prices and the S&P 500  
4 price over this time period are 62.17% and 42.27%, respectively, a notable  
5 increase in volatility (risk) in both the water utility industry and the market as  
6 a whole, which would most certainly increase the investor required-return.  
7 Also, note that during both periods, the average annualized volatility of the  
8 Utility Proxy Group exceeded that of the S&P 500.

9           Regarding the water utility industry's relative performance to the  
10 market during the Coronavirus, I respectfully disagree with Mr. Hinton that  
11 "water utility stocks have survived the stock market crash relatively well."<sup>13</sup>  
12 As shown on Schedule DWD-2R, the average year-to-date<sup>14</sup> return for the  
13 Utility Proxy Group is -9.59%, whereas the year-to-date return for the S&P  
14 500 is -9.85%, which would indicate that the Coronavirus has had a similar  
15 effect on both the water industry and the market as a whole. However,  
16 absolute return levels are not an indication of the risk of these returns; the  
17 volatility of these returns is a measure of risk. As shown on Schedule DWD-  
18 2R, the average annualized volatility year-to-date for the Utility Proxy Group  
19 is 78.03%, which is significantly higher than the 53.55% annualized volatility  
20 of the S&P 500 over the same period.

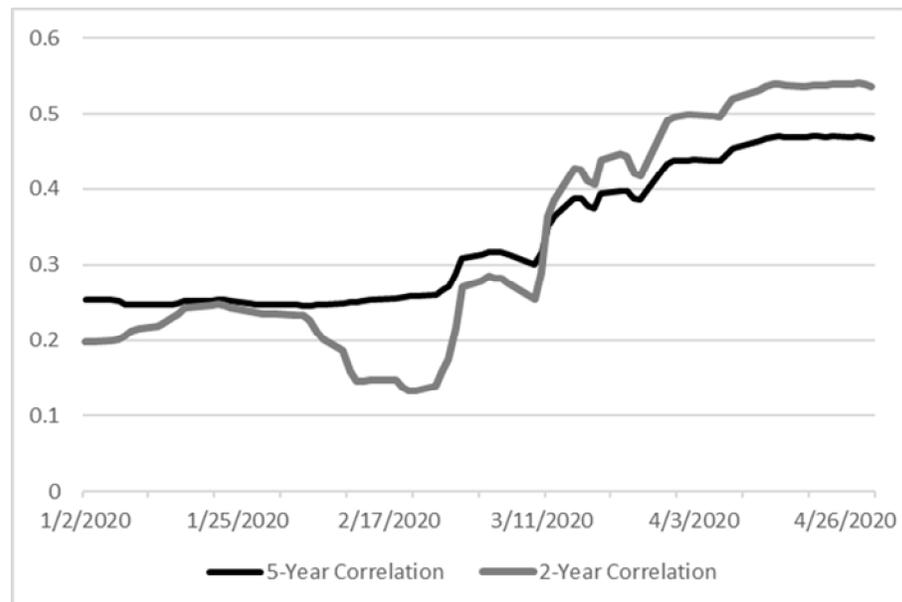
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<sup>13</sup> Hinton Direct Testimony, at 14.

<sup>14</sup> Period ending April 30, 2020.

1            Additionally, I assessed the correlation of the changes in prices in  
 2 the Utility Proxy Group with the changes in prices of the S&P 500 to  
 3 determine whether there was any relationship between the two during the  
 4 current crisis. As shown in Chart 1 below, as the Coronavirus threat  
 5 became apparent, the correlation between the price changes of the Utility  
 6 Proxy Group and the price changes of the S&P 500 increased from near 0.2  
 7 to near 0.55 (using a 2-year correlation, consistent with Bloomberg beta  
 8 calculations) and from 0.25 to 0.45 (using a 5-year correlation, consistent  
 9 with *Value Line* beta calculations) since January 2, 2020.

10            **Chart 1: Correlation Between Price Movements of the Utility Proxy**  
 11            **Group and S&P 500 Since January 1, 2020**



12            This increase in correlation between price changes for the Utility  
 13 Proxy Group and those for the S&P 500 will ultimately result in higher betas  
 14 over time for the members of the Utility Proxy Group. This is evidenced in  
 15

1 the difference between the Bloomberg and *Value Line* betas for the Utility  
2 Proxy Group as shown on page 23 of Schedule DWD-1. Because of  
3 Bloomberg's shorter calculation horizon (two years), it is more reactive to  
4 current events than *Value Line* betas (five years) showing the current  
5 increased correlation between members of the Utility Proxy Group and the  
6 S&P 500.

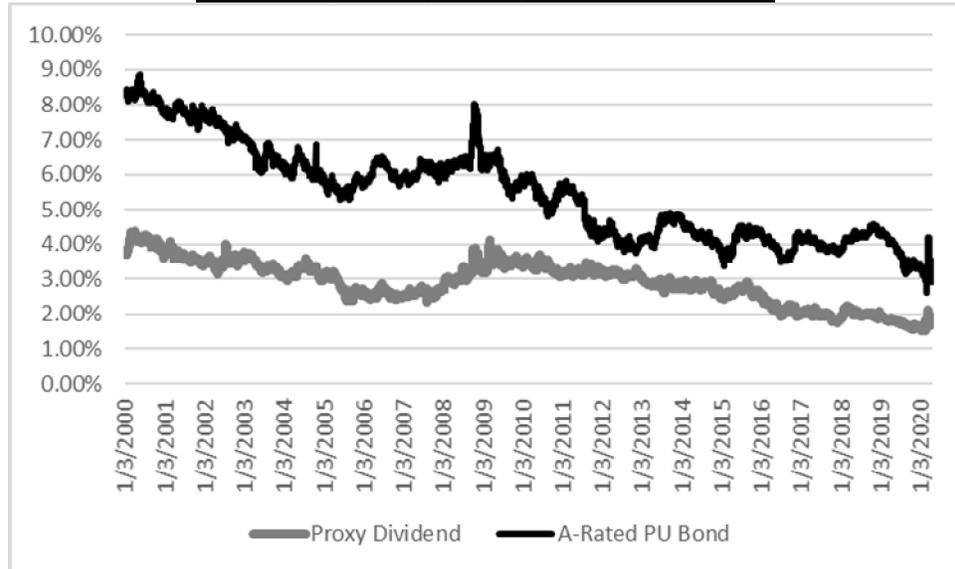
7 **Q. MR. HINTON ASSERTS THAT PURCHASES OF COMMON STOCKS OF**  
8 **UTILITIES ARE VIEWED AS FIXED INCOME INVESTMENTS BY**  
9 **INVESTORS.<sup>15</sup> DO YOU AGREE WITH HIS GENERALIZATION?**

10 A. No. Fixed income investments are investments without the volatility of stock  
11 prices and produce income through the payment of coupon payments on  
12 bonds or dividends on preferred stocks. The market data of the Utility Proxy  
13 Group exhibits significant price volatility, as shown in Schedule DWD-2R,  
14 and it does not produce significant income based on its dividend yield. As  
15 shown on Chart 2, below, the dividend yield for the Utility Proxy Group is  
16 steadily and significantly below the A-rated public utility bond yield.

---

<sup>15</sup> Hinton Direct Testimony, at 16.

**Chart 2: A-Rated Public Utility Bond Yields and Dividend Yields of the Utility Proxy Group 2000 – Present**



Given the lower dividend yield and higher price volatility of water utility stocks, no rational income investor would consider a water utility stock an income investment.

**Q. DO YOU HAVE ANY COMMENTS ON MR. HINTON'S DISCUSSION ABOUT ECONOMIC CONDITIONS SPECIFIC TO NORTH CAROLINA?**

**A.** Yes. As to the current economic conditions and their effect on Aqua NC's customers, I generally agree with Mr. Hinton's conclusions that the full effect of the Coronavirus on Aqua NC's customers is yet to be determined, and that once the crisis passes, the economic slowdown will diminish.

1 **Q. DO YOU BELIEVE THAT CURRENT INTEREST RATES ARE**  
2 **APPROPRIATE FOR THE ESTIMATION OF THE COST OF COMMON**  
3 **EQUITY IN THIS PROCEEDING?**

4 A. No. Using current measures, like interest rates, are inappropriate for cost  
5 of capital and ratemaking purposes because both cost of capital and  
6 ratemaking are prospective in nature. The cost of capital, including the cost  
7 rate of common equity, is expectational in that it reflects investors'  
8 expectations of future capital markets, including an expectation of interest  
9 rate levels, as well as future risks. Ratemaking is prospective in that the  
10 rates set in this proceeding will be in effect for a period in the future.

11 Even though Mr. Hinton relies, in part, on projected growth rates in  
12 his DCF analyses, noting that growth in the DCF is expected,<sup>16</sup> he fails to  
13 apply that logic to selecting an appropriate interest rate in his RPM analysis.  
14 Whether Mr. Hinton believes those forecasts will prove to be accurate is  
15 irrelevant to estimating the market-required cost of common equity.  
16 Published industry forecasts, such as *Blue Chip Financial Forecasts'* ("*Blue*  
17 *Chip*") consensus interest rate projections, reflect industry expectations.  
18 Additionally, investors' expectations are not improper inputs to cost of  
19 common equity estimation models simply because prior projections were  
20 not proven correct in hindsight. As the Federal Energy Regulatory  
21 Commission ("FERC") noted in Opinion No. 531, "the cost of common equity

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<sup>16</sup> *Ibid.*, at 24.

1 to a regulated enterprise depends upon what the market expects, not upon  
2 what ultimately happens.”<sup>17</sup> Because our analyses are predicated on  
3 market expectations, the expected increase in bond yields is a measurable,  
4 observable, and relevant data point that should be reflected in Mr. Hinton’s  
5 analysis. Therefore, Mr. Hinton should have used forecasted interest rates  
6 in his analysis.

7 **VI. RESPONSE TO MR. HINTON’S COST OF COMMON EQUITY CAPITAL**  
8 **ANALYSIS**

9 **Q. WHAT ARE MR. HINTON’S RECOMMENDATIONS FOR THE**  
10 **COMPANY’S WACC, INCLUDING HIS RECOMMENDED ROE?**

11 A. Mr. Hinton recommends that the Commission establish an overall rate of  
12 return of 6.56%, based on a capital structure consisting of 50.00% long-  
13 term debt at an embedded cost rate of 4.21%, and 50.00% common equity  
14 at his recommended cost of common equity of 8.90%,<sup>18</sup> which includes a  
15 10 basis point downward adjustment for the Company’s requested CAM.  
16 Mr. Hinton’s ROE recommendation is based on the average of his DCF  
17 (8.60%) and RPM (9.40%) results less his 10-basis point downward  
18 adjustment for the CAM.<sup>19</sup>

---

<sup>17</sup> Opinion No. 531, 150 FERC ¶ 61,165 at P 88.

<sup>18</sup> Hinton Direct Testimony, at 33.

<sup>19</sup> *Ibid.*, at 31.

1 **Q. DO YOU HAVE ANY GENERAL COMMENTS ON MR. HINTON'S**  
2 **RECOMMENDED ROE?**

3 A. Yes. Mr. Hinton relies exclusively on two models, the DCF and the RPM,  
4 in his ROE analysis.<sup>20</sup> In Docket Nos. W-354, Subs 363, 364, and 365,  
5 Mr. Hinton employed both the CAPM and the Comparable Earnings Model  
6 ("CEM"), albeit as checks, in his ROE analysis.<sup>21</sup> As discussed in my direct  
7 testimony,<sup>22</sup> the use of multiple models adds reliability to the estimation of  
8 the common equity cost rate, and the prudence of using multiple cost of  
9 common equity models is supported in both the financial literature and  
10 regulatory precedent.

11 **Q. CAN YOU PLEASE PROVIDE SOME EXAMPLES FROM THE**  
12 **FINANCIAL LITERATURE WHICH SUPPORT THE USE OF MULTIPLE**  
13 **COST OF COMMON EQUITY MODELS IN DETERMINING THE**  
14 **INVESTOR-REQUIRED RETURN?**

15 A. Yes. In one example, Morin states:

16 Each methodology requires the exercise of considerable  
17 judgment on the reasonableness of the assumptions  
18 underlying the methodology and on the reasonableness of the  
19 proxies used to validate a theory. The inability of the DCF  
20 model to account for changes in relative market valuation,  
21 discussed below, is a vivid example of the potential  
22 shortcomings of the DCF model when applied to a given  
23 company. Similarly, the inability of the CAPM to account for  
24 variables that affect security returns other than beta tarnishes  
25 its use.

---

<sup>20</sup> *Ibid.*, at 23.

<sup>21</sup> Docket Nos. W-354, Subs 363, 364, and 365, Hinton Direct Testimony, at 33-34.

<sup>22</sup> D'Ascendis Direct Testimony, at 44.



\* \* \*

1  
2 While it is certainly appropriate to use the DCF methodology  
3 to estimate the cost of equity, there is no proof that the DCF  
4 produces a more accurate estimate of the cost of equity than  
5 other methodologies. Sole reliance on the DCF model  
6 ignores the capital market evidence and financial theory  
7 formalized in the CAPM and other risk premium methods.  
8 **The DCF model is one of many tools to be employed in**  
9 **conjunction with other methods to estimate the cost of**  
10 **equity.** It is not a superior methodology that supplants other  
11 financial theory and market evidence. The broad usage of the  
12 DCF methodology in regulatory proceedings in contrast to its  
13 virtual disappearance in academic textbooks does not make  
14 it superior to other methods. The same is true of the Risk  
15 Premium and CAPM methodologies. (emphasis added)<sup>23</sup>

16 Finally, Brigham and Gapenski note:

17 In practical work, *it is often best to use all three methods –*  
18 *CAPM, bond yield plus risk premium, and DCF – and then*  
19 *apply judgment when the methods produce different results.*  
20 *People experienced in estimating equity capital costs*  
21 *recognize that both careful analysis and some very fine*  
22 *judgments are required. It would be nice to pretend that these*  
23 *judgments are unnecessary and to specify an easy, precise*  
24 *way of determining the exact cost of equity capital.*  
25 *Unfortunately, this is not possible. Finance is in large part a*  
26 *matter of judgment, and we simply must face this fact. (italics*  
27 *in original)*<sup>24</sup>

28 In the academic literature cited above, three methods are  
29 consistently mentioned: the DCF, CAPM, and the RPM, all of which I used  
30 in my analyses.

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<sup>23</sup> Roger A. Morin, New Regulatory Finance, Public Utilities Reports, Inc., 2006, at 428-431. ("Morin")

<sup>24</sup> Eugene F. Brigham and Louis C. Gapenski, Financial Management – Theory and Practice, 4<sup>th</sup> Ed. (The Dryden Press, 1985) at 256. ("Brigham and Gapenski")

1 **Q. CAN YOU ALSO PROVIDE SPECIFIC EXAMPLES WHERE THIS**  
2 **COMMISSION HAS CONSIDERED MULTIPLE COST OF COMMON**  
3 **EQUITY MODELS?**

4 **A.** Yes. The Commission in Docket Nos. W-354, Subs 363, 364, and 365,  
5 concerning Carolina Water Service of North Carolina, stated:

6 The average of witness D'Ascendis' utility proxy group late-  
7 filed exhibit DCF result of 8.81%, CAPM result of 9.29%, RPM  
8 result of 10.00%, and witness Hinton's RPM of 9.57% is  
9 9.42%. A return on common equity of 9.50% is thus  
10 supported by the average of the results of the four above listed  
11 cost of equity models which the Commission finds are  
12 credible, probative, and entitled to consideration based on the  
13 record in this proceeding.

14 Also, in Docket No. E-2, Sub 1142, concerning Duke Energy  
15 Progress, LLC, the Commission stated:

16 Thus, the Commission finds and concludes that the  
17 Stipulation, along with the expert testimony of witnesses  
18 Hevert (risk premium analysis), O'Donnell (comparable  
19 earnings), and Parcell (comparable earnings), are credible  
20 and substantial evidence of the appropriate rate of return on  
21 equity and are entitled to substantial weight in the  
22 Commission's determination of this issue.

23 In the Commission Orders cited above, there is clear language that  
24 the Commission considers multiple models in its determination of ROE. It  
25 is also my interpretation of these Orders that the Commission correctly  
26 observes the effect of capital market conditions on the model results in  
27 determining an ROE for utility companies. This, in addition to the academic  
28 literature cited above, justify the use of the DCF, CAPM, RPM, and CEM in  
29 this proceeding.

1 **Q. HAVE YOU PERFORMED A CAPM AND CEM ANALYSIS FOR MR.**  
2 **HINTON'S PROXY GROUP?**

3 A. Yes, I have. Since my updated proxy group and Mr. Hinton's proxy group  
4 are the same, the CAPM provided in my update at page 23 of Schedule  
5 DWD-1R would serve as Mr. Hinton's CAPM analysis, and my basis of  
6 selection of the non-regulated proxy group similar in total risk to the Utility  
7 Proxy Group is presented at pages 25 through 27 of Schedule DWD-1R.  
8 The CAPM applied to the non-regulated proxy group is presented on page  
9 33 of Schedule DWD-1R, and the DCF applied to the non-regulated proxy  
10 group is presented on Schedule DWD-3R. The results of the CAPM applied  
11 to the Utility Proxy Group is 10.90% and the results of the DCF and CAPM  
12 applied to the non-regulated proxy group are 9.36% and 11.83%,  
13 respectively, averaging 10.60%.

14 **Q. HAVE YOU APPLIED THE DCF DIFFERENTLY TO MR. HINTON'S NON-**  
15 **REGULATED PROXY GROUP THAN HOW YOU APPLIED IT IN YOUR**  
16 **UPDATE?**

17 A. Yes. In the application of the DCF to Mr. Hinton's non-regulated proxy  
18 group, I calculated the expected dividend yield as Mr. Hinton described in  
19 his direct testimony at page 27. I then added the prospective dividend yield  
20 to the prospective earnings per share ("EPS") growth rate from *Value Line*  
21 and Yahoo! Finance. I only include expected EPS growth rates for use in  
22 the DCF model, as will be discussed in detail below.

1           **A.     Discounted Cash Flow Model**

2   **Q.     PLEASE SUMMARIZE MR. HINTON'S DCF ANALYSIS.**

3   A.     Mr. Hinton calculated his dividend yield by using the Value Line estimate of  
4           the 12-month projected dividend yield for each of his proxy companies as  
5           reported in the Value Line Summary and Index for 13 weeks ended May 8,  
6           2020.<sup>25</sup> He then added the average expected dividend yields of 1.7% to a  
7           range of growth rates from 6.4% to 7.4% to arrive at indicated DCF cost  
8           rates from 8.1% to 9.1%, which he averaged to arrive at his recommended  
9           DCF cost rate of 8.60%.<sup>26</sup>

10   **Q.     PLEASE COMMENT ON MR. HINTON'S GROWTH RATE ANALYSIS IN**  
11           **HIS APPLICATION OF THE DCF MODEL.**

12   A.     Mr. Hinton states on page 27 of his direct testimony that he employed EPS,  
13           dividends per share ("DPS"), and book value of equity per share growth  
14           rates as reported in Value Line, both five- and ten-year historical and  
15           forecasted, and the five-year projected EPS growth rate as reported by  
16           Yahoo Finance. He includes both historical and forecasted growth rates,  
17           "because it is reasonable to expect that investors consider both sets of data  
18           in deriving their expectations".<sup>27</sup>

19                 Notwithstanding Mr. Hinton's inclusion of historical growth rates in  
20           his DCF, there is a significant body of empirical evidence supporting the

---

<sup>25</sup> Hinton Direct Testimony, at 27.

<sup>26</sup> *Ibid.*, at 28.

<sup>27</sup> *Ibid.*, at 27.

1 superiority of analysts' EPS growth rates in a DCF analysis, indicating that  
2 analysts' forecasts of earnings remain the best predictor of growth to use in  
3 the DCF model. Such ample evidence of the proven reliability and  
4 superiority of analysts' forecasts of EPS should not be dismissed by  
5 Mr. Hinton.

6 **Q. PLEASE DESCRIBE SOME OF THE EMPIRICAL EVIDENCE**  
7 **SUPPORTING THE RELIABILITY AND SUPERIORITY OF ANALYSTS'**  
8 **EPS GROWTH RATES IN A DCF ANALYSIS.**

9 A. As discussed in my direct testimony,<sup>28</sup> over the long run, there can be no  
10 growth in DPS without growth in EPS. Security analysts' earnings  
11 expectations have a more significant, but not exclusive, influence on market  
12 prices than dividend expectations. Thus, the use of projected earnings  
13 growth rates in a DCF analysis provides a better match between investors'  
14 market price appreciation expectations and the growth rate component of  
15 the DCF, because they have a significant influence on market prices and  
16 the appreciation or "growth" experienced by investors.<sup>29</sup> This should be  
17 evident even to relatively unsophisticated investors just by listening to  
18 financial news reports on radio, TV, or by reading newspapers.

19 In addition, Myron Gordon, the "father" of the standard regulatory  
20 version of the DCF model widely utilized throughout the United States in  
21 rate base/rate of return regulation, recognized the significance of analysts'

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<sup>28</sup> D'Ascendis Direct Testimony, at 19.  
<sup>29</sup> Morin, at 298-303.

1 forecasts of growth in EPS in a speech he gave in March 1990 before the  
2 Institute for Quantitative Research and Finance<sup>30</sup>, stating on page 12:

3 We have seen that earnings and growth estimates by security  
4 analysts were found by Malkiel and Cragg to be superior to  
5 data obtained from financial statements for the explanation of  
6 variation in price among common stocks... estimates by  
7 security analysts available from sources such as IBES are far  
8 superior to the data available to Malkiel and Cragg.

9 \* \* \*

10 Eq (7) is not as elegant as Eq (4), but it has a good deal more  
11 intuitive appeal. It says that investors buy earnings, but what  
12 they will pay for a dollar of earnings increases with the extent  
13 to which the earnings are reflected in the dividend or in  
14 appreciation through growth.

15 Professor Gordon recognized that the total return is largely affected  
16 by the terminal price, which is mostly affected by earnings (hence  
17 price/earnings multiples).

18 Studies performed by Cragg and Malkiel<sup>31</sup> demonstrate that  
19 analysts' forecasts are superior to historical growth rate extrapolations.  
20 While some question the accuracy of analysts' forecasts of EPS growth, the  
21 level of accuracy of those analysts' forecasts well after the fact does not  
22 really matter. What is important is that forecasts reflect widely held  
23 expectations influencing investors at the time they make their pricing  
24 decisions, and hence, the market prices they pay.

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<sup>30</sup> 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.

<sup>31</sup> Cragg, John G. and Malkiel, Burton G., Expectations and the Structure of Share Prices (University of Chicago Press, 1982) Chapter 4.

1           In addition, Jeremy J. Siegel<sup>32</sup> also supports the use of security  
2 analysts' EPS growth forecasts when he states:

3           For the equity holder, the source of future cash flows is the  
4 earnings of firms. (p. 90)

5                           \* \* \*

6           Some people argue that shareholders most value stocks'  
7 cash dividends. But this is not necessarily true. (p. 91)

8                           \* \* \*

9           Since the price of a stock depends primarily on the present  
10 discounted value of all expected future dividends, it appears  
11 that dividend policy is crucial to determining the value of the  
12 stock. However, this is not generally true. (p. 92)

13                           \* \* \*

14           Since stock prices are the present value of future dividends, it  
15 would seem natural to assume that economic growth would  
16 be an important factor influencing future dividends and hence  
17 stock prices. However, this is not necessarily so. The  
18 determinants of stock prices are earnings and dividends on a  
19 *per-share* basis. Although economic growth may influence  
20 *aggregate* earnings and dividends favorably, economic  
21 growth does not necessarily increase the growth of per-share  
22 earnings or dividends. It is earnings per share (EPS) that is  
23 important to Wall Street because per-share data, not  
24 aggregate earnings or dividends, are the basis of investor  
25 returns. (*italics in original*) (pp. 93-94)

26           Therefore, given the overwhelming academic and empirical support  
27 regarding the superiority of security analysts' EPS growth rate forecasts,  
28 such EPS growth rate projections should have been relied on by Mr. Hinton  
29 in his DCF analysis.

---

<sup>32</sup> Jeremy J. Siegel, Stocks for the Long Run – The Definitive Guide to Financial Market Returns and Long-Term Investment Strategies, McGraw-Hill 2002, at 90-94.

1 **Q. WHAT WOULD MR. HINTON'S DCF RESULT BE IF HE ONLY RELIED**  
2 **ON EPS GROWTH FORECASTS?**

3 A. As shown on Schedule DWD-4R, the mean DCF derived cost rate based  
4 on EPS growth forecasts is 9.07%. This result should be viewed with  
5 caution, however, as the DCF model is currently understating the  
6 investor-required return.

7 **Q. WHY IS IT YOUR OPINION THAT THE DCF MODEL IS CURRENTLY**  
8 **UNDERSTATING THE INVESTOR-REQUIRED RETURN?**

9 A. Traditional rate base/rate of return regulation, where a market-based  
10 common equity cost rate is applied to a book value rate base, presumes  
11 that market-to-book ("M/B") ratios are at unity or 1.00. However, that is  
12 rarely the case. Morin states:

13 The third and perhaps most important reason for caution and  
14 skepticism is that application of the DCF model produces  
15 estimates of common equity cost that are consistent with  
16 investors' expected return only when stock price and book  
17 value are reasonably similar, that is, when the M/B is close to  
18 unity. As shown below, application of the standard DCF  
19 model to utility stocks understates the investor's expected  
20 return when the market-to-book (M/B) ratio of a given stock  
21 exceeds unity. This was particularly relevant in the capital  
22 market environment of the 1990s and 2000s where utility  
23 stocks were trading at M/B ratios well above unity and have  
24 been for nearly two decades. The converse is also true, that  
25 is, the DCF model overstates that investor's return when the  
26 stock's M/B ratio is less than unity. The reason for the  
27 distortion is that the DCF market return is applied to a book  
28 value rate base by the regulator, that is, a utility's earnings are  
29 limited to earnings on a book value rate base.<sup>33</sup>

---

33 Morin, at 434.

1 As Morin explains, a “simplified” DCF model, like that used by  
2 Mr. Hinton, assumes an M/B ratio of 1.0 and therefore under- or over-states  
3 investors’ required return when market value exceeds or is less than book  
4 value, respectively. It does so because equity investors evaluate and  
5 receive their returns on the market value of a utility’s common equity,  
6 whereas regulators authorize returns on the book value of that common  
7 equity. This means that the market-based DCF will produce the total annual  
8 dollar return expected by investors only when market and book values of  
9 common equity are equal, a very rare and unlikely situation.

10 **Q. WHY DO MARKET AND BOOK VALUES DIVERGE?**

11 A. Market values can diverge from book values for a myriad of reasons  
12 including, but not limited to, EPS and DPS expectations, merger/acquisition  
13 expectations, interest rates, etc. As noted by Phillips:

14 Many question the assumption that market price should equal  
15 book value, believing that 'the earnings of utilities should be  
16 sufficiently high to achieve market-to-book ratios which are  
17 consistent with those prevailing for stocks of unregulated  
18 companies.<sup>34</sup>

19 In addition, Bonbright states:

20 In the first place, commissions cannot forecast, except within  
21 wide limits, the effect their rate orders will have on the market  
22 prices of the stocks of the companies they regulate. In the  
23 second place, *whatever the initial market prices may be, they*  
24 *are sure to change not only with the changing prospects for*  
25 *earnings, but with the changing outlook of an inherently*  
26 *volatile stock market.* In short, market prices are beyond the  
27 control, though not beyond the influence of rate regulation.

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<sup>34</sup> Charles F. Phillips, The Regulation of Public Utilities, Public Utilities Reports, Inc., 1993, at 395.

1                   Moreover, even if a commission did possess the power of  
2                   control, any attempt to exercise it ... would result in harmful,  
3                   uneconomic shifts in public utility rate levels. (italics added)<sup>35</sup>

4   **Q.    CAN THE UNDER- OR OVER-STATEMENT OF INVESTORS' REQUIRED**  
5   **RETURN   BY   THE   DCF   MODEL   BE   DEMONSTRATED**  
6   **MATHEMATICALLY?**

7   A.    Yes, it can. Schedule DWD-5R demonstrates how a market-based DCF cost  
8    rate of 8.60%,<sup>36</sup> when applied to a book value substantially below market  
9    value, will understate the investors' required return on market value. As  
10   shown, there is no realistic opportunity to earn the expected market-based  
11   rate of return on book value. In Column [A], investors expect an 8.60% return  
12   on an average market price of \$68.91 for Mr. Hinton's water proxy group.  
13   Column [B] shows that when Mr. Hinton's 8.60% return rate is applied to a  
14   book value of \$20.57,<sup>37</sup> the total annual return opportunity is \$1.769. After  
15   subtracting dividends of \$1.203, the investor only has the opportunity for  
16   \$0.566 in market appreciation, or 0.82%. The magnitude of the  
17   understatement of investors' required return on market value using  
18   Mr. Hinton's 8.60% cost rate is 6.03%, which is calculated by subtracting the  
19   market appreciation based on book value of 0.82% from Mr. Hinton's  
20   expected growth rate of 6.85%.

---

<sup>35</sup> James C. Bonbright, Albert L. Danielsen and David R. Kamerschen, Principles of Public Utility Rates (Public Utilities Reports, Inc., 1988), at 334.

<sup>36</sup> Hinton Direct Testimony, at 28.

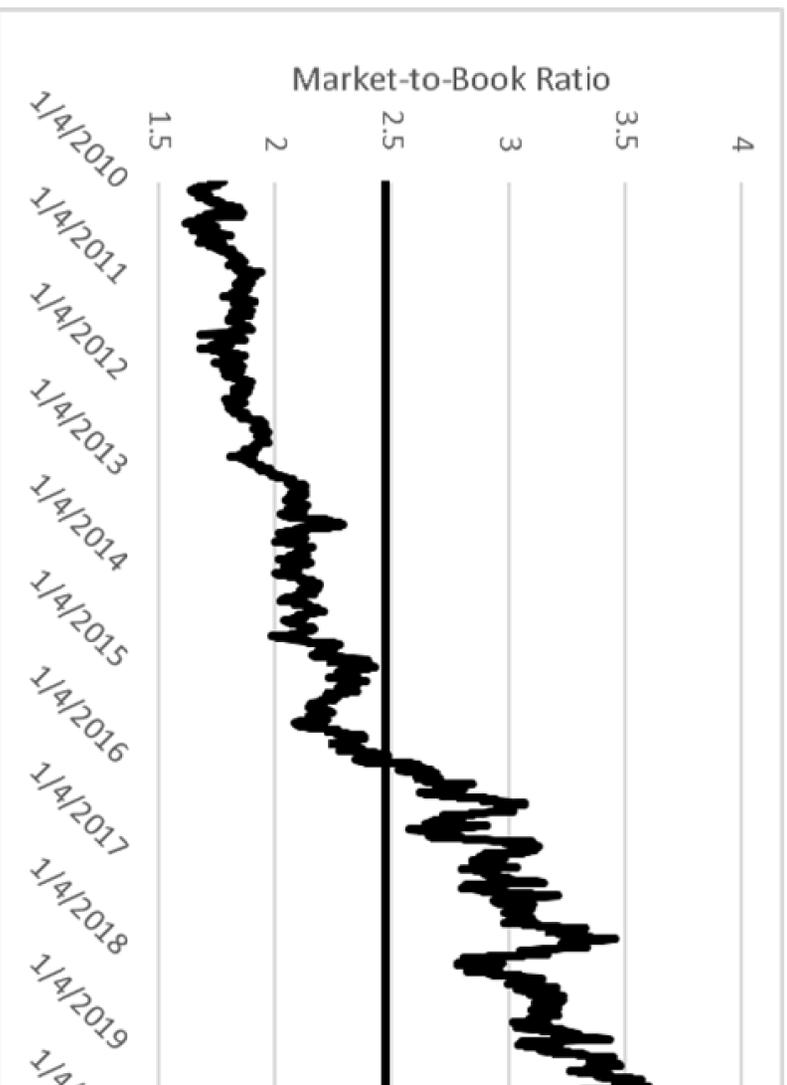
<sup>37</sup> Representing an M/B ratio of 335.03%.

5  
6  
7  
8

early 2016, the M/B ratios of the Utility Proxy Group have  
dramatically over their ten-year average M/B ratio of approx-  
times.

8

**Chart 3: M/B Ratios Compared with Ten-Year Average**



9

10

11

12

The significance of this is that even though the ten-year  
ratio has always been greater than 1.0x, the current M/B ratio is  
removed from 1.0x, which further distorts DCF results.

38

Source: Bloomberg Financial Services.

1 **Q. HOW CAN THE INACCURACY OR MIS-SPECIFICATION OF THE DCF**  
 2 **MODEL BE QUANTIFIED WHEN THE M/B RATIOS ARE DIFFERENT**  
 3 **THAN UNITY?**

4 A. The inaccuracy of the DCF model, when market values diverge from book  
 5 values, can be measured by first calculating the market value of each proxy  
 6 company's capital structure, which consists of the market value of the  
 7 company's common equity (shares outstanding multiplied by price) and the  
 8 fair value of the company's long-term debt and preferred stock. All of these  
 9 measures, except for price, are available in each company's SEC Form 10-K.

10 Second, one must de-leverage the implied cost of common equity  
 11 based on the DCF. This is accomplished using the Modigliani / Miller  
 12 equation<sup>39</sup> as illustrated in Schedule DWD-6R and shown below:

$$13 \quad k_u = k_e - (((k_u - i)(1 - t)) D/E) - (k_u - d) P/E \text{ [Equation 1]}$$

14 Where:

15  $k_u$  = Unlevered (i.e., 100% equity) cost of common  
 16 equity;  
 17  $k_e$  = Market determined cost of common equity;  
 18  $i$  = Cost of debt;  
 19  $t$  = Income tax rate;  
 20  $D$  = Debt ratio;  
 21  $E$  = Equity ratio;  
 22  $d$  = Cost of preferred stock; and  
 23  $P$  = Preferred equity ratio.

24 Using average proxy group-specific data, the equation becomes:

---

<sup>39</sup> 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.

---

$$k_u = 8.60\% - (((k_u - 4.70\%)(1 - 21\%)) 25.92\% / 74.05\%) - (k_u - 7.58\%) 0.03\% / 74.05\%$$

Solving for  $k_u$  results in an unlevered cost of common equity of 7.76%.

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:

$$k_e = k_u + (((k_u - i)(1 - t)) D/E) + (k_u - d) P/E \text{ [Equation 2]}$$

Once again, using average proxy group-specific data, the equation becomes:

$$k_e = 7.76\% + (((7.76\% - 4.70\%)(1 - 21\%))47.11\%/52.83\%) + (7.76\% - 7.58\%)0.06\%/52.83\%$$

Solving for  $k_e$  results in a 9.91% indicated cost of common equity relative to the book capital structure of the proxy group, which is an increase of 131 basis points over Mr. Hinton's average indicated DCF result of 8.60%.

**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?<sup>40</sup>**

**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.

---

<sup>40</sup> Hinton Direct Testimony, at 47-48.

1           **B.     Application of the Risk Premium Model**

2   **Q.     PLEASE SUMMARIZE MR. HINTON'S RPM.**

3   A.     Mr. Hinton's RPM explores the relationship between average allowed equity  
4           returns for water utility companies published by Regulatory Research  
5           Associates, Inc. and annual average Moody's A-rated utility bond yields.  
6           Using data from the years 2006 through 2020, Mr. Hinton conducts a  
7           regression analysis, which he then combines with recent monthly yields on  
8           Moody's A-rated public utility bonds to develop his risk premium estimate of  
9           6.05% and a corresponding cost of equity of 9.40%.

10 **Q.     PLEASE COMMENT ON MR. HINTON'S APPLICATION OF THE RPM.**

11 A.     As previously addressed, it is inappropriate to use current bond yields to  
12           determine an expected ROE, so I will not repeat that discussion here. In  
13           addition, instead of using yearly average authorized returns and prospective  
14           Moody's A-rated public utility bond yields, it is preferable to use the  
15           authorized returns and prospective Moody's A-rated public utility bond  
16           yields on a case by case basis. One reason why one should use individual  
17           cases instead of an annual average is that some years have more rate case  
18           decisions than others, and years with less rate case decisions will garner  
19           unnecessary weight. Another reason to use individual cases over an annual  
20           average is that interest rates and market conditions change during the year  
21           (e.g. the beginning and end of 2008), if one uses annual average authorized  
22           returns and annual average interest rates, the fluctuation between the  
23           interest rates and equity risk premiums during the year are lost.

1 Q. WHAT IS THE CORRECTED RESULT OF THE RPM AFTER  
2 REFLECTING A PROSPECTIVE MOODY'S A-RATED PUBLIC UTILITY  
3 BOND YIELD AND USING INDIVIDUAL RATE CASE DATA IN PLACE  
4 OF AVERAGE ANNUAL RATE CASE DATA?

5 A. As shown on page 1 of Schedule DWD-7R, the analysis is based on a  
6 regression of 187 rate cases for water utility companies from August 24,  
7 2006 through April 30, 2020. It shows the implicit equity risk premium  
8 relative to the yields on Moody's A-rated public utility bonds immediately  
9 prior to the issuance of each regulatory decision.<sup>41</sup>

10 I determined the appropriate prospective Moody's A-rated public  
11 utility yield by relying on a consensus forecast of about 50 economists of  
12 the expected yield on Moody's Aaa-rated corporate bonds for the six  
13 calendar quarters ending with the third calendar quarter of 2021, and *Blue*  
14 *Chip's* long-term projections for 2021 to 2025, and 2026 to 2030.<sup>42</sup> As  
15 described on page 13 of Schedule DWD-1R, the average expected yield on  
16 Moody's Aaa-rated corporate bonds is 3.21%. I then derived an expected  
17 yield on Moody's A2-rated public utility bonds, by making an upward  
18 adjustment of 0.53%, which represents a recent spread between Moody's  
19 Aaa-rated corporate bonds and Moody's A2-rated public utility bonds.<sup>43</sup>

---

<sup>41</sup> 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.

<sup>42</sup> *Blue Chip Financial Forecasts*, October 1, 2019, at 2, June 1, 2019, at 14.

<sup>43</sup> As explained on page 13 of Schedule DWD-1R.

1 Adding the recent 0.53% spread to the expected Moody's Aaa-rated  
2 corporate bond yield of 3.21% results in an expected Moody's A2-rated  
3 public utility bond yield of 3.74%.

4 I then used the regression results to estimate the equity risk premium  
5 applicable to the projected yield on Moody's A2-rated public utility bonds of  
6 3.74%. Given the expected Moody's A-rated utility bond yield of 3.74%, the  
7 indicated equity risk premium is 5.88%, which results in an indicated ROE  
8 of 9.62%, as shown on Schedule DWD-7R. Using a three-month average  
9 A-rated utility bond yield of 3.27%, the indicated ROE is 9.51%, also shown  
10 on Schedule DWD-7R.

11 **Q. WHAT ARE THE RESULTS OF MR. HINTON'S ROE MODELS AFTER**  
12 **MAKING THE ADJUSTMENTS DESCRIBED ABOVE AND INCLUDING**  
13 **THE CAPM AND CEM.**

14 As discussed above, my adjustments to Mr. Hinton's DCF and RPM result  
15 in ROEs of 9.07% and 9.62%, respectively. After the inclusion of the  
16 corrected CAPM (10.90%) and CEM (10.60%) results,<sup>44</sup> Mr. Hinton's  
17 corrected average result is 10.05%. This average result of 10.05% still does  
18 not reflect the cost of common equity for Aqua NC, as it has not been  
19 adjusted for the Company's greater risk relative to the proxy group based  
20 on its small size nor for flotation costs.

---

<sup>44</sup> Schedules DWD-1R and DWD-3R, respectively.

1 **Q. MR. HINTON JUSTIFIES HIS RECOMMENDED ROE OF 8.90% BY**  
2 **REVIEWING THE INTEREST COVERAGE RATIO AND CONFIRMING**  
3 **THAT HIS ROE WOULD ALLOW THE COMPANY A SINGLE “A”**  
4 **RATING.<sup>45</sup> DOES ONE MEASURE OF FINANCIAL RISK SUCH AS PRE-**  
5 **TAX INTEREST COVERAGE INDICATE A SPECIFIC CREDIT RATING?**

6 **A.** No. While I do not take issue with Mr. Hinton’s inputs or calculations in  
7 determining Aqua NC’s pre-tax interest coverage ratio, I note that the ratios  
8 of pre-tax coverage needed to qualify for a single “A” rating range from 3.0  
9 to 6.0. As can be seen in Schedule DWD-8R, ROE’s ranging from 6.45% to  
10 as high as 16.13%, all allow Aqua NC to qualify for a single “A” rating based  
11 on its pre-tax coverage ratio. Clearly a significantly large range of results  
12 indicates that simply relying on a single measure, out of a multitude of  
13 qualitative and quantitative measures reviewed by the bond/credit ratings  
14 agencies, to determine a company’s bond rating is misleading and without  
15 significance.

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<sup>45</sup> Hinton Direct Testimony, at 34.

1           **C.     Failure to Reflect Aqua NC's Greater Relative Risk Due to its**  
2           **Small Size**

3     **Q.     DOES MR. HINTON MAKE A SPECIFIC ADJUSTMENT TO REFLECT**  
4           **THE SMALLER SIZE OF AQUA NC RELATIVE TO THE PROXY**  
5           **GROUP?**

6     A.     No. As previously discussed in my direct testimony,<sup>46</sup> relative company size  
7           is a significant element of business risk for which investors expect to be  
8           compensated through greater returns. Smaller companies are simply less  
9           able to cope with significant events which affect sales, revenues and  
10          earnings. For example, smaller companies face more exposure to business  
11          cycles and economic conditions, both nationally and locally. Additionally,  
12          the loss of revenues from a few large customers would have a far greater  
13          effect on a small company than on a larger company with a more diverse  
14          customer base. Finally, smaller companies are generally less diverse in  
15          their operations and have less financial flexibility. Consistent with the  
16          financial principle of risk and return in my direct testimony,<sup>47</sup> such increased  
17          risk due to small size must be taken into account in the allowed rate of return  
18          on common equity.

---

<sup>46</sup> D'Ascendis Direct Testimony, at 45-52.

<sup>47</sup> *Ibid.*, at 8.

1 Q. IS THERE ANOTHER EMPIRICAL STUDY IN ADDITION TO THE  
2 EMPIRICAL ANALYSIS YOU PERFORMED IN YOUR DIRECT  
3 TESTIMONY THAT EVALUATES THE EFFECT OF SIZE ON THE COST  
4 OF EQUITY?

5 A. Yes. Duff & Phelps' ("D&P") 2020 Valuation Handbook Guide to Cost of  
6 Capital – Market Results through 2019 ("D&P 2020") presents a Size Study  
7 based on the relationship of various measures of size and return. Relative  
8 to the relationship between average annual return and the various  
9 measures of size, D&P state:

10 **The size of a company is one of the most important risk**  
11 **elements to consider when developing cost of equity**  
12 **estimates for use in valuing** a firm. Traditionally,  
13 researchers have used market value of equity (*i.e.*, "market  
14 capitalization" or "market cap") as a measure of size in  
15 conducting historical rate of return research. For example, the  
16 Center for Research in Security Prices (CRSP) "deciles" are  
17 developed by sorting U.S. companies by market  
18 capitalization. Another example is the Fama-French "Small  
19 Minus Big" (SMB) series, which is the difference in return of  
20 "small" stocks minus "big" (*i.e.*, large) stocks, as defined by  
21 market capitalization. (emphasis added)<sup>48</sup>

22 The Size Study uses the following eight measures of size, all of which  
23 have empirically shown that, over the long-term, the smaller the company,  
24 the higher the risk:

- 25 • Market Value of Common Equity (or total capital if no debt /
- 26 equity);
- 27 • Book Value of Common Equity;
- 28 • Net Income (five-year average);

---

<sup>48</sup> D&P 2019, at p. 10-1.

- 1 • Market Value of Invested Capital;
- 2 • Total Assets (Invested Capital);
- 3 • Earnings Before Interest, Taxes, Depreciation & Amortization
- 4 (five-year average);
- 5 • Sales / Operating Revenues; and
- 6 • Number of Employees.

7 I used the D&P Size Study to determine the approximate magnitude  
8 of the necessary risk premium due to the size of Aqua NC relative to the  
9 Utility Proxy Group. Schedule DWD-9R shows the relative size of Aqua NC  
10 compared with the Utility Proxy Group. Indicated size adjustments based  
11 on these relative measures range from 1.13% to 2.38%, averaging 1.73%.  
12 From these results, it is clear that Aqua NC is riskier than the Utility Proxy  
13 Group due to its smaller relative size, and that my proposed size adjustment  
14 of 20 basis points for Aqua NC is conservative.

15 **Q. MR. HINTON SAYS THAT SINCE AQUA NC IS A PART OF ESSENTIAL**  
16 **UTILITIES, INC., IT SHOULD NOT RECEIVE A SIZE ADJUSTMENT.**  
17 **PLEASE COMMENT.**

18 **A.** The fact that Aqua NC is a subsidiary of Essential Utilities, Inc., is irrelevant  
19 for ratemaking purposes, because it is the rate base of Aqua NC to which  
20 the overall rate of return set in this proceeding will be applied, which is  
21 consistent with the stand-alone nature of ratemaking. To do otherwise  
22 would be discriminatory, confiscatory, and inaccurate. It is also a basic  
23 financial precept that the use of the funds invested give rise to the risk of  
24 the investment. As Brealey and Myers state:

1 The true cost of capital depends on the use to which the  
2 capital is put.

3 \*\*\*

4 ***Each project should be evaluated at its own opportunity***  
5 ***cost of capital; the true cost of capital depends on the use***  
6 ***to which the capital is put.*** (italics and bold in original) <sup>49</sup>

7 Morin confirms Brealey and Myers when he states:

8 Financial theory clearly establishes that the cost of equity is  
9 the risk-adjusted opportunity cost of the investors and not the  
10 cost of the specific capital sources employed by the investors.  
11 The true cost of capital depends on the use to which the  
12 capital is put and not on its source. *The Hope and Bluefield*  
13 *doctrines* have made clear that the relevant considerations in  
14 calculating a company's cost of capital are the alternatives  
15 available to investors and the returns and risks associated  
16 with those alternatives. (italics in original) <sup>50</sup>

17 Additionally, Levy and Sarnat state:

18 The firm's cost of capital is the discount rate employed to  
19 discount the firm's average cash flow, hence obtaining the  
20 value of the firm. It is also the weighted average cost of  
21 capital, as we shall see below. The weighted average cost of  
22 capital should be employed for project evaluation...only in  
23 cases where the risk profile of the new projects is a "carbon  
24 copy" of the risk profile of the firm.<sup>51</sup>

25 Although Levy and Sarnat discuss a project's cost of capital relative  
26 to a firm's cost of capital, these principles apply equally to the use of a proxy  
27 group-based cost of capital. Each company must be viewed on its own

---

<sup>49</sup> Richard A. Brealey and Stewart C. Myers, Principles of Corporate Finance, McGraw-Hill, Inc., 1988, at pp. 173, 198.

<sup>50</sup> Morin, at p. 523.

<sup>51</sup> Haim Levy & Marshall Sarnat, Capital Investment and Financial Decisions, Prentice/Hall International, 1986, p. 465.

1 merits, regardless of the source of its equity capital. As *Bluefield* clearly  
2 states:

3 A public utility is entitled to such rates as will permit it to earn  
4 a return on the value of the property which it employs for the  
5 convenience of the public equal to that generally being made  
6 at the same time and in the same general part of the country  
7 on investments in other business undertakings which are  
8 attended by corresponding risks and uncertainties.<sup>52</sup>

9 In other words, it is the “risks and uncertainties” surrounding the  
10 property employed for the “convenience of the public” which determines the  
11 appropriate level of rates. In this proceeding, the property employed “for  
12 the convenience of the public” is the rate base of Aqua NC. Thus, it is only  
13 the risk of investment in Aqua NC’s rate base that is relevant to the  
14 determination of the cost of common equity to be applied to the common  
15 equity-financed portion of that rate base.

16 In addition, Fama and French proposed that their three-factor model  
17 include the SMB (Small Minus Big) factor, which indicates that small  
18 capitalization firms are more risky than large capitalization firms, confirming  
19 that size is a risk factor which must be taken into account in estimating the  
20 cost of common equity.<sup>53</sup>

21 **Q. MR. HINTON CLAIMS THAT IF SIZE ADJUSTMENTS WERE ALLOWED**  
22 **BY THE COMMISSION, UTILITIES WOULD BREAK APART THEIR**

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52 *Bluefield Water Works Improvement Co. v. Public Serv. Comm’n*, 262 U.S. 679 (1922). (“*Bluefield*”)

53 Eugene F. Fama and Kenneth R. French, “The Capital Asset Pricing Model: Theory and Evidence,” *Journal of Economic Perspectives*, Summer 2004, Vol. 18, Issue 3, pp. 25-46.

1           **OPERATIONS TO TAKE ADVANTAGE OF THE ADJUSTMENT. IS THIS**  
2           **HAPPENING IN THE CURRENT ENVIRONMENT?**

3           A.     No. In fact, the opposite is true. Water utilities have been methodically  
4           merging operating subsidiaries across the country to take advantage of  
5           synergies that benefit companies with larger size. Legislation in North  
6           Carolina was just passed to allow regulated utilities to pay fair market value  
7           for municipal water and wastewater systems in an effort to promote  
8           regionalization of water and wastewater systems.

9           **Q.     MR. HINTON CITES A STUDY BY DR. ANNIE WONG FOR THE**  
10           **PROPOSITION THAT THERE IS NO SIZE PREMIUM FOR UTILITIES.**  
11           **DOES THIS STUDY SUPPORT THAT PROPOSITION?**

12          A.     No. Dr. Wong's study is flawed because she attempts to relate a change in  
13           size to beta coefficients, which account for only a small percentage of  
14           diversifiable company-specific risk. Size is company-specific and therefore  
15           diversifiable. For example, the average R-squared, or coefficient of  
16           determination for the Utility Proxy Group, is 0.0492 as shown on Schedule  
17           DWD-10R. An R-squared of 0.0492 means that approximately 5% of total  
18           risk is explained by beta, leaving 95% unexplained by beta.

19          **Q.     IS THERE A PUBLISHED RESPONSE TO DR. WONG'S ARTICLE?**

20          A.     Yes, there is. In response to Professor Wong's article, *The Quarterly*  
21           *Review of Economics and Finance* published an article in 2003, authored  
22           by Thomas M. Zepp, which commented on the Annie Wong article cited by

1 Mr. Hinton. Relative to Ms. Wong's results, Dr. Zepp concluded in the  
2 Abstract on page 1 of his article: "Her weak results, however, do not rule  
3 out the possibility of a small firm effect for utilities."<sup>54</sup> Dr. Zepp also noted on  
4 page 582 that: "Two other studies discussed here support a conclusion that  
5 smaller water utility stocks are more risky than larger ones. To the extent  
6 that water utilities are representative of all utilities, there is support for  
7 smaller utilities being more risky than larger ones."<sup>55</sup> Finally, I note that  
8 Professor Wong's study, while relying on a large group of gas and electric  
9 utilities, employed no water utilities.

10 **Q. ARE YOU AWARE OF ANY OTHER ACADEMIC ARTICLE RELATING**  
11 **TO THE APPLICABILITY OF A SIZE PREMIUM?**

12 A. Yes. An article by Michael A. Paschall, ASA, CFA, and George B. Hawkins  
13 ASA, CFA, "Do Smaller Companies Warrant a Higher Discount Rate for  
14 Risk?" also supports the applicability of a size premium. As the article  
15 makes clear, all else equal, size is a risk factor which must be taken into  
16 account when setting the cost of capital or capitalization (discount) rate.  
17 Paschall and Hawkins state in their conclusion as follows:

18 The current challenge to traditional thinking about a small  
19 stock premium is a very real and potentially troublesome  
20 issue. The challenge comes from bright and articulate people  
21 and has already been incorporated into some court cases,  
22 providing further ammunition for the IRS. Failing to consider  
23 the additional risk associated with most smaller companies,  
24 however, is to fail to acknowledge reality. Measured properly,

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<sup>54</sup> Thomas M. Zepp, Thomas M. "Utility Stocks and the Size Effect --- Revisited", *The Quarterly Review of Economics and Finance*, 43 (2003) at 578-582.

<sup>55</sup> *Ibid*, at 582.

1 small company stocks have proven to be more risky over a  
2 long period of time than have larger company stocks. This  
3 makes sense due to the various advantages that larger  
4 companies have over smaller companies. Investors looking  
5 to purchase a riskier company will require a greater return on  
6 investment to compensate for that risk. There are numerous  
7 other risks affecting a particular company, yet the use of a size  
8 premium is one way to quantify the risk associated with  
9 smaller companies.<sup>56</sup>

10 Hence, Paschall and Hawkins corroborate the need for a small size  
11 adjustment, all else equal. Consistent with the financial principle of risk and  
12 return discussed previously, and the stand-alone nature of ratemaking, an  
13 upward adjustment must be applied to the indicated cost of common equity  
14 derived from the cost of equity models of the Utility Proxy Group used in this  
15 proceeding.

16 **Q. DOES MR. HINTON RESPOND TO YOUR UTILITY-BASED SIZE STUDY**  
17 **PRESENTED IN YOUR DIRECT TESTIMONY?**<sup>57</sup>

18 A. No. He simply states he is not persuaded that my analysis supports my  
19 conclusion that small size does increase risk for utilities, but has no critiques  
20 of my inputs (the coefficient of variation ("CoV") of net profit and market  
21 capitalization from *Value Line*), nor does he refute that the CoV of net profit  
22 is a measure of business risk.

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<sup>56</sup> 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.

<sup>57</sup> D'Ascendis Direct Testimony, at 50-52.

1           **D.     Flotation Costs**

2       **Q.     DOES MR. HINTON PROPOSE A FLOTATION COST ADJUSTMENT**  
3       **FOR AQUA NC?**

4       A.     No, he does not. Mr. Hinton states that flotation costs associated with the  
5             issuance of common equity outside of the test year or immediate future  
6             should not be reflected in the ROE. I disagree. As discussed in my direct  
7             testimony,<sup>58</sup> since common equity has an indefinite life, all flotation costs,  
8             not just current flotation costs, should be recovered through an adjustment  
9             to the ROE. As such, Mr. Hinton should have included this cost in his  
10            recommended ROE.

11       **Q.     IN AN EFFORT TO MINIMIZE POINTS OF CONTENTION BETWEEN**  
12       **YOU AND MR. HINTON, DID YOU ELIMINATE EQUITY ISSUANCES**  
13       **OUTSIDE OF THE TEST YEAR IN YOUR UPDATED ANALYSIS?**

14       A.     Yes, I did. Using equity issuances during the test year, I calculated flotation  
15             costs of 0.05% as shown on page 34 of Schedule DWD-1R.

16           **E.     Consideration of Mechanisms in Place for Aqua NC**

17       **Q.     MR. HINTON DISCUSSES THE COMPANY'S WATER AND SEWER**  
18       **SYSTEM IMPROVEMENT CHARGE MECHANISMS AND THE**

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<sup>58</sup>        *Ibid.*, at 52-54.

1           **COMPANY’S REQUESTED CAM THAT HE CLAIMS IMPACT RISK FOR**  
2           **AQUA NC.<sup>59</sup> IS HIS CLAIM VALID?**

3           A.     No. The cost of capital is a comparative exercise, so if the mechanism is  
4           common throughout the companies on which one bases their analyses on,  
5           the comparative risk is zero, because any impact of the perceived reduced  
6           risk of the mechanism(s) by investors would be reflected in the market data  
7           of the proxy group, as noted by Mr. Hinton on page 33 of his direct testimony  
8           regarding the gas utilities in North Carolina. To that point, as shown on  
9           Schedule DWD-11R, every single one of the proxy companies has a  
10          Distribution Service Improvement Charge and five of seven of the Utility  
11          Proxy Group companies have a CAM-type mechanism in at least one of  
12          their jurisdictions.

13          **Q.     ARE YOU AWARE OF ANY STUDIES THAT HAVE ADDRESSED THE**  
14          **RELATIONSHIP     BETWEEN     DECOUPLING     MECHANISMS,**  
15          **GENERALLY, AND ROE?**

16          A.     Yes. I, along with Dr. Richard A. Michelfelder of Rutgers University, and my  
17          colleague at ScottMadden, Pauline M. Ahern, CRRA, examined the  
18          relationship between decoupling and ROE among electric, gas, and water  
19          utilities. Using the generalized consumption asset pricing model, also

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<sup>59</sup> Hinton Direct Testimony, at 31-33.

1 known as the PRPM, we found decoupling to have no statistically significant  
2 effect on investor perceived risk, and hence, ROE.<sup>60</sup>

3 Also, in March 2014, The Brattle Group (“Brattle”) published a study  
4 addressing the effect of revenue decoupling structures on the cost of capital  
5 for electric utilities.<sup>61</sup> In its report, which extended a prior analysis focused  
6 on natural gas distribution utilities, Brattle pointed out that although  
7 decoupling structures may affect revenues, net income still can vary.<sup>62</sup>  
8 Brattle further noted that the distinction between diversifiable and non-  
9 diversifiable risk is important to equity investors, and the relationship  
10 between decoupling and ROE should be examined in that context. Further  
11 to that point, Brattle noted that although reductions in total risk may be  
12 important to bondholders, only reductions in non-diversifiable business risk  
13 would justify a reduction to the ROE.<sup>63</sup> In November 2016, the Brattle study  
14 was updated based on data through the fourth quarter of 2015.<sup>64</sup>

15 Brattle’s empirical analysis examined the relationship between  
16 decoupling and the After-Tax WACC for a group of electric utilities that had  
17 implemented decoupling structures in various jurisdictions throughout the

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60 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), at 311-319.

61 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.  
62 *Ibid.*, at 7.

63 *Ibid.*, at 8.

64 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](http://files.brattle.com/files/5711_effect_on_the_cost_of_capital_of_ratemaking_that_relaxes_the_linkage_between_revenue_and_kwh_sales.pdf).

1 United States. As with Brattle's 2014 study, the updated study found no  
2 statistically significant link between the cost of capital and revenue  
3 decoupling structures.<sup>65</sup>

4 In view of all of the above, Aqua NC's ROE should not be reduced if  
5 the CAM is approved by the Commission in this Docket.

6 **VII. CONCLUSION**

7 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

8 A. Yes, it does.

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<sup>65</sup> *Ibid.*

1           MR. BENNINK: And as a matter of housekeeping,  
2 when we initially moved documents into the record, there  
3 were two documents where the Company filed revised  
4 exhibits for the direct testimony of Company witnesses  
5 Shannon Becker and Edward Thill, and then revisions to  
6 the rebuttal testimony exhibits filed by Aqua witnesses  
7 Amanda Berger and Edward Thill. We would just, as a  
8 matter of housekeeping, ask that those revised pages of  
9 testimony and exhibits be admitted in the record, if they  
10 haven't already been done so.

11           COMMISSIONER BROWN-BLAND: To the extent that  
12 there's any question remaining in the record about those  
13 exhibits, they are received into evidence and identified  
14 as they were marked when filed.

15           MR. BENNINK: Thank you. And that's it for the  
16 Company.

17           COMMISSIONER BROWN-BLAND: All right. Thank  
18 you.

19           MS. JOST: Commissioner Brown-Bland, I have a  
20 housekeeping matter, also. I jumped the gun on Ms.  
21 Berger's Rebuttal Cross Examination Exhibits 1 and 2, and  
22 I just wanted to make sure that those are entered into  
23 evidence.

24           COMMISSIONER BROWN-BLAND: Thank you for

1 reminding me. You did move them in and I held off on  
2 that, but they are received at this time.

3 MS. JOST: Thank you.

4 (Whereupon, Public Staff Berger  
5 Rebuttal Cross Examination Exhibits 1  
6 and 2 were admitted into evidence.)

7 COMMISSIONER BROWN-BLAND: All right. I  
8 believe the Commission wanted to hear from one more  
9 witness, the star witness.

10 MS. JOST: Yes. The Public Staff calls Windley  
11 Henry.

12 COMMISSIONER BROWN-BLAND: Mr. Henry, welcome  
13 back.

14 MR. HENRY: Nice to be back.

15 COMMISSIONER BROWN-BLAND: Well, I'm glad you  
16 feel that way.

17 WINDLEY E. HENRY; Having previously been affirmed,  
18 Testified as follows:

19 EXAMINATION BY COMMISSIONER BROWN-BLAND:

20 Q Mr. Henry, we just had a few almost what we  
21 call cleanup questions for you.

22 A Okay.

23 Q You have recommended that the rate case expense  
24 for this current proceeding be updated to actual amounts

1 incurred through the hearing date after the Public  
2 Staff's review of the supporting documentation provided  
3 by the Company. Do you expect that the Company -- do you  
4 expect the Company to file in this docket the agreed-upon  
5 amount of updated rate expense by category, like legal  
6 fees, consulting fees, printing costs, postage, et  
7 cetera?

8 A Yes. It would be similar to what they filed in  
9 the last rate case, an affidavit supporting their actual  
10 cost, but prior to filing the affidavit they would give  
11 us the information and let us look at it and see if there  
12 are any adjustments that the Public Staff might recommend  
13 as well. And then after that -- after we agree to a  
14 certain level rate case expense, they'll file the  
15 affidavit with the Commission.

16 Q All right. That sounds -- we would just like  
17 the Public Staff to ensure that that detailed information  
18 for the final expense is provided in the docket, so thank  
19 you for that.

20 Would the Public Staff update its final revenue  
21 requirements based on the final updated rate case expense  
22 amount, including the rate case expense associated with  
23 the public customer hearings, and file revised exhibits  
24 and supporting schedules in this docket?

1           A       Yes. We can do that.

2           Q       And would you also provide the Excel files for  
3 the revised exhibits and schedules with the working  
4 formulas intact?

5           A       Yes. We can do that as well.

6           Q       So cooperative, Mr. Henry. We appreciate it.  
7 And the Commission would ask you to work with witness  
8 Junis with respect to the final revenue requirements, and  
9 request that his final billing analysis, schedules,  
10 proposed rates be provided based on those final revenue  
11 requirements and the Excel files with the working  
12 formulas intact.

13          A       I will work with Mr. Junis on that as well.

14          Q       All right. Thank you.

15                   COMMISSIONER BROWN-BLAND: Did any  
16 Commissioners have any further questions for witness  
17 Henry?

18                                   (No response.)

19                   COMMISSIONER BROWN-BLAND: All right. Now we  
20 have some other cleanup matters. Is Ms. Sanford still  
21 there?

22                   MS. SANFORD: Yes, I am.

23                   COMMISSIONER BROWN-BLAND: Ms. Sanford, the  
24 Commission would request that Aqua include with its

1 Proposed Order the Schedule of Rates Appendices that  
2 state its requested rates for each of the five rate  
3 entities.

4 MS. SANFORD: Okay.

5 COMMISSIONER BROWN-BLAND: Also, to the Public  
6 Staff, in particular Mr. Grantmyre, Mr. Grantmyre before  
7 the case concluded you were to have a list for Judicial  
8 Notice of cases that you were asking the Commission to  
9 take Judicial Notice of?

10 MR. GRANTMYRE: Yes. I will provide that in  
11 writing to you.

12 COMMISSIONER BROWN-BLAND: All right. You'll  
13 provide that as a late-filed?

14 MR. GRANTMYRE: Yes, please.

15 COMMISSIONER BROWN-BLAND: All right. And  
16 regarding late-filed exhibits that have been requested,  
17 the Commission would ask that we receive those within 30  
18 days from today, or at least no later than 30 days from  
19 today?

20 MS. SANFORD: Right.

21 COMMISSIONER BROWN-BLAND: All right. And with  
22 regard to the briefing or any briefing in the Proposed  
23 Orders, the Commission really needs to receive those  
24 within 30 days of the availability of the transcript, of

1 the final transcript of the expert witness hearing. Is  
2 that an issue?

3 MS. SANFORD: I have a question, if I might.  
4 How would you propose to handle the responses -- I'm  
5 sorry -- the responses to the public hearings?

6 COMMISSIONER BROWN-BLAND: I believe we stated  
7 it in one of our Orders, and I don't want to get out  
8 there and contradict it, but I believe we asked for  
9 reports with a time period already stated in the Order,  
10 and if need be -- and then a time for comments to come  
11 back. We would hold the record open for these items.

12 MS. SANFORD: But with respect to the balance  
13 of the case, you would like those Proposed Orders within  
14 30 days of the mailing of the transcript of the  
15 evidentiary hearing; is that right?

16 COMMISSIONER BROWN-BLAND: We would like it in  
17 the interest of trying to meet our obligation to have a  
18 Final Order out within that 270 days.

19 MS. SANFORD: Right.

20 COMMISSIONER BROWN-BLAND: Mr. Junis, was there  
21 a reason that you needed attention?

22 MR. JUNIS: (Shakes head negatively.)

23 COMMISSIONER BROWN-BLAND: All right.

24 MR. GRANTMYRE: This is Bill Grantmyre. Since

1 they put their temporary rates in under bond, is the 270-  
2 day limit as crucial now? I remind the Commission that  
3 several of the Public Staff people that are involved in  
4 this case are materially involved in the Duke and DEP  
5 cases starting on the 27th. And Mr. Junis, myself, and  
6 Ms. Jost are both very much involved. You know, 30 days,  
7 that's going to run right in the middle of the Duke and  
8 DEP case, and if the rates are in under bond, perhaps the  
9 270 days is not as crucial.

10 COMMISSIONER BROWN-BLAND: We believe it is  
11 crucial, and we're working towards that goal. And your  
12 cooperation would be greatly appreciated, and if we run  
13 into issues, we'll deal with them when we get there, but  
14 we really need everybody to adhere to this tight  
15 schedule. We've been on a tight schedule even through  
16 COVID with this case. We've been looking out ahead. So  
17 we'd like to try to achieve our goals on this one. Ms.  
18 Sanford?

19 MS. SANFORD: I apologize. I stepped away for  
20 a moment at the beginning of this conversation. But with  
21 respect to the Commission's directive about provision of  
22 information about cost, rate case costs, and we're, of  
23 course, perfectly happy to do it any way that works best  
24 for the Commission, but I wonder if we should -- if we

1 should provide actuals through the flows of the public  
2 hearing or of the work necessary for the public hearing,  
3 and then estimate from there to the end. And, again, I  
4 apologize if you've already dealt with this.

5 COMMISSIONER BROWN-BLAND: Well, I did indicate  
6 through the public hearing, and the estimates might be a  
7 good idea, but I'll leave that to the parties.

8 MS. SANFORD: Okay. All right. Thank you.

9 COMMISSIONER BROWN-BLAND: All right. Let me  
10 -- just so I can be sure that I've crossed off what I've  
11 been asked to, let's take a five-minute break and come  
12 back on the record 12:25. And if everyone would mute and  
13 go off your cameras.

14 (Recess taken from 12:19 p.m. to 12:26 p.m.)

15 COMMISSIONER BROWN-BLAND: All right. We'll  
16 come back on the record. So I'm not seeing Ms. Berger  
17 back on yet, but I neglected to excuse Ms. Berger and Mr.  
18 Henry, so they are both excused. I know that makes them  
19 happy.

20 (Ms. Berger and Mr. Henry excused.)

21 MS. JOST: Commissioner Brown-Bland, may I ask  
22 a question?

23 COMMISSIONER BROWN-BLAND: Yes.

24 MS. JOST: So I had not asked that Mr. Henry's

1 testimony be entered into the record with the other  
2 excused witnesses, anticipating that there would be some  
3 Commission questions. May I do so at this time?

4 COMMISSIONER BROWN-BLAND: You very well may.

5 MS. JOST: All right. I would request that the  
6 prefiled testimony of Mr. Henry, consisting of 24 pages,  
7 be copied into the record as if given orally from the  
8 stand, and that his Exhibits I and II be identified as  
9 marked and admitted into the record.

10 COMMISSIONER BROWN-BLAND: All right. Without  
11 objection and hearing none, that motion is allowed.

12 MS. JOST: Thank you.

13 (Whereupon, the prefiled testimony  
14 of Windley E. Henry was copied into  
15 the record as if given orally from  
16 the stand.)

17 (Whereupon, Henry Revised Exhibits  
18 I and II were identified as premarked  
19 and admitted into evidence.)

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BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. W-218, SUB 526

In the Matter of  
Application by Aqua North Carolina, )  
Inc., 202 MacKenan Court, Cary, North )  
Carolina 27511, for Authority to Adjust )  
and Increase Rates for Water and )  
Sewer Utility Service in All Service )  
Areas in North Carolina )

TESTIMONY OF  
WINDLEY E. HENRY  
PUBLIC STAFF – NORTH  
CAROLINA UTILITIES  
COMMISSION

**AQUA NORTH CAROLINA, INC.  
DOCKET NO. W-218 SUB 526**

**TESTIMONY OF WINDLEY E. HENRY  
ON BEHALF OF THE PUBLIC STAFF –  
NORTH CAROLINA UTILITIES COMMISSION**

**May 26, 2020**

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

3 A. My name is Windley E. Henry and my business address is 430 N.  
4 Salisbury Street, Raleigh, North Carolina. I am the Accounting  
5 Manager of the Water and Sewer/Communications Section of the  
6 Public Staff - Accounting Division and represent the using and  
7 consuming public.

8 **Q. HOW LONG HAVE YOU BEEN EMPLOYED BY THE PUBLIC**  
9 **STAFF?**

10 A. I have been employed by the Public Staff since July 16, 1990.

11 **Q. WILL YOU STATE BRIEFLY YOUR EDUCATION AND**  
12 **EXPERIENCE?**

13 A. My education and experience are summarized in Appendix A.

14 **Q. WHAT ARE YOUR DUTIES?**

15 A. I am responsible for the performance and supervision of the following  
16 activities: (1) the examination and analysis of testimony, exhibits,  
17 books and records, and other data presented by utilities and other

1 parties involved in Commission proceedings; and (2) the preparation  
2 and presentation to the Commission of testimony, exhibits, and other  
3 documents in those proceedings.

4 **Q. WHAT IS THE NATURE OF THE APPLICATION IN THIS**  
5 **PROCEEDING?**

6 A. On December 31, 2019, Aqua North Carolina, Inc. (Aqua or  
7 Company) filed an application with the Commission seeking authority  
8 to increase rates for all of its water and sewer service areas in North  
9 Carolina. The purpose of my testimony in this proceeding is to  
10 present the results of my investigation of the levels of revenue,  
11 expenses, and investment filed by Aqua in support of its requested  
12 increase in operating revenues.

13 **Q. WOULD YOU DESCRIBE THE PRESENTATION OF YOUR**  
14 **TESTIMONY AND EXHIBITS?**

15 A. Yes. For each issue I will present a discussion of how and why I differ  
16 from the Company. Correspondingly, I will present schedules  
17 showing the calculation of my adjustments to revenues, expenses,  
18 and rate base. My schedules will also reflect adjustments  
19 recommended by Public Staff witnesses Feasel, Boswell, Junis,  
20 Darden, Franklin, and Hinton.

21 Schedules 1(a) through 1(e) of my Exhibit I present the return on  
22 original cost rate base under present rates, Company proposed

1 rates, and Public Staff recommended rates. Schedules 2(a) through  
2 2(e), along with their supporting schedules, present the original cost  
3 rate base. Schedules 3(a) through 3(e), along with their supporting  
4 schedules, present the net operating income under present rates,  
5 Company proposed rates, and Public Staff recommended rates.

6 Schedule 1 of Exhibit II presents the calculation of the gross revenue  
7 impact of the adjustments prepared by the Public Staff.

8 **Q. WHAT MODIFICATIONS OF THE TEST PERIOD HAVE YOU**  
9 **MADE IN THIS PROCEEDING?**

10 A. In its application, Aqua made a pro forma adjustment to rate base to  
11 include estimated plant additions, net of retirements, which will be  
12 placed in service between October 1, 2019, and the hearing date in  
13 this proceeding. Aqua also made pro forma adjustments to increase  
14 salaries, benefits, and payroll taxes and other operational expenses.

15 The Public Staff agrees with the Company that the test year should  
16 be updated for certain events that occurred after the test year. Those  
17 events should be known and measurable as of a certain date in order  
18 to be considered in evaluating the need for rate relief. Therefore, the  
19 Public Staff witnesses have made adjustments in this proceeding to  
20 update the Company's test year to recognize certain events,  
21 including the increase in rate base, revenues, and expenses as a  
22 result of growth that occurred through March 31, 2020.

1 As part of this overall update adjustment, I have made adjustments  
 2 to recognize changes to plant in service, accumulated depreciation,  
 3 contributions in aid of construction, advances for construction, plant  
 4 acquisition adjustment, and other rate base changes that occurred  
 5 through March 31, 2020.

6 **Q. WHAT ARE THE COMPANY'S PROPOSED INCREASES IN**  
 7 **SERVICE REVENUES IN THIS CASE?**

8 A. The service revenues under present rates, the Company's proposed  
 9 increases, and the Company's proposed rates are as follows:

	Present	Proposed	Proposed
	<u>Revenues</u>	<u>Increase</u>	<u>Revenues</u>
12 Aqua NC Water	\$36,559,502	\$ 4,015,088	\$ 40,574,590
13 Aqua NC Sewer	15,607,641	1,544,438	17,152,079
14 Fairways Water	1,138,759	113,995	1,252,754
15 Fairways Sewer	2,189,589	81,898	2,271,487
16 Brookwood Water	<u>5,777,200</u>	<u>1,026,049</u>	<u>6,803,249</u>
17 Total Aqua	<u>\$ 61,272,691</u>	<u>\$ 6,781,468</u>	<u>\$ 68,054,159</u>

18 **Q. WHAT CONCLUSIONS HAVE YOU REACHED AS TO THE**  
 19 **COMPANY'S RATE INCREASE REQUEST?**

20 A. Based on my investigation, the Company's original cost rate base as  
 21 of September 30, 2019, updated to March 31, 2020, is as follows:

22 Aqua NC Water	\$ 134,338,335
23 Aqua NC Sewer	58,427,775
24 Fairways Water	3,321,755
25 Fairways Sewer	10,399,205
26 Brookwood Water	<u>25,017,402</u>
27 Total Aqua	<u>\$ 231,504,473</u>

1 Based on the overall rate of return of 6.56% recommended by Public  
 2 Staff witness Hinton, I recommend that rates be set to produce the  
 3 following revenues:

	Service Revenues	Other Revenues & Uncollectibles	Total Operating Revenues
4			
5			
6			
7	Aqua NC Water	\$ 649,142	\$37,591,669
8	Aqua NC Sewer	31,495	16,103,462
9	Fairways Water	90,244	1,136,916
10	Fairways Sewer	(3,301)	2,040,694
11	Brookwood Water	<u>270,559</u>	<u>6,087,730</u>
12	Total Aqua	<u>\$1,038,139</u>	<u>\$62,960,471</u>

13 Based on these levels of revenues, I recommend the following  
 14 increases/(decreases) in service revenues:

15	Aqua NC Water	\$ 383,025
16	Aqua NC Sewer	464,326
17	Fairways Water	(92,087)
18	Fairways Sewer	(145,594)
19	Brookwood Water	<u>39,971</u>
20	Total Aqua	<u>\$ 649,641</u>

21 **Q. WHAT ADJUSTMENTS RECOMMENDED BY OTHER PUBLIC**  
 22 **STAFF WITNESSES HAVE YOU INCLUDED IN YOUR**  
 23 **TESTIMONY?**

24 A. My exhibit reflects the following adjustments recommended by other  
 25 Public Staff witnesses:

26 1) The recommendations of Public Staff witness Hinton  
 27 regarding the capital structure, embedded cost of long-term  
 28 debt, and return on common equity.

- 1           2)     The recommendations of Public Staff witness Junis regarding  
2           the following items:
- 3           (a)     Service revenues under present rates  
4           (b)     Service revenues under Company proposed rates  
5           (c)     Number of bills used to calculate annualization factors  
6           (d)     Water consumption factors  
7           (e)     Plant in service
- 8           3)     The recommendations of Public Staff witness Darden  
9           regarding the following items:
- 10          (a)     Testing  
11          (b)     Sludge removal  
12          (c)     Purchased water  
13          (d)     Contract services – other
- 14          4)     The recommendations of Public Staff witness Franklin  
15          regarding the following items:
- 16          (a)     Purchased power  
17          (b)     Fuel for production
- 18          5)     The recommendations of Public Staff witness Feasel  
19          regarding the following items:
- 20          (a)     Purchase acquisition adjustment (PAA)  
21          (b)     Accumulated amortization of PAA  
22          (c)     Salaries and wages  
23          (d)     Employee pensions and benefits  
24          (e)     Insurance  
25          (f)     Miscellaneous expense  
26          (g)     Contra-OH allocation  
27          (h)     Amortization expense – PAA  
28          (i)     Payroll taxes
- 29          6)     The recommendations of Public Staff witness Boswell  
30          regarding protected excess deferred income taxes (EDIT).

1 **Q. WHAT ADJUSTMENTS WILL YOU DISCUSS?**

2 A. The accounting and ratemaking adjustments that I will discuss relate  
3 to the following items:

- |    |     |   |
|----|-----|---|
| 4  | 1.  | Plant in service                            |
| 5  | 2.  | Accumulated depreciation                    |
| 6  | 3.  | Contributions in aid of construction (CIAC) |
| 7  | 4.  | Accumulated amortization of CIAC            |
| 8  | 5.  | Advances for construction                   |
| 9  | 6.  | Customer deposits                           |
| 10 | 7.  | Excess capacity adjustment                  |
| 11 | 8.  | Working capital allowance                   |
| 12 | 9.  | Late payment fees                           |
| 13 | 10. | Uncollectibles                              |
| 14 | 11. | Materials and supplies                      |
| 15 | 12. | Contract services – legal                   |
| 16 | 13. | Contract services – other                   |
| 17 | 14. | Regulatory commission expense               |
| 18 | 15. | Annualization adjustment                    |
| 19 | 16. | Consumption adjustment                      |
| 20 | 17. | Depreciation expense                        |
| 21 | 18. | CIAC amortization expense                   |
| 22 | 19. | PAA amortization expense                    |
| 23 | 20. | Regulatory fee                              |
| 24 | 21. | State income taxes                          |
| 25 | 22. | Federal income taxes                        |

26 **PLANT IN SERVICE**

27 **Q. WHAT ADJUSTMENTS HAVE YOU MADE TO PLANT IN**  
28 **SERVICE?**

29 A. I have made adjustments to plant in service for post-test year plant  
30 additions and to allocated vehicles purchased among all rate  
31 divisions.

1 **Q. PLEASE EXPLAIN YOUR ADJUSTMENT TO INCLUDE THE**  
2 **ACTUAL COST FOR POST-TEST YEAR ADDITIONS.**

3 A. On its application, the Company included estimated post-test year  
4 additions of \$18,867,647 in plant in service. In response to Public  
5 Staff data requests, I have adjusted the Company's post-test year  
6 plant additions for actual additions booked from October 1, 2019,  
7 through March 31, 2020. I have adjusted the actual post-test year  
8 additions to remove amounts for wells and springs, power generation  
9 equipment, and computer equipment for excessive accrual of  
10 allowance for funds used during construction (AFUDC) based on the  
11 recommendation of Public Staff witness Junis. The net effect of these  
12 adjustments results in a level of post-test year additions of  
13 \$16,339,103, which is a decrease of \$2,528,544 from the amount  
14 estimated in the Company's application.

15 **Q. PLEASE EXPLAIN YOUR ADJUSTMENTS TO ALLOCATE**  
16 **PURCHASED VEHICLES.**

17 A. The majority of the vehicles purchased by Aqua during the test period  
18 were placed into service as a part of the Aqua NC Water rate division.  
19 I updated the rate base transportation along with accumulated  
20 depreciation and depreciation expense through March 31, 2020, and  
21 then allocated the purchase price of these vehicles, along with the  
22 applicable accumulated depreciation and depreciation expense

1 between the rate entities using the customer allocation percentages  
2 calculated by the Company.

3 **ACCUMULATED DEPRECIATION**

4 **Q. WHAT ADJUSTMENTS HAVE YOU MADE TO ACCUMULATED**  
5 **DEPRECIATION?**

6 A. I have adjusted accumulated depreciation for corresponding  
7 adjustments made to plant in service related to post-test year  
8 additions and reallocation of purchased vehicles based on customer  
9 allocation percentages. My adjustment to accumulated depreciation  
10 also includes an update to the Company's calculation of costs related  
11 to future customers through March 31, 2020.

12 Finally, accumulated depreciation has been adjusted for plant  
13 additions that were reclassified by the Public Staff from 2019  
14 additions to 2018 additions in Aqua's May 1, 2019, WSIC/SSIC  
15 application. There were several construction projects that were  
16 booked to plant in service in the first quarter of 2019 that were  
17 actually completed and placed into service in 2018. These projects  
18 were reclassified to the appropriate months in 2018 in the  
19 WSIC/SSIC proceeding, which in effect increases the amount of  
20 accumulated depreciation calculated on Aqua's investment in each  
21 project item. I adjusted accumulated depreciation to include an  
22 additional amount of accumulated depreciation that should have

1           been recorded on the Company's books based on the change in the  
2           in service dates.

3                           **CONTRIBUTIONS IN AID OF CONSTRUCTION (CIAC)**

4   **Q.   PLEASE EXPLAIN YOUR ADJUSTMENT TO CIAC.**

5   A.   I have made an adjustment to CIAC as part of my adjustment to  
6       update rate base to March 31, 2020. I have increased CIAC by  
7       \$2,574,894 to include actual post-test year additions made on the  
8       Company's books from October 1, 2019, through March 31, 2020.

9                           **ACCUMULATED AMORTIZATION OF CIAC**

10 **Q.   PLEASE EXPLAIN YOUR ADJUSTMENT TO ACCUMULATED**  
11 **AMORTIZATION OF CIAC.**

12 A.   I have increased accumulated amortization of CIAC by \$54,693 to  
13       reflect the amortization associated with the CIAC additions from  
14       October 1, 2019, through March 31, 2020.

15                           **ADVANCES FOR CONSTRUCTION**

16 **Q.   WHAT ADJUSTMENTS HAVE YOU MADE TO ADVANCES FOR**  
17 **CONSTRUCTION?**

18 A.   I have adjusted advances for construction to reflect the balances as  
19       of March 31, 2020, as part of my adjustment to update rate base.

1

**CUSTOMER DEPOSITS**

2

**Q. WHAT ADJUSTMENT HAVE YOU MADE TO CUSTOMER DEPOSITS?**

3

4

A. I have adjusted customer deposits by \$4,463 to reflect the per book balance as of March 31, 2020.

5

6

**EXCESS CAPACITY ADJUSTMENT**

7

**Q. PLEASE EXPLAIN YOUR ADJUSTMENTS FOR EXCESS CAPACITY.**

8

9

A. Aqua did not make an excess capacity adjustment to rate base for the three wastewater treatment plants at Carolina Meadows, The Legacy at Jordan Lake, and Westfall Subdivision, as was approved by the Commission in the Sub 497 rate case. Therefore, I made an adjustment to remove from rate base an amount of excess capacity for the wastewater treatment plants.

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My adjustment for excess capacity begins with the plant balances subject to excess capacity approved in the Sub 497 rate case proceeding. To this amount, I added plant additions and removed retirements recorded on the Company's books since the Sub 497 rate case proceeding. Based on the recommendation of Public Staff witness Junis, I added back 50% of the Carolina Meadows wastewater treatment plant additions removed in the Sub 497 rate

1 case proceeding. Next, I depreciated the updated plant in service  
2 through March 31, 2020.

3 Finally, I applied Public Staff witness Junis' excess capacity  
4 percentages of 33.03%, 19.67%, and 18.44% to remove from rate  
5 base the percentage of plant in service, accumulated depreciation  
6 and CIAC related to excess capacity for the wastewater treatment  
7 plants at Carolina Meadows, The Legacy at Jordan Lake, and  
8 Westfall Subdivision, respectively.

9 **WORKING CAPITAL ALLOWANCE**

10 **Q. PLEASE DESCRIBE YOUR ADJUSTMENT TO THE WORKING**  
11 **CAPITAL ALLOWANCE.**

12 A. I have made the following adjustments to the working capital  
13 allowance:

14 **Cash working capital**

15 I have calculated cash working capital as one-eighth of operating and  
16 maintenance expenses, excluding purchased water and sewer  
17 costs.

18 **Prepayments**

19 I have made several adjustments to the level of prepayments  
20 included by the Company on its application.

1        Unamortized Tank Painting – I adjusted the unamortized balances  
2        for tank painting for Aqua NC Water, Fairways Water, and  
3        Brookwood Water to reflect the balances as of September 30, 2020,  
4        the date by which a final order should be issued by the Commission.

5        Unamortized Rate Case Expense – As discussed below under  
6        regulatory commission expense, the Public Staff is recommending  
7        no rate base treatment for the unamortized balance of rate case  
8        expense. My adjustment to prepayments removes the Company's  
9        calculation of unamortized rate case expense from rate base.

10       Unamortized Depreciation Study – I adjusted the unamortized  
11       balances for the depreciation study to reflect the balances as of  
12       September 30, 2020, the date by which a final order should be issued  
13       by the Commission.

14       Unamortized Repair Tax Credit Study – I adjusted the unamortized  
15       balances for the repair tax credit study to reflect the balances as of  
16       September 30, 2020, the date by which a final order should be issued  
17       by the Commission.

18       Unamortized Johnston County Transmission Fee – The Public Staff  
19       is recommending that the Commission deny Aqua's proposal to treat  
20       the \$785,000 Johnston County transmission fee as a regulatory  
21       asset retroactive to the Sub 497 Order for reasons discussed in detail  
22       in joint testimony filed by Public Staff witness Junis and myself in this

1 proceeding. Therefore, I have removed the unamortized balance of  
2 the Johnston County transmission fee from rate base in order to  
3 reflect the Commission final order in the Sub 497 rate case  
4 proceeding.

5 Unamortized Johnston County Transmission Revenue Deficit – My  
6 adjustment to remove the unamortized Johnston County  
7 transmission revenue deficit from rate base is consistent with my  
8 adjustment to remove the unamortized Johnston County  
9 transmission fee from rate base, as discussed above.

10 Deferral Accounting for Post-Year Plant Additions – The Public Staff  
11 has concluded that Aqua’s proposal for deferral accounting  
12 treatment of post-test plant additions should be denied for reasons  
13 discussed in detail in joint testimony filed by Public Staff witness  
14 Junis and myself in this proceeding. Based on the recommendation  
15 discussed in the joint testimony, I removed Aqua’s proposed deferral  
16 accounting on post-test year additions from rate base.

17 **Tax Accruals**

18 I have calculated average tax accruals as one-fifth of unemployment  
19 taxes and regulatory fee plus one-half of property taxes.

1

**LATE PAYMENT FEES**

2

**Q. PLEASE EXPLAIN YOUR ADJUSTMENTS TO LATE PAYMENT**

3

**FEES.**

4

A. I have adjusted the late payment fee percentages for each of the rate

5

entities to reflect the per books levels of late payment fees and

6

service revenues for the test year. I then applied these percentages

7

to my adjusted levels of service revenues under present, Company

8

proposed, and Public Staff recommended rates to derive my

9

recommended levels of late payment fees.

10

**UNCOLLECTIBLES**

11

**Q. PLEASE EXPLAIN YOUR ADJUSTMENTS TO UNCOLLECTIBLES.**

12

A. I have adjusted the uncollectibles percentages for each of the rate

13

entities to reflect the per books levels of uncollectibles, late payment

14

fees, and service revenues for the test year. I then applied these

15

percentages to my adjusted levels of service revenues and late

16

payment fees under present, Company proposed, and Public Staff

17

recommended rates to derive my recommended levels of

18

uncollectibles.

19

**MATERIALS AND SUPPLIES**

20

**Q. PLEASE EXPLAIN YOUR ADJUSTMENT TO MATERIALS AND**

21

**SUPPLIES.**

1 A. Based on updated information provided by the Company as of March  
2 31, 2020, I have adjusted materials and supplies to include additional  
3 expenses that are expected to be realized by the Company going  
4 forward.

5 **CONTRACT SERVICES - LEGAL**

6 **Q. WHAT ADJUSTMENTS HAVE YOU MADE TO CONTRACT**  
7 **SERVICES - LEGAL EXPENSES IN THIS CASE?**

8 A. I have made an adjustment to contract services – legal to remove  
9 legal fees associated with the Sub 497 rate case proceeding. A  
10 representative level of legal fees was included in rate case expense  
11 in that proceeding, therefore any additional legal costs from that  
12 proceeding should not be recovered from ratepayers.

13 **CONTRACT SERVICES - OTHER**

14 **Q. PLEASE EXPLAIN YOUR ADJUSTMENT TO CONTRACT**  
15 **SERVICES-OTHER**

16 A. Contract services – other has been adjusted to remove pump  
17 maintenance and corporate sundry expenses based on the  
18 recommendations of Public Staff witnesses Darden and Feasel,  
19 respectively. Next, I remove accrued expenses that occurred outside  
20 the test year from contract services – other.

1 **REGULATORY COMMISSION EXPENSE**

2 **Q. PLEASE EXPLAIN YOUR ADJUSTMENT TO REGULATORY**  
3 **COMMISSION EXPENSE.**

4 A. In this proceeding, Aqua applied for rate case expenses totaling  
5 \$1,044,560 to be amortized over two years, resulting in an annual  
6 expense of \$522,280. Included in the total rate case expenses is  
7 \$419,435 of unamortized rate case cost from Aqua's prior rate case  
8 proceeding, Docket No. W-218, Sub 497 (Sub 497), and \$625,125  
9 of estimated rate case costs for this current proceeding.

10 The estimated expenses for this current proceeding include legal  
11 fees totaling \$390,625, consultant fees totaling \$50,000, service  
12 company capitalized time totaling \$71,000, and other rate case  
13 expenses totaling \$113,500, of which \$100,000 is for postage and  
14 printing notices to customers.

15 For this proceeding, I have included actual rate case expenses  
16 incurred to date based on costs provided by the Company in  
17 response to Public Staff data requests. I adjusted the actual amount  
18 of rate case expense to include an additional amount for printing and  
19 mailing notices to customers based on invoices provided by the  
20 Company for costs incurred to send the first notice to customers. My  
21 adjusted rate case expense for this proceeding is \$410,246, which is  
22 less than the Company estimated rate case expense of \$625,125. I

1 recommend that the rate case expense for this current proceeding  
2 be updated to actual amounts incurred through the hearing date after  
3 review of supporting documentation provided by the Company.

4 The Public Staff has amortized over three years the rate case  
5 expenses of Aqua for this proceeding, and reamortized the  
6 unamortized balance of Aqua's rate case expenses for prior Aqua  
7 rate cases over the same period.

8 The Public Staff has reevaluated the past practice of the water and/or  
9 wastewater utility's unamortized rate case expense balance being  
10 included in rate base upon which the utility earns a return. The Public  
11 Staff sees no reason for this practice to continue. The Public Staff  
12 recommends in this rate case proceeding and all future water and/or  
13 wastewater utility general rate cases that the unamortized rate case  
14 expense balance not be included in rate base with the utility earning  
15 a return. The unamortized balance would continue to be amortized  
16 in the Commission approved revenue requirement, thereby allowing  
17 the Company recovery of the expenses, but not allowing the utility to  
18 earn a profit on the rate case expenses.

19 This change will provide Commission regulated water and/or  
20 wastewater utilities the same rate case expense treatment as the  
21 Commission regulated electric and natural gas utilities which do not  
22 earn a return on their unamortized rate case expense balances. The

1 customers will pay the Company's rate case expenses, but it is  
2 unreasonable for customers to pay the utility a return on equity for  
3 regularly occurring expenses that by their nature and magnitude  
4 should just be normalized, not treated as a regulatory asset.

5 **ANNUALIZATION ADJUSTMENT**

6 **Q. WOULD YOU EXPLAIN YOUR ANNUALIZATION ADJUSTMENT?**

7 A. Since Public Staff witness Junis has updated revenues to reflect the  
8 number of customers as of March 31, 2020, it is necessary to adjust  
9 the growth-related expenses incurred during the test year to this  
10 updated level of customers. The end result is a level of expense that  
11 corresponds to the level of customers included in the revenue  
12 calculation.

13 Based on information provided by Public Staff witness Junis, I have  
14 calculated annualization factors of 1.40% for Aqua NC Water  
15 operations, 4.58% for Aqua NC Sewer operations, 2.48% for  
16 Fairways Water operations, 1.63% for Fairways Sewer operations,  
17 and 0.57% for Brookwood Water operations.

18 I have applied these annualization factors to my adjusted levels of  
19 purchased power, chemicals, and fuel for production for both water  
20 and sewer operations. I also applied the annualization factors to  
21 sludge removal for sewer operations.

1

**CONSUMPTION ADJUSTMENT**

2

**Q. PLEASE EXPLAIN YOUR CALCULATION OF THE CONSUMPTION ADJUSTMENT.**

3

4

A. Since Public Staff witness Junis has made an adjustment to the level of consumption in calculating water revenues, it is necessary to adjust consumption-related expenses to reflect the Public Staff's adjusted level of consumption. The end result is a level of expense that corresponds to the level of consumption included in revenues.

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Based on information provided by Public Staff witness Junis, his adjustment to consumption resulted in an increase/decrease from the amount of gallons sold during the test year of 0.65% for Aqua NC Water operations, (5.22%) for Aqua NC Sewer operations, (8.13%) for Fairways Water operations, (11.52%) for Fairways Sewer operations, and 0.66% for Brookwood Water operations.

15

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I have applied these consumption factors to my adjusted levels of purchased power, chemicals, and fuel for production for both water and sewer operations. I also applied the consumption factors to sludge removal for sewer operations.

19

**DEPRECIATION EXPENSE**

20

**Q. WHAT ADJUSTMENTS HAVE YOU MADE TO DEPRECIATION AND AMORTIZATION EXPENSE?**

21

1 A. I have made adjustments to depreciation expense to reflect Public  
2 Staff adjustments to plant in service for post-test year additions,  
3 adjustment to excess capacity and allocation of purchased vehicles.

4 **CIAC AMORTIZATION EXPENSE**

5 **Q. WHAT ADJUSTMENTS HAVE YOU MADE TO CIAC**  
6 **AMORTIZATION EXPENSE?**

7 A. I have adjusted CIAC amortization expense to reflect my  
8 adjustments to CIAC for post-test year additions and an adjustment  
9 for excess capacity. CIAC has also been adjusted for tank painting  
10 amortization, Johnston County transmission fee revenue deficit and  
11 deferral accounting for post-test plant additions.

12 **PAA AMORTIZATION EXPENSE**

13 **Q. WHAT ADJUSTMENTS HAVE YOU MADE TO PAA**  
14 **AMORTIZATION EXPENSE?**

15 A. I have adjusted PAA amortization expense to reflect post-test year  
16 additions as of March 31, 2020.

17 **REGULATORY FEE**

18 **Q. WHAT ADJUSTMENT HAVE YOU MADE TO THE REGULATORY**  
19 **FEE?**

1 A. I have calculated the regulatory fee using the statutory rate of 0.13%  
2 applied to total operating revenues under present, Company  
3 proposed, and Public Staff recommended rates.

4 **STATE INCOME TAXES**

5 **Q. PLEASE EXPLAIN YOUR ADJUSTMENT TO STATE INCOME**  
6 **TAXES.**

7 A. State income tax was calculated based on the adjusted levels of  
8 revenues and expenses, and the State income tax rate of 2.5%.

9 **FEDERAL INCOME TAXES**

10 **Q. WHAT ADJUSTMENTS HAVE YOU MADE TO FEDERAL INCOME**  
11 **TAXES?**

12 A. Federal income tax is based on the statutory corporate rate of 21%  
13 for the level of income presented after all Public Staff adjustments.

14 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

15 A. Yes, it does.

**QUALIFICATIONS AND EXPERIENCE**

## WINDLEY E. HENRY

I am a graduate of the University of North Carolina at Wilmington with a Bachelor of Science degree in Accountancy. I am a Certified Public Accountant licensed in the State of North Carolina. Prior to joining the Public Staff, I was employed by the Seymour Johnson Federal Credit Union. My duties there involved supervision of the accounting department and preparing financial reports. I joined the Public Staff as a Staff Accountant on July 16, 1990. Since joining the Public Staff, I have presented testimony and exhibits in numerous cases before this Commission involving water, sewer, and natural gas utilities.

1                   COMMISSIONER BROWN-BLAND: Hold on just a  
2 moment. All right. And the other matter that I wanted  
3 to bring up was with regard to the Proposed Orders and  
4 the timing in relation the public hearing. The public  
5 hearing, of course, is scheduled for August 3rd, and the  
6 Commission would request that the Proposed Orders come in  
7 30 days from availability of the transcript, and if need  
8 be there can be a Supplemental Proposed Order filed  
9 following the public hearings so that you may address  
10 anything else that you might wish to in terms of the  
11 Proposed Order or the ultimate Final Order.

12                   All right. And with that, I believe the matter  
13 will be recessed. We are still not adjourned because we  
14 haven't had the public hearing, so I should see most of  
15 all counsel, in any case, back on August the 3rd. And,  
16 again, those hearings will take place by remote means as  
17 well.

18                   Is there anything further to come before the  
19 Commission?

20                   MS. SANFORD: Nothing from Aqua except to thank  
21 the Commission and the parties for their courtesy. This  
22 was a new thing for all of us, and we appreciate the way  
23 that everybody worked to make it happen.

24                   COMMISSIONER BROWN-BLAND: Well, we had a few

1 little mishaps along the way, but we think we ironed them  
2 out, and I would like to thank everyone for your patience  
3 in helping this to be what -- we will know when we see  
4 the final transcript, but it appears to have been  
5 successful at this point. Thank you, Madam Court  
6 Reporter, for all that you've done.

7           There being nothing else, this matter will be  
8 in recess until August the 3rd.

9           (Proceedings recessed at 12:29 p.m., to be  
10 reconvened on August 3, 2020, at 6:30 p.m.  
11           via WebEx videoconference.)

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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-218, Sub 526, 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 15th day of July, 2020.



Linda S. Garrett, CCR

Notary Public No. 19971700150